Appendices

Programme for Change

March 2019

GREATER MANCHESTER
FIRE AND RESCUE SERVICE

GMCA GREATER MANCHESTER COMBINED AUTHORITY

Contents

Appendix I

Listen' – Staff Feedback

1. Following the announcement by the Mayor regarding the root and branch review of GMFRS, a commitment was made to staff to engage with them in a variety of different ways in order to capture as much feedback from them as possible.

2. The Mayor and Deputy Mayor, Baroness Beverley Hughes, subsequently undertook a series of site visits to stations and locations across GM in order to meet with and capture feedback directly from staff. The aim of the visits was to ensure that everybody in every part of GMFRS had the opportunity to contribute and speak freely and frankly about the issues that they felt needed to be addressed.

3. To ensure all staff had an opportunity to share their views, a confidential online survey was created for GMFRS staff to complete, along with a dedicated Fire Review inbox that provided an opportunity for staff to share their honest views about the Service and ask specific questions regarding the PfC.

4. All the feedback from staff has been collated and considered as part of the review, resulting in the identification of a number of key themes and priority areas for change.

5. A number of quick wins were also identified for immediate implementation to address staff concerns and ensure the benefits of change could be seen quickly.

Staff Feedback and Quick Wins

6. *Firefighters told us that they often did not know when or where they would be working, that they were not able to plan ahead, either at work, or at home.*

7. As a result, a new GMFRS interim duty system solutionhas since been introduced, improving firefighter work-life balance through the introduction of a 2-2-4 shift duty pattern, together with the removal of roster reserves. This has resulted in firefighters having a clearer, family-friendly working pattern through knowing in advance which shift patterns they are working and which station they will be based at.

8. *Concerns were raised with regard to annual leave allocation, stating that it was inflexible and often at short notice, and that it prevented firefighters from planning time with their family.*

9. As a result, a new policy has been developed which will allow firefighters to select their own leave against a set of criteria from the 1st April 2019. The new annual leave arrangements offer a more family-friendly approach enabling firefighters to choose their leave dates around family commitments.

10. *Firefighters raised concerns in relation to a number of health and safety related issues, lack of female facilities and poor working conditions at stations*

11. Whilst some improvements were already underway this feedback was taken onboard and a number of these were re-pritorised to address immediate concerns. Work has also been undertaken to ensure appropriate female facilities are provided across all properties.

Staff Feedback and what we do well …

12. A number of positive common themes were captured through staff feedback reflecting the excellent job that GMFRS do at keeping the public safe, how we engage with communities, the strong and well respected brand of GMFRS, as well as the pride that staff feel in working for the Service:

    - *"Responding to incidents: Our current response times are good in comparison with other emergency services"*
    - *"The service has a family feel culture"*
    - *"As a Service GMFRS is good at reaching out into the community, the reputation of the fire service within the community is a positive one and people always seem surprised at the amount of good work the Service does."*
    - *"Allows creativity in our roles and self-development. There is a good focus on us as individuals."*
    - *"I am proud to be a firefighter"*

Staff Feedback on what needs to change…

13. However, there are a number of significant issues raised from across all areas within GMFRS, with concerns repeatedly raised in relation to: poor work life balance due to rostering and annual leave arrangements; the disrepair of the estate; lack of clear vision and purpose; a wide range of leadership and culture issues; the need to focus on the frontline and response as core business; activities extending beyond the core remit of the Service; a number of issues with the Safe & Well (S&W) process and the role of the Community Safety Advisor (CSA); an imbalance/lack of investment in practical training; overly bureaucratic HR processes; and the need for investment in systems etc.

Some of what people said …

"GMFRS needs to eradicate the 'us' and 'them' mentality that they have allowed to develop and in some cases even fostered in an effort to create distance between frontline staff and senior management."[1]
"Top level management seem detached from the realities of station life and they appear not to be concerned with the low levels of staff morale."

"The management style can often appear confrontational. The only way for the Service to be effective and efficient is for its staff to feel valued and morale to be high."

"There is a serious lack of clarity about what GMFRS is supposed to be doing as an organisation, which has resulted in confusion, frustration and a loss of morale and pride. Decide what the core function of the organisation is and what the role of a firefighter is and isn't."

"GMFRS needs to realise what core business is – in its most basic form it is an emergency response fire service, and this seems to have been forgotten"

"I believe over the last 10 years the fire brigade has severely lost its way, however I think the fix for this is quite simple … when the public ring 999 they get a fast, professional, well-trained and well equipped fire and rescue service."

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[1] *Staff quotes from PfC Survey in blue text*

"We have been poorly led for several years at FSHQ. Put managers in place who have the skills to manage in the area they have experience of. Stop putting managers in places where they have never worked."

"The culture, no trust throughout the organisation, no strong leadership, leaders to gain back trust, ensure people act within values & behaviours not just talk about them."

"GMFRS serves the public of Greater Manchester with a strong sense of pride, professionalism, consistency and can-do attitude. The communities of GM have a great deal of respect and pride in their local fire service and hand on heart can say that we effectively do what we are here to do."

14. The following sections set out how all of the feedback has been considered alongside a series of key change drivers and then grouped into priority change themes and associated recommendations.

'Learn' – Addressing the Key Change Drivers

15. As part of the learning phase of the review, an as-is baseline of the Service was captured in order to understand current staffing, costs, processes and systems. (See Appendix II)

16. This included capturing how the Service works today, together with an understanding of what is happening at a local and national level to inform its future direction of travel

17. GMFRS is the third largest fire and rescue service in England, covering an area of 493 square miles and serving a population of 2.8 million residents, with many other people working or visiting the region.

18. GMFRS employs 1877 staff including 1430 operational staff and 447 support staff.

19. The Service is spread across 45 sites - which includes 41 fire stations, a training and development centre, a technical centre, our headquarters in Swinton and our new training and safety centre in Bury.

20. Our transition to the GMCA in May 2017 saw the abolition of the Fire Authority and responsibility for GMFRS moved within the remit of the newly elected Mayor of Greater Manchester, Andy Burnham.

21. The Service is facing an unprecedented level of change together with an evolving risk profile such as the increased threat of terrorism and unpredictable environmental incidents.

22. As part of the learning phase of the review, work was undertaken to understand the changing demands being placed on today's FRS, including the changing nature of incidents and the need for greater collaboration with partners. A number of key change drivers were captured that GMFRS needs to both learn from and address going forwards:

- **Kerslake** – the ability to manage major incidents in collaboration with partners
- **Grenfell** – the ability to protect our most high risk buildings and respond to complex and potentially catastrophic fires
- **Fire and Rescue National Framework Document (NFD)** – to ensure that we meet the requirements of the NFD, which provides national strategic direction for FRS and embeds the government's fire reform agenda.

- **Her Majesty's Inspectorate of Constabulary and Fire and Rescue Services (HMICFRS)** – to develop a new governance model that will assist the Service to effectively support the undertaking of the new independent inspection regime.
- **Unpredictable Environmental Incidents** (floods, moorland fires etc.) – the ability to respond to increasingly complex and unexpected incidents
- **Reducing numbers and severity of fires** – the ability to flex the Service in response to evidence-based fire cover requirements, whilst maintaining resilience and capacity to respond to major incidents
- **Development of place-based teams** – the ability to support our communities in collaboration with our local partners, focusing on delivering reduced risk from fire and supporting achievement of wider safety goals (road safety, water safety etc.)
- **Blue light collaboration** – the ability to work effectively with other emergency services, providing a seamless frontline response
- **Deliver efficiency savings** – Protecting frontline delivery against a backdrop of financial constraints, identifying efficiencies and reducing demand across support functions

APPENDIX II

Update Paper

Contact Officers: Jim Wallace, Chief Fire Officer

Date: **20/09/18**

Re: **GMFRS Vision and Purpose**

Purpose of Report

The purpose of this report is to:

- Seek the support of the Programme Board and Steering Group for the new GMFRS vision and organisational purpose – clearly defining GMFRS's future role and core purpose.

- Seek approval to progress communications and engagement activity across the organisation to relaunch the GMFRS vision and purpose.

Background

The GMFRS vision and purpose is reflective of the outward-facing role of GMFRS, clearly articulating the 'frontline-first' service that GMFRS provides to the Greater Manchester public.

Following the announcement by the Mayor regarding the whole service review of GMFRS (subsequently referred to as the GMFRS Programme for Change), a series of site visits to stations and locations across Greater Manchester is currently underway.

Colleagues from all parts of the service are providing feedback which is effectively enabling us to capture key themes and identify priorities to be addressed.

The insight gathered from these meetings is helping us to inform the development and implementation of the GMFRS Programme for Change (PfC), announced by the Mayor in April 2018.

One of the common themes emerging from the feedback is the lack of a clear vision and purpose for GMFRS.

Having a clear understanding of GMFRS's vision and purpose is also critical to developing the future operating model, ensuring the appropriate foundations are in place as well as improving organisational culture through a common sense of purpose, shared amongst staff across all tiers of the organisation.

Work has therefore been undertaken with the GMFRS Corporate Leadership Team and a cross section of staff from across the organisation to develop the future GMFRS vision and purpose.

Introduction

The Mayoral visits across GMFRS have kick-started engagement with staff across all levels of the organisation, capturing and acting on feedback quickly so staff are able to see and feel the benefits of change throughout the programme.

Early feedback gathered from the Mayoral visits to stations has indicated that staff feel there is a lack of clarity around the current GMFRS vision and purpose with an underlying feeling that the fire service had lost its way a little and didn't really know what it wanted to be, as well as confusion across the organisation as to what other parts of it do.

The requirement for a clear vision a purpose for GMFRS was also something that was recognised by the Corporate Leadership Team at the outset of the Programme.

Some early work was therefore undertaken with the GMFRS Corporate Leadership Team to start to develop their thinking around the organisation's future vision and purpose. A workshop was then held with a cross-section of staff from across the organisation to develop their views of what the future GMFRS vision and purpose should be, followed by a further session with the wider GMFRS Leadership Team to gather their views and refine the final proposal.

Approach to Developing GMFRS Vision and Purpose

Work is now being progressed as part of the Programme for Change to develop a future operating model for GMFRS. All areas of the organisation will be reviewed throughout the process and will ultimately result in a new way of working across GMFRS in terms of people, processes and systems.

The creation of a new operating model, working with staff in developing the solution, will enable GMFRS to focus on core objectives, work more effectively with partner organisations (across other emergency services and also in the context of the wider wellbeing agenda), provide an efficient and sustainable frontline service, as well as ensuring the alignment of objectives with the Greater Manchester Combined Authority.

The first stage in developing a future operating model requires a clear understanding of an organisation's **vision and purpose**. This is a critical piece of work for GMFRS going forwards, recognised as such by both staff and the Corporate Leadership Team, and will essentially provide a solid foundation for the organisation to be built upon.

Developing the GMFRS Vision

Prior to working on developing a new vision, it was first necessary to capture all of the relevant change drivers, and identify the impact that these could have on the future role of GMFRS.

The transition of Greater Manchester Fire and Rescue Service to the Combined Authority in 2017, the need to ensure resources are focused on providing joined-up frontline emergency services against a backdrop of increasing funding pressures, as well as the need to respond to some of the challenges around decision-making, leadership and culture arising from the recent Kerslake report are just some of the many factors that have led GMFRS to recognise the need for a whole service

review and the development of a transformed GMFRS Operating Model spanning the entire organisation.

The next step was to look at the Greater Manchester Strategy – Our People, Our Place, in the context of understanding how GMFRS contributes to GM strategic priorities both now and in the future.

Taking all of the above into account, the Corporate Leadership Team and a cross section of staff from across the organisation then considered the current GMFRS vision and whether or not it was still relevant in relation to the future needs of the organisation.

The consensus was that the current vision, *'Save, Protect and Improve the lives of the people of Greater Manchester'*, whilst still valid, was not future-focused or ambitious enough, and needed to fully reflect the core purpose of GMFRS moving forward, whilst being strongly linked to the Greater Manchester Strategy – Our People, Our Place.

Following a review of other vision and mission statements across a number of fire and rescue services, as well as other emergency services, a number of suggestions were put forward for consideration. The following vision statement was then developed and further refined with collective input from the Corporate Leadership Team, the wider Leadership Team, and a cross-section of staff from across the organisation:

> Vision: '*A modern, flexible and resilient fire and rescue service – saving lives, protecting you, working together'*

GMFRS Organisational Purpose

The next step was to collectively capture the organisational purpose.

An organisation must be clear on the purpose for which it is set up. The organisational purpose underpins the vision and is the next fundamental building block to developing the future operating model for GMFRS.

Having a clearly articulated organisational purpose is also important from a leadership and culture perspective, ensuring that there is a common sense of purpose for all employees working for the organisation.

The GMFRS core organisational purpose was developed following a number of sessions with the Corporate Leadership Team, the wider Leadership Team, and a cross-section of staff from across the organisation. The core purpose of the organisation was initially captured in 3 statements and was intentionally reflective of the Fire and Rescue National Framework which refers to Prevention, Protection and Response as being the core business of Fire and Rescue Authorities:

- *Prevent and reduce the number of fires and emergencies*
- *Prevent and reduce the number of deaths and injuries from fires and other emergencies*

- ***Prevent and reduce property damage, economic loss and environmental impact***

Following further discussion with staff and the wider Leadership Team, however, these were then refined to 2 statements, as set out below, to better reflect the response element of the organisation and what is expected by the general public:

- ***Save lives, reduce injuries and respond effectively when you need us***

- ***Help you to prevent fires and other emergencies, build safer communities and reduce damage to property, the environment and the economy***

GMFRS Offer

Building on the core purpose of the organisation set out above, further work was then undertaken with the various staff groups to collectively consider the GMFRS 'offer' whilst ensuring alignment with the strategic priorities of the Greater Manchester Strategy, particularly in relation to partnership working (across other emergency services and also in the context of the wider wellbeing agenda), strengthening our resilience, and helping people to help themselves.

The offer statements outlined below set out what GMFRS will do in order to fulfil its organisational purpose whilst contributing to the strategic objectives of the Greater Manchester Strategy – Our People, Our Place:

- Having the right people, with the right skills, in the right place, at the right time
- Understanding and reacting to changing risk in order to deliver a modern, flexible and resilient fire and rescue service
- Planning for and providing a seamless emergency response in partnership with other blue light agencies
- Working with others to help you to keep yourself safe from fires and other emergencies
- Understanding our communities to target our resources on those that most need it
- Working collaboratively with other agencies to ensure buildings comply with fire safety regulation, taking appropriate action to achieve compliance

Communicating the GMFRS Vision & Purpose with Staff

The above outputs have all been pulled into a rough visual (see appendix A) to clearly articulate the GMFRS vision and purpose on a single page and demonstrate how everything fits together.

The visual will need some creative design to ensure it presents a simple and clear message.

Once this has been done, the GMFRS vision and purpose will then need to be launched and communicated with staff across the organisation, laying the foundations for the new operating model which is currently under development.

As a matter of record, the vision and purpose work undertaken by CLT is included in appendix B and the notes from the workshop with a cross-section of staff are included in appendix C.

The wider Leadership Team contributed to the final refinements, in particular the merging of the vision and pledge into a single vision statement, and the reduction of the 3 core purpose statements into 2.

Whilst the purpose of this vision and purpose work is to capture the outward-facing role of GMFRS, it is equally intended to be representative of all parts of the organisation, recognising the value of our people and the role that everybody plays in delivering a frontline service to be proud of. In recognition of this, it was suggested by staff that a further session needs to take place to refresh the GMFRS values to better reflect the future vision and purpose as well as to address some of the leadership and cultural challenges that have recently been identified. This work will be progressed through the Leadership and Culture workstream.

Design Principles

In addition to the vision and purpose, a number of design principles (see Appendix D) have also been developed to help shape and govern the future development of the organisation and to ensure that options for change and design proposals are strongly linked to strategic objectives.

The design principles were developed in a workshop with each of the Workstream Leads, taking into consideration the current operating model, GMFRS's future role in the wider context of the Combined Authority, as well as the key change drivers and associated challenges.

There are a number of overarching design principles which can be applied across the entire organisation and are intended to summarise a long-list of thematic design principles: Organisational Set-Up; Partnership Working; Leadership, People & Culture; Processes, Systems & Technology, Performance Management; & Productivity & Resource Usage.

The design principles will ultimately be used to test and challenge all proposals in relation to people, process and systems and are intended to ensure the design of the GMFRS operating model maintains a clear focus on the organisation's vision, purpose and strategic priorities.

Recommendations:

The Programme Board and Steering Group are asked to approve proposed GMFRS vision and purpose (as set out in appendix A) to enable the communication of the refreshed vision and purpose across all GMFRS staff (subject to the relevant design work and supporting communications plan).

Appendix A – Proposed GMFRS Vision & Purpose

A modern, flexible, resilient fire and rescue service –
saving lives, protecting communities, working

**We are here to:**   **We will do this by:**

Save lives, reduce injuries and respond effectively when you need us

- Having the right people, with the right skills, in the right place, at the right time
- Understanding and reacting to changing risk in order to deliver a modern, flexible and resilient fire and rescue service
- Planning for and providing a seamless emergency response in partnership with other blue light agencies

Help you to prevent fires and other emergencies, build safer communities and reduce damage to property, the environment and the economy

- Working with others to help you to keep yourself safe from fires and other emergencies
- Understanding our communities to target our resources on those that most need it
- Working collaboratively with other agencies to ensure buildings comply with fire safety regulation, taking appropriate action to achieve compliance

Appendix B – CLT Vision, Mission & Purpose Workshop Outputs
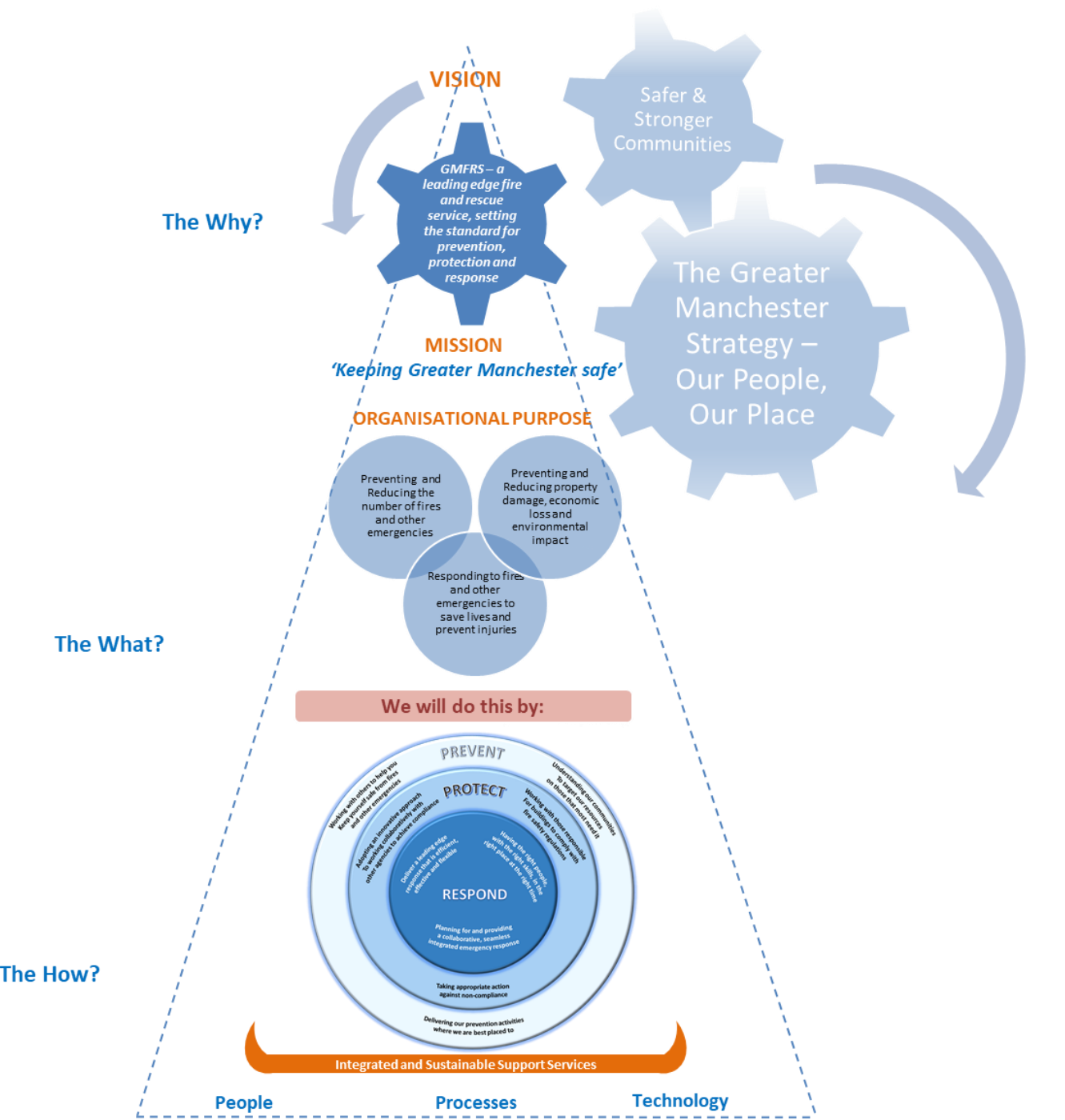
Appendix C: Staff Reference Group Workshop Notes – Thursday, 13 September 2018

Following on from the work undertaken with CLT to develop a refreshed vision and purpose for GMFRS, a session was held with the Staff Reference Group (SRG) to test and discuss the CLT outputs and, where appropriate, put forward additional suggestions for consideration.

The SRG workshop attendees were taken through the same process as CLT, starting with a discussion around the current vision, whether it was fit for purpose, and what was needed for the future. The below points summarise the discussion:

GMFRS Vision Now…

- Current vision is well published however, it's too wordy to read.
- GMFRS has lost sight of the key values.
- Stuck in the old ways.
- Needs to listen to staff.

Moving forward…

- Vision needs to be about community as well as the staff (although following some further discussion it was acknowledged that the development of a set of values for GMFRS would be better placed to reflect the value placed on staff, the culture we are aiming for and the aspiration for a diverse workforce etc. rather than trying to reflect all of this in the outward facing vision).
- Service needs to recognise future risks.
- We need to be flexible/able to adapt to changing risks.
- Recognition that we needed to be able to provide a '21st century response'.
- Forward thinking.
- Forward looking.

Following the discussion, groups were then asked to pull out key words that they considered important when developing a future vision statement for GMFRS:

Saving Lives/Respond (x6)	Resilient (x2)	Integrity
Changing World/Reducing Risk (x5)	Protecting the Environment (x2)	People-centred
Modern (x3)	Accountable	Prevent
Safer Communities/Community-Focussed (x3)	Adapting/Flexible	Protect
Collaboration/Partnerships (x3)	Best Value	Responsible
21st Century Response (x2)	Effective	Right People, Right Place, Right Skills
Cutting-Edge (x2)	Forward-Thinking	Safe place to live, work and travel
Efficient (x2)	Global Leader	Sustainable
Innovative (x2)	Highest Standard	Transformational

Groups were then asked to put forward some suggestions for a future vision - an aspirational statement to succinctly capture what the organisation intends to become (the desired future state).

Suggested Vision Statements…

The following table sets out the GMFRS vision statements that were suggested by each of the groups. The vision developed by CLT is also captured for completeness.

Proposed By…	Vision Statement	Workshop Comments/Feedback
CLT	*'GMFRS – a leading edge fire and rescue service, setting the standard for prevention, protection and response'*	- Whilst acknowledging the national framework, we don't need to state 'prevent, protect, respond' in the vision. It's not relevant to the general public. - All 3 areas are implicit in 'modern, resilient and saving lives'
Pink Team	*'GMFRS - Responding to emergency incidents in an ever changing world whilst developing partnerships and empowering our people'*	- Response focused: GMFRS needs to go back to basics - Collaborative work, aligning GMFRS with both internal and external partners - People-centred: honesty and integrity has to be a priority
Pink Team	*'A transformational, resilient, efficient and effective fire and rescue service'*	- Efficient and sustainable need to be acknowledged
Green Team	*'A modern, quality service, reacting and adapting to meet changing risk, save lives, and build safer communities'*	- Reacting and adapting to meet changing risk - 21st Century response - This was the preferred statement across all groups, acknowledging that some further refinement would be needed to reflect the key words identified in the earlier activity

Following some further refinement to reflect elements of each proposal, as well as ensuring the key words identified in the earlier exercise were included, it is proposed that the final vision statement is selected from the 3 options below (the key variations are highlighted in yellow):

a) *'A modern and efficient fire and rescue service, reacting and adapting to meet changing risk, save lives and work with our partners to build safer communities'*

b) *'A modern and resilient fire and rescue service, reacting and adapting to meet changing risk, save lives and work with our partners to build safer communities'*

c) *'A leading edge fire and rescue service, reacting and adapting to meet changing risk, save lives and work with our partners to build safer communities'*

Suggested Mission Statements/Pledge…

The next part of the SRG workshop focussed on the GMFRS mission statement, a short and memorable statement which sets out what we do now and will continue to do on a day to day basis whilst working to accomplish our vision.

Following some initial discussion around mission statements, and the potential to confuse this with the GMFRS future vision, the general consensus was that rather than a mission statement it would be more appropriate to have a single vision statement or a vision and a pledge.

The following table sets out the pledge statements that were suggested by each of the groups. The mission statement previously put forward by CLT is also captured for completeness.

Proposed By…	Pledge Statement	Comments/Feedback
CLT	*'Keeping Greater Manchester Safe'*	- Old language - Not enough (alludes to just preventing and protecting)
Blue Team	*'Save you, trust us, work together'*	- Short and snappy, easy to remember - 'Trust us' could have negative connotations
Pink Team	*'Responding to emergencies and incidents in an ever evolving world'*	- Too similar to a vision statement
Green Team	*'Saving lives, protecting you, working together'*	- Short and snappy, easy to remember - Its relevant both now and in the future - Covers all core elements of responding and prevention, protection and fire safety, working with partners
Green Team	*'Making Greater Manchester a safe place to live, work and travel'*	- Too similar to a vision statement - Not relevant enough to the fire service

Following feedback and comments from all groups, it is proposed that the final pledge is selected from the following 2 options below:

a) *'Save you, trust us, work together'*

b) *'Saving lives, protecting you, working together'*

Current Service Model

The final part of the workshop considered the current service model and the future organisational purpose.

Each group was tasked with reviewing the current service model to consider whether it fully captured GMFRS's organisational purpose, identifying what needed to change and which elements were important to keep. The following points capture the broad themes emerging from each group's feedback:

GREATER MANCHESTER FIRE AND RESCUE SERVICE

Service Model

Save	Protect	Prevent	Public Value	People	Principles

Our purpose is to save, protect and improve the lives of the people in Greater Manchester

Elements that were important to keep:

- Specific reference to staff/people – important to acknowledge the role that staff play as the service cannot be delivered without people (staff currently feel undervalued)
- Most of the content is still relevant (although clear consensus that it needed to be streamlined and refined)

Elements to improve:

- Too much content
- Too repetitive
- Too much to read
- Doesn't get looked at by staff

Future Organisational Purpose

The groups were then asked to develop their own organisational purpose statements, setting out why the organisation exists, the core objectives of GMFRS and what it is expected to deliver. The outputs that CLT produced were also shared to inform thinking and gather feedback. Whilst the majority of groups felt that the statements developed by CLT were reflective of the future GMFRS organisational purpose, there were a number of challenges and suggested changes set out below:

- Explicit reference to prevent, protect and respond is old school and dated. Whilst these elements are part of the national framework they don't need to be stated explicitly as this contributes to working in siloes.
- Support Services shouldn't sit separately, they are there to support frontline delivery but are an integral part of the organisation.

Proposed amendments to the statements are set out below, with suggested additions highlighted in yellow:

Organisational Purpose:

- ~~Prevent and reduce the number of deaths and injuries from fires and other emergencies~~
- ==Save lives, reduce injuries and respond effectively when you need us==
- Prevent and reduce the number of fires and other emergencies
- Prevent and reduce property damage, economic loss, and environmental impact

We will do this by:
~~Preventing:~~
- Working with others to help you to keep yourself safe from fires and other emergencies
- Understanding our communities ~~to target our resources on those that most need it~~ and providing support where it is most needed
- ~~Delivering prevention activity where we are best placed to~~ *(no need to state this as 'working with others' in the earlier point covers this)*

~~Protecting:~~
- ~~Working with those responsible for buildings to comply with fire safety regulation~~
- Working ~~collaboratively with other agencies~~ in collaboration with local partnerships to support those responsible for buildings to comply with fire safety regulation, and take appropriate action against non-compliance *(3 bullets have been combined)*
- ~~Taking appropriate action against non-compliance~~

~~Responding:~~
- Having the right people, with the right skills, in the right place at the right time
- Delivering a ~~leading edge~~ ==modern== emergency response that is efficient, effective and flexible
- Planning for and providing a collaborative, seamless ~~integrated~~ emergency response

Following feedback on the CLT outputs, the groups then came up with two alternative organisational purpose proposals. All 3 are provided below for consideration:

Amended CLT version:
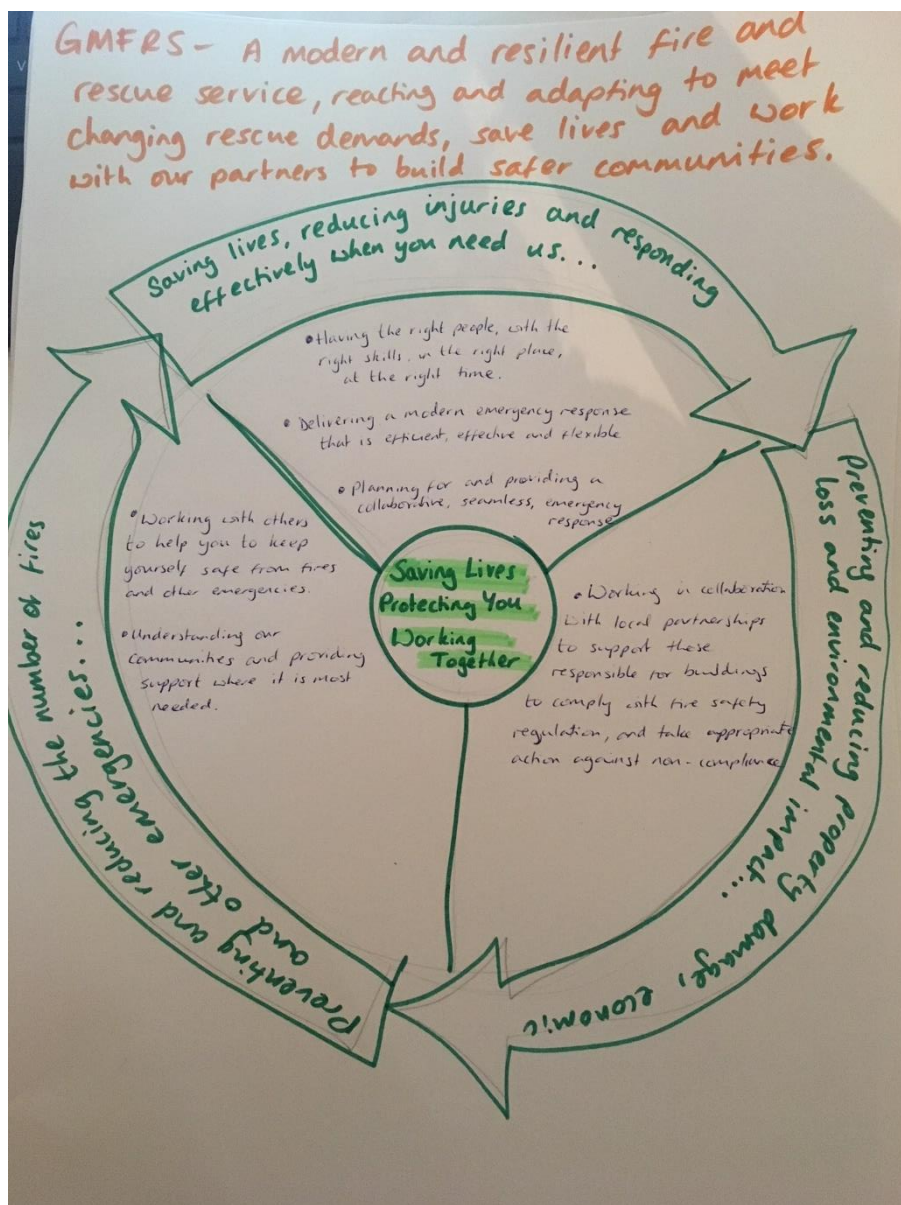
The above version takes into account the suggested amends from the groups and is the most comprehensive, whilst also maintaining strong links to the existing service model.

SRG version 1:
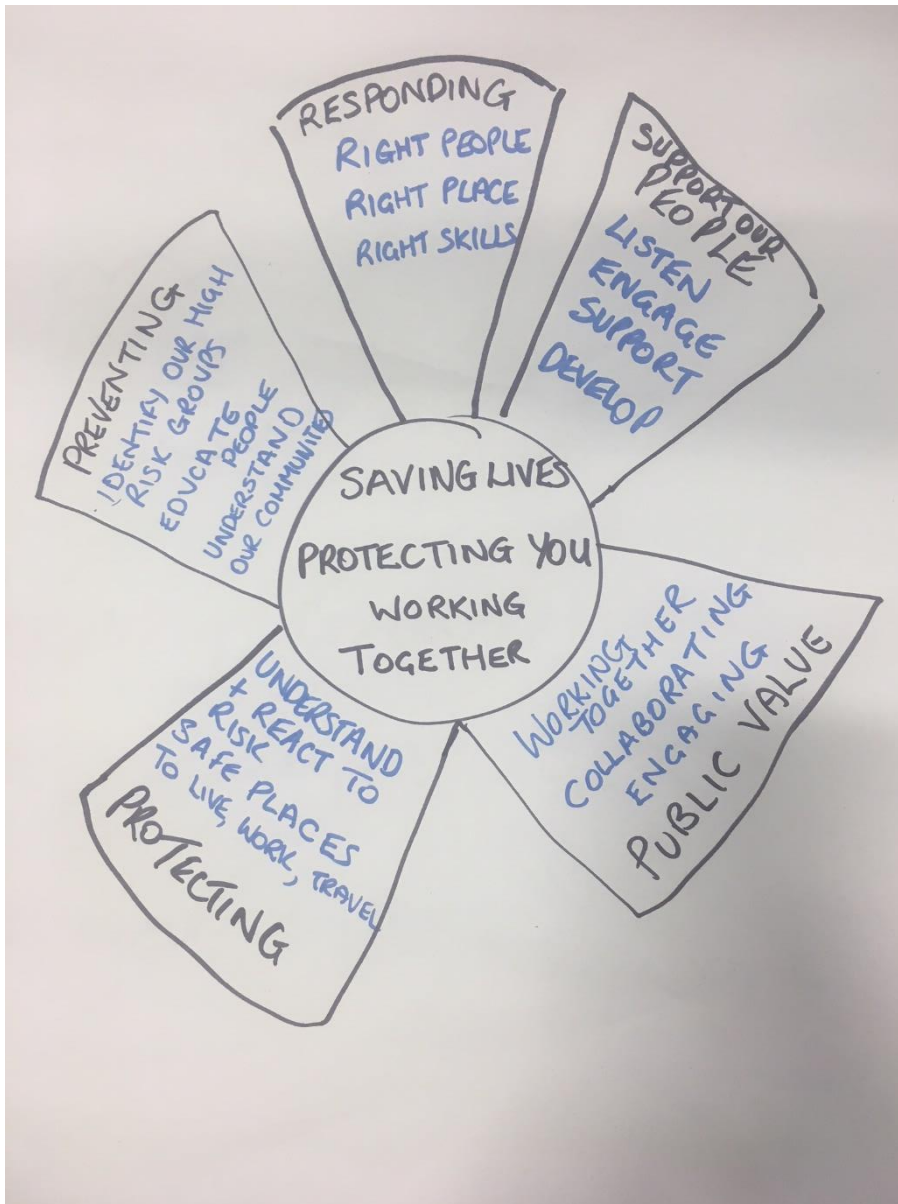
This version is more succinct and also highlights partnerships and staff/people. This version, however, reverts back to the terminology of preventing, protecting, responding and still needs some further refinement and cross referencing with the current service model to ensure all aspects are covered.

SRG version 2:
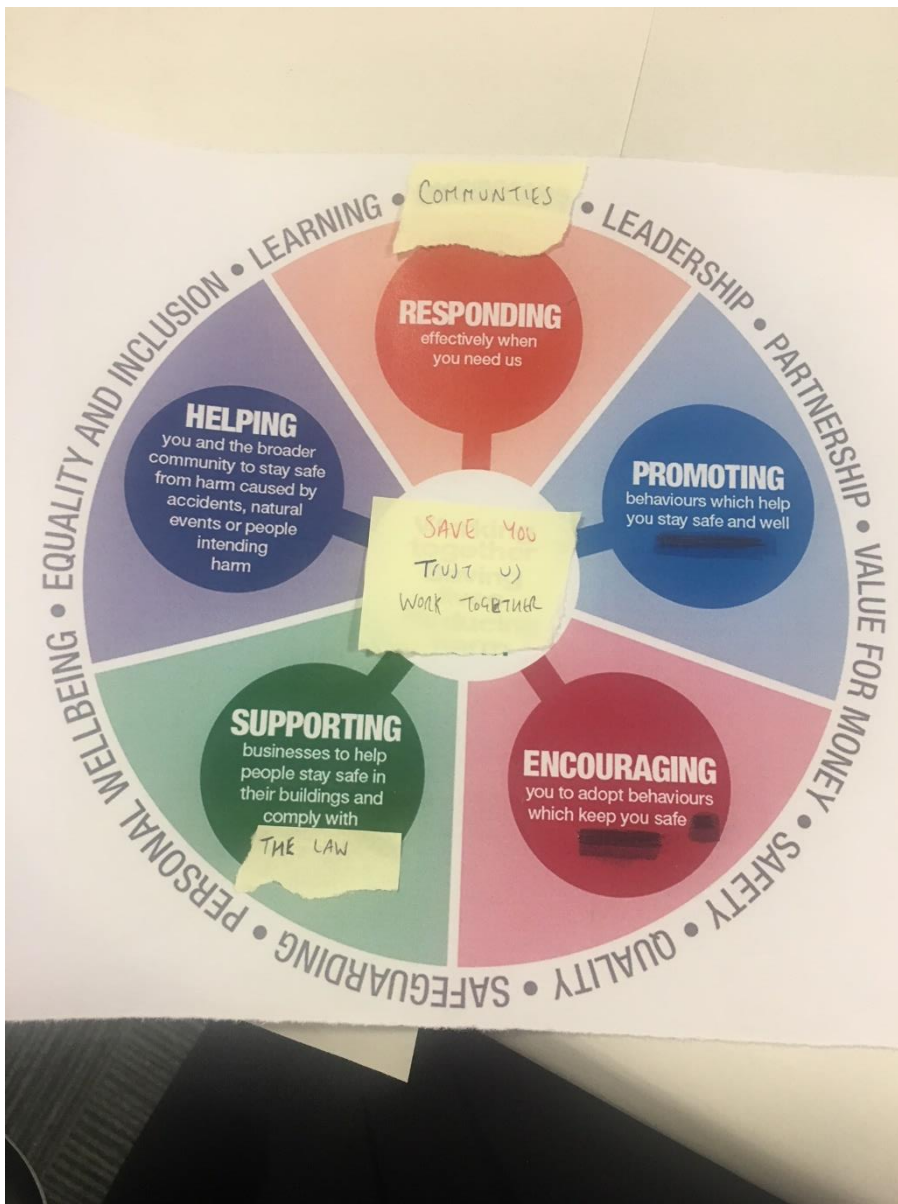
All of the groups liked the Kent FRS service model. The consensus was that, with some refinement and alignment to the GMFRS service model, it was visually more attractive, straight to the point, and not too wordy.

In summary, the groups concluded that, subject to the proposed amendments, the organisational purpose statements developed by CLT were fit for purpose, but it would also be worthwhile to consider the simplified statements proposed in SRG version 1. The group also concluded that the end product would benefit from a design similar to that featured in SRG version 2 (the Kent FRS service model).

Appendix D – Organisational Design Principles

		Overarching Design Principles
1.	**Overarching Design Principles**	**Efficient and effective ways of working** • Our vision, 'a modern, flexible and resilient fire and rescue service – saving lives, protecting you, working together' should be at the forefront of all decision-making • Clear demonstration of affordability and value-for-money, ensuring the organisation is sustainable, whilst driving growth and maximising opportunities • Processes that are proportionate, meet needs and support strategic objectives • Similar activities grouped together to achieve economies of scale: delivering services once in the same way across the organisation, streamlining and stopping low value-adding activities • Exploiting the potential of digital first and self-service first, wherever possible **How we organise ourselves** • Resources focused on strategic priorities and core business, collaborating with partners • Clear integration with the Greater Manchester Combined Authority, with support services shared where appropriate • Clear, measurable accountability for each service & service level agreements where this adds value • Structures underpinned by clear governance arrangements to support simplified decision-making • Maintain staff engagement by growing our own talent and promoting succession opportunities
		Thematic Design Principles
2.	**Organisational Set-Up**	• A single accountable owner for each service. • Services shared across the CA where appropriate • An agile operational setup that can adapt to the changing role of GMFRS and service demand • The ability to innovate and deliver world class solutions to fire, rescue and safety related issues
3.	**Partnership Working**	• Working collaboratively with blue light organisations and other partner agencies to deliver a seamless service • Strong working relationships with political and service delivery partners • Integrated working with our partners at place, borough and service level • The sharing of systems, data and Information as a key driver in our decision making
4.	**Leadership, People & Culture**	• The skill and will to be flexible that means we can respond quickly to change • A consistent, authentic and inclusive approach to leadership that inspires a shared vision • The ability to recognise, develop and grow a diverse and talented workforce • Transformational leadership that seeks to embed a new way of working and improved culture across the organisation • A collaborative performance driven culture firmly based on the organisation's values that encourages and enables innovation • People who place the priorities of our communities at the heart of all we do • A culture of honesty and transparency that fosters positive challenge • Recognition and reward for high performance • A cost effective, productive and efficient workforce and organisation structure when compared to appropriate benchmark organisations. • People at the heart of organisation strategy, providing a working environment where people feel supported, well led and where they have the opportunity to develop and grow
5.	**Processes**	• Do it right, do it once • A Simplified, standardised and shared common set of processes with local variations only where value is created • Processes which are proportionate and support key business objectives
6.	**Systems & Technology**	• A common set of systems and applications across the organisation • Commercial off the shelf packages used wherever possible • Takes advantage of leading innovative digital technologies to optimise service delivery • Staff equipped with the skills and technologies to access information and systems to support effective decision-making
7.	**Performance Management**	• A simple set of KPI's to monitor performance and provide metrics to drive changes in the way we work and identify areas for improvement and innovation • Performance objectives which are aligned to strategic priorities right through the organisation. • A scorecard approach to delivery which ensures accountability at all levels across the organisation to embed the transformational leadership culture • A common, organisation wide governance structure with clear accountability for performance delivery and to enable effective decision-making
8.	**Productivity & Resource Usage**	• Developing processes which focus on driving improved productivity across all operational and supporting services • Ensuring investment and budgets are focused on frontline core activity • Ensuring supporting services are delivered from wherever is best placed to achieve upper quartile value for money benchmarks • Upskill our people to increase the value added and reduce non value activity from all services • Ensuring that budget holders are suitably equipped with the tools, systems, processes, training and reports to allow then to effectively manage their budgets • Hold budget holders accountable for the effective use of their resources, both financial and non-financial • Develop budgets which reflect the current needs of the Fire Service, from a zero base, once the GMFRS future operating model has been confirmed

GMCA GREATER MANCHESTER COMBINED AUTHORITY

Date: 23rd August 2018

Subject: The Role of a Firefighter in Greater Manchester

Report of: ACFO Tony Hunter (Director of Prevention and Protection)

Purpose of Report

1. This document has been produced and sets out the decisions required to support the implementation of the agreed Firefighter roadmap.

2. The purpose of this report is to seek the Board's support to begin to clarify the role of the Firefighter in relation to elements of the role that are currently not being carried out.

Summary

3. The role of the Firefighter is fundamental to the development of the future operating model for GMFRS.

4. Currently the Firefighter role map sets out the role of Firefighters in the areas of Response, Prevention and Protection (See Appendix A)

5. A number of elements of the existing role map, which are subject to interpretation, are currently not delivered by Firefighters for a number of reasons. As a result of this, a proportion of the Firefighter role is currently being carried out by non-firefighter staff or not carried out at all.

6. In addition, one particular element, Emergency Medical Response (EMR), has been legally stated as not a part of the contract of a Firefighter.

7. However, GMFRS considers that all of the following elements **are** within the current role map, although these are currently areas of contention:

   RESPONSE

   a. *Maintain operational readiness at all times through competence training and exercising to ensure efficient and effective response to all emergency situations within the National Framework. This includes training for terrorist events (MTA).*

   b. *Assist other Blue Light agencies upon request by*,

   - *Providing access to premises to support partner activity (gaining entry)*
   - *Responding to premises on behalf of NWAS and GMP to provide an intervention to known welfare needs (concern for welfare)*
   - *Providing a response service to Health and Social care partners where FRS resources can assist in supporting people to continue to live in their own homes by delivering the moving and handling of patients.*
   - *Responding to falls in the home to reduce hospital admissions.*
   - *Responding, in conjunction with GMP, to 'Wide Area Searches'*

   PREVENTION

   - *Deliver Firesmart interventions upon request to children and youths (arson reduction programmes)*

- *Work to supplement the Children and Young People offer by increasing activity within Princes Trust and Fire Cadet Schemes (either as part of existing roster or by the use of additional hours)*
- *Providing CPR training to the communities and businesses of Greater Manchester*

8. The emerging thinking with regards to the development of the future operating model indicates the need for Firefighters to now take ownership of these elements of the role map to enable GMFRS to deliver efficiencies which will support maintenance of core frontline services within challenging budgetary constraints.

9. We recognise a number of national documents[1] and key events[2] have and continue to influence the debate around the role of the Firefighter. However, we now need support to progress the debate locally into the areas identified above that we consider are in the current role map and need to be delivered by Firefighters.

10. This paper is provided for information at this stage to establish discussions to enable the programme to progress the development of the operating model and the delivery of efficiencies.

Recommendations

11. In line with the information and supporting evidence provided in Appendix A, we are seeking support from the Board to progress the implementation, consultation and/or negotiation in relation to:

   a) RESPONSE
      i.   Responding to EMR
      ii. Training for terrorist events (MTA).
      iii. Assisting other Blue Light agencies by responding to, Gaining entry, Concerns for Welfare, Health and Social Care Partners, Falls in the home and Wide Area Searches

   b) PREVENTION
      i. Delivering Firesmart and work to supplement the Children and Young People
      ii. Providing CPR training to the communities and businesses of Greater Manchester

   c) PROTECTION
      i. Carrying out low level risk assessments in small businesses and community spaces
      ii. Undertake inspection and testing of Water Hydrants

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[1] 2002 Bain Report; 2013 Sir Ken Knight Review; and 2015 Adrian Thomas review
[2] 13/06/2013 - Oldham St, death of FF Stephen Hunt; 22/05/2017 - Manchester Arena death of 22 people; 14/06/2017 – Grenfell Tower fire causing 72 deaths

Appendix A: The Role of a Firefighter

Ref No	Current Role of Operational Firefighting Crews	In Place now	Why (FF – Role Map)	Wider Supporting Evidence to consider implementing / retaining activity
		Yes / No	Relevant elements taken from role map	
Responding				
1	Maintain operational readiness at all times through competence training and exercising to ensure efficient and effective response to all emergency situations within the National Framework. (Including terrorist events - MTA)	**Yes** (Some elements, due to broadening of the role)	FF2 Take responsibility for effective performance FF3 Save and preserve endangered life FF4 Resolve Operational Incidents FF5 Protect the environment from the effects of hazardous materials FF6 Support the effectiveness of operational response FF9 Drive, manoeuvre and redeploy fire service vehicles	Fire and Rescue National Framework for England (2018) Fire and Rescue Services Act (2004) Civil Contingencies Act (2004) Lord Kerslake Review into Manchester Arena (2018) GMS 8 Safer, Stronger Communities HMICFRS
The maintenance of skills (MOS) package for operational firefighters is in place to ensure operational competency, this includes standard training, regular exercising and assessment. This is supported by the Learning Management System (LMS) covering all themes and audited using the performance portal. Marauding Terrorist Attack (MTA) is seen as part of the broadening of the role of a Firefighter and therefore at the heart of ongoing pay negotiations.				
1a	Support recommendation to maintain current approach to maintaining emergency preparedness			Yes / No
2	Take part in continuous training and learning programmes to achieve and maintain competence levels.	**Yes**	FF2 Take responsibility for effective performance FF7 Support the development of colleagues in the workplace	Fire and Rescue National Framework for England (2018) Fire and Rescue Services Act (2004) Civil Contingencies Act (2004) GMS 8 Safer, Stronger Communities HMICFRS
3	Maintain the required level of personal fitness necessary to carry out all the duties of a firefighter, taking responsibility for maintaining personal fitness, health and wellbeing.	**Yes**	FF2 Take responsibility for effective performance FF4 Resolve Operational Incidents	Fire and Rescue National Framework for England (2018) Fire and Rescue Services Act (2004) Civil Contingencies Act (2004) GMS 8 Safer, Stronger Communities HMICFRS
4	Maintain all firefighting and emergency equipment in a state of readiness including cleaning and testing as required and to approved standards and procedures.	**Yes**	FF6 Support the effectiveness of operational response FF4 Resolve Operational Incidents	Fire and Rescue National Framework for England (2018) Fire and Rescue Services Act (2004) Civil Contingencies Act (2004) GMS 8 Safer, Stronger Communities HMICFRS
5	Be aware of general and specific risks, possible hazards and water supplies to be found within the Fire Station area.	**Yes**	FF6 Support the effectiveness of operational response FF4 Resolve Operational Incidents	Fire and Rescue Services Act (2004) Civil Contingencies Act (2004) GMS 8 Safer, Stronger Communities HMICFRS
Operational crews utilise the Mobile Data Terminals to host risk critical information from within the Operational Information System, which is in turn supplemented by 7(2)(d) visits, the ability to carry out sufficient visits and risk data collection is dependent on the profile of the station area and the complexity of the buildings within.				

Appendix A: The Role of a Firefighter

5a	Support recommendation to increase programmed time to capture more risk information in line with developments across Greater Manchester			Yes / No
6	Assist other Blue Light agencies upon request by, - Providing access to premises to support partner activity (gaining entry) - Responding to premises on behalf of NWAS and GMP to provide an intervention to known welfare needs (concern for welfare) - Responding in conjunction with NWAS to calls for Emergency Medical Response (EMR) - Providing a response service to Health and Social care partners where FRS resources can assist in supporting people to continue to live in their own homes by delivering the moving and handling of patients. - Responding to falls in the home to reduce hospital admissions. - Responding, in conjunction with GMP, to 'Wide Area Searches'	**No** **No** **No** **No** **No** **No**	FF3 Save and preserve endangered life FF4 Resolve Operational Incidents FF8 Contribute to safety solutions to minimise risks to your community	Fire and Rescue National Framework for England (2018) Fire and Rescue Services Act (2004) – *Sct 11 power to respond to other eventualities* GMS 8 Safer, Stronger Communities
6a	Support recommendation to provide a formal risk assessed service to gain entry on behalf of other blue light services			Yes / No
6b	Support recommendation to provide a formal risk assessed service to attend concern for welfare incidents behalf of GMP			Yes / No
6c	Support recommendation to revisit negotiations in relation to attendance at EMR incidents with NWAS			Yes / No
6d	Support recommendation to develop protocols for assisting with moving / handling on behalf of NHS			Yes / No
6e	Support recommendation to explore provision of a falls response capability			Yes / No
6f	Support recommendation to support GMP with Wide Area Searches			Yes / No
7	Prioritise visits to business and multi occupancy residential premises in line with the existing Community Risk Management System risk profiling as required by the Fire and Rescue Act (2004) Section 7(2)d.	**Yes**	FF1 Inform and educate your community to improve awareness of safety matters FF4 Resolve Operational Incidents FF6 Support the effectiveness of operational response FF8 Contribute to safety solutions to minimise risks to your community	Fire and Rescue Services Act (2004) Civil Contingencies Act (2004) Regulation 28 report following Coronial process - Oldham St (2016) HMICFRS

Appendix A: The Role of a Firefighter

Prevention				
8	Carry out 'Fire Risk Reduction' in homes, both planned and on priority request to meet the requirements of partners within each locality. This to be driven by local demographic need rather than GMFRS capacity and builds on the ongoing referral mechanisms being developed across Greater Manchester. This to be carried out under the 'Fire Risk Reduction' principles outlined below.	**Yes**	FF1 Inform and educate your community to improve awareness of safety matters FF8 Contribute to safety solutions to minimise risks to your community	Fire and Rescue National Framework for England (2018) GMS 6 Safe, Decent and Affordable Housing GMS 8 Safer, Stronger Communities GMS 9 Healthy lives, with quality care available for those that need it. GMS 10 An age friendly Greater Manchester HMICFRS
Following feedback and evaluation of the operational crews undertaking a holistic fire risk reduction visit which focuses on the underlying lifestyle factors that are known to contribute to fatal fires and injuries and the out turn results after a 2 year period it is recommended that an alternative approach be adopted which focuses on core fire risk elements Operational Crews to focus on a more generic and standard home visit, which should continue to have consideration for the wider vulnerabilities, but will ensure that as a minimum, standard smoke alarms are supplied and fitted on escape routes and every area of risk, highlight and discuss effective escape plans, and give advice around fire risk factors based on the knowledge of the fatal fires report, with a strong emphasis on smoke alarm testing and the closing of doors to prevent fire spread and enhance means of escape and improve survivability.				
8a	Support recommendation to develop Fire Risk Reduction methodology (to replace existing Safe and Well) in line with above			Yes / No
9	Target all primary, secondary schools and colleges in Greater Manchester with key messaging around community safety, this to include fires, water and road safety.	**Yes** (primary only) Secondary carried out by CSA's	FF1 Inform and educate your community to improve awareness of safety matters	GMS 2 Young people equipped for life HMICFRS Fire and Rescue Services Act (2004)
There is a current performance measure of targeting all year 6 pupils in Greater Manchester with prevention activity linked to one or more of the annual safety campaigns, this is carried out by operational crews and programmed by admin teams. Secondary schools are targeted by Community Safety Teams and again programmed by admin teams although this demonstrates a relatively low return due to capacity and conflicting workloads. It is therefore recommended that operational crews take responsibility for all school interactions within localities. Colleges are currently targeted predominantly with road safety messages as part of a partnership approach and crews involved voluntarily.				
9a	Support recommendation to increase involvement with schools by operational crews to include secondary schools and colleges in line with increasing the core offer to children and young people by operational crews.			Yes / No
10	Deliver Firesmart interventions upon request to children and youths (arson reduction programmes)	**No** (carried out by CSA's)	FF8 Contribute to safety solutions to minimise risks to your community	GMS 2 Young people equipped for life HMICFRS
Firesmart is a recognised arson reduction programme that is currently delivered by Community Safety Teams without the involvement of operational crews to under 17's. Referrals are made by a wide range of services, including schools, youth offending teams and in some cases parents.				

Appendix A: The Role of a Firefighter

10a	Support recommendation to increase involvement with Firesmart in line with increasing the core offer to children and young people by operational crews.			Yes / No
11	Work to supplement the Children and Young People offer by increasing activity within Princes Trust and Fire Cadet Schemes (either as part of existing roster or by the use of additional hours)	**No** (carried out by CYP Dep't)	FF1 Inform and educate your community to improve awareness of safety matters	GMS 2 Young people equipped for life GMS 3 Good jobs with opportunities for people to progress and develop
Currently the Princes Trust and Fire Cadet schemes are run by dedicated teams from within the Children and Young People teams with little or no involvement from operational crews, a number of staff do volunteer as part of the cadet schemes but this is outside of role requirements. There is a recommendation that operational crews could play a bigger part in this activity as part of their core role.				
11a	Support recommendation to increase involvement with Princes Trust and Fire Cadets as part of rostered activity in line with increasing the core offer to children and young people by operational crews.			Yes / No
12	Providing CPR training to the communities and businesses of Greater Manchester	**No**	FF8 Contribute to safety solutions to minimise risks to your community	
During the period of responding to EMR the concept of a survival academy was borne and developed at the Bury training site, a number of volunteer EMR trainers have been recruited to train on site. In addition to this a number of stations remain actively involved in Heartstart initiatives whilst not currently responding to EMR, although crews are trained in EMR as part of the response to fire and other emergencies role.				
12a	Support recommendation as to whether formal planning of operational crews in delivering EMR training to the communities and businesses of Greater Manchester to take place			Yes / No
Protection				
13	Carrying out low level risk assessments in small businesses and community spaces to support their compliance with the Regulatory Reform (Fire Safety) Order 2005. Risks identified that require a more technical resolution to be passed to the local protection team. Identified training requirement to support operational crews to undertake this activity will require delivery. This to be developed in line with the 'Fire Risk Reduction' principles outlined below. Undertake inspection and testing of Water Hydrants	**No** (carried out by BSA's) **No** (carried out by Hydrant Mechanics)	FF6 Support the effectiveness of operational response FF8 Contribute to safety solutions to minimise risks to your community	Regulation 28 report following Coronial process - Oldham St (2016) Regulatory Reform (Fire Safety) Order (2005) HMICFRS
Currently operational crews do not carry out protection inspections of non-domestic premises, this has evolved as a result of the Regulatory Reform (Fire Safety) Order 2005 and the responsibility lying with the responsible person, within Greater Manchester this has seen operational crews step away from inspections previously carried out under older legislation which may be argued has also seen a decrease in knowledge of the built environment and the potential impact this could have on firefighter safety and the required outcomes of the Grenfell inquiry both in terms of operational crew requirement and also creating a greater knowledge base across operational crews for protection activity and core progression into protection roles.				
13a	Support recommendation to implement a protection framework for operational crews, including the inspection and testing of Water Hydrants			Yes / No

Appendix A: The Role of a Firefighter

'Fire Risk Reduction' (FRR) Business and Home (Principles)

Core aim of reducing the risk form fire at the time of the visit by giving minimum advice based on professional knowledge and judgement around the main causes of fire, experience and awareness of current trends and statistics.

*Underlying health, lifestyle, language or other complex issues that cannot be addressed at the time of the visit operational crews should refer to either internal or external partners to provide a multi-agency intervention. The terminology around this to be **'Fire Risk Reduction Referral'***

Appendix B - Narrative / Decision Matrix to support each element

Element	Narrative
6	There have been a number of initiatives in recent years that have been developed / part developed in line with the collaborative approach with other blue light responders to assist in reducing their demand whilst latent capacity was identified within GMFRS. a) Gaining Entry – This has not been formalised due to the ongoing pay negotiations, however when request come into service via North West Fire Control they are relayed to the Duty Group Manager or National Inter Agency Officer who will consider the request based on risk and request a crew to attend where relevant. This is seen as work outside the rolemap, however is routine work to force entry in the event of fire. b) Concern for Welfare – This was developed in collaboration with Greater Manchester Police following the removal of the Community Risk Intervention Team (CRIT) who were trained to assist with checking on vulnerable members of Greater Manchester community on behalf of GMP. This was piloted across 3 stations (Wythenshawe, Wigan and Salford) from 1st April 2016 following training and although the Fire Brigades Union initially supported this was withdrawn as the nature of the work became more apparent as it was felt that crews were being placed at risk in certain situations. c) Emergency Medical Response (EMR) – Following a Memorandum of Understanding between NWAS and GMFRS operational crews began responding to EMR in September 2015 up until the ceasing of any activity broadening the role of a firefighter directed by the FBU in September 2017. d) Response to Health and Social Care requests – On occasions requests are received both locally and via North West Fire Control to assist with patients in the home that require moving / handling to support the ability to remain in the home e.g. relocating terminal patients to downstairs rooms, facilitating moving to accommodate specialist mattresses / equipment, these requests are generally a last resort from health partners who do not have the ability and are managed on an ad hoc basis. This is seen as work outside the rolemap. e) Falls Response – Although this is not work that GMFRS has undertaken there has been a drive in wider FRS to assist health partners with this work to prevent hospital admissions, within the safe and well visit a falls assessment is carried out to support this and identify early signposting for a more in depth assessment. f) Wide Area Searches - An area of support for the community where the skills, training and equipment of fire-fighters are invaluable, is the search for people who are missing in circumstances that lead the police to believe the life or health of that person, or any other person, is at risk. It is our intention to develop an operating procedure under which fire-fighters support police operations in the search for certain categories of missing persons.

Bibliography

Firefighter role maps

Fire and Rescue National Framework for England (2018)

Fire and Rescue Services Act (2004)

Civil Contingencies Act (2004)

Lord Kerslake Review into Manchester Arena (2018)

Greater Manchester Strategy Regulatory Reform (Fire Safety) Order (2005)

APPENDIX IV

Firefighter Capacity Evaluation

This document captures the analysis done to develop the evaluation of firefighter capacity

1. Analysis of expected firefighter time utilisation based on operational data

1.1. Pump utilisation

Using data from the Modas database which stores all AVL (automatic vehicle location) data, collected from all tracked resources, it is possible to present analysis of pump movements, to calculate the amount of time spent on various activities.

Data extracted from 1st September 2017 to 1st September 2018 shows the following:
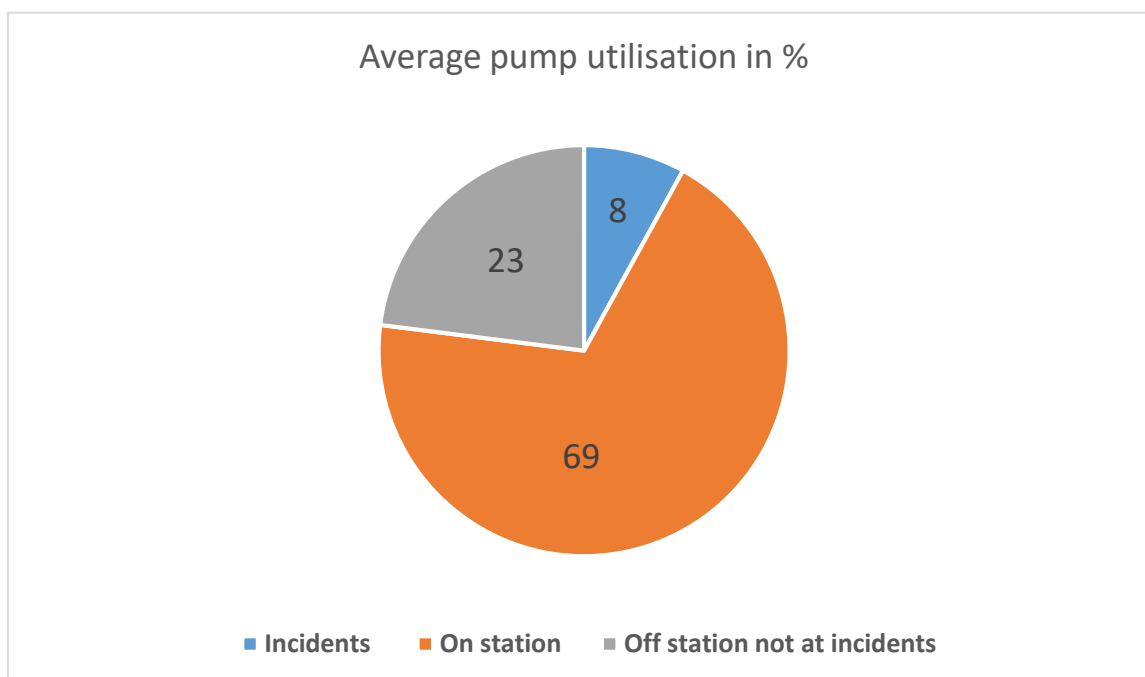
- Saddleworth Moor fires commenced on the 24th June 2018 and lasted 3 weeks with on average 20 pumps in attendance over a 24 hour period
- Winter Hill fire commenced on the 28th June 2018 and lasted for 41 days with an average of 5 GMFRS pumps in attendance over a 24 hour period.

- Therefore, an estimation of the impact of these incidents on pump attendance and pump off station time has been included in the graph below, to compensate for these unusual incidents.

Estimated average pump utilisation in % taking Saddleworth and Winter Hills Incidents out of the equation

6

21

73

■ Incidents   ■ On station   ■ Off station not at incidents
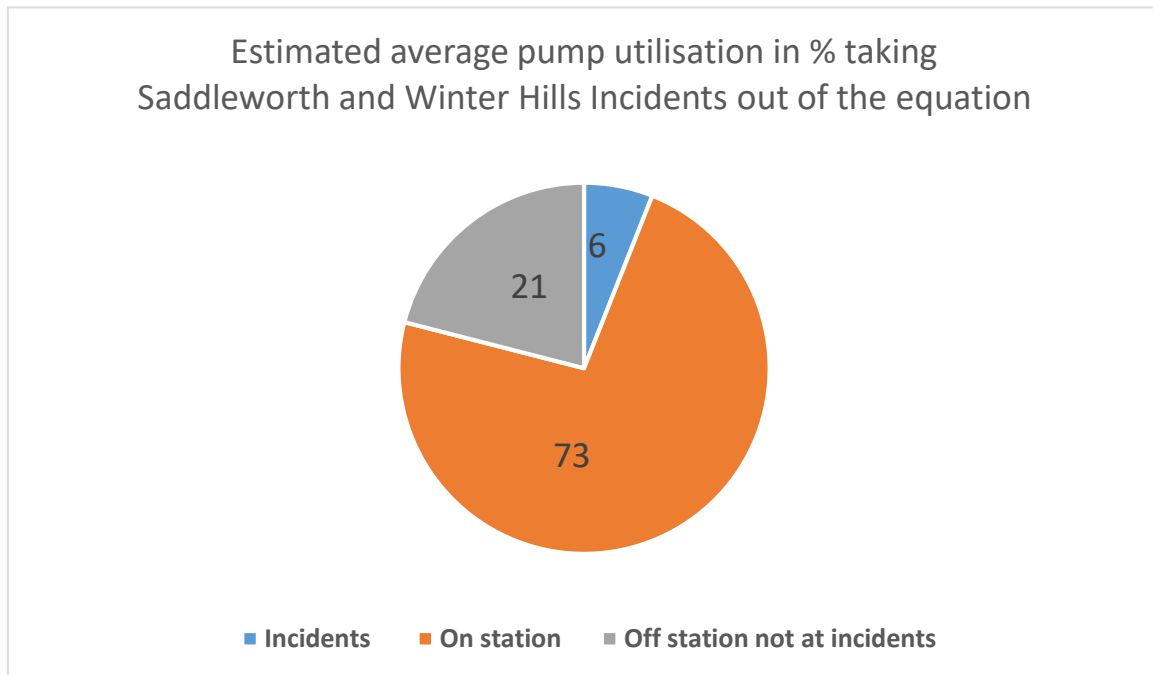
Incidents

- The pumps which spend the highest proportion of their time at incident related activity are G16P1 and G16P2, at 10.8% and 11.3%.
- The average for incident attendance is 7.8% with the lowest being 1.9%.
- 11 pumps are at incidents over 10% and 10 are incidents less than 5% of their time.

On station

- On average pumps are on station 69% of their available time.
- The highest amount of time on station is 85% of the time, which is G15P1.
- 45 pumps spend 60% of their time on station and 8 spend less than 50% on station.

Off station not at incidents

- Using the percentages above it can established that on average, pumps spend 23% of their time off station and not at incidents.

1.2.   Firefighter Time utilisation

'Work Routines on Wholetime Fire Stations' issued in February 2013, broke down the 24 hours in to day and night shifts.

Shift	Positive Hours	Total Hours
Shift Duty System	Day Shift 08:30 to 19:00 Night Shift 19:00 to 08:30	10.5 hrs 13.5 hrs Total 24 hrs

Day Shift – 10 Hours 30	DURATION	TIME REMAINING	Included below?
Start of shift appliance checks/shift briefing	30 minutes	10 hours	admin
Short drills	30 minutes	9 hours 30 minutes	Add o training
Refreshment break – a.m.	15 minutes	9 hours 15 minutes	y
Main meal break	60 minutes	8 hours 15 minutes	y
Refreshment break – p.m.	15 minutes	8 hours	y
End of shift preparation/admin catch up	30 minutes	7 hours 30 minutes	y
Pre-planned activities (Day)*		7 hours 30 minutes available	

Night Shift – 13 Hours 30 ACTIVITY	DURATION	TIME REMAINING	
Start of shift appliance checks/shift briefing	30 minutes	13 hours	admin
Refreshment break	15 minutes	12 hours 45 minutes	y
Main meal break	60 minutes	11 hours 45 minutes	y
Refreshment breaks	15 minutes (each)	11 hours 30 minutes	y
End of shift preparation/admin catch up	30 minutes	11 hours	admin
Pre-planned activities (Night)*		11 hours available	

As can be seen, this gives a total of 18.5 available hours for pre-planned activity. Using this figure as a foundation we can look more closely are where time is being spent.

Evaluation of operational data allows the time for these activities to be calculated

Area	Activity	Description & Basis of calculation	Time/day	Comment
Emergency Response	Incidents Post fire work Standard tests	6% at incidents - dealing with fire and Targeting of local residents (1hrs 30mins) (incident data, av7.8% for 17/18, minus 2% to account for Saddleworth/Winter hill fires). - Debriefs (15mins) - Standard test (1hr per person i.e. 4hrs per pump)	2hrs 45mins	Day or night Peaks are breakfast and dinner
Prevention	Safe and Well School visits Campaign work	1 visits per pump per shift (Corporate KPI), Time taken on average 30 mins per visit (taken from the safe & well evaluation) - Plus an assumed extra hour for additional activity, e.g. Station open days, school visits, partnership work etc.	2 hrs	Daytime and will remain like that
OIS	Information gathering and familiarisation Information recording	- Site visit - 1 visit per week (required to meet the volume of complex/high risk buildings in GM). - OIS times do vary substantially on building complexity and whether or not there have been any changes since last visit. - Av. Estimated Visit duration inc. travel time 1.5hrs - Generous estimate of 3.5hrs write up per visit x 4 people.	45mins	Daytime mainly, But more could be done at night. These times, include, increased activity due to issues emerging from Grenfell

Training	Daily drills Practical training/e-learning, includes Corporate exercises; special appliance training Does not include physical training	• 30min daily drills • Elearning (LMS). 162 e-learning modules to be completed each year, av. time per package 17mins/module. Resulting in an av. 15mins/shift x 2 = 30mins • Practical learning completed (taken from Maintenance of skills system) – av. Of 24mins per shift x 2 = 48mins • Estimated time nearly doubled to allow, for travel and disruption due to incidents etc.	3 hrs	Mainly daytime but could be day or night Undertaken on and off station
Rest	Rest/breaks	• Breaks - 4 x 15 mins breaks, • 2 x 1 hr - meals	3hrs	Evenly slit day and night
Stand-down	Corporate activity &Rest	• 1 x 7 hrs	7hrs	Midnight to 7am. At least 4hours are commonly used as a rest period.
Admin	This covers a broad range of operational and corporate administration	• Admin – 3hrs split by 2hrs each day, 1hr per shift, plus 1 hr ad-hoc admin	3hr	Day or night..
Unallocated			2.5hrs	
TOTAL			**24hr**	

Out of the 24hrs, activity type breaks down is currently used as follows:

- Rest 10hrs (41.5%)
- Admin 3hrs (12.5%)
- Training 3hrs (12.5%)
- Respond 3 hrs (12.5%) (including standard tests, debriefs & local resident engagement)
- Prevent 2hrs (8%)
- Protect 0.75hrs (3%)
- Unaccounted for 2.5hrs (10%)

Current Time Utilisation

Respond 13%
Prevent 8%
Protect 3%
Training 13%
Admin 12%
Rest 41%
Unaccounted 10%

Legend: Respond, Prevent, Protect, Training, Admin, Rest, Unaccounted
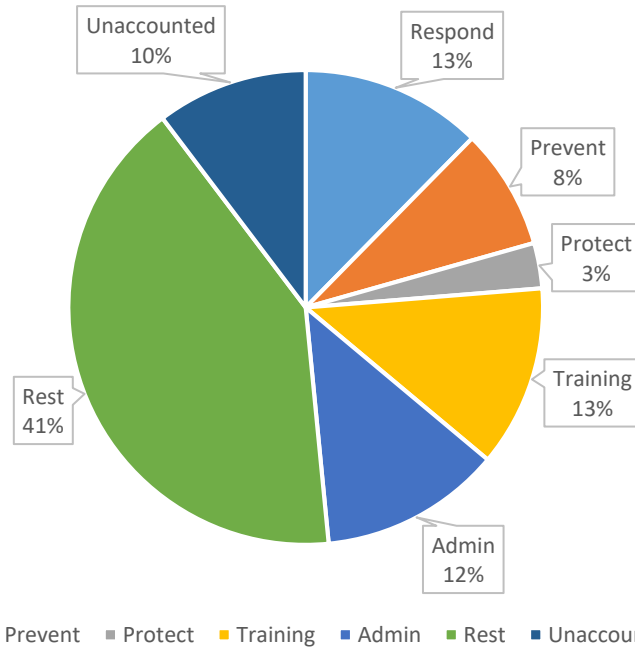
If administrative activity is split proportionately over the primary activities (prevent, protect, respond and prepare/train) the picture looks like this and can be compared more directly with the ABC survey of staff.

Expected Time Utilisation Analysis Adjusted (spread admin)

Unaccounted for 10%
Respond 16%
Prevent 11%
Protect 4%
Prepare 17%
Rest 42%

Legend: Respond, Prevent, Protect, Prepare, Rest, Unaccounted for
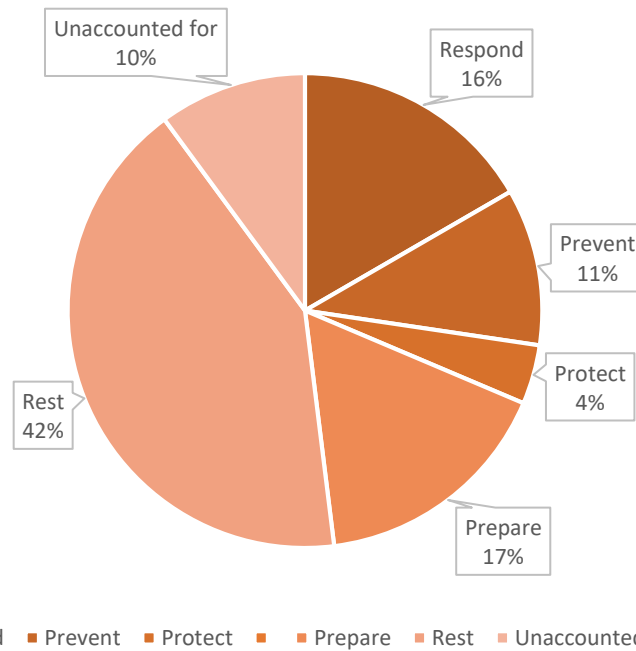
The activity currently splits across the day and night as follows:

- Day time activity equates to 9.0hrs of an available 10.5hrs (1.5hr unaccounted for)
- Night-time activity equates to 12.5 hrs of an available 13.5 (1hr unaccounted for). This includes 7hrs stand-down-time.

Appendix 1 breaks this down into off station and on station activity. The average for each fire station, activity location breaks down as follows:

- Off station activities equates to 6.45 hrs (28%)
- On station activities equates to 14 hrs 45 mins (61%)

Stand-down time

Night time activity also includes 7 hours stand-down which, is typically available for corporate activity but is not utilised. This means a further, 3 to 7 additional hours at night could reasonably be planned for activity i.e. a further 13-29% increase in capacity.

Using this capacity would require some activities to be shifted to night times. This might include:

- Training – given suitable lighting and arrangements
- OIS – much could be done at night
- Other activity to support delivery of the key drivers for change – e.g. increased OIS, increasing readiness for major incidents, training for complex new challenges, and continuous improvement in practice…

2. The activity based costing analysis of firefighters time (not the managers)

Activity based costing was completed using surveys of some members of staff to provide a sense check. The data is shown below.

This includes physical exercise as a category. Physical exercise was not considered in the expected time utilisation as this is not scheduled time and would normally be done in stand-down or other un-utilised time.

	Activity	Act Cost	FTE	% Cost	
Training	Operational Training	£ 8,850,454	232.3	24.1%	
Training	Maintenance of skills/ learning mgt system	£ 1,797,411	47.2	4.9%	
Training	Physical training	£ 1,441,524	37.8	3.9%	
Training	Parade	£ 355,887	9.3	1.0%	
Training	Trainee Firefighter	£ 909,839	33.0	2.5%	
Training	Health & wellbeing activities	£ 1,085,637	28.5	3.0%	
Training Total				**39.4%**	
Rest	**Stand down time**	**£ 7,193,241**	**188.8**	**19.6%**	
Response	Operational incidents	£ 7,193,241	188.8	19.6%	
Response	Debriefs	£ 355,887	9.3	1.0%	
Response	Vehicle & equipment maintenance	£ 1,085,637	28.5	3.0%	
Response Total				**23.6**	
Prevent	Safe & well delivery	£ 3,598,418	94.4	9.8%	
Prevent	Safe & well signposting & referring	£ 715,370	18.8	1.9%	
Prevent	Campaign delivery	£ 355,887	9.3	1.0%	
Prevent	Community engagement	£ 355,887	9.3	1.0%	
Prevent Total				**13.7**	
Protect	**Checking buildings**	**£ 1,441,524**	**37.8**	**3.9%**	
	Total	£ 36,735,844	973.3	100%	

The activity based costing does not seem to provide realistic information on the time spent on training and at rest. It suggests that staff are resting for 5 hours a day, with 3 being mandatory breaks. This suggests that staff are utilising 5hours of the 7 stand-down hours for corporate activity, mainly for training. It also indicates that 6hrs in 24 is training.

Comparison of Expected Time utilisation with ABC data

ABC Time Utilisation

- Rest 20%
- Respond 23%
- Prevent 14%
- Protect 4%
- Prepare 39%

Legend: ■ Respond ■ Prevent ■ Protect ■ Prepare ■ Rest

Expected Time Utilisation Analysis)

- Unaccounted for 10%
- Respond 16%
- Prevent 11%
- Protect 4%
- Prepare 17%
- Rest 42%

Legend: ...ond ■ Prevent ■ Protect ■ ■ Prepare ■ Rest ■ Unaccounted for ■ ■
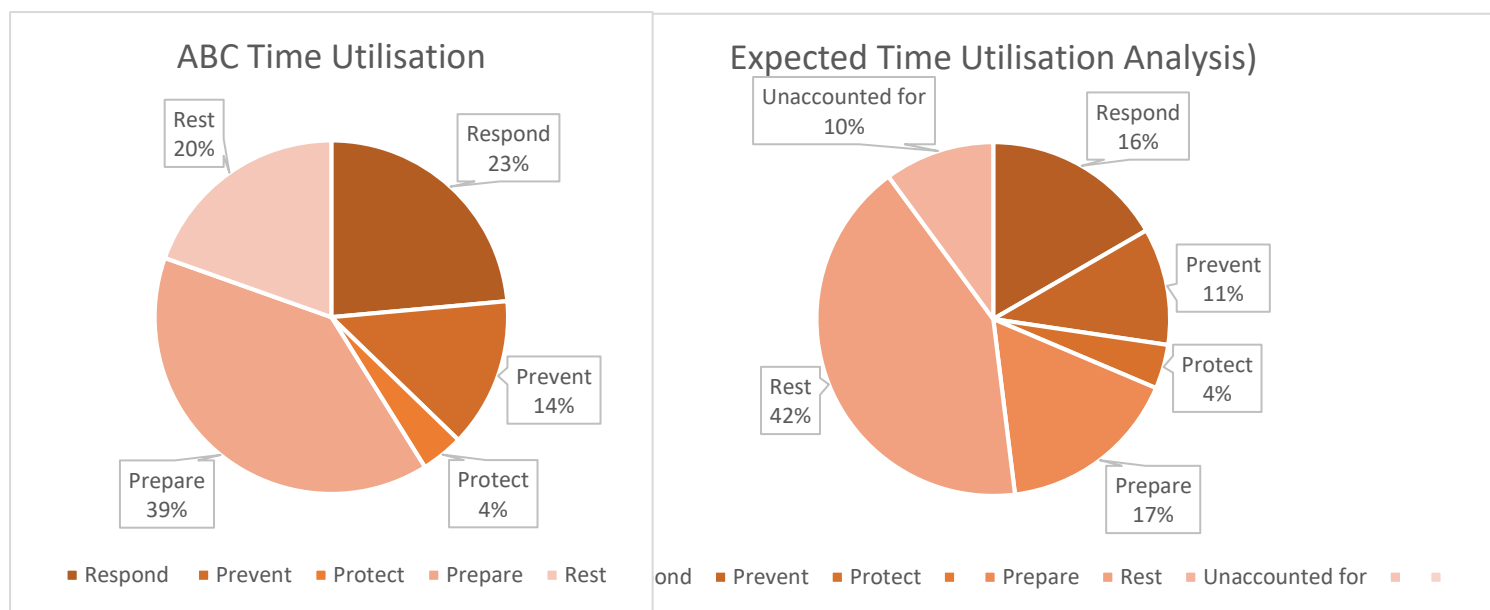
The analysis of expected time spent based on operational data when compared with the ABC data, shows that firefighters spent between 30-40% of their time on Respond, Prevent and Protect (incl direct action & administrative aspects). Between 60-70% of their time is spent on Prepare (train), Rest or is unaccounted for. The analysis of expected time utilisation assumed most of stand-down time is used for rest, whereas the ABC returns from staff suggest substantial amounts of stand-down time is used for training. In either scenario there is significant scope to refocus activity on corporate priorities

Appendix 1: Break down of activity into on station and off station

Off Station Activity

Area	Activity	Notes	Time/day	Comment	As-is day	As-is night
Emergency Response	Incidents Post fire work	6% at incidents Targeting of local residents	1.5 hrs	Day or night Peaks are breakfast and dinner	0.75	0.75
Prevention	Safe and Well School visits Campaign work	2 per pump Time taken on average 30 mins per Adhoc Plus an extra hour for additional school etc	2 hrs	Daytime and will remain like that	2	
OIS	Information gathering and familiarisation	Site visit 1 visit per week Visit duration inc travel time 1.5hrs	0.25hrs	Daytime mainly, But more could be done at night This includes increased activity due to issues emerging from Grenfell	0.25	
Training	Practical training Corporate exercises Special appliance training	Undertaken on and off station Includes daily drill	3 hrs	Mainly daytime but could be day or night	2.5	0.5
Total off station activities			**6 hrs 45 mins**		**5.5**	**1.25**

Estimated off station time is 28% of the 24 hr period, although not all is training is off site. This compares reasonably well with pump off site times of 27%.

On Station Activity

Area	Activity	Notes	Time/day		As-is day	As-is night
Rest	rest	**Breaks** 4 x 15 mins breaks 2 x 1 hr - meals	3hrs		1.5	1.5
Stand-down	Corporate activity or rest	1 x 7 hrs	7hrs	Midnight to 7am. 4hours is commonly used as a rest period.	n	7
Admin	Admin	**Admin** – 3hrs split by 2hrs each day, 1hr per shift, plus 1 hr ad-hoc admin	3hr	Day or night	1.5	1.5
Emergency Response	Standard tests Debriefs		1 hr 15 mins	Standard tests mainly at night Debrief after relevant incidents	n	1.25

OIS	Information recording	1 visit per week Average 3.5hrs write up per visit but varies substantially	30 mins	recalculate	0.5	
Total on station activities			**14 hrs 45 mins**		**3.5**	**11.25**

APPENDIX V

Date: 18th August 2018

Subject: Unwanted Fire Signals (UWFS's)

Report of: ACFO Tony Hunter (Director of Prevention and Protection)

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Purpose

1. The purpose of this report is to request the support of the Programme Board to seek approval from Steering Group to enter into a 6 week public consultation on a new approach to responding to Automatic Fire Alarms (AFA's) for certain regulated / non-domestic premises.

2. In addition, and subject to public consultation, this paper seeks approval to introduce the agreed new approach to responding to AFA's.

Key Findings

3. In 2017/18 GMFRS responded to nearly 14,000 false alarms from AFA's. This is estimated to have cost GMFRS **£987,980** and resulted in the equivalent of two fire appliances continuously engaged in responding to these calls 24 hours a day, 365 days a year.

4. On average **40%** of the incidents responded to by GMFRS Fire Appliances in 2017/18 were UWFS.

5. Following analysis of the data it is proposed that GMFRS **does not attend** AFA actuations in non-residential premises (EXCLUDING HOSPITALS and SHELTERED ACCOMMODATION) during working hours (0800 – 1700 hours), unless backed up with a 999 call in the event of a fire.

6. This would save GMFRS approximately **£592,788**

Introduction

What is an Automatic Fire Alarm System?

7. Many of the automatic fire warning systems (AFA's) fitted in buildings incorporate automatic fire detection, either smoke or heat detectors. AFA's can provide an early warning of fire and enhance the safety of building occupants. There is also benefit for property owners in that automatically detected fires tend to be discovered early, and for the Fire and Rescue Service (FRS) they generally require less effort to extinguish.

What is an Alarm Receiving Centre (ARC) and what is its role?

8. AFA's can often be connected to an Alarm Receiving Centre (ARC). An ARC is a commercially operated centre which monitors the receipt of alarm signals so that a subsequent call is then made by the ARC to the FRS on system actuation.

9. An alternative, less common system is for the automatic fire alarm to make a 999 call by the use of an auto-dialer, which plays a recorded message when the call is answered advising of an alarm actuation at the location in question.

10. The use of a direct link or an ARC connection is a standard for new hospitals and certain residential care buildings to comply with building regulations.

11. In non-domestic premises where there is no link to an ARC, the fire routine for the premises normally relies on someone making a 999 phone call from the premises involved.

Is there any legal requirement for GMFRS to respond to AFA's?

12. There is no legal responsibility placed on GMFRS to respond to calls originating from an AFA system to establish if there is a fire. The Responsible Person, as defined under the Regulatory Reform (Fire Safety) Order, has overall responsibility for the management and performance of the fire detection and fire alarm systems.

What is a False Alarm?

13. A false alarm is a fire alarm signal resulting from a cause, or causes, other than a fire, in which a fire detection and alarm system has responded.

What is an unwanted fire signal (UWFS)?

14. A false alarm becomes an UWFS when the FRS is requested to attend and are broken down into the following sub-categories:

- Malicious calls
- False alarm good intent (FAGI)
- False alarm due to apparatus; non-domestic (FADA)
- False alarm due to apparatus; domestic and other – these are alarms associated with domestic or unspecified property types

What is the scale of the UWFS problem?

15. Although the number of UWFS that GMFRS attend has been reducing over a number of years, an increasing trend has been identified specifically in relation to False Alarms Due To Apparatus (FADAs). Table 1 provides a breakdown of false alarms attended since 2011/12.

Table 1 – Breakdown of false alarms from 2011/12 to 2017/18.

False Alarm Type	2011/12	2012/13	2013/14	2014/15	2015/16	2016/17	2017/18
Malicious	708	866	777	669	716	759	814
FADA (non-domestic)	5820	5372	4912	4722	5094	5791	5910
FAGI	4234	3304	4226	3874	3816	3688	3704
False Alarm/FADA other (domestic and miscellaneous)	3618	3930	2876	3219	3100	3289	3505
Total false alarms	**14380**	**13472**	**12791**	**12848**	**12726**	**13527**	**13933**

16. Graph 1 shows that the increasing trend is being experienced across Greater Manchester with most GMFRS Areas showing a year on year increase over the past 3 years.

Graph 1 – Comparison of UWFS by Area

UWFS by Area

Legend: Bolton & Wigan, Bury, Oldham & Rochdale, Manchester, Salford & Trafford, Stockport & Tameside
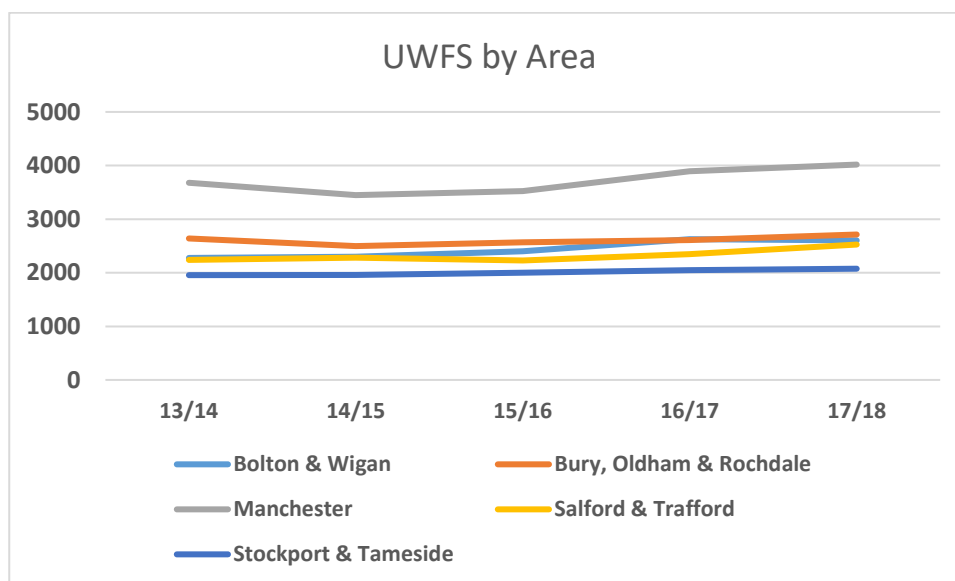
17. Since data first became available in 1999/00, fire false alarms have experienced a long term downwards trend, as have fire incidents. However, fire false alarms have not declined at the same rate as fire incidents, and in the year ending December 2017 FRS's in England attended around 223,400 fire false alarms which accounted for 40% of all incidents attended.

18. Graph 2 shows Fire and rescue incident statistics: England, year ending December 2017, which indicates a similar national increase in UWFS over recent years.

Legend: Fires, Fire false alarms, Non-fire incidents
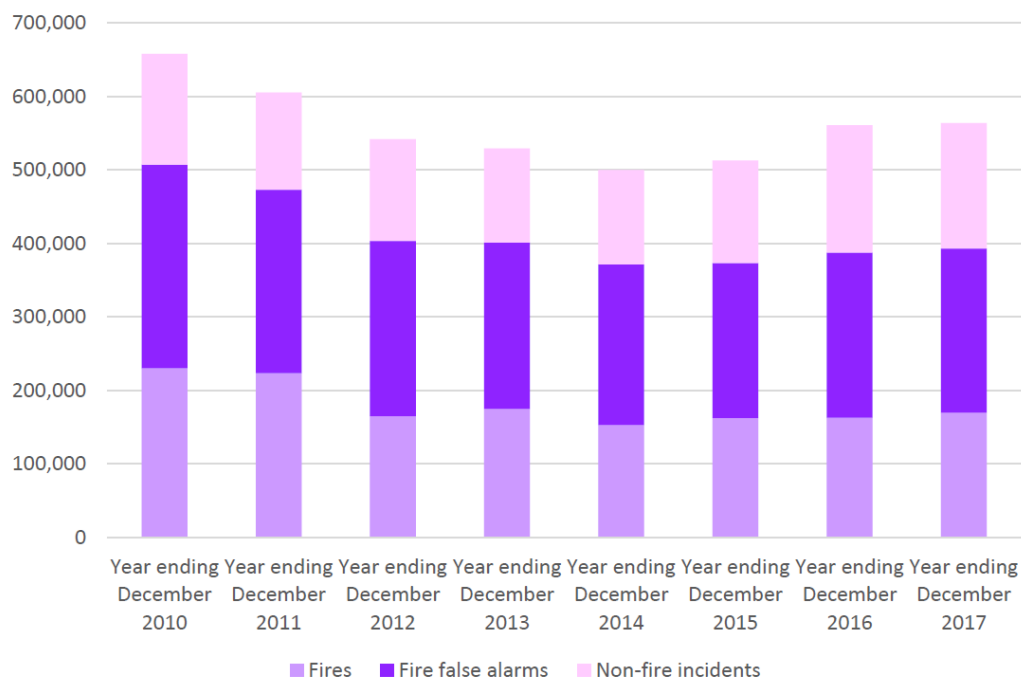
19. Graph 2 shows AFA demand on GMFRS by time of Day 2017/18. Non fire incidents include road traffic collisions, etc.
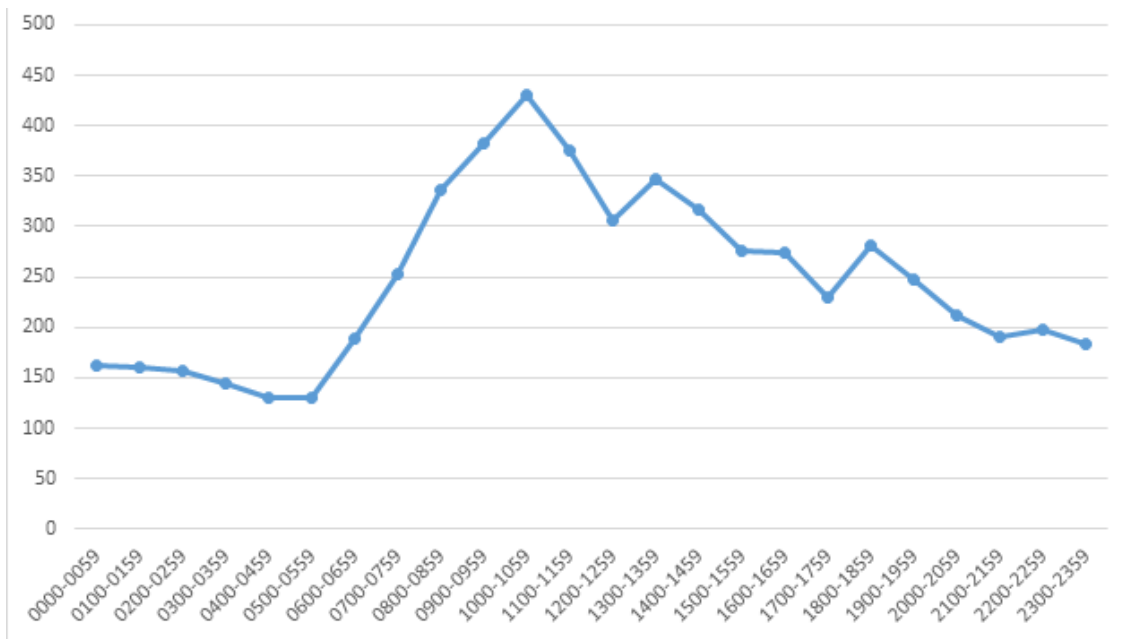
Graph 2: Automatic Fire Alarm Actuations by time of Day 2017/18

What is the impact of an UWFS?

20. Sending fire appliances to calls of this nature has a significant impact on GMFRS, due to the following reasons:

- Fire appliances are not available to respond to genuine life threatening emergencies
- Responding to UWFS under blue light conditions poses an unnecessary risk to staff and other road users
- Operational crews are disrupted whilst undertaking other core tasks such as training and community safety activities
- Financial costs are incurred for fuel and there is an associated impact on the environment caused by the appliance movements

21. As can be seen by Graph 2, the majority of the calls to AFA's occur during the hours of 0800 – 1700. These are the very same hours that are the most productive for GMFRS in terms of Operational crews undertaking core tasks such as training and community safety activities.

What is the impact of nearly 14,000 UWFS on GMFRS?

22. GMFRS attended nearly 14,000 UWFS in 2017/18, with an average of 2 fire appliances (2 appliances per call) responding. Therefore attendance at 14,000 incidents equates to:

- 14,000 x 2 'blue light' mobilisations = 28,000
- 14,000 x 2 return journeys = 28,000
- 56,000 journeys of unnecessary road risk to traffic, pedestrians and fire crews

23. The average time taken to respond, manage and return from an UWFS is estimated at 35 minutes. Therefore:

- 14,000 x 2 mobilisations = 28,000
- 28,000 x 35 minutes = 16,000 hours of productivity which can be better utilised

- This equates to two fire appliances continuously engaged in responding 24 hours a day, 365 days a year to UWFS.

24. The economic cost of fire: estimates for 2008[1], published by DCLG estimated that the 'Marginal cost of a false alarm' in England was £70.57 per incident. Included within that costing is equipment running costs, mobilisation and resource costs.

25. Therefore, the financial impact of GMFRS attending 14,000 UWFS could be estimated at **£987,980** per year.

What is the impact of nearly 14,000 UWFS on individual GMFRS Fire Stations?

26. In 2017/18 GMFRS's 41 Fire Stations responded to between 26 and 1186 UWFS, which equated to between 27% and 59% of the total incidents responded to by those stations.

27. The GMFRS Fire Station that responded to the most UWFS is Manchester Central Fire Station, which attended 1989 incidents in 2017/18 of which 1186 (59%) were UWFS. The GMFRS Fire Station that responded to the least UWFS in 2017/18 is Mossley, which responded to 95 incidents of which 26 (27%) were UWFS.

28. On average 40% of the incidents responded to by GMFRS Fire Appliances were UWFS. The number of UWFS against all incidents at each Fire Station is set out in (Appendix A).

PREVIOUS ACTIONS TAKEN BY GMFRS TO REDUCE UWFS

29. Broadly speaking, there are two areas where action can be taken by a FRS to address the burden and manage the risk imposed by UWFS:

- By engaging with building occupiers and owners to help and encourage them to reduce the number of false actuations in their premises
- By modifying the resources that it sends in response to a call originating from an automatic system.

30. In 2007, following extensive consultation and briefing sessions with both internal and external stakeholders, GMFRS revised its approach to dealing with false alarms. The main features of that revised policy were:

- The introduction of a call-challenge procedure through Fire Control
- A change to the pre-determined attendance to AFAs
- The enhancement of the advice given in response to single UWFS, and
- The implementation of more robust ways of managing the Service's relationship with those responsible for premises with unacceptably high levels of AFAs.

31. Up until 2013 GMFRS had seen a year on year reduction in false alarms due to the change in policy.

32. Whilst the changes undertaken from 2007 onwards had an impact by reducing UWFS, the implementation of those changes did not take place without media interest.

Fed-up fire crews in court threat over false alarms - Manchester Evening News

Burden of false fire alarms - Manchester Evening News

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[1] The economic cost of fire: estimates for 2008

Modifying FRS response

33. The concept of GMFRS modifying its response to an AFA call is not new and has seen it move from sending fewer appliances, on blue lights, then to normal road speed and back to blue lights again.

34. These modifications were all based on the idea that the risks and benefits of operational response need to be balanced. FRS staff can give examples of AFA calls that turned out to be fires – and where the AFA actuation led to a speedier intervention by the FRS. But equally, examples can be given of FRS staff, and members of the public, being injured or killed in the course of fire service response to AFA calls that turned out to be an UWFS.

CURRENT POSITION

35. Upon receipt of a call regarding the actuation of a fire alarm at one of the premises types listed below, a mobilisation is made, based on the information provided by the caller and the Pre-Determined Attendance (PDA) for that premises type.

- Domestic premises
- Houses in multiple occupancy (HMO)
- Residential flats
- Sheltered housing
- Residential care and nursing homes
- High rise buildings
- Hospitals
- Manchester Airport
- Penal Institutions
- Police Stations
- Young Offenders Institutions

36. Where North West Fire Control (NWFC) receive a call regarding the actuation of a fire alarm to a premises type not listed above, the call will be challenged. This means the caller will be asked to check the premises for signs of fire, if safe to do so and advised to ring GMFRS via the 999 system only where signs of fire have been determined. Where a follow up call is received the PDA for a fire, will be mobilised for the premises type.

37. Where the caller is unable to check the premises for signs of fire then the default position is that a response is made. An example of this is where a premises is remotely monitored by an ARC or a fire alarm monitoring organisation (FAMO) and contact cannot be made with the premises. In this case a mobilisation is made to the premises on every occasion.

WHAT DO OTHER FRS's DO?

Applying a charge

38. The Localism Act 2011 provides an option for a FRS to charge for attending certain types of incident. The following is known:

- West Yorkshire (£350 + VAT after fourth false alarm attended within twelve month period)
- London (£350 + VAT) after tenth false alarm attended within a twelve month period)
- Merseyside are contemplating charging.

39. Discussions with LFB have indicated that they have had difficulties in recouping charges applied through this arrangement and the arrangement is currently being reviewed.

Modified response

40. Currently:

   - 10 FRS's call challenge all AFA received with a robust set of questions.
   - 3 FRS's have an immediate respond policy to all AFA received
   - 21 FRS's have the policy for non-attendance for unconfirmed AFA, Monday-Friday daytime for low risk commercial buildings.
   - 19 FRS's respond immediately without any call challenge or filtering, either full response or reduced road speed to AFAs received from Healthcare centres, residential care, individual residential and multiple residential dwellings 24/7.

41. There are a number of approaches taken by other North West FRS's, which include:

   - Merseyside FRS, do not respond to any AFA's unless backed up by a 999 call
   - Cumbria FRS, do not respond to any AFA's linked to non-sleeping risk premises 24/7, unless backed up by a 999 call
   - Cheshire FRS, do not respond to AFA's linked to non-sleeping risk premises 24/7, unless backed up by a 999 call, with the exception high rise buildings and those industrial sites which are licensed under either the COMAH Regulations 1999 or REPPIR Regulations 2001.
   - Lancashire FR, do not respond to any AFA's unless backed up by a 999 call, from 0900 until 1800.

WHAT IS THE HOME OFFICE AND NATIONAL FIRE CHIEFS COUNCIL DOING TO SUPPORT FRS'S?

42. With the support of the National Fire Chiefs Council's (NFCC) Protection & Business Safety Committee the Home Office (HO) is undertaking research into fire false alarms has sought involvement from FRS in England. GMFRS has agreed to support this project.

43. The project aims to investigate the historic trend in fire false alarm incidents attended by FRS's, specifically, it will discuss factors which may have contributed to the reduction in fire false alarms over time and how policies implemented by FRS contributed to the trend.

OPTIONS/ALTERNATIVES

Option 1 – Continue with the existing approach.

44. GMFRS approach to AFA's has changed little over the past 7 years. However, whilst initially this approach provided some positive results, over the past three years an increase in UWFS has been witnessed and to achieve substantial reductions in FADAs will require the application of significant resources from protection teams.

45. Experience over many years has shown that where resources are regularly targeted at problem premises, significant improvements can be achieved. Nevertheless, once FRS resources are redeployed to other activities the problems with false alarms return.

46. The continuation of the current approach is less sustainable given the number of protection officers and the need to focus on supporting businesses to comply with their statutory obligations. In addition this approach appears to be used by some responsible persons as a means for FRS's to manage their problems for them rather than taking long term ownership of issues themselves.

Option 2 – Do not respond to ANY AFA unless backed up with a 999 call in the event of a fire.

47. Option 2, if adopted would see GMFRS **not responding to any AFA**. This approach has not been adopted by only one FRS within the UK. It is widely acknowledged that certain types of premises present different levels of fire risk; evidence suggests that sleeping risk premises present the highest risk to occupants. This option would potentially expose the many vulnerable people in sheltered accommodation schemes, care homes and other premises to an unacceptable level of fire risk and is **not recommended**.

Option 3 – Do not respond to any AFA actuations in non-residential premises (INCLUDING HOSPITALS) during working hours (0800 – 1700 hours), unless backed up with a 999 call in the event of a fire.

48. Premises identified as sleeping risk accommodation would continue to attract a mobilisation upon actuation of a fire alarm. This approach would only see the automatic mobilisation of the PDA to fire alarm actuations at non-sleeping risk premises during non-working hours (1700 – 0800 hours), upon the receipt of a 999 call in the event of a fire.

49. In all other circumstances, the caller would be informed that we will not respond as a consequence of the fire alarm operating. However, calls where there is a confirmed fire or signs of fire would receive the full PDA.

50. This approach has been adopted by a number of FRS's across the UK and significant reductions in attendances at false alarms have been achieved. Hospitals are regarded as sleeping risk accommodation. However, hospitals are well managed premises with dedicated fire safety staff that provide regular fire safety inspections and training for all staff.

51. In addition, during the daytime, hospitals have high levels of staff that would be able to respond to a fire alarm actuation. This option is potentially a low risk approach to reduction in attendance at AFAs.

52. However, given the critical nature of the activities in hospitals **this approach is not recommended at this time.**

Option 4 – Do not respond to any AFA actuation in non-residential premises (EXCLUDING HOSPITALS and SHELTERED ACCOMMODATION) during working hours (0800 – 1700 hours), unless backed up with a 999 call in the event of a fire.

53. Premises identified as sleeping risk accommodation would continue to attract a mobilisation upon actuation of a fire alarm. This approach would only see the automatic mobilisation of the PDA to fire alarm actuations at non-sleeping risk premises during non-working hours (1700 – 0800 hours), upon the receipt of a 999 call in the event of a fire.

54. In all other circumstances, the caller would be informed that we will not respond. However, calls where there is a confirmed fire or signs of fire would receive the full PDA. This approach has been adopted by a number of FRS's across the UK and significant reductions in attendances at false alarms have been achieved.

55. This option has the potential to reduce the call outs by approximately 60%, which totals a saving of £592,788 against the overall cost shown in paragraph 25.

56. Given the low risk nature of this approach this is **recommended for consultation and implementation**

Option 5 - Apply a charging regime to poor performers

57.   This type of practice could be adopted to drive down false alarms, but would need robust management and resources to monitor poor performance, issue charges and collect monies.

58.   These Options are summarized in Appendix B.

<u>PREFERRED OPTION</u>

Option 4 - Do not respond to any AFA actuation in non-residential premises (EXCLUDING HOSPITALS and SHELTERED ACCOMMODATION) during working hours (0800 – 1700 hours), unless backed up with a 999 call in the event of a fire.

59.   Premises identified as sleeping risk accommodation would continue to attract a mobilisation upon actuation of a fire alarm. This approach would only see the automatic mobilisation of the PDA to fire alarm actuations at non-sleeping risk premises during non-working hours (1700 – 0800 hours), upon the receipt of a 999 call in the event of a fire.

60.   In all other circumstances, the caller would be informed that we will not respond. However calls where there is a confirmed fire or signs of fire would receive the full pre-determined attendance. This approach has been adopted by a number of FRS across the UK and significant reductions in attendances at false alarms have been achieved.

61.   The implementation of this approach would represent a stepped risk management approach to dealing with calls that result from AFA's. It would free up considerable time for crews to focus on risk critical training and risk reduction activities.

<u>CONSULTATION- BASED ON OPTION CHOSEN:</u>

62.   The duty to involve is a statutory obligation applying to specified public bodies, requiring them to consult and involve individuals, groups, businesses or organisations likely to be affected by their actions. The duty to involve was introduced in the 2007 Local Government and Public Involvement in Health Act (section 138). It took effect from April 2009.

63.   The consultation process will be in line with our current consultation and engagement policy. The process will provide a tailored approach to consultation, highlighting the key people and communities needed to engage with and developing the consultation to suit the specific stakeholders identified.

64.   The consultation process will use a range of consultation methods as appropriate, including face to face engagement and by social media.

65.   If the option is agreed, it is proposed to enter into a 6 week consultation period regarding the following;

GMFRS not responding to ANY AFA actuations in non-residential premises between the hours of 08.00 and 17.00, unless backed up with a 999 call in the event of a fire.

<u>Recommendations</u>

66. The Board are asked to note the contents of the report in relation to progress to date and to support the following recommendations:

   i)   Approve the report to go to the Steering Group for final approval supporting the implementation of Option 4 and its appropriate consultation.

   ii) Support a robust communications plan that underpins the consultation, implementation and reviews phases of this work.

Appendix A

Incidents/UWFS per Fire Station

Fire Station	Incidents	UWFS
Wythenshawe	1165	607
Withington	995	501
Wigan	1469	621
Whitehill	379	143
Whitefield	802	312
Stretford	986	545
Stockport	900	357
Stalybridge	613	257
Salford	1027	453
Sale	516	227
Rochdale	1318	500
Ramsbottom	217	91
Phillips Park	886	334
Oldham	816	311
Offerton	536	273
Mossley	95	26
Mossside	885	397
Marple	169	66
Manchester Central	1989	1186
Littleborough	202	84
Leigh	1023	328
Irlam	190	86
Hyde	692	282
Horwich	415	147
Hollins	901	281
Hindley	758	228
Heywood	813	338
Gorton	1253	586
Farnworth	1306	436
Eccles	856	314
Cheadle	470	214
Chadderton	1217	528
Bury	665	258
Broughton	993	278
Bolton North	993	319
Bolton	1155	464
Blackley	1270	422
Atherton	560	147
Ashton	973	450
Altrincham	632	330
Agecroft	546	186

Appendix B

Option	Pros	Cons	Risks	Efficiency Impact
1 – Continue with the existing approach	Provides short term improvements to individual building AFA's.	To achieve substantial reductions would significant resources from protection teams. Approach appears to be used by some as a means for FRS's to manage problems rather than taking long term ownership.	Minimal and temporary improvement in UWFS	None
2 – Do not respond to ANY AFA unless backed up with a 999 call in the event of a fire	This approach has been adopted by one FRS within the UK.	Widely acknowledged that certain types of premises present different levels of fire risk; evidence suggests that sleeping risk premises present the highest risk to occupants. Would see UWFS's reduced to possible. the minimum number	Significant challenge from stakeholders and in particular, the FBU. Would potentially expose vulnerable people in sheltered accommodation schemes, care homes and other premises.	Up to16,000 hours of appliance hours recouped Potential £987k saved
3 – Do not respond to any AFA actuations in non-residential premises (INCLUDING HOSPITALS) during working hours (0800 – 1700 hours), unless backed up with a 999 call in the event of a fire	Premises identified as sleeping risk accommodation would continue to attract a mobilisation upon actuation of a fire alarm. Approach adopted by a number of FRS's across the UK with significant reductions.	Would only see the automatic mobilisation of the PDA to fire alarm actuations at non-sleeping risk premises during non-working hours (1700 – 0800 hours), upon the receipt of a 999 call in the event of a fire. Would see UWFS's reduced significantly	Potential challenge from businesses, Rep Bodies and Hospitals.	Up to 8,000 hours of appliance hours recouped Potential £500k saved
4 – Do not respond to any AFA actuation in non-residential premises (EXCLUDING HOSPITALS and SHELTERED ACCOMMODATION) during working hours (0800 – 1700 hours), unless backed up with a 999 call in the event of a fire	Premises identified as sleeping risk accommodation would continue to attract a mobilisation upon actuation of a fire alarm. This approach has been adopted by a number of FRS's across the UK and significant reductions in attendances at false alarms have been achieved.	This approach would only see the automatic mobilisation of the PDA to fire alarm actuations at non-sleeping risk premises during non-working hours (1700 – 0800 hours), upon the receipt of a 999 call in the event of a fire. Would see UWFS's reduced significantly	Potential challenge from businesses and Rep Bodies.	Up to 8,000 hours of appliance hours recouped Potential £500k saved

JOINT DOCTRINE:

THE INTEROPERABILITY FRAMEWORK

EDITION 2 JULY 2016

JESIP
Working Together – Saving Lives

1. FOREWORD

Welcome to the second edition of the *"Joint Doctrine: the interoperability framework"*.

Whilst joint working between agencies is a daily occurrence, whenever we work together and especially at major incidents, we need to ensure that we have the most coherent and effective joint response possible - the public will expect no less.

This guidance has been recognised as significantly improving the interoperability of emergency services since its publication in 2013. This revised edition continues to provide a framework to support and enhance interoperability between emergency response organisations when responding to multi-agency incidents.

The review of this guidance has been coordinated by the JESIP team along with the emergency services, other responder agencies and the central government departments including the Cabinet Office, Home Office, Department for Communities and Local Government and the Department of Health.

The content, whilst largely similar to the first edition, has been enhanced to provide more clarity in certain aspects and incorporates lessons from training, exercises and incidents which have been identified through the Joint Organisational Learning process.

This guidance remains essential to the effective interoperability of emergency services and other responder agencies and will be subject to future changes and improvements as it is tested and incorporated into business as usual. We need to make sure that the ethos of 'working together' becomes embedded, not only within our own organisations at every level, but within that of the other responder agencies.

The 'Joint Doctrine' is an essential element in the hierarchy of guidance. It provides commanders, at the scene and elsewhere, with generic guidance on the actions they should take when responding to multi-agency incidents of any scale. It is built on common principles for consistent terminology and ways of working. It does not constitute a set of rules to be applied without thought, but rather seeks to inform, explain and guide.

It should be embedded in individual organisation policies and procedures and in their training and exercise programmes, for all levels of response staff.

We are extremely grateful to those individuals and their supporting organisations who have contributed up to this point. If you have any comments about the document, or any questions as to how you might act upon this doctrine, please email them to **contact@jesip.org.uk**

Roy Wilsher

CFOA
Chief Fire Officers
Association

Anthony Marsh

**ASSOCIATION OF
AMBULANCE
CHIEF EXECUTIVES**

Alec Wood

NPCC
National Police Chiefs' Council

TABLE OF CONTENTS

2. STATUS OF THE DOCTRINE

The structure for managing the local multi-agency response to emergencies is based on the Civil Contingencies Act (2004). The act is supported by two sets of guidance: **Emergency Preparedness** and **Emergency Response and Recovery** (ERR). Emergency Preparedness deals with the pre-emergency (planning) phase. Emergency Response and Recovery (ERR) describes the multi-agency framework for responding to, and recovering from, emergencies in the UK.

Details of the operation and co-ordination of emergency response can be found in the Cabinet Office **Concept of Operations** and the relevant chapters of Emergency Response and Recovery.

This publication complements Emergency Response and Recovery (ERR) by focusing on the interoperability of the emergency services and other responder agencies in the response to an incident.

Separate publications set out specialist ways of working that will apply in specific circumstances, such as chemical, biological, radiological and nuclear (CBRNe) incidents or marauding terrorist firearms attacks (MTFA). These specialist response documents reflect the generic guidance found in this publication.

LAW	**Civil Contingencies Act**
GUIDANCE	**Emergency Preparedness and Emergency Response & Recovery**
JESIP	**Joint Doctrine: The Interoperability Framework**
SUBSIDIARY	**Specialist - for example: CBRN, Humanitarian Assistance & Mass Casualties** / **Joint Standard Operating Procedures and Aide Memories** / **Single Service Materials (Policies & Procedures)**
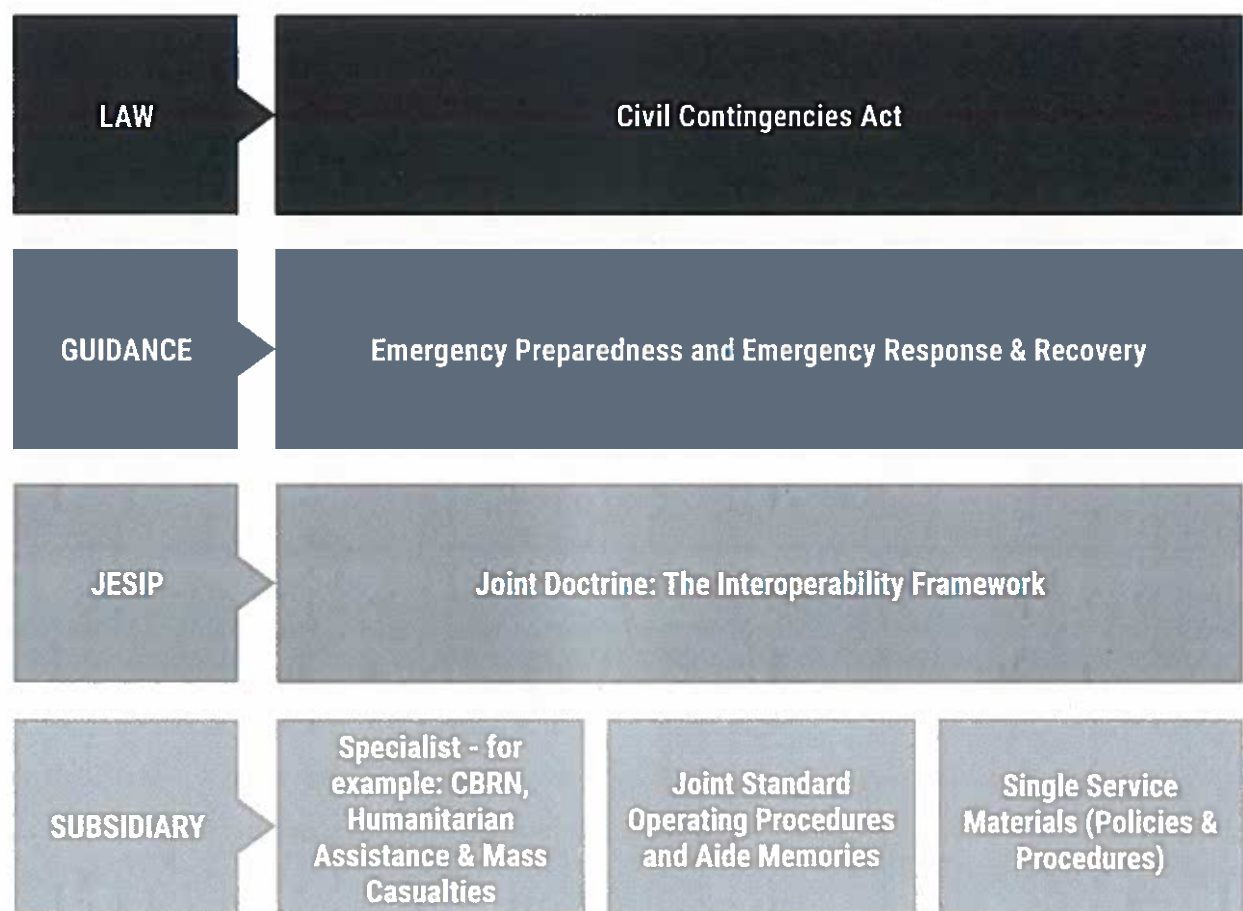
Figure 1- Emergency response documentation hierarchy

3. PRINCIPLES FOR JOINT WORKING

The need for a joint response is not new. The findings and lessons identified by public inquiries and inquests have highlighted cases where the emergency services could have worked better together and shown much greater levels of communication, co-operation and co-ordination.

As well as improving joint working between the emergency services, this document emphasises the need for all responding organisations to work in a joint and co-ordinated approach.

Policies and procedures that promote joint working form the basis of the doctrine for responding services. Applying simple principles for joint working are particularly important in the early stages of an incident, when clear, robust decisions and actions need to be taken with minimum delay, in an often rapidly changing environment.

Those principles are illustrated in the diagram below. They will often, but not always, be followed in the order in which they are presented.

In the early stages of an incident, employees of one service may arrive before the employees of another, and as a result they may carry out tasks that are not normally their responsibility. If this happens, command and control arrangements for the relevant service should start as soon as the right personnel are in place in sufficient numbers.

Co-locate
Co-locate with commanders as soon as practicably possible at a single, safe and easily identified location near to the scene.

Communicate
Communicate clearly using plain English.

Co-ordinate
Co-ordinate by agreeing the lead service. Identify priorities, resources and capabilities for an effective response, including the timing of further meetings.

Jointly understand risk
Jointly understand risk by sharing information about the likelihood and potential impact of threats and hazards to agree potential control measures.

Shared situational awareness
Shared Situational Awareness established by using METHANE and the Joint Decision Model.

Figure 2 - Principles for joint working

3.1. CO-LOCATION

When commanders are co-located, they can perform the functions of command, control and co-ordination face-to-face. They should meet as early as possible, at a jointly agreed location at the scene that is known as the Forward Command Post (FCP). This allows them to establish jointly agreed objectives and a co-ordinated plan, resulting in more effective incident resolution. The benefits of co-location apply equally at all levels of command.

If there is any delay in commanders co-locating, interoperable communications should be used to begin establishing shared situational awareness.

The operational and tactical commanders of each service should be easily identifiable at an incident. This is usually achieved by wearing role specific tabards. There are exceptions, such as at public order and other specialist incidents where coloured epaulettes and helmet markings are used. See JESIP: incident commander tabards for more information.

Although not all responders will have role specific tabards they should wear appropriate personal protective equipment (PPE) and have identification as a minimum.

3.2. COMMUNICATION

Meaningful and effective communication between responders and responder agencies underpins effective joint working.

Sharing and understanding information aids the development of shared situational awareness, which underpins the best possible outcomes of an incident.

The following supports successful communication between responders and responder agencies:

- Exchanging reliable and accurate information, such as critical information about hazards, risks and threats

- Ensuring the information shared is free from acronyms and other potential sources of confusion

- Understanding the responsibilities and capabilities of each of the responder agencies involved

- Clarifying that information shared, including terminology and symbols, is understood and agreed by all involved in the response

3.2.1. COMMON TERMINOLOGY

Using terminology that either means different things to different people, or is simply not understood across different services is a potential barrier to interoperability.

The Lexicon of UK civil protection terminology sets out definitions for common terminology in emergency management, including important terms in interoperability. There is also a set of common map symbols for civil protection.

Emergency services and responder agencies should cross-reference definitions in their own organisation's documents and adopt the common definitions contained from the Lexicon. Agreeing and using common terminology is a building block for interoperability. If there is any doubt about what is meant by a specific term, individuals should check and confirm whether a common understanding has been established.

Some of the terms used in this document are key to successful joint working and responders should understand them. Definitions and a short explanation can be found here.

3.3. CO-ORDINATION

Co-ordination involves commanders discussing resources and the activities of each responder agency, agreeing priorities and making joint decisions throughout the incident. Co-ordination underpins joint working by avoiding potential conflicts, preventing duplication of effort and minimising risk

For effective co-ordination, one agency generally needs to take a lead role. To decide who the lead agency should be, factors such as the phase of the incident, the need for specialist capabilities and investigation, during both the response and recovery phases should be considered. There is specific guidance for some types of incidents, highlighting which agency should take the lead role. The decision on who takes the lead role should be documented – the lead agency may change as the incident develops.

The lead agency should chair co-ordinating meetings and make sure they take place regularly.

3.4. JOINT UNDERSTANDING OF RISK

Different responder agencies may see, understand and treat risks differently.

Each agency should carry out their own 'dynamic risk assessments' but then share the results so that they can plan control measures and contingencies together more effectively.

By jointly understanding risks and the associated mitigating actions, organisations can promote the safety of responders and reduce the impact that risks may have on members of the public, infrastructure and the environment.

3.5. SHARED SITUATIONAL AWARENESS

'Shared situational awareness' is a common understanding of the circumstances, immediate consequences and implications of the emergency, along with an appreciation of the available capabilities and the priorities of the emergency services and responder agencies.

Achieving shared situational awareness is essential for effective interoperability. Establishing shared situational awareness is important for a common understanding at all levels of command, between incident commanders and between control rooms.

4. THE EARLY STAGES OF A MULTI-AGENCY OR MAJOR INCIDENT

Recognising that an incident will involve working with other emergency services and/or other responder agencies is very important. The earlier other responder agencies are notified of the incident, the sooner joint working arrangements can be agreed and put into place.

For incidents with multiple sites, or an incident that initially appears to be a number of separate incidents, emergency service control rooms are best placed to recognise that a 'multi-agency' incident or 'major incident' may be in progress.

In other cases, first responders may recognise the nature of an incident and the need for a multi-agency response.

During the early stages of an incident it takes time for operational structures, resources and protocols to be put in place. This is likely to put initial responders and control rooms under considerable pressure. All the required information may not be available and commanders may have insufficient resources to deal with the incident.

In order to help all agencies gather initial information about an incident in a consistent manner, a common approach is recommended. The 'METHANE' model brings structure and clarity to the initial stages of managing any multi-agency or major incident.

A major incident is defined as[1]:

> ***An event or situation with a range of serious consequences which requires special arrangements to be implemented by one or more emergency responder agency.***

Declaring a 'major incident' triggers a predetermined strategic and tactical response from each emergency service and other responder agencies. It takes time for operational structures, resources and protocols to be put in place. Declaring that a major incident is in progress as soon as possible means these arrangements can be put in place as quickly as possible.

[1] See **Cabinet Office Lexicon of civil protection terminology**

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5. M/ETHANE

The METHANE model is an established reporting framework which provides a common structure for responders and their control rooms to share major incident information. It is recommended that M/ETHANE be used for all incidents.

For incidents falling below the major incident threshold 'METHANE' becomes an 'ETHANE' message. During the decision making process using the joint decision model, there should be period consideration of the 'M' (representing 'major incident') by responders to establish whether a developing incident goes above the major incident threshold.

Each responder agency should send a M/ETHANE message to their control room as soon as possible. The first resources to arrive on scene should send the M/ETHANE message so that situational awareness can be established quickly. The information received through multiple M/ETHANE messages will gradually build to support shared situational awareness in those responding to the incident and between control rooms.

M	MAJOR INCIDENT	Has a major incident or standby been declared? (Yes / No - if no, then complete ETHANE message)	*Include the date and time of any declaration.*
E	EXACT LOCATION	What is the exact location or geographical area of the incident?	*Be as precise as possible, using a system that will be understood by all responders.*
T	TYPE OF INCIDENT	What kind of incident is it?	*For example, flooding, fire, utility failure or disease outbreak.*
H	HAZARDS	What hazards or potential hazards can be identified?	*Consider the likelihood of a hazard and the potential severity of any impact.*
A	ACCESS	What are the best routes for access and egress?	*Include information on inaccessible routes and rendezvous points (RVPs). Remember that services need to be able to leave the scene as well as access it.*
N	NUMBER OF CASUALTIES	How many casualties are there, and what condition are they in?	*Use an agreed classification system such as 'P1', 'P2', 'P3' and 'dead'.*
E	EMERGENCY SERVICES	Which, and how many, emergency responder assets and personnel are required or are already on-scene?	*Consider whether the assets of wider emergency responders, such as local authorities or the voluntary sector, may be required.*

6. CONTROL ROOMS

Control rooms play a vital role in managing the early stages of a multi-agency incident. There cannot be a co-ordinated multi-agency response or effective communication if control rooms do not deliver a swift and joint approach to handling them.

Specific control room guidance in the interoperability framework builds consistency into the procedures and working practices of emergency service control rooms.

This guidance sets out how control rooms, working together, start the principles for joint working. It also sets out what responders can expect from their respective control rooms when attending a multi-agency incident.

The control room guidance is divided into three sections, which align to the principles for joint working:

- Communication

- Shared situational awareness and joint understanding of risk

- Co-ordination and co-location

As with the five principles for joint working, they do not have to be followed in the order in which they are presented.

Control rooms generally operate from separate fixed locations and therefore cannot feasibly co-locate. They can, however, help in co-locating responders and commanders by jointly agreeing the initial multi-agency rendezvous points.

6.1. COMMUNICATION

6.1.1. SUPPORTING PRINCIPLE 1

A dialogue between control room supervisors should be established as soon as possible.

A multi-agency discussion between control room supervisors in the affected control rooms at the earliest opportunity starts the process of sharing information about the incident. The 'talk not tell' procedure involves control room personnel passing information and asking other responders what their response to the incident will be.

This is done by:

a) Sharing information from all available sources along with immediate resource availability and decisions taken in accordance with each organisation's policies and procedures.

Because of the unverified nature and range of information sources at this early stage, situational awareness may be unclear until information can be verified by the first responders at the scene.

b) Nominating a single point of contact (SPoC) in each control room and establishing a method of communication between all of them. This could involve creating a telecommunications link or a multi-agency interoperable talkgroup.

Information and intelligence can then be shared in a timely way and inform deployment decisions. It also allows a co-ordinated response to be managed efficiently when key decision-making personnel (operational commanders, for example) are deployed to rendezvous with their emergency service counterparts.

To maximise shared situational awareness, responding commanders should be invited to join shared talkgroups between the control room single points of contact before they arrive at the scene or other location such as the tactical co-ordinating group.

c) Co-ordinating the setting up of multi-agency interoperable voice communications for commanders and operational working if necessary. See **Supporting principle 4** for further guidance.

6.1.2. SUPPORTING PRINCIPLE 2

Plain English should be used in all discussions between control rooms.

Emergency services and responder agencies may not fully understand each other's call sign structures and single-service terminology, such as colloquial references to assets. Control rooms should therefore use plain English and avoid using acronyms and single-service jargon whenever they communicate with one another.

Control room staff should ensure that shared information, including terminology and symbols, is understood and agreed by everybody involved.

6.2. SHARED SITUATIONAL AWARENESS AND JOINT UNDERSTANDING OF RISK

6.2.1. SUPPORTING PRINCIPLE 3

Talking to commanders, both before the first commander arrives at the scene and to commanders throughout the incident will contribute to shared situational awareness. The process should include identifying risks and hazards to all responders.

Discussion between control rooms should be frequent and cover the following key points:

- Is it clear who the lead agency is at this point? If so, who is it?

- What information and intelligence does each agency hold at this point?

- What hazards and risks are known by each agency at this point?

- What assets have been – or are being – deployed at this point and why?

- How will the required agencies continue communicating with each other?

- At what point will multi-agency interoperable voice communications be required, and how will it be achieved?

Whenever possible, control rooms should use electronic data transfer to share information. This can reduce congestion on voice channels, prevent misunderstandings and eliminate 'double-keying' information.

Direct data transfer does not, however, remove the need to establish early dialogue between control room supervisors to achieve shared situational awareness.

6.3. CO-ORDINATION AND CO-LOCATION

6.3.1. SUPPORTING PRINCIPLE 4

Control room supervisors should engage in multi-agency communications and carry out the initial actions required to management the incident.

Control room supervisors should co-ordinate communication between the single points of contact in each control room by a method agreed during early multi-agency discussions (see Supporting principle 1). When identified, the lead agency should agree the timing of subsequent conversations between control room supervisors to ensure that shared situational awareness is maintained.

Control room supervisors should be ready to set up multi-agency interoperable voice communications for commanders if and when required. Requests to use multi-agency interoperable talkgroups should always be made to the police control room for authorisation. After identifying the talkgroups to be used, the police control room will communicate this to the appropriate responder control rooms so that the relevant commanders can be informed.

Multi-agency interoperable talkgroups are not necessary for every multi-agency incident. But when each service has allocated a commander to an incident, the value of making interoperable voice communications available should be considered.

Co-locating commanders and face-to-face exchanges will always be the preferred option. But when this is not possible or practical, interoperable voice communications can allow decision-makers to keep each other informed, contribute to shared situational awareness and enhance joint decision-making.

Control room supervisors and dispatch personnel should familiarise themselves with the policies, procedures and any other arrangements for using interoperable voice communications. A specialist operational communications adviser from each organisation should be identified to support the incident.

6.3.2. SUPPORTING PRINCIPLE 5

The lead responder will suggest a location for commanders to co-locate in the early stages of a multi-agency incident when operational commanders may be travelling to the scene.

When early location information is unverified and the suitability of potential rendezvous points is unclear, the lead responder and other control room supervisors should jointly agree an initial rendezvous point and communicate it to commanders as soon as possible.

Commanders may wish to revise the location of the rendezvous point and/or the forward command post in the light of further information at the scene.

Further information on the role and responsibilities of control room managers / supervisors can be found here.

7. ESTABLISHING A COMMON OPERATING PICTURE

A common operating picture (COP) has been defined as: *"A common overview of an incident that is created by assessing and fusing information from multiple sources, and is shared between appropriate command, control and co-ordinating groups to support joint decision-making".*

A common operating picture is a single point of reference for those involved, and supports joint decision-making. Answering the questions below helps develop a common operating picture and helps establish shared situational awareness:

- What? - What has happened, what is happening now and what is being done about it?

- So what? - What might the implications and wider impacts be?

- What might happen in the future?

The form of the common operating picture depends on local requirements and practices. It would be updated as events and inputs change and also as the results of further work become available, such as analysis which answers the 'so what?' or 'what might?' questions.

The common operating picture should have a clear relationship with established command, control and co-ordination groups (including the Scientific and Technical Advice Cell) and should be accessed through a suitably resilient and secure common information sharing platform.

This completed **Strategic Co-ordinating Group situation report** is an example of a common operating picture. In other contexts, the common operating picture may be a dynamic dashboard that provides an overview of the incident, using maps and graphics as well as text.

8. ARRANGEMENTS FOR JOINT WORKING

Decision making in incident management follows a general pattern of:

a) Working out what's going on (situation),

b) Establishing what you need to achieve (direction)

c) Deciding what to do about it (action), all informed by a statement and understanding of overarching values and purpose.

8.1. JOINT DECISION MODEL (JDM)

One of the difficulties facing commanders from different responder agencies is how to bring together the available information, reconcile potentially differing priorities and then make effective decisions together.

The Joint Decision Model (JDM), shown below, was developed to resolve this issue.
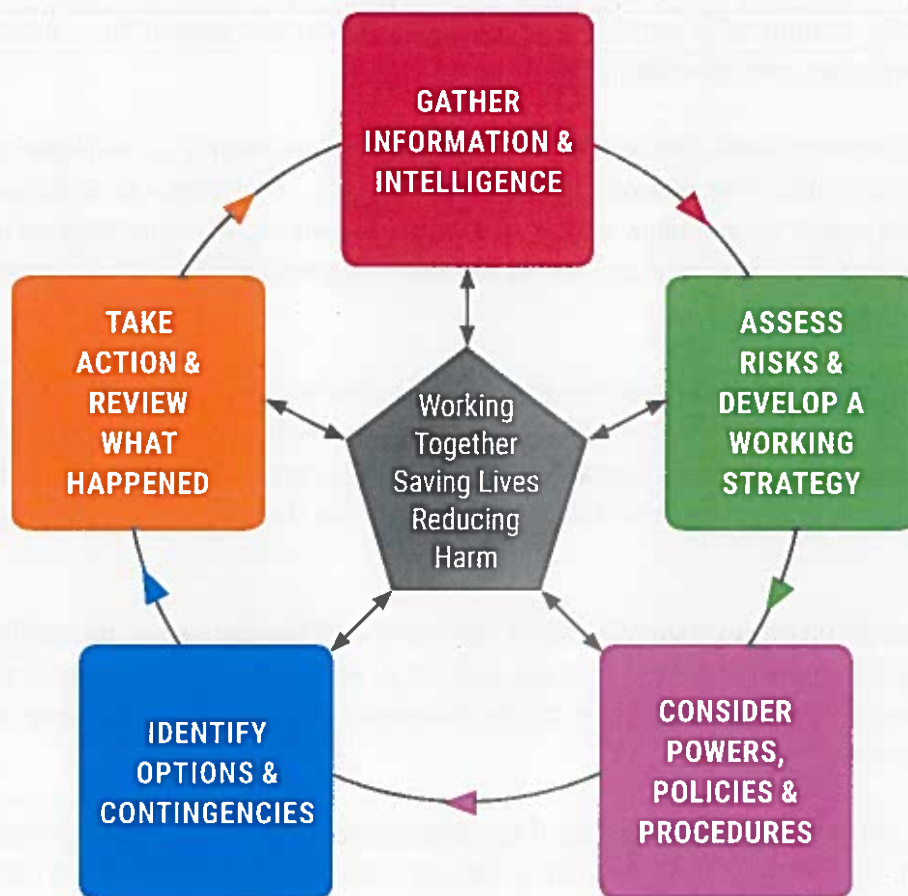
Figure 3 - Joint Decision Model (JDM)

Responder agencies may use various supporting processes and sources to provide commanders with information, including information on any planned intentions, to commanders. This supports joint decision making.

All joint decisions, and the rationale behind them, should be recorded in a 'joint decision log'.

When using the joint decision model, the first priority is to gather and assess information and intelligence. Responders should work together to build shared situational awareness, recognising that this requires continuous effort as the situation, and responders' understanding, will change over time.

Understanding the risks is vital in establishing shared situational awareness, as it enables responders to answer the three fundamental questions of 'what, so what and what might?'

Once shared situation awareness is established, the preferred 'end state' should be agreed as the central part of a joint working strategy. A working strategy should set out what a team is trying to achieve, and how they are going to achieve it.

If a strategic co-ordinating group is convened, they will agree and share the joint strategy for the multi-agency response. The strategic command teams from each agency should then review and amend their single-agency strategy to be consistent with the joint strategy and support them in achieving the jointly defined end state, or overarching aim.

Deciding how all agencies will work towards the preferred end state reflects the available capabilities, powers, policies and procedures (means) and the arising options, constraints and contingencies (ways). Ways and means are intimately related – some options will not be viable because they can't be implemented, or they may be technically and logistically feasible, but illegal or ethically indefensible.

The joint decision model helps commanders explore these considerations and sets out the various stages of reaching joint decisions. One of the guiding principles of the joint decision model is that decision makers use their professional judgement and experience in deciding any additional questions to ask and considerations to take into account, so that they can reach a jointly agreed decision.

Commanders should be free to interpret the joint decision model for themselves, reasonably and according to the circumstances they face at any given time. Achieving desired outcomes should always come before strict adherence to the stepped process outlined in the joint decision model, particularly in time sensitive situations.

A detailed and well-practised understanding of the joint decision model will help commanders to think clearly and in an ordered way when under stress. The joint decision model can be used for both 'rapid onset' and 'rising tide' emergencies.

The following sections summarise the questions and considerations that commanders should think about when they use the joint decision model.

8.1.1. WORKING TOGETHER – SAVING LIVES, REDUCING HARM

The pentagon at the centre of the joint decision model reminds commanders that all joint decisions should be made with reference to the overarching or primary aim of any response to an emergency – to save lives and reduce harm.

This should be the most important consideration, throughout the decision making process.

8.1.2. GATHER INFORMATION AND INTELLIGENCE

This stage involves gathering and sharing information and intelligence to establish shared situational awareness.

At any incident, no single responder agency can appreciate all the relevant dimensions of an emergency straight away.

A deeper and wider understanding will only come from meaningful communication between the emergency services and other responder agencies. Commanders cannot assume others will see things, or say things, in the same way.

There may need to be a sustained effort to reach a common view and understanding of events, risks and their implications,

Decision making in the context of an emergency, including decisions on sharing information, does not remove the statutory obligations of agencies or individuals, but it is recognised that such decisions are made with an overriding priority of saving lives and reducing harm.

Personal data, including sensitive personal data (such as police intelligence), must be carefully considered before it is shared across agencies. The joint decision model can be used as a tool to guide decision making on what information to release, and who can receive it.

M/ETHANE is a structured and consistent method for responder agencies to collate and pass on information about an incident.

8.1.3. ASSESS RISKS, DEVELOP A WORKING STRATEGY

Commanders jointly assess risk to achieve a common understanding of threats and hazards, and the likelihood of them being realised. This informs decisions on deployments and the required risk control measures.

A key task for commanders is to build and maintain a common understanding of the full range of risks. They should consider how risks may increase, reduce or be controlled by any decisions made and subsequent actions taken. At any incident, each responder agency will have a unique insight into those risks.

By sharing what they know commanders can establish a common understanding. Commanders can then make informed decisions on deployments and the risk control measures required. Time critical tasks should not be delayed by this process.

The risk control measures to be employed by individual services must also be understood by other responder agencies, to ensure any potential unintended consequences are identified before activity commences. This increases the operational effectiveness and efficiency of the response as well as the probability of a successful incident resolution.

WORKING STRATEGY

The working strategy should not be confused with the strategy for the incident provided by the strategic commanders or strategic co-ordinating group. This strategy will generally be issued some time into the incident response and almost certainly after the operational or tactical levels of command have been established.

The working strategy is the action plan that commanders develop and agree together. They put the action plan in place to address the immediate situation and the risks that they are faced with to save lives and reduce harm.

It is rare for a complete or perfect picture to exist for a rapid onset incident. The working strategy should therefore be based on the information available at the time.

When developing a working strategy, consider:

- Sharing single service risk assessments

- Recording and agreeing the joint assessment of risk, in an agreed format

When developing a working strategy, commanders should consider these questions:

- **What**: Are the aims and objectives?

- **Who by**: Police, fire and rescue services, the ambulance service and other organisations?

- **When**: Timescales, deadlines and milestones?

- **Where**: What locations?

- **Why**: What is the rationale? Is it consistent with the overall strategic aims and objectives?

- **How**: Will these tasks be achieved?

For an effective integrated multi-agency operational response plan, objectives and priorities must be agreed jointly. Each agency will then prioritise their plans and activity.

The following key steps should be undertaken:

IDENTIFY HAZARDS	This begins with the initial call to a control room and continues as first responders arrive on scene. Information gathered by individual agencies should be disseminated to all first responders, control rooms and partner agencies effectively.
CARRY OUT A DYNAMIC RISK ASSESSMENT (DRA)	Individual agencies carry out dynamic risk assessments, reflecting the tasks/objectives to be achieved, the hazards identified and the likelihood of harm from those hazards. The results should then be shared with any other agencies involved.
IDENTIFY TASKS	Each individual agency should identify and consider their specific tasks, according to their role and responsibilities. These tasks should then be assessed in the context of the incident.
APPLY RISK CONTROL MEASURES	Each agency should consider and apply appropriate control measures to ensure any risk is as low as reasonably practicable. The 'ERICPD' mnemonic may help in agreeing a co-ordinated approach with a hierarchy of risk control measures: Eliminate, Reduce, Isolate, Control, Personal Protective Equipment, Discipline
HAVE AN INTEGRATED MULTI-AGENCY OPERATIONAL RESPONSE PLAN	The outcomes of the hazard assessments and risk assessments should be considered when developing this plan, within the context of the agreed priorities for the incident. If the activity of one agency creates hazards for a partner agency, a solution must be implemented to reduce the risk to as low as reasonably practicable.
RECORD DECISIONS	The outcomes of the joint assessment of risk should be recorded, together with the jointly agreed priorities and the agreed multi-agency response plan, when resources permit. This may not be possible in the early stages of the incident, but post-incident scrutiny focuses on the earliest decision making.

8.1.4. CONSIDER POWERS, POLICIES AND PROCEDURES

This stage relates to any relevant laws, procedures or policies that may impact on the response plan and the capabilities available to be deployed.

Decision making in an emergency will focus on achieving the desired end state. Various constraints and considerations will shape how this is achieved.

Power, policies and procedures may affect how individual agencies operate and co-operate to achieve the agreed aims and objectives.

In a joint response, a common understanding of any relevant powers, policies, capabilities and procedures is essential so that the activities of one responder agency complement rather than compromise the approach of other responder agencies.

8.1.5. IDENTIFY OPTIONS AND CONTINGENCIES

There will almost always be more than one way to achieve the desired end state. Commanders should work together to evaluate the range of options and contingencies rigorously.

Potential options or courses of action should be evaluated, considering:

- Suitability   Does it fit with the strategic direction?

- Feasibility   Can it be done with the available resources?

- Acceptability Is it legal, morally defensible and justifiable?

Whichever options are chosen, it is essential that commanders are clear on what they need to carry out. Procedures for communicating any decision to defer, abort or initiate a specific tactic should also be clearly agreed.

Contingencies relate to events that may occur and the arrangements that will be put in place if they do occur. For example, strong evidence may suggest that an emergency is being successfully managed and the impacts safely controlled, but there remains a likelihood that the situation could deteriorate and have a significant impact. It is not good enough to 'hope for the best' and a contingency may include defining the measures to be taken if the situation deteriorates.

8.1.6. DECISION CONTROLS

As part of the decision making process, decision makers should use *decision controls* to ensure that the proposed action is the most appropriate.

Decision controls support and validate the decision making process. They encourage reflection and set out a series of points to consider before making a decision:

Note that points (a) to (d) are intended to structure a joint consideration of the issues, with (e) suggesting some considerations for individual reflection.

A) WHY ARE WE DOING THIS?	• What goals are linked to this decision? • What is the rationale, and is that jointly agreed? • Does it support working together, saving lives and reducing harm?
B) WHAT DO WE THINK WILL HAPPEN?	• What is the likely outcome of the action; in particular what is the impact on the objective and other activities? • How will the incident change as a result of these actions, what outcomes do we expect?
C) IN LIGHT OF THESE CONSIDERATIONS, IS THE BENEFIT PROPORTIONAL TO THE RISK?	• Do the benefits of proposed actions justify the risks that would be accepted?
D) DO WE HAVE A COMMON UNDERSTANDING AND POSITION ON:	• The situation, its likely consequences and potential outcomes? • The available information, critical uncertainties and key assumptions? • Terminology and measures being used by all those involved in the response? • Individual agency working practices related to a joint response? • Conclusions drawn and communications made?
E) AS AN INDIVIDUAL:	• Is the collective decision in line with my professional judgement and experience? • Have we (as individuals and as a team) reviewed the decision with critical rigour? • Are we (as individuals and as a team) content that this decision is the best practicable solution?

Once the decision makers are satisfied, collectively and individually, that the decision controls validate the proposed actions, then these actions should be implemented.

As the joint decision model is a continuous loop, it is essential that the results of these actions are fed back into the first box – *'Gather and share information and intelligence'* – which sets out the need to establish and sustain shared situational awareness. This will, in turn, shape any change in direction or risk assessment as the cycle continues.

8.1.7. BRIEFING

Once commanders have made decisions and decided on actions, information must be relayed in a structured way that can be easily understood by those who will carry out actions or support activities. This is commonly known as briefing.

In the initial phases of an incident, the joint decision model may be used to structure a briefing. As incidents develop past the initial phases or if they are protracted and require a hand over between commanders and responders, then a more detailed briefing tool should be used. The mnemonic 'IIMARCH' is a commonly used briefing tool.

Using the IIMARCH headings shown below as a guide, information can be briefed in appropriate detail:

- Information
- Intent
- Method
- Administration
- Risk assessment
- Communications
- Humanitarian issues

Information on IIMARCH and its use as a briefing tool can be found here.

8.1.8. TAKE ACTION AND REVIEW WHAT HAPPENED

Building shared situational awareness, setting direction, evaluating options and making decisions all lead to taking the actions that are judged to be the most effective and efficient in resolving an emergency and returning to a new normality.

Actions must be reviewed. As information changes during the response, commanders should use the joint decision model to inform their decision making until the incident is resolved.

9. SUPPORTING JOINT DECISION MAKING

The joint decision model is designed to help commanders make effective decisions together. As they establish shared situational awareness, they can develop a common operating picture.

As part of this process, commanders and decision makers may need further support, skills and resources so they can assess and interpret the information they receive appropriately, before it influences the decisions they make.

The following section provides background information and some suggested methods to support decision making.

In many incidents there won't be a need, or any time, for formal arrangements to be set up to support decision makers. But some incidents will be highly complex and strategically significant, involve considerable levels of uncertainty, have hard-to-predict consequences and unclear choices.

In these circumstances, it will be necessary to implement pre-established arrangements to manage information and support multi-agency decision-making at tactical and strategic levels.

9.1. ASSESSING AND MANAGING INFORMATION

This section outlines the capabilities that responder agencies should establish to inform and support joint decision making. It covers the need to:

- Assess information

- Have common processes to report, assess and manage information consistently

- Have a common information sharing platform, so that information can be shared and applied

9.2. INFORMATION ASSESSMENT

Assessing the information received, using proven criteria, will establish its quality and suitability for the task in hand. This is critical to ensure that decision-making is based on the best possible information and to identify where critical uncertainties lie.

In an emergency or crisis, much of the information decision makers receive will be unreliable or of uncertain quality.

For that reason a framework is needed, to distinguish between:

- Information that can be relied on with confidence

- Information that is unreliable in some way

- Information of unknown quality

There are many ways in which responder agencies can assess information. If agencies use the same information assessment framework, interoperability will be enhanced.

As a minimum, information should be assessed for:

- **Relevance** – in the current situation, how well does the information meet the needs of the end user?

- **Accuracy** – how well does the information reflect the underlying reality?

- **Timeliness** – how current is the information?

- **Source reliability** – does previous experience of this source indicate the likely quality of the information?

- **Credibility** – is the information supported or contradicted by other information?

As they develop a common operating picture, decision makers need to work together, using their joint experience and judgement, when using an information assessment framework. This will ensure the information they are using is both suitable and adequate.

If decision makers are concerned or dissatisfied with the information assessment, they should issue clear direction and take steps to update, reconcile and check the information, or to seek further information, potentially drawing on other channels and sources.

The behaviour of individuals and teams, and the effectiveness of interaction, will either enable or impede them in developing shared situational awareness. Achieving shared situational awareness is more likely if people:

- Share what they know freely

- Make uncertainties and assumptions absolutely clear

- Challenge their own understanding of what they are being told, and challenge the understanding of others

- Are critical and rigorous

9.3. COMMON PROCESSES

An organisation responding to a crisis or incident must:

  a) Gather relevant information about the incident

  b) Evaluate that information in terms of quality and relevance

  c) Filter, analyse and make sense of that information

  d) Communicate the information inside their organisation, and outside if required

  e) Present the information to decision makers in an appropriate form

Interoperability will be enhanced if emergency responders use consistent ways of working to carry out these tasks.

9.4. COMMON INFORMATION SHARING PLATFORM

A common information sharing platform is the means to share and manage information collaboratively to support joint decision-making. Any commonly understood, effective system can be described as a common information sharing platform.

There are considerable advantages to using an electronic system. For example, automating aspects of sourcing, combining, analysing and displaying data will be much more useful and efficient for those using the data collected.

The precise form of a common information sharing platform will reflect local requirements and existing capabilities, but responder organisations should consider ResilienceDirect, a widely-used and secure platform with a range of functions to support joint working. ResilienceDirect is provided to all responder agencies by the government.

10. TIERS OF COMMAND

Emergency responders adopt levels of command when responding to incidents. The level does not convey seniority or rank but the level of command an individual has at the incident. The figure below shows the generic tiers of command and basic responsibilities.

STRATEGIC	Strategic Co-ordinating Group	Sets strategic direction Co-ordinates responders Prioritises resources
TACTICAL	Tactical Co-ordinating Group	Interprets strategic direction Develops tactical plan Co-ordinates activities and assets
OPERATIONAL	Responder agencies	Executes tactical plan Commands single-service response Co-ordinates actions

Figure 4 - Response structure

This document refers only to the generic tiers of command and not the specific functional activities of individual organisations.

There should be a clear and identifiable commander or representative who is responsible for co-ordinating the activity of their agency at each level of command.

10.1. FIRST RESPONDER STAFF

It is important that all individuals who could be first on scene for their respective responder agency are able to declare a major incident, and that they understand the implications of declaring one. They must also be able convey incident information using the **M/ETHANE** model. Declaring a major incident begins the process of activating relevant plans.

10.2. OPERATIONAL

Operational commanders will be working with colleagues from other responder agencies. This will most likely be at, or close to, the scene of the incident.

They will control and deploy the resources of their respective service within a functional or geographical area, and will implement the tactical plan as directed by the tactical commander.

Clear communications should be established and maintained so that individuals can work together in a co-ordinated way.

The roles and responsibilities of operational commanders can be found here.

10.3. TACTICAL

In the initial stages of an incident, first responders are responsible for tactics. Once the scale and nature of the incident is known, emergency services will appoint officers to act as tactical commanders for their organisation. Other responder agencies may also appoint individuals to act as tactical commanders or co-ordinators on behalf of their organisations where relevant.

Communication and co-ordination between commanders is critical. Tactical commanders should be located at a mutually agreed location where they can maintain effective joint command of the operation. This includes effective joint working with other services, and other factors such as access to communications systems. The fire and rescue service tactical commander will be located where they can maintain effective tactical command of the operation, invariably they will be in attendance at the scene. Once the tactical co-ordinating group is formed, they will either attend in person or nominate a liaison officer to attend.

Where circumstances hinder co-location of commanders (of any level) then robust communications arrangements must be implemented, through the use of interoperability communications and where appropriate National Inter-agency Liaison Officers (NILO) to ensure a co-ordinated response and safe systems of work are maintained.

The tactical commander is likely to be in place before the strategic commander and is also likely to be the first senior officer taking command of the incident. In the early stages of an incident, the tactical commander is likely to set priorities before the strategic commander has set a strategy.

The roles and responsibilities of tactical commanders can be found here.

10.4. STRATEGIC

The strategic commander from each agency has overall authority on behalf of their agency. They are responsible for the resources of their own agency and for formulating their single agency strategy for the incident.

Each strategic commander may delegate implementation decisions to their respective tactical level commanders.

At the earliest opportunity, a strategic co-ordinating group (SCG) will determine or confirm a specific response strategy and record a strategy statement. The roles and responsibilities of strategic commanders can be **found here**. The role and responsibilities of the strategic co-ordinating group can be **found here**.

To minimise the consequences of the developing incident as far as is reasonably practicable, the structures and responsibilities detailed above must be activated and put into place as quickly as possible. It is acknowledged this is likely to take some time and therefore the first responders and commanders at a scene must identify and implement the initial tactics, whilst also communicating the need for support.

10.5. INTER-AGENCY RESOURCES

Any service may request temporary assistance from the personnel and equipment of another organisation. In these circumstances, while the supporting service will relinquish the immediate control of those resources to the requesting service for the duration of the task, the supporting service will keep overall command of its personnel and equipment at all times.

Personnel from one service who help another in this way should only be given tasks they are trained and equipped for, and they should not supplement the other service in a way that is potentially dangerous.

National inter-agency liaison officers (from the fire and rescue service or ambulance service) and tactical advisers are part of a network of specially trained officers who are qualified to provide commanders with advice on operational capabilities, limitations and capacity.

10.6. MULTI-AGENCY INFORMATION CELL

Emergency services and local resilience forums (LRFs) should be able to support tactical and strategic co-ordinating groups, when they are activated, by managing information and forming a common operating picture. This capability should be formalised as a multi-agency information cell (MAIC). The effectiveness of the multi-agency information cell (MAIC) depends on established and rehearsed capabilities.

A multi-agency information cell (MAIC) will not need to be established at the start of every incident involving a tactical and strategic co-ordinating group, but the multi-agency response to complex and/or protracted incidents should be supported with a multi-agency information cell (MAIC).

The multi-agency information cell (MAIC) may come together in either a physical, co-located form, or in a virtual form. It should be able to source, access, analyse, display and disseminate situational information, drawing on information and expertise from many sources rather than a single organisation. Both co-located and virtual arrangements for a multi-agency information cell (MAIC) should make use of a wide range of information systems to support shared situational awareness, such as ResilienceDirect, other open data sources or social media.

A core function of the multi-agency information cell (MAIC) is to produce the common operating picture that will inform and support the tactical and strategic co-ordinating groups and other responders.

11. JOINT ORGANISATIONAL LEARNING (JOL)

The lessons identified from de-briefing activities are now at the forefront of many key changes in emergency services policy and practices.

Issues have frequently been identified but not successfully acted upon to improve effective joint working. It is essential that joint organisational learning is accepted as the standard for multi-agency learning and is adopted by all response agencies to ensure interoperability is continually improved.

Joint Organisational Learning (JOL) provides emergency services and other responder agencies with a consistent and accountable mechanism to ensure lessons identified are acted on and to ensure they become lessons learned.

11.1. JOINT ORGANISATIONAL LEARNING ARRANGEMENTS

A robust governance structure and process addresses joint organisational learning issues.

The Interoperability Board provides governance for the joint organisational learning arrangements. This ensures that any issues regarding interoperability are considered and acted upon by appropriate representatives from the emergency services, their respective Government departments and other key stakeholders.

The process includes a method to capture, analyse, implement and share learning from incidents, training, testing and exercises, and from other external sources. All responder agencies (some via their local resilience forum or LRF) have access to the joint organisational learning (JOL) application which is hosted on ResilienceDirect and can submit interoperability issues and share notable practice.

The majority of lessons to be learned are identified during de-brief procedures. It is essential that responder agencies have robust de-brief procedures at a local level, which include ways to identify any interoperability lessons and raise them to the national level via the joint organisational learning (JOL) application.

11.1.1. DE-BRIEFING AND LESSONS IDENTIFIED

It is important to capture lessons while events are fresh in the minds of those involved. For this reason, a joint 'hot de-brief' should be held by commanders as soon as practicable after an incident.

Formal de-briefs, which may be held later, will take into account lessons identified and captured from hot de-briefs or equivalent post-incident reviews. All de-briefs should involve the full range of responders and control room staff to ensure the lessons identified are captured from every aspect of the response.

To support emergency services in capturing interoperability lessons, a de-brief template can be found in the JESIP Interoperability de-brief template. This template is designed to be integrated into, or used alongside, existing de-brief procedures.

11.1.2. NOTABLE PRACTICE

Joint organisational learning (JOL) can also be used to share notable practice. This is where services have found a solution to an interoperability issue, which works well and that they wish to share so that others can benefit from their learning.

11.2. EXPECTATIONS OF RESPONDER AGENCIES

To continually improve emergency response interoperability, all responder agencies must capture lessons identified from incidents, exercises and training and have the opportunity to submit them for consideration by the Interoperability Board.

Where lessons identified meet the criteria for adding to the joint organisational learning application, then a local process should be adopted to ensure all responder agencies and where it is deemed appropriate, the respective local resilience forums, agree what will be submitted and who will submit them on behalf of their agency or area.

Following any incident, exercise or training, those involved should ensure appropriate de-briefs are scheduled and that all those involved in the response are represented.

- The lead agency for the response and/or local resilience forum (LRF) should co-ordinate de-briefing after a multi-agency incident or exercise

- There should be a common understanding among attendees of any issues raised during the de-brief process

- Issues should be captured using local multi-agency de-brief procedures alongside the JESIP interoperability de-brief template

11.2.1. CRITERIA FOR SUBMISSION TO JOINT ORGANISATIONAL LEARNING (JOL)

Issues that meet any of the following criteria should be submitted onto JOL:

- Relate to interoperability – primarily using M/ETHANE, the JESIP principles for joint working and the joint decision model

- Had an impact on the effectiveness of at least two of the response organisations

- Impeded successful interoperability

- Are known to be recurring issues

- If resolved, could benefit other organisations and so may have a national impact

Any disclosure requests for information related to the de-brief or incident should be managed appropriately.

Supporting information, guidance and templates to help with using joint organisational learning (JOL) are available in the **JESIP - Joint Organisational Learning, Learning Interoperability Lessons, Guidance Document 2015**

12. DISCLOSURE AND FREEDOM OF INFORMATION

Disclosing unused material in criminal cases is an essential part of any police investigation. Unused material is material that the police service has gathered during the course of an investigation that is not used evidentially for the case when it gets to court. Even though it has not been used, the material is expected to be kept as it could become relevant at a later date. Lord Justice Gross has described this as still 'one of the most important – as well as one of the most misunderstood and abused – of the procedures relating to criminal trials' (2011).

The police investigation team is likely to appoint a disclosure officer, who will be able to advise commanders on relevant material and disclosure procedures. Decision logs and de-brief information could be subject to disclosure rules, and form part of the unused material.

In an investigation, police investigators, via nominated disclosure officers, compile a list of all unused material that will be disclosed to the Crown Prosecution Service (CPS) and the defence. Examples of material falling under the definition are:

- 999 voice tapes

- Incident logs and pocket books

- Operational briefing/de-briefing sheets

- Policy files/decision books

- Material in police possession from third parties and records held by other agencies

In deciding whether the material satisfies the disclosure test the investigator must pay particular attention to material that could potentially undermine the prosecution case or assist the defence. Material should be made available to the officer in charge and the disclosure officer so they can make an informed decision. De-brief material includes not only the de-brief report but also individual feedback and notes made by any party at the de-brief.

13. INFORMATION FOR MILITARY RESPONDERS ATTENDING CIVIL EMERGENCIES

This guidance is provided for the use of military responders. It clarifies and explains the ways of working used by civil responder agencies when they respond to incidents.

13.1. INTRODUCTION

Emergency responders need to be able to work with other agencies, including the armed forces. Military responders contribute in a supporting role, with civil responders having primacy throughout.

Military responders should be aware of the JESIP principles for joint working and will be expected to adhere to them wherever possible. The principles for joint working are **co-location, communication, co-ordination, a joint understanding of risk** and **shared situational awareness**.

13.2. COMMAND AND CONTROL

Civil organisations use the terms 'strategic', 'tactical' and 'operational' to identify individual roles in the command and control structure. This differs from the strategic – operational – tactical structure found in UK and NATO military doctrine. The strategic commander has overall command of the incident and is part of the strategic co-ordinating group (SCG). Below this is the tactical command level, which functions through a tactical co-ordinating group (TCG). The operational commander will work at or very near the scene.

13.2.1. CO-LOCATION

Co-locating commanders is essential. When commanders are co-located, they can perform the functions of command, control and co-ordination face-to-face. They should work from a single jointly agreed location known as the Forward Command Post (FCP). They use the JESIP joint decision model along with joint decision logs to record their actions and decisions. Military log keepers must be aware of this, so that they can ensure any military logs and records are consistent.

13.2.2. COMMUNICATION

At multi-agency incidents, civil commanders use interoperability 'talk groups', which are held by the emergency services to ensure all responders have a shared understanding. Military responders should be included if possible.

Civil responders report and share information about the incident over their communications networks using the mnemonic M/ETHANE, which stands for:

- **Major incident declared?**

- **Exact location**

- **Type of incident**

- **Hazards present or suspected**

- **Access** – routes that are safe to use

- **Number of casualties**

- **Emergency services present and those required**

Military units will also be expected to use M/ETHANE to convey information about the incident in the situation reports they give to civil agencies. Information shared should be free of acronyms and terms used by only one agency. This ensures that the information shared is clear and unambiguous.

13.2.3. CO-ORDINATION

Depending on the nature of the incident, one of the civil emergency services (or an appropriate responder) generally takes the lead role at an incident to ensure an effective response, with military contribution in a supporting role. Military unit commanders are responsible for identifying themselves at the forward command post, or any other location that they have been asked to attend. They should establish effective co-ordination with the lead civilian responder to ensure tasks are allocated appropriately.

13.2.4. JOINT UNDERSTANDING OF RISK

Commanders of civilian responder agencies will share their respective risk assessments and establish a joint understanding of risks to ensure the safety of responders. This will include any military assets where they are under the control of civilian agencies. However, this does not absolve military commanders from their own assessment of the risks and, where necessary, military commanders must decide for themselves whether the risks their personnel are exposed to are tolerable and as low as reasonably practicable. If there is disagreement between the military and the civilian commander, the military commander must inform the military chain of command as soon as possible.

13.2.5. SHARED SITUATIONAL AWARENESS

A common understanding of the circumstances and immediate consequences of an emergency, together with an appreciation of available resources and the capabilities of responder agencies, is critical to success. Using the mnemonic M/ETHANE allows incident information to be shared in a way that is easily understood. As incidents develop, the briefing tool, IIMARCH should be used by civilian agencies, with information briefed against each heading in the IIMARCH mnemonic (Information, Intent, Method, Administration, Risk assessment, Communications, Humanitarian issues). However, in the early stages, a briefing can be delivered quickly around the content of the joint decision model.

13.2.6. JOINT ORGANISATIONAL LEARNING – MILITARY CONTRIBUTIONS

Military units are encouraged to contribute to post-incident de-briefs and to ensure that interoperability lessons are captured in the joint organisational learning application on the ResilienceDirect website.

13.2.7. JOINT TRAINING AND EXERCISING

If military units and personnel are likely to assist civilian emergency services in their area, they are encouraged to take part in joint learning opportunities to enhance their awareness of the JESIP principles and ways of working.

The Army's Regional Point of Command (RPOC) brigades will co-ordinate this, usually through the network of joint regional liaison officers (JRLOs).

13.3. INFORMATION FOR CIVIL RESPONDERS WHERE MILITARY INVOLVEMENT IS LIKELY

This section gives responder agencies information on working with the military. It does not cover in depth the process for requesting assistance, or the capabilities and assets available.

13.3.1. COMMAND AUTHORITY

Military personnel deployed to assist with civilian responders remain under the military chain of command at all times. This means that they may be withdrawn at any time should the chain decide that they are required for higher priority tasks. Military commanders are also authorised to refuse tasks if they believe they are inappropriate, beyond the scope of the original request for assistance, or they put their personnel at undue risk. In these circumstances, the military commander will report the incident to a higher authority as soon as possible.

13.3.2. COMMAND AND CONTROL

Military command and control structure differs from that used by civilian agencies. The military strategic level of command is executed through the Ministry of Defence (MoD). The operational level of command will be taken by MoD Headquarters Standing Joint Commander (UK) based in Andover, whilst the tactical level of command is usually held by the Army's Regional Point of Command (RPOC) brigade commanders.

The Army's RPOC brigade commanders are usually appointed as joint military commanders for an operation to support UK civil authorities and in this capacity they may base themselves at the Strategic Co-ordinating Group. More military liaison officers will be deployed to the strategic co-ordinating group/s and tactical co-ordinating group/s (TCG/s) appropriate to the operation.

13.3.3. DEFENCE FIRE AND RESCUE MANAGEMENT ORGANISATION

The Defence Fire and Rescue Management Organisation (DFRMO) has limited numbers of personnel and equipment at a number of MoD establishments.

Should the incident escalate to involve other fire and rescue services and responders, DFRMO incident command policy presents a building block approach for a robust incident management process.

DFRMO policy is that the fire officer from the primary authority takes charge of the incident. If the incident takes place at a military establishment, this will be the DFRMO incident commander.

At incidents where there are special risks, such as those involving military aircraft or submarines, the civil fire and rescue service fire officer will assume the role of overall incident commander at the incident, but will work closely with the senior DFRMO fire officer present, who may assume the role of tactical adviser, sharing risk-critical information.

13.3.4. JOINT REGIONAL LIAISON OFFICER (JRLO)

The joint regional liaison officer (JRLO)is the MoD's primary focus for integrating regional UK military operations with civil authorities. The regions are based on the geographic boundaries of the Army's Regional Point of Command (RPOC) brigades.

During routine periods they represent the MoD at local resilience forums and attend all relevant training and exercising events. When a crisis occurs, they may represent the Regional Point of Command (RPOC) brigade commander at the strategic co-ordinating group. But if the crisis covers a number of local resilience forum areas and a representative from the Ministry of Defence (MoD) is needed in a number of areas, another military liaison officer may assume the role. They will be nominated by the MoD and will usually be drawn from military establishments or units in the region involved.

Single-service liaison officers from the Royal Navy and Royal Air Force complement the capability and capacity of the joint regional liaison officer and provide specialist, single-service advice. The joint regional liaison officer can provide advice on the military capability available in an emergency situation and how to submit a request

13.3.5. REQUESTS FOR MILITARY ASSISTANCE

If the assistance or support of the armed forces is required at an incident, a 'military aid to the civil authority' (MACA) request is usually made through the strategic co-ordinating group to the relevant lead government department. If the lead responder on the ground is the police or the fire and rescue service, the lead government department will be the Home Office. For the ambulance service it will be the Department of Health.

Where the local authority is the lead responder, the lead government department is the Department for Communities and Local Government (DCLG). Slightly different arrangements exist in the devolved areas, although the lead government departments are still the London-based Wales Office, Northern Ireland Office and Scotland Office. In circumstances where the formal command structure for a civil emergency response has not been established, police headquarters will be able to supply the contact details for the joint regional liaison officer (JRLO) for each area.

13.3.6. EMERGENCY ASSISTANCE

If an exceptional emergency situation develops and an urgent response from military units is needed to save life, local commanders are authorised under standing arrangements to deploy without seeking approval from a higher authority.

The Defence Council approves the use of Ministry of Defence (MoD) service personnel on tasks that are assessed as:

"Being urgent work of national importance, such work as is considered by a local commander, at the time when the work needs to be performed, to be urgently necessary for the purposes of the alleviation of distress and preservation and safeguarding of lives and property in the time of disaster..."

In very exceptional circumstances, therefore, where there is a grave and sudden emergency, military commanders have a duty to act on their own responsibility without a request by the civil authority. The commander must consider that the situation demands an immediate intervention to protect life or property.

13.4. FURTHER INFORMATION

More details of the role of the armed forces in supporting the civil authorities can be found in the following documents:

Operations in the UK: The Defence Contribution to Resilience - Joint Doctrine Publication (JDP) 02

Operations in the UK: A Guide for Civil Responders

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APPENDIX VII

Leadership & Culture

John O'Hare October 2018

Leadership & Culture Context

From the outset, Leadership and Culture were identified as critical components of the Programme for Change, front and central to the success of a new operating model for GMFRS.

A Dedicated Leadership & Culture workstream was considered to be a fundamental part of the Programme, required to address a number of immediate challenges as well as ensuring future developments within both of these areas were aligned with the Target Operating Model and supporting Outline Business Case.

The initial focus of the Leadership and Culture workstream was to:
- Develop a clear understanding of the current Leadership and Culture across the organisation as it is today;
- Identify GMFRS's aspirations for Leadership and Culture in the future;
- Set out a clear plan of action to address the current challenges and deliver the future aspirations.

The overall ambition for this workstream is to create a High Performance Environment (HPE) which comprises leadership, performance enablers and people factors being inter-connected and woven into the organisational climate which is informed and influenced by achievement, wellbeing, innovation and appropriate internal processes. The aim of a HPE is to identify and capture the predictors of organisational performance which are able to be controlled and influenced by the organisation.

Leadership and cultural development are key to the success of the Target Operating Model and will be able to influence and interact with performance enablers to impact on the people variables. In turn, people's attitudes and behaviours are able to influence the organisational climate to impact on overall organisational performance.

It is essential that all work programmes going forward are constructed and delivered with input from staff across all areas of GMFRS. In particular, the buy-in from the Corporate Leadership Team (CLT) in a joined-up and committed manner is a critical success factor for all future development work. All aspects of Leadership and Culture work must also be future-proofed to fully support and ensure alignment with both the GMFRS Target Operating Model and the Greater Manchester Combined Authority (GMCA) Working Principles.

Leadership & Culture 'As-Is' Position

A wide range of leadership and cultural challenges were highlighted as a result of the Kerslake Review and the subsequent Mayoral Visits to stations. A summary of the key challenges identified included:

- A feeling of disconnect and 'Them and Us' between senior leaders and the rest of the workforce;
- An over-reliance on a hierarchical command and control leadership style;
- A lack of trust being pervasive throughout the organisation;
- A lack of political 'savvy' with regard to modern Public Sector Reform and relationship with the Combined Authority.

As part of the Leadership and Culture Workstream, work has been undertaken to understand the current cultural challenges in more detail through a number of Cultural Inquiry Sessions, with a particular focus on what the organisation's culture is today and the required actions to move the organisation towards the future aspirations for leadership and culture to support the GMFRS Target Operating Model and new ways of working.

'As-Is' Cultural Inquiry – Work Undertaken to Date

A key element of capturing the 'as-is' position was to understand the current culture of the organisation and leadership styles in order to determine how improvements could be delivered. This followed on from the findings of the Kerslake review which outlined challenges in attitudes and behaviours, underpinned by a negative cultural perception across the organisation.

Following feedback gathered during the Mayoral Station Visits, together with work undertaken to understand current Leadership styles across the organisation, a number of key cultural areas were highlighted for further consideration at a number of cultural inquiry sessions with staff:

- Leadership
- Relationships
- Purpose
- Communication
- Engagement

Several groups of uniform and support staff were asked to support external advisors through a series of workshops to gather data on the above 'cultural markers'. The workshops facilitated a number of enabling conversations to understand some of the wider challenges related to the working environment, power, decision making, bullying/ harassment issues, gender, inclusivity, how work was planned, organised and controlled etc.

The Cultural Inquiry Sessions were semi-structured, conversational and designed to get specific data around how people experienced the above themes as well as developing an understanding of the extent to which staff experienced a shared Common Purpose.

Each group was asked the same questions and asked to rate (on a 1-10 scale) how they experienced aspects of leadership, relationships and purpose; and then to qualify why they settled on a particular score.

The groups were also asked how they received information and programme-related communication as well as their views on how best the Programme for Change representatives could engage staff going forwards.

'As-Is' Cultural Inquiry – Key Findings

A number of key themes emerged from the initial Cultural Inquiry which reveal the areas of Cultural Activity requiring immediate focus and which reinforce the need to ensure the people-focus elements essential to a HPE become mainstream activity:

Theme	Finding
Leadership	• Inconsistency of leadership styles. • Perception of Leadership ranges from 'Very Good' to 'Very Poor' • Lack of Trust features strongly pervasive throughout the organisation. • There appears to be a lack of 'Political Savvy' • It was evident that Good Practice does exist
History and Identity	• Strong history and identity • It is important to value and learn from the past in order to form the future.
Purpose	• Clear on purpose but patchy on vision • There is a clarity with regard to core function purpose but a vagueness with regard to inter-dependencies such as GMCA, Police, Key Partners. • No mention was made of the current budget challenge
Information & Communication	• A strong 'word of mouth' culture exists which can be 'Rumour Heavy'. • Nobody appears to be setting the narrative • Perception that internal information is scattered and out of date • Shared service model for internal communications appears to be problematic. • Informal E-Groups (Whats App, Facebook) exist with no governance
People & Operations processes	• Day to Day HR Processes are perceived to be problematic. • Internal Reporting - No trust that anything will be done if an issue is raised • No Service Level Agreement to gain People Contract
Recruit, Retain, Promote	• Poor Perception of those in the promotion process • Representation across the organisation not very diverse. • What is valued / rewarded?
Silo-Working and Personality Driven	• What is Valued? Perception that you must be Match Fit, Strong and Physically Able to be seen as effective. • Perception that the current 4 areas of business operate in Silos (Prevent, Protect, Response, Support) and that Response is valued more than all others.

The findings and recommendations resulting from the Cultural Inquiry Sessions have been shared and tested with members of the Staff Reference Group and evaluated as being relevant and meaningful.

The above findings have also been used to develop the future requirements for leadership and culture and are set out in later chapters together with a supporting action plan.

Current Position of Leadership Development

A recent audit of Leadership Development activity (August 2018) demonstrates that work has already taken place to support leadership development across GMFRS. The largest contribution to this is the internally-delivered 2 day Leadership Workshop which is based on the leadership challenge model of Kouzes and Posner.

It is notable that, since 2011, no member of GMFRS has completed the Executive Leadership Programme delivered by the Fire Service College.

4 people have attended The Windsor Programme (1 on the Experienced Leaders and 3 on the Developing Leaders elements).

There is, and has been for some time, the capability within the People Directorate to complete Meyers Briggs Type Interface (MBTI) assessments and feedback. It appears that this tool has not been used as a development medium to support leaders across the organisation. This tool is an ideal mechanism to support leadership development within the current context and commence the process of team crystallisation required to manage change and implementation of the Operating Model.

Utilising a personality profiling tool, such as MBTI, is a way of working with individuals, teams and organisations to maximise their potential. It is used to help individuals understand themselves more fully, assist teams to maximise their potential and help organisations bring out the best in their people. Used effectively, it can also highlight collective strengths and potential areas of weakness within Teams.

Executive Coaching appears to be disjointed with no clarity with regard to what model is used and who has undertaken this development opportunity.

A Training Needs Analysis (TNA) is completed across the service on an annual basis but tends to focus on generic mandatory learning rather than individual leadership development needs. There is now the opportunity to conduct a forward facing TNA built upon the leadership qualities required to respond to the issues raised within the Cultural Inquiry Sessions and operate within the future operating model.

It appears that there is no bespoke Leadership Strategy in place which sets a clear direction to those in key roles with regard to what behaviours are expected and how they are formally developed and assessed to ensure consistency and effectiveness across the organisation.

Consultation is currently taking place across the country to consider a revised Leadership Framework which appears to identify the necessary behaviours required to operate in the modern service. The framework is built around four inter-connected quadrants which are relevant to all fire and rescue service roles. They are:

- Organisational Effectiveness

- Personal Impact

- Outstanding Leadership

- Service Delivery

There is an opportunity for GMFRS to grasp this workstream and implement the recommendations as a Pathfinder Service to maximise the potential of such an opportunity at the earliest possible time. There would be the need to include additional political elements to the framework to ensure full relevance to the local context within Greater Manchester.

Developing Culture and Organisational Climate

Organisational culture is usually taken to mean 'the way we do things around here' – an agreed set of customs and norms that inform, and are evident in, the behaviour of those who work in and for an organisation. In order to ensure an explicit connection to cultural development, GMFRS must go beyond the 'how' of 'the way we do things' to focus on the 'what' and the 'why' behind their activities; these are all forces that drive behaviour.

The recently refreshed GMFRS vision, mission and purpose provides the necessary foundations on which to build the proposed leadership and cultural activity.

In line with this, the 'what' & 'why' must now be the starting point for the leadership and cultural development strategy, laying the foundations for 'how' we intend to deliver the 'what' and the 'why':

WHAT GMFRS does – its overall purpose and the individual activities it undertakes in pursuit of that;

WHY it does the things it does – what it hopes all of its activities will achieve, individually and collectively; and

HOW it goes about doing those things and the processes it has in place in terms of monitoring and control.

The term culture can often be tinged with a negative view but it is also a powerful medium to drive success and reinforce a sense of pride. It is essential that the legacy of the past is not ignored or undermined but is constructively used to inform and understand the future.

As discussed above, and in respect of working towards a High Performance Environment, processes and organisational culture play mutually reinforcing roles. Moreover, a positive culture not only

serves to protect reputation, but also to generate value for the organisation, amplify its assets, and to assist in the achievement of its strategic vision in a sustainable manner.

Organisationally, such a culture relies heavily upon individual Leaders, creating a sense of belonging, encouraging a "spirit of openness" and giving their staff permission to fail / learn together. This is where the Leadership & Culture workstream are explicitly linked and essential to support the implementation and development of the Target Operating Model.

Developing the future GMFRS Culture

The work on developing the future culture for GMFRS sought to identify specific elements that support a highly successful Group Culture, whilst not losing sight of "where we are now". The focus on developing a successful Group Culture was therefore focused on developing activities to promote: a *Sense of Belonging & Safety, a Sense of Shared risk* and an *Established Purpose*.

The Cultural Inquiry work was also designed to seek out and demonstrate the best of GMFRS Culture – pride, willingness to deliver, sense of service, and community focus, to enable the organisation to build upon positive elements currently recognised by staff.

The future GMFRS culture strongly relies on Leadership support, buy-in and visibility. Leadership success, in turn, relies on culture.

Initial Recommendations from Cultural Inquiry

A number of recommendations were made as a result of the Cultural Inquiry findings and are set out below:

- Develop & implement NFCC Leadership Behavioural framework – for all levels
- Strengthen Political Savvy in Leadership team
- Review of current promotion process
- Development of internal mentoring scheme to support new leaders
- Create campaigns & formal/ informal mechanisms to support cross-working.
- Dedicated resource to deliver the Leadership & Culture Workstream, supported by a plan of internal communications and engagement
- Streamline & improve information held (to feed in to People Team work on HR information and systems), together with a move towards digital communications and information
- Develop Cultural Focus Areas to track action & impact
- Run Yr 1/yr 2/ yr 3 activity sessions to aligned with vision, purpose, values

Additional Leadership and Cultural Focus Areas

In under 3 years, GMFRS has experienced unprecedented changes to its political and leadership environment – there is evidence that staff (and leaders) are struggling to make sense of their role and identity in the new Political environment with a perception that their safety and identity is under threat.

As identified via the recommendations of the Cultural Inquiry, the existing promotion process feeds into and supports the current leadership and cultural status quo – there are opportunities to review

the Promotion Process to pipeline in other Leadership behaviours (aligned to belonging, shared risk, purpose etc.) Developing a shared sense of how to operate in the new environment encourages a sense of safety, stability and ability to influence the wider picture.

The intrinsic links between Leadership and Culture create a pathway of Cultural Focus Areas which reflect a sense of belonging and clarity. In addition to the specific recommendations from the Cultural Inquiry, a series of broader areas were identified whereby the specific recommendations feed into them. They are,

Leadership – where focus is about setting Leadership Behaviours and developing in a new direction for those in charge & seeking promotion.

Aligned – seeking to align the vision & values, seeking to connect staff – this focus area includes cross working and creating collaborative opportunities over 3 years.

Connected – a Fire Service that has simple structures and systems – where information is easy to get hold of and communication flows through a number of mechanisms – not just word of mouth. Connected is to celebrate how everyone contributes.

Modern – a Fire Service that works beyond traditions of Respond, Prevent, Protect – a service that reflects the people it serves and is adaptable, sustainable with a clear operating model.

Cultural Focus Areas

Leading	Aligned	Connected	Modern
• Visible • Credible • Trusted • Fair • Aware	• Vision/ Values into practice • Involve staff • Cross-Working • Collaboration	• Simplified systems & structures • Strong comms channels • Use of technology	• Multi-Cultural • Open to all • Adaptable • Sustainable

These areas of cultural focus have explicit links to Leadership and enable an element of tangible governance which can be reviewed and reported on, generally, over the next 3 years. This 3 yearly activity helps everyone connect and crystallise around the key areas of the refreshed GMFRS vision, mission and purpose.

Culture can be hard to codify and measure. As the Culture Work evolves, any action or Focus area must have tangible outcomes. Examples could include the following:

- Production of tangible "culture assets" such as Leadership Framework, Vision/ Working Principles etc

- Evidence of these assets being understood and applied
- Evidence of shift in Leadership team working together/ fewer silos/ greater collaboration
- Evidence of greater diversity through Promotion Process
- Evidence of internal systems being easy to navigate – greater use of digital technology & data in the Operation & decision making

It is clear that the appropriate Leadership Development is essential to respond to these concerns and to demonstrate the desire to make a positive impact in the future.

Future Leadership Development

An effective Leadership Strategy must be developed to enable all key leaders to understand their specific role and personal responsibility within the organisation and to equip them with the necessary skills, understanding and support to perform to the highest standards to deliver the agreed vision.

This must be an inclusive and adaptive developmental process which builds on existing skills around command and control as it introduces the wider elements of transformational and political leadership required to operate in an increasingly change-driven and political environment.

The diagram below illustrates a proposed Inclusive Adaptive Leadership Model which has been designed to support the Target Operating Model, anchored at the centre with the refreshed GMFRS Vision and Mission. Joint decision-making and clear demonstration of Core Values are pervasive throughout.

Proposed Inclusive Adaptive Leadership Model to support the Programme for Change
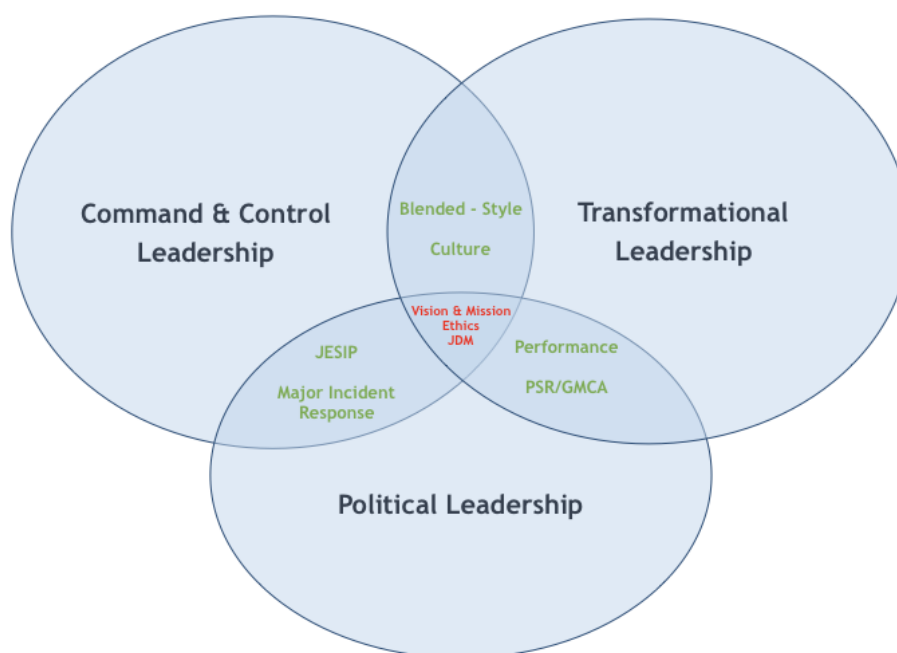
To enable key leaders to operate effectively they require development to ensure they are able to understand which leadership style they are required to adopt depending upon the potential, actual and emerging situation in front of them.

Command and Control Leadership is essential when responding to operational incidents and is enshrined within the JESIP doctrine. Leadership Development exists in this area of business and follows national guidance with the necessary testing, exercising and accreditation.

It is now essential to introduce a similar development process for Transformational and Political Leadership.

Transformational Leadership is required to support longer term interventions whereby people-centred interventions are essential to drive forward change and retain the support, motivation and loyalty of everyone across the organisation. This goes beyond 'business as usual' and cannot be achieved by simply relying on rank or adopting a command and control stance.

This element of the strategy must also be informed by those issues & themes raised by staff during the Mayoral Visits to Fire Stations and the Cultural Inquiry Sessions, as well as being underpinned by the necessary Leadership Behaviours required to achieve the desired outcome.

Key leaders must also be fully conversant with their responsibilities in respect of future governance and performance, particularly as the service prepares for Her Majesty's Inspectorate of Constabulary and Fire & Rescue Services (HMICFRS) inspections in the future.

Political Leadership is equally an essential part of future leadership requirements, particularly in light of public sector reform and collaborative working being core leadership responsibilities. GMFRS

must be a key player within the Greater Manchester Combined Authority (GMCA) and demonstrate an openness to change and a desire to be active players in developing the partnership for the future. This element of leadership transcends both the operational and transformational spheres and development opportunities must be provided in equal measure.

Any Development Programme must be explicitly connected and linked to the recently agreed 5 Working Principles outlined within the Greater Manchester Combined Authority (GMCA) Organisational Development Strategy:

Working Principles	
Culture	*We pay attention every day to "how we do things around here" – always seeking to be welcoming, considerate, compassionate and professional.*
Collaboration	*We focus on building relationships and networks, working together to make the best of our different diverse backgrounds and thinking.*
Sustainability	*We look after the longer term impacts on and of each other, our work, our communities and are constantly conscious of the legacy we will leave.*
Delivery	*We deliver a vast range of vital public services with ambition, responsibility and public value at the heart.*
Innovation	*A key part of our journey is a willingness to always look at how we can challenge ourselves to do things differently and better, experiment and take risks, safely fail and learn together.*

Leadership Development Action Plan

A number of opportunities have been identified for immediate implementation within the Corporate Leadership Team (CLT) against identified timelines. It is essential that the structure and associated roles and responsibilities across CLT are agreed prior to the commencement of any development work. The below table sets out the proposed action plan for CLT:

ACTIVITY	TIMESCALE
MBTI Online Profile Completion by CLT	By end of October 2018
MBTI 1 to 1 feedback sessions for CLT	By mid-November 2018
MBTI Team Session	By end of November 2018
360 Feedback	By end of December 2018
Executive Coaching for CLT	October 2018 - March 2019

Once this element of leadership work is completed it will then be essential to roll out a similar methodology across the wider Leadership Team, as well as reflecting the results from the Cultural Inquiry work. This can commence in November 2018 with the aim to complete the work by March 2019.

The below table sets out the proposed Leadership Master Class opportunities to be delivered to all leaders across the organisation:

Leadership Theme	Timescale
Managing Change	Between November 2018 and January 2019
Adaptive Leadership Styles	Between January and March 2019
Emotional Intelligence	Between April and June 2019
Decision-Making	Between July and September 2019

All future Leadership Development work will be informed by the results from the ongoing Training Needs Analysis (TNA) and the Leadership Workshops held in late October. An audit of existing

Leadership Development opportunities available via the Fire Service College and across GMCA Partners must be completed to identify effective opportunities.

Longer term, the opportunity exists to develop a wide-ranging development strategy with an embedded Leaders as Coaches culture and Leadership For All ethos. Consideration must also be given to the development of of a GMCA Leadership Programme to reinforce collaborative behaviours across the strategic partnership.

Leadership & Culture Action Plan

GMFRS is undergoing a significant period of change. Therefore, in order to select and implement any leadership and cultural recommendations, there needs to be a process of prioritisation. The below action plan has been developed which will be taken forward as part of the Programme for Change:

	Activity
By End Oct	Share recommendations and overall approach with Chief, Leaders, Programme Board and Cultural Activists such as Staff Ref group & those who took part in the inquiry. "Stress test" Cultural Focus Areas Includes production of slides, video and workshop materials
By Start Dec	Step 2: work with stakeholders to define Yr1, Yr2, Yr3 priorities and where the cultural elements sit in these priorities. Workshops. Feedback and results report
By End Dec	Step 3 • Recommendations prioritised Develop Culture timeline from 2019 – 2021 Develop Measurements & KPI's
2019 - 2020	Leadership Framework Finalised Clear Activities under Cultural Focus Areas undertaken and reported on

Leadership & Culture Resources

It is essential that a Workstream Lead is allocated to take responsibility for this area of work going forwards, supported by a dedicated Change Lead to ensure appropriate plans and interventions are put in place. There is also a need to ensure that future activity within this workstream is explicitly linked to the future Training and Organisational Development functions.

Going forwards, there is an opportunity to mainstream leadership and cultural development within the existing Training Function to ensure both key areas act as a golden thread throughout all learning experiences.

There is existing capability within the People Directorate to support future leadership development utilising MBTI. Coaching and 360 Feedback support will require additional funding to engage the necessary professionals.

It is viewed as best practice to continue to engage staff in the change process as well as a clear opportunity to build upon the success of the Staff Reference Group and maintain their involvement along with appropriate 'Cultural Advocates' from across the organisation.

GMCA **GREATER MANCHESTER COMBINED AUTHORITY**

Contact Officer: Leon Parkes - Director of Service Support

Date: 23rd August 2018

Re: Fire Cover Review Update

Fire Cover Review

1. The GMFRS Fire Cover Review (FCR) is currently underway to ensure that our emergency response capability is proportionate and able to deal with fire and other emergency risks in Greater Manchester as well as being as efficient and effective as possible.

2. The FCR forms part of the broader GMFRS Programme for Change and is a major review of the Emergency Response model which will incorporate each stage of Emergency Response, from the call for assistance, through to the resolution of an operational incident.

3. The FCR is based on the analysis of a wide range of complex data sets including historical incident data, analysis of multiple risk factors, forecast analysis and workload modelling etc. The approved plan will ensure that we have the appropriate resources in place to respond to emergencies quickly, with the right number and types of fire engines and equipment, the right specialist vehicles and the right crewing and incident command arrangements to deal with each incident effectively and safely.

4. The FCR will seek to review our current provision and identify any proposals for change to our current Emergency Response capability so that it is current, efficient and effective.

Purpose of Report

5. To update the Programme Board on the Core Principles that are being used to underpin the Fire Cover Review analysis.

6. To provide the Programme Board with more detailed information and the evidence base to support the Core principles in relation to:

   • GMFRS major incident planning assumptions
   • Incident command arrangements

Executive Summary

Fire Cover Review (FCR) Core Principles

7. The FCR has established a number of core principles (Appendix A) to set some important parameters for undertaking analysis to inform the FCR.

8. Establishing the core principles is a critical stage of the Fire Cover Review as these principles effectively form the foundation on which the FCR analysis and options modelling is based.

9. There are a significant number of variables to take into account when undertaking the analysis stage of the FCR and it is therefore necessary to agree some core principles as a starting point for the analysis.

10. The core principles were developed in conjunction with our external advisors (Greenstreet Berman Ltd) and were arrived at following detailed analysis and modelling. They were further refined by Senior Management based on professional judgement and past experience.

11. **A separate paper will be brought to Board in due course setting out recommendations in respect of principle 5 (appliance crewing levels).**

GMFRS Operational Planning Assumptions

12. Within the Fire and Rescue National Framework for England document, there is a requirement that every fire and rescue authority '*must assess all foreseeable fire and rescue related risks that could affect their communities*'.

13. In order to meet these statutory requirements and provide a fit for purpose emergency service to the community it serves, GMFRS has undertaken analysis of incident data which identifies what can be classed as 'reasonably foreseeable' risks and incidents in order to arrive at operational planning assumptions (Appendix B).

14. Currently, planning assumptions are based on the findings of an organisational exercise which took place in May 2012 and are:

    (a) Two simultaneous ten appliance incidents, of which one is a hazardous materials incident.
    or;
    (b) Sufficient incident command resources for a very large single incident (25 fire engines).

15. Having completed the analysis of more recent data relating to large scale incidents over the past 5 years and the associated resourcing, the planning assumptions have now been revised to:

    (a) Two simultaneous ten fire engine incidents (Command Level three), one of which is a breathing apparatus (BA) incident requiring a BA sector.
    or;
    (b) One very large incident, consisting of 20 fire engines (Command Level four)

16. Specifying that one of the ten fire engine incidents is a hazardous material incident is no longer part of the planning assumption. This is because data provides evidence of only one incident that meets this criteria in the last five years. Officer skills and specialist vehicles required to support these incidents will be recommended following the outcomes of separate work streams.

17. The analysis also indicated that none of the very large fires/incidents within the reference period have required more than 20 fire engines to be requested by the Incident Commander. Additional appliances are routinely deployed with special appliances which explains why Table 1 contained within Appendix B shows greater numbers in the Peak Fire Engines column.

18. The revised planning assumptions suggest that a minimum number of fire engines should be considered as a minimum acceptable level to ensure we can deal with incidents as outlined in the revised assumptions, using GMFRS resources only. The minimum number of engines in this case is 42.

Incident Command Review

19. In line with the outcomes of the planning assumptions review, the FCR team have undertaken an analysis of the resource requirements to facilitate an Incident Command System (ICS).

20. Current incident command cover arrangements rely on 'on duty' officers and, where additional support is required, through activating recall to duty (where officers are recalled when off duty). However, this is a voluntary arrangement and does not provide the required levels of resilience.

21. The analysis demonstrates that to maintain alignment with national incident command guidance a minimum number of 12 flexible duty system (FDS) officers are required 24/7, which is the same arrangement that we currently have in place. However, the analysis also identified a need to consider additional resilience in light of recent incidents, particularly the moorland fires, and a more reliable mechanism to mobilise off duty officers.

22. The Incident Command Review is proposing to change the FDS duty systems in order to provide more stand-by cover and therefore ensure a greater number of officers can be made available when required. Any changes to the FDS duty system will require negotiations with the appropriate rep bodies and may require additional funding as a result of potentially supplementing salaries.

Recommendations

23. The board are requested to refer to the attached appendices for further information and to:

- Endorse the proposed FCR core principles as a basis for undertaking the FCR analysis
- Note the revised planning assumptions used to inform the incident command review
- Approve in principle the development of a revised FDS duty system to improve incident command resilience (a further paper will be brought back to Board in due course which will include a detailed breakdown of the proposed changes to the FDS duty system and any associated costs).

APPENDIX A

GMCA GREATER MANCHESTER COMBINED AUTHORITY

Subject: Fire Cover Review Core principles

Report of: Leon Parkes - Director of Service Support

Purpose of Report:

1. To provide the Programme Board with information relating to the core principles of the Fire Cover Review (FCR).

Recommendations:

2. The Programme Board are recommended to:

- Endorse the core principles of the Fire Cover Review, to enable the development of more detailed proposals for a future operational response model and its associated costs.

Contact Officers: Leon Parkes, Assistant County Fire Officer
                        Tel 0161 608 4016 Email: parkesl@manchesterfire.gov.uk

Summary

3. The FCR has established a number of core principles (Appendix 1) which the team uses as parameters when developing proposals through each of the individual work streams within the project.

4. When developing future proposals for the organisation it is essential to have in place a number of basic core principles which form the foundations for the options appraisal development and ensures the review remains within set parameters.

5. The principles have been developed using detailed analysis of historical operational data and professional operational judgement and have been developed in conjunction with our external advisors Greenstreet Berman.

Fire Cover Review - Core Principles

1. The GMFRS Fire Cover Review (FCR) is one of the key reviews which forms part of the broader GMCA Programme for Change. The FCR is a major review of the operational response model which will incorporate every stage of Emergency Response, from the call for assistance, right through to the resolution of an operational incident. The development of the FCR work streams will culminate in a series of proposals which will be based on a number of core principles.

   Core Principles:

   At all times our emergency response model will aim to be:
   - **Capable**
   - **Timely**
   - **Resilient**
   - **Efficient**
   - **Effective**

2. We will ensure that at all times, firefighter safety and the safety of the communities of Greater Manchester will be at the forefront of our proposals.

3. We will ensure proposals are developed which provide the most efficient and effective use of our resources, enhancing public value without compromising safety.

4. We will aim to have a suitably equipped first appliance at all life risk incidents within up to 10 minutes from the receipt of the emergency call at NWFC on 80% of occasions.

5. We will ensure that our crewing arrangements and subsequent pre-determined attendances, are sufficient to fulfil our task analyses and provide suitably equipped and capable resources to perform initial life and safety critical tasks at incidents within a Safe System of Work.

6. We will base our work on the assumption that crewing levels will be maintained across our stations in line with the Integrated Risk Management Plan (IRMP) 2016-2020, with appliance crewing levels maintaining a minimum level of 4.

7. We will take account of lag times for second and third appliances attending life risk incidents, continually monitoring our performance.

8. We will aim to have specialist resources available and strategically located to be able to attend all life risk incidents within 20 mins on 95% of occasions from the time of mobilisation to arrival at the incident.

9. We will ensure that our proposals comply with statutory requirements, most notably the Fire & Rescue Services Act 2004, Civil Contingencies Act 2004, Fire and Rescue National Framework for England, and relevant Health & Safety legislation.

10. We will aim to provide a sufficiently independent response model for Greater Manchester, based on planning assumptions which:

- Assess all foreseeable fire and rescue related risks that could affect our communities, whether they are local, cross-border, multi-authority and/or national in nature.
- Have regard to Community Risk Registers produced by Local Resilience Forums and any other local risk analyses as appropriate.
- Make provision for the purpose of extinguishing fires and protecting life and property in the local area. In particular, securing personnel, services and equipment necessary to effectively meet all 'normal requirements'.

11. We will aim to be able to independently respond to reasonably foreseeable major incidents whilst maintaining appropriate fire cover for normal circumstances. Reasonably foreseeable major incidents are defined as those that may occur within a 10-year period, specifically:

- 2 simultaneous ten pump incidents, or
- A single 20 pump incident

12. We will ensure that for catastrophic, exceptional events which may exceed the resources immediately available to GMFRS, we have sufficiently robust arrangements in place to call upon mutual aid from regional and national resources.

13. We will ensure our proposals provide sufficient operational resources to maintain business continuity and provide the necessary levels of resilience.

14. We will ensure resource levels allow us to deploy National Resilience assets when required and fulfil the expectations of the National Framework and National Co-ordination Advisory Framework.

15. We will ensure that proposals provide sufficient capacity to deliver operational training with minimal impact on fire cover, maintaining a highly skilled and competent workforce.

16. We will ensure our proposals also consider future developments, and the location, type and number of resources take account of reasonably foreseeable changes in population, infrastructure, activities and risks within Greater Manchester.

17. We will ensure that we adapt and take learning from operational incidents locally, nationally, and internationally where appropriate to provide the most effective and efficient operational response for Greater Manchester.

GMCA **GREATER MANCHESTER COMBINED AUTHORITY**

Subject: GMFRS New Operational Planning Assumptions

Report of: Leon Parkes – Director of Service Support

Purpose of Report

1. This report provides members of the Programme Board with background information which explains the requirement for, and development of GMFRS' planning assumptions.

2. The purpose of the report is to provide the Programme Board with information regarding the need for robust planning assumptions, upon which our operational response model will be developed.

3. The report highlights the historical context to GMFRS' planning assumption models, and summarises the findings of recent analysis of 5 years' worth of incident data which has been used to develop proposals for future planning assumptions.

4. The intention of the work undertaken to date was to test the existing planning assumptions and where necessary, make recommendations for change. Once planning assumptions are determined, the requirements to provide an effective Incident Command System (ICS) to meet those planning assumptions can then be developed.

Recommendations

5. The Programme Board are requested to approve the planning assumption set out in paragraph 47.

The Need for Planning Assumptions

6. Within the Fire and Rescue National Framework for England document, there is a requirement that every fire and rescue authority *'must assess all foreseeable fire and rescue related risks that could affect their communities'*. The same document then goes further, requiring all authorities to put arrangements in place to prevent and mitigate these risks.

7. Section 7 of the Fire and Rescue Services Act 2004 also places a requirement on local authorities to *'secure the provision of the personnel, services and equipment necessary, efficiently to meet all normal requirements'*.

8. Within GMFRS, 'normal circumstances' has been defined as:

9. 'The number of incidents that may reasonably be expected to occur in a given time period, say a year, in the light of known or anticipated incident patterns and with due account taken of the inherent unpredictability of fire and special service occurrence.'

10. In order to meet these statutory requirements and provide a fit for purpose emergency service to the community it serves, GMFRS has undertaken analysis of incident data which identifies what can be classed as 'reasonably foreseeable' risks and incidents.

11. Once identified, the risks and incidents which are presented become the 'planning assumptions' for the organisation around which, personnel, equipment and capabilities are then determined within what is determined as its 'normal requirements'.

12. It is recognised within this framework that it would not be an efficient or effective use of public funds to plan and resource the Service to levels which would facilitate dealing with an 'exceptional' event, in isolation. In order to provide this flexible and proportionate response, Sections 13 and 16 of the Fire and Rescue Services Act 2004 makes provisions for mutual aid from other FRSs.

13. Beyond arrangements under Section 13 and 16 of the Act, National Resilience arrangements provide a framework which allows FRSs to request specialist assets and support from across England to assist in resolving incidents. The most recent and obvious example of this were the moorland fires across Saddleworth and Winter Hill.

Current Planning Assumptions

14. The current planning assumptions were identified circa 2012 as part of an incident command review. It was identified at the time that there were no relevant planning assumptions in place, so work was undertaken prior to the incident command review beginning.

15. The planning assumptions currently being used as the model to inform resource and skill requirements are based on incident types and size (in terms of resources required) that could be reasonably foreseen.

16. Currently, planning assumptions are based on two simultaneous ten fire engine incidents, of which one is a hazardous materials incident[1]. The planning assumption also accounts for enough incident command resources for a very large single incident (25 fire engines). This is based on the findings of an organisational exercise which took place in May 2012.

17. The existing planning assumptions do not focus on numbers of fire engines, as at the time, 56 fire engines were available, which were deemed to be sufficient resources to support the planning assumptions. To facilitate the existing operational planning assumptions, it was identified that 14 Flexi-duty System (FDS) Officers are required to support the incident command system.

18. It should be noted however, that this model does not account for resource requirements to support smaller simultaneous incidents that would fall within normal requirements of a Fire and Rescue Service (FRS)[2], or take in to account relieving those officers if incidents are protracted. There is also no consideration factored into these planning assumptions for incidents which would require a Strategic or Tactical Co-coordinating Group (SCG/TCG) being established which would require additional resources.

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[1] Sourced from The Future of Incident Command in GMFRS: March 2013.
[2] Fire and Rescue Services Act 2004: https://www.legislation.gov.uk/ukpga/2004/21/contents

Work undertaken through the Fire Cover Review

19. To test the current planning assumptions and validate their currency, incidents and mobilisations from the last five years have been analysed. Notwithstanding this, some specific data has been used from outside of this period and any data used of this nature is identified and the review period is referenced.

20. The following incidents have been used to test the current planning assumptions during actual events which have occurred over the last five years, namely; Saddleworth Moor (June 2018), Wing Fat (October 2017), Operation Manteline (May 2017), The Christie (April 2017), Maple Mill (December 2016), Wigan Floods (December 2015), Wigan Wharfside (June 2015) and Junction 25 – Bredbury (August 2013).

21. These incidents were selected as they are the most resource intensive incidents which have occurred during the reference period, and therefore provide the most robust test of existing planning assumptions.

22. To provide control data and to establish the appliance and officer requirements to resource significant incidents, scenarios were also tested at North West Fire Control (NWFC), namely two simultaneous six fire engine incidents, two simultaneous ten fire engine incidents and one major incident consisting of 25 fire engines.

23. A summary of all the incidents and test scenarios is detailed in the table below (Table 1). The figures shown in brackets () indicate the peak number of resources in attendance at all incidents across Greater Manchester. The examples that are based on operational incidents will include change over periods for reliefs. It is important to capture these in the overall figure as the change overs themselves can be protracted due to the logistics involved and, during this time, the resources are not available for redeployment. The examples that use test scenarios as evidence are based on the actual resources in attendance and do not include reliefs – this would explain a slight discrepancy in the figures. The FDS figures marked with a (*) include officers mobilised to the incident and for other support roles. For example, SCG, TCG or the Command Support Room.

Incident	Command Level	Duration (Days)	Fire engines Requested	Peak Number of Fire Engines*	Peak Number of FDS
2018 – Saddleworth Moor	4 (MI)	25	*(see para 5.2)*	39 (57)	19 (25)
2017 – Wing Fat	4 (MI)	9	12	24 (31)	11 (18)
2017 – Christies	4 (MI)	4	16	36 (42)	11 (15)
2017 – Op Manteline	4 (MI)	12	NA	NA	11 (14)
2016 – Maple Mill	4 (MI)	22	10	27 (33)	14 (16)
2015 – Wigan Wharfside	4 (MI)	4	15	32 (42)	14 (14)
2013 – Bredbury (Junction 25)	3	41	10	15 (22)	11 (13)
2015 – Wigan Floods	4 (MI)	1	NA	27 (206 Mobs)	8 (29 Mobs)
Test (2 x 6 Fire engine) Scenario 1	2	NA	6	9	6*
Test (2 x 6 Fire engine) Scenario 2	2	NA	6	9	6
Test (2 x 10 Fire engine) Scenario 1	3	NA	10	13	5
Test (2 x 10 Fire engine) Scenario 2	3	NA	10	19	8*
Test (1 x Major Incident)	4 (MI)	NA	20	30	16*

Table 1

Additional appliances are routinely deployed with special appliances which explains why the above table shows greater numbers in the Peak Fire Engines column, than the Fire engines requested column.

24. Saddleworth Moor consisted of a number of incidents. The highest number of fire engines requested at any one of these incidents was 16. However, each individual incident requested the assistance of special appliances which would explain why the overall number of appliances peaks significantly higher than any individual request for appliances – as these are routinely deployed with additional appliances.

25. To assist in modelling the number of resources required for the formulating of planning assumptions, the last five years of data from the examples/scenarios has been used to calculate the average number of resources per incident at each command level (Table 2). These figures are based on peak numbers (actual fire engines in use at that time) and not the 'make-up' numbers.

Incident Command Level	Number in Last 5 Years	Average Fire Engines
6-10 Pumps (Level 2)	351	7
11+ Fire Engines (Level 3)	227	24
Very Large Incidents/SCG (Level 4)	10	28

Table 2

26. There have been ten incidents from April 2013 to July 30th 2018 that have been identified as level four incidents that GMFRS have been actively involved in. With the exception of Manchester Arena (Op Manteline) and Winter Hill, GMFRS were the lead agency for these incidents (table 3).

Incident	Primary Agency	Incident Type	Major Incident Declared	SCG Established	Fire Engines (Peak)	FDS Officers (Peak)
2018 – Winter Hill	LFRS	Fire	Yes - LFRS	Yes	18	9
2018 – Saddleworth Moor	GMFRS	Fire	Yes - GMFRS	Yes	39	19
2018 – Ray Mill, Stalybridge	GMFRS	Fire	No	Yes	18	6
2018 – Rochdale Textile Factory	GMFRS	Fire	No	Yes	27	13
2017 – Wing Fat	GMFRS	Fire	Yes - GMFRS	Yes	24	11
2017 – Christies	GMFRS	Fire	Yes - GMFRS	Yes	36	11
2017 – Op Manteline	GMP	Terrorism	Yes - GMP	Yes	NA	11
2016 – Maple Mill	GMFRS	Fire	Yes - GMFRS	Yes	27	14
2015 – Wigan Floods	GMFRS	Floods	Yes - GMFRS	Yes	27	8
2015 – Wigan Wharfside	GMFRS	Fire	Yes – Local Authority	Yes	32	14

Table 3

27. Over the last five years[3] there have been 481 (Fig 1) incidents requiring six or more fire engines (command level two).

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[3] Data from incidents between April 1st 2013 – March 31st 2018

28. During the same five year period, GMFRS responded to 29 incidents where a total of 25 or more fire engines were utilised throughout the duration of the incident, and 199 incidents where ten or more fire engines (command level three) were utilised throughout the duration of the incident (Fig 1)

Fig 1: Incident Size (Resources) 2013-18
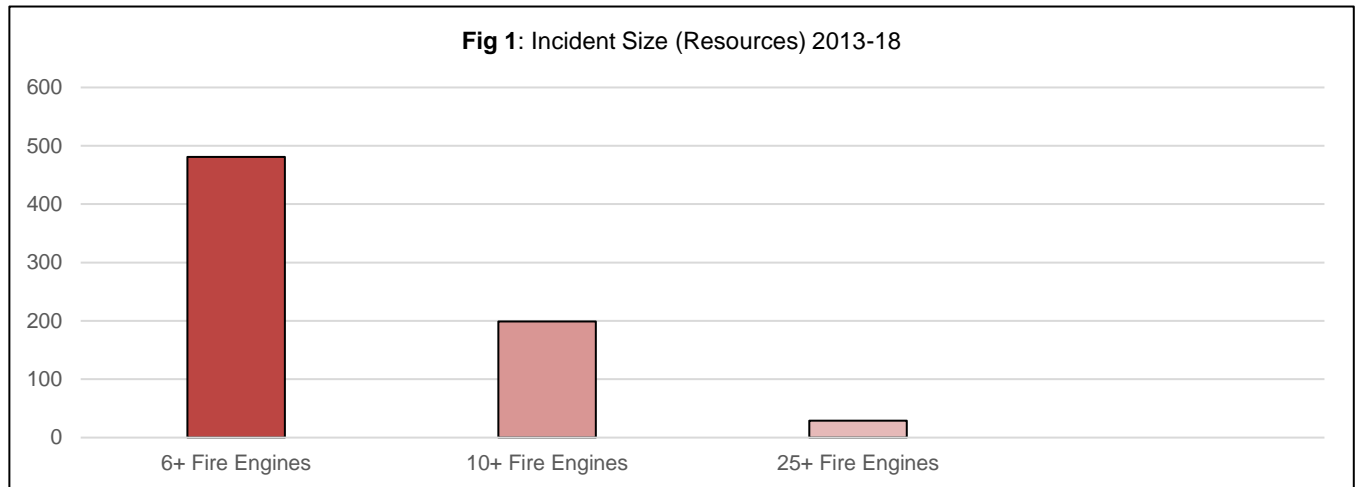
29. There has been an increase in incidents requiring six or more fire engines (command level two) of 64% from 2013/14 to 2017/18 (Fig 2). The most likely reason for this is changes to breathing apparatus procedures nationally, meaning more control measures and personnel are required. Another contributing factor may be as a result of less personnel on the appliances when crewing levels fall. This may result in incident commanders requesting more fire engines for personnel. However, it is not possible to support this statement with evidence.

30. The trend identified above is a reverse of the trend identified at the time when our current planning assumptions were developed which states that, between 2005 and 2008, there was a decrease in incidents requiring six fire engine or more by 62%. However, the data that supports this statement is not available so it cannot be validated.

Fig. 2: Number of Incidents (6 or more fire engines)
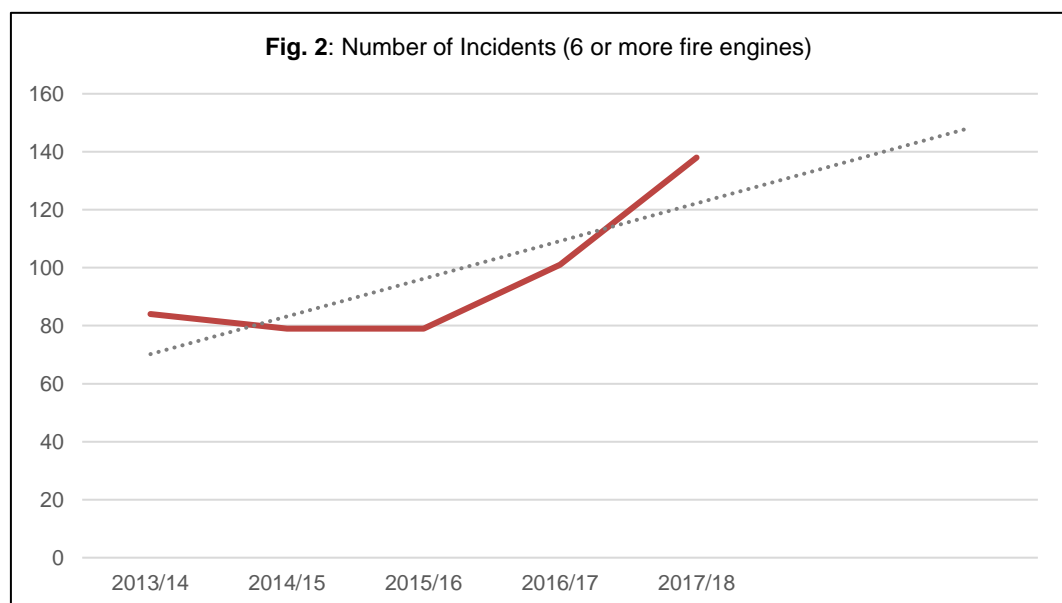
31. There are examples of a significant number of resources being used as a result of multiple small scale incidents, mutual assistance4, terrorist incidents and officers in support of protracted incidents that are not captured as part of the current planning assumptions.

32. The highest peak in fire engines in use at any one time is 57, during the Saddleworth Moor incident (June 2018) using 39, with an additional 18 in use at other incidents. However, this was during the unprecedented scenario of two simultaneous major incidents, and is therefore deemed to be outside of the scope of 'normal circumstances'.

33. The highest peak in fire engines in use at any one time, during a single incident, is 42. This was during The Christie Hospital incident (April 2017) where 36 fire engines were in use at this incident and a further six were in use at a second incident.

34. The longest duration of a single incident was 41 days during the Junction 25 incident at Bredbury in August 2013.

35. There has been one hazardous material incidents involving ten or more fire engines in the last five years and a total of 20 hazardous material incidents involving five to nine fire engines in the same period.

National Resilience and Mutual Aid Arrangements

36. The Fire & Rescue National Framework for England states that the Home Office will work with other government departments, partner organisations, and the Devolved Administrations to coordinate the deployment arrangements for fire and rescue assets during emergencies. The National Coordination and Advisory Framework (NCAF) is part of the mechanism to provide the coordination of Fire & Rescue assets.

37. The National Coordination and Advisory Framework (NCAF) supports:

   - Everyday assistance and collaboration between fire and rescue services on the occasions that specialist national resilience capabilities can support the resolution of an incident.
   - Supports Fire and Rescue Services with specialist assistance where an incident warrants it and it is available from elsewhere, or additional resources where the resolution of an incident is, or is likely to be, beyond a service's own resources
   - Coordination of the combined fire and rescue services' response to relevant incidents

38. National resilience capabilities are the resources provided under the New Dimension programme. These include:

   - CBRN(E), consisting of mass decontamination, Detection, Identification and Monitoring (DIM), Decontamination of Body Bags (DBB) and Initial Operational Response (IOR)
   - Urban Search and Rescue
   - High Volume Pumping
   - Command and Control – Enhanced Logistics Support

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4 (Section 13) Fire and Rescue Services Act 2004: https://www.legislation.gov.uk/ukpga/2004/21/contents

39. In addition, a number of local level fire and rescue service resources can respond on a national basis where the incident timescales allow, for example:

- Flooding response
- Marauding Terrorist Firearms Attacks (MTFA)
- Conventional firefighting (in cases of major emergencies that require significant resource)

40. Fire and rescue authorities must make provision to respond to incidents such as fires, road traffic collisions and emergencies within their area and in other areas in line with mutual aid agreements. These agreements are reinforcement schemes. Fire and rescue authorities must enter into reinforcement schemes as far as is practicable for securing mutual assistance as between fire and rescue authorities for the purpose of discharging their functions.

Section 13 & 16 Arrangements

41. As stated earlier, when considering all of the factors identified through incident analysis the planning assumptions that are developed have to be shaped with consideration for public value, and recognising the ethos of efficiency and effectiveness required by the Home Office, which will be judged during the inspection by HMICFRS.

42. To assist in achieving this, GMFRS has established mutual aid arrangements provided through Section 13 and 16 agreements with neighbouring FRSs. A briefing paper brought to GMCA dated 14 June 2018 outlined the current arrangements in place and their status, but in the context of planning assumptions the key points are highlighted below.

   a. Section 13 of the Act obliges Fire and Rescue Authorities (FRAs) to participate with each other, so far as practicable, to provide mutual assistance for those types of incidents which FRAs have statutory functions. This applies to firefighting, road traffic collisions and other serious emergencies (as defined by order under section 9).

   b. These types of mutual assistance arrangements are suitable where one FRA wishes to discharge a statutory or non-statutory function. Section 16 arrangements are similar to Section 13 Reinforcement Schemes between two FRAs. Whereas Section 13 Reinforcement Schemes can only apply to incidents with statutory FRA functions (e.g. fires, road traffic collisions, those emergencies specified in a section 9 Order), Section 16 arrangements can cover all types of incidents for which FRAs have the power to make provision. For example, an FRA specialising in rope rescue or marine firefighting might enter into a Section 16 Arrangement with another FRA and so provide the rope rescue or marine firefighting function in that FRA's area.

   c. Mobilisations of pumping appliances between the NWFC FRSs (Cheshire, Lancashire and Cumbria) occur automatically in line with the NWFC Agreement for Services and supporting guidance agreed and detailed below.

      - Any one pump Predetermined Attendance (PDA) to a life risk incident:
      - The nearest pump will be mobilised so as to complete the host FRA PDA for the incident type.
      - Any one pump PDA to a non-life risk incident:

- The nearest host pump will be mobilised so as to complete the host PDA for the incident type.
- Any multi-pump PDA where life is threatened:
- The nearest pumps will be mobilised so as to complete the host FRA PDA for the incident type.
- Any multi-pump incident to a non-life risk incident:
- The nearest host pump will be mobilised. The nearest available pump(s) will be mobilised so as to complete the host FRA PDA for the incident type.

d. Mobilisations of pumping appliances into other FRA areas (Derbyshire, Merseyside and West Yorkshire) or special appliances to any FRA are on request only.

43. A key principle within the scope of developing its emergency response model, is that GMFRS will provide sufficient resources to be self-sufficient within the parameters of 'normal circumstances', and will not rely on neighbouring FRSs to provide the resources required. That said, the arrangements outlined above and wider National Resilience arrangements provide the additional resources that may potentially be required for periods of very high activity that fall outside of 'normal circumstances'.

Findings and revised assumptions

44. Following analysis and consideration of the evidence presented when analysing five years of incident data, it is recommended that existing planning assumptions are revised to reflect the nature and scale of incidents that occurred during this period, specifically in regards to the numbers of appliances that should be available for level four incidents (current planning assumptions suggest this is 25 fire engines).

45. Two simultaneous major incidents (Winter Hill and Saddleworth Moor) is a very uncommon event and there is no evidence of this occurring previously in the last five years. For this reason it would be unrealistic to refer to this as 'normal circumstances'. Future events of this nature should continue to be managed with the support of National Resilience and Section 13/16 arrangements.

46. It is accepted that there is a risk that unforeseen events could result in an incident of a nature and size that has not been previously planned for. It would however, be neither efficient nor cost effective to resource for, what could be deemed as, "exceptional events", so the revised planning assumptions do not account for these. However, National Resilience and Section 13 arrangements (mutual assistance) should be in place for such an event.

Proposed Planning Assumptions

47. Planning of resources and personnel should provide an operational response to effectively manage:

(c) Two simultaneous ten fire engine incidents (Command Level three), one of which is a breathing apparatus (BA) incident requiring a BA sector.

or;

(d) One very large incident, consisting of 20 fire engines (Command Level four)

48. The overall planning assumptions should also recognise that there is a requirement to **maintain a strategic fleet <u>of at least</u> 42 fire engines**, which is the maximum 'peak' number required during the 5 year period when considering the 'normal' circumstances in (a) and (b). This figure has been required to service an incident, and simultaneous activities across the County on two separate occasions (The Christie & Wigan Wharfside incidents).

49. By being able to fulfil the above planning assumptions GMFRS will ensure there are a suitable number of resources and personnel with the appropriate skills to command at level one, two, three and four incidents within normal circumstances.

50. Specifying that one of the ten fire engine incidents is a hazardous material incident is no longer part of the planning assumption. This is because data provides evidence of only one incident that meets this criteria in the last five years. Officer skills and specialist vehicles required to support these incidents will be recommended following the outcomes of separate work streams.

51. It is still a realistic assumption that at least one of the two simultaneous incidents is a breathing apparatus incident and this will assist in planning for resources for these types of incidents.

Additional Information: Incident analysis findings

Saddleworth Moor – June 24th – July 18th 2018

This information relates to the following incidents combined:

1807005105   Buckton Vale

1806011675   Castle Farm

1806011723   Dovestones / Chew

1806011717   Intake Lane

1806011122   Calico Crescent

1807002073   Calico Crescent

1806011907   Chew Road

1807009267   Fence Nook

1807000202   Noon Sun Farm

1807002065   Carrbrook

1806011296   Intake Cottage

1806009514   Swineshaw

1807003107   Swineshaw

Data

When the incident is closed by NWFC, all data to relating to the incident is passed automatically into GMFRS's internal systems. This data has been extracted from these systems, unless otherwise stated, and provides details of all mobilisations. The IRS record is not yet complete, so all mobilisations are assumed to have also booked in attendance.

Also, where a pump remained in attendance, but the crew swapped over via other means, these will classed as one mobilisation, therefore the numbers would normally be expected to be higher.

Number of Mobilisations

Brigade	Pump	Special	Officer	Total
Greater Manchester	649	58	254	961
Cheshire	26		1	27
Derbyshire	2			2
Gloucestershire		4		4
Lancashire	15	3	11	29
Nottinghamshire	2			2
South Yorkshire	3			3
West Mids	10			10
West Yorkshire	22		1	23
Total	*729*	*65*	*267*	*1061*

Number of mobilisations by day

Number of pump mobilisations to Saddleworth Incidents

GMFRS ■ OTB ■

Number of officer mobilisations to Saddleworth Incidents

GMFRS ■ OTB ■

Number of special mobilisations to Saddleworth Incidents

GMFRS ■ OTB ■
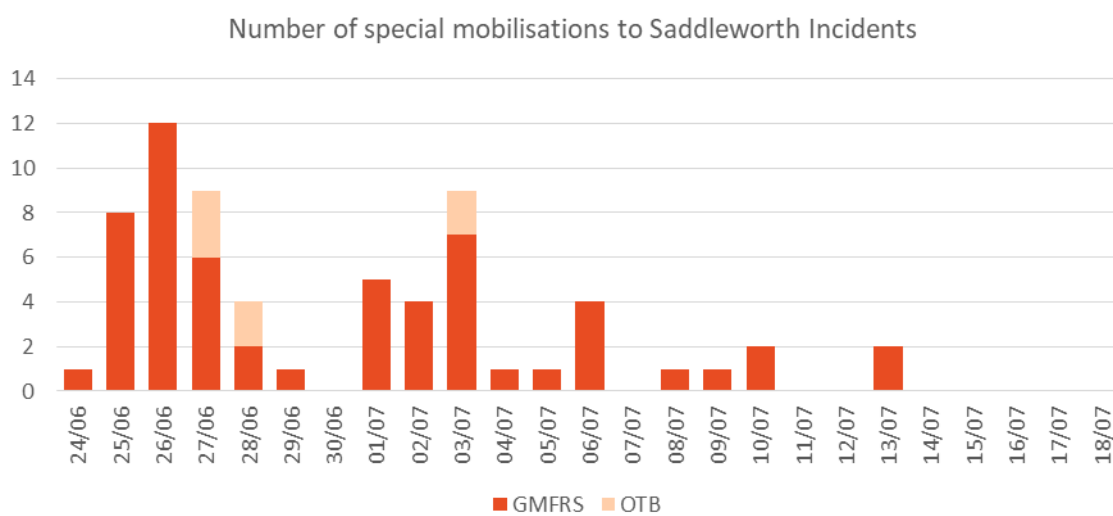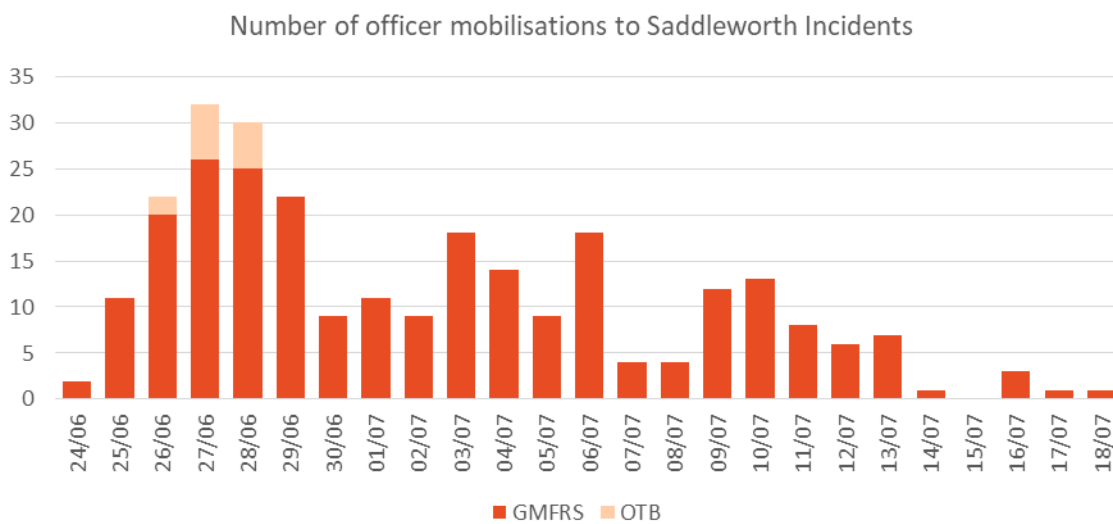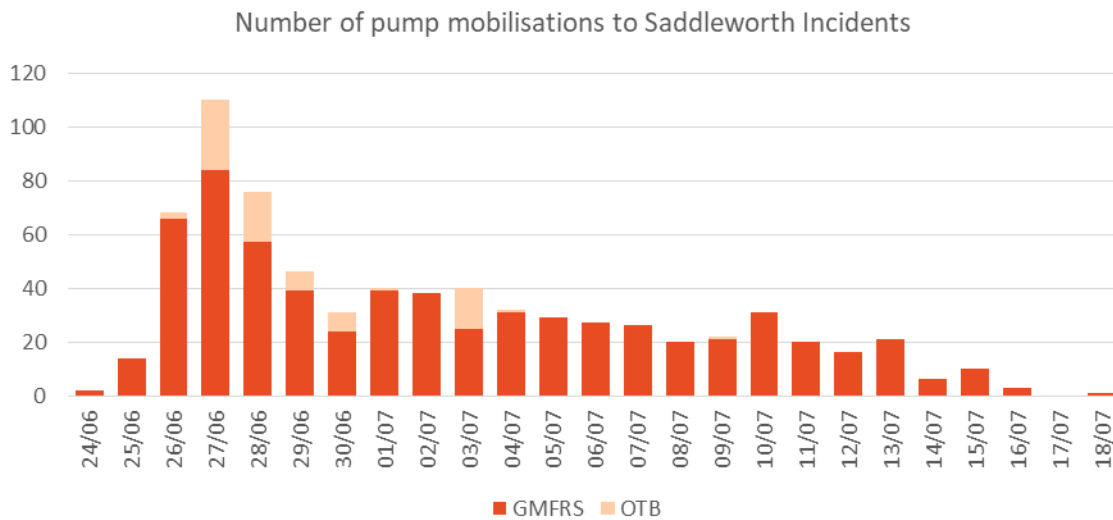
Date	Pump GMFRS	Pump OTB	Officer GMFRS	Officer OTB	Special GMFRS	Special OTB	Total
24/06	2		2		1		5
25/06	14		11		8		33
26/06	66	2	20	2	12		102
27/06	84	26	26	6	6	3	151
28/06	57	19	25	5	2	2	110
29/06	39	7	22		1		69
30/06	24	7	9				40
01/07	39	1	11		5		56
02/07	38		9		4		51
03/07	25	15	18		7	2	67
04/07	31	1	14		1		47
05/07	29		9		1		39
06/07	27		18		4		49
07/07	26		4				30
08/07	20		4		1		25
09/07	21	1	12		1		35
10/07	31		13		2		46
11/07	20		8				28
12/07	16		6				22
13/07	21		7		2		30
14/07	6		1				7
15/07	10						10
16/07	3		3				6
17/07			1				1
18/07	1		1				2
Total	650	79	254	13	58	7	1061

Total time at the incident (hours)

Brigade	Pump	Special	Officer	Total
Greater Manchester	5078	2591	2004	9673
Cheshire	130	0	0	130
Derbyshire	45	0	0	45
Gloucestershire	0	17	0	17
Lancashire	115	20	98	233
Nottinghamshire	90	0	0	90
South Yorkshire	50	0	0	50
Unknown	7	0	0	7
West Mids	154	0	0	154
West Yorkshire	192	0	0	192
Total	5861	2628	2102	10590

Mobilisations by Call Sign – GMFRS only resources

Pumps				Specials				Officers		
Row Labels	Count of MB_SEND	Sum of StL		Call Sign	Number of Mobilisations	Total Time at Incident (hours)		Call Sign	Number of Mobilisations	Total Time at Incident (hours)
G10P1	17	155		G10N981	3	300		GA010	2	22
G11P1	10	114		G22W2	3	3		GA011	2	19
G12P1	11	72		G35S4	1	4		GA014	2	3
G13P1	13	70		G36M1	5	528		GA015	1	15
G13P2	12	83		G39R2	2	9		GF130	11	162
G14P1	19	170		G39R4	2	9		GG020	1	7
G15P1	6	45		G39R6	1	1		GG021	7	68
G15P2	18	140		G40M1	4	23		GG023	1	7
G16P1	9	103		G42C2	4	12		GG024	4	28
G16P2	9	60		G42S3	1	11		GG025	2	2
G17P1	19	131		G50N982	3	243		GG031	8	26
G17P2	10	127		G51M2	6	46		GG032	4	29
G18P1	14	133		G51W2	4	6		GG033	5	47
G19P1	15	124		G56C2	3	374		GG034	3	33
G19P2	12	105		G62M1	3	502		GG035	3	36
G20P1	16	135		G62S7	2	462		GG040	8	76
G21P1	12	120		G80N861	8	60		GS050	1	16
G22P1	18	101		*Total*	*55*	*2593*		GS051	6	30
G23P1	15	164						GS053	3	36
G24P1	10	53						GS054	4	29
G30P1	12	133						GS055	3	7
G30P2	13	86						GS056	3	23
G31P1	13	62						GS057	3	25
G32P1	12	69						GS058	28	76
G32P2	7	32						GS059	2	9
G33P1	20	115						GS060	3	39
G33P2	16	109						GS061	2	23
G34P1	15	146						GS062	8	59
G35P1	21	172						GS064	13	42
G36P1	15	108						GS066	7	38
G37P1	16	139						GS068	7	57
G38P1	10	69						GS070	5	32
G39P1	19	202						GS072	14	177
G40P1	20	191						GS073	3	19
G41P1	21	108						GS074	2	14
G42P1	17	178						GS075	1	2
G50P1	10	61						GS076	12	115
G50P2	8	49						GS077	5	31
G51P1	8	64						GS078	5	33
G52P1	3	17						GS079	4	33
G53P1	5	79						GS080	4	20
G53P2	5	52						GS081	4	20
G54P1	2	11						GS082	6	47
G54P2	11	94						GS083	1	1
G55P1	4	32						GS084	2	19
G56P1	9	92						GS085	6	33
G57P1	5	41						GS086	1	9
G58P1	6	73						GS087	2	11
G58P2	12	72						GS089	2	16
G59P1	13	127						GS090	2	16
G60P1	16	126						GS091	7	34
G61P1	5	58						GS092	1	9
G61P2	6	54						GS093	2	20
G62P1	9	49						GS095	1	6
Total	*649*	*5277*						GS096	1	13
								GS098	1	13
								GW100	3	186
								Total	*254*	*2018*

Over-the-border Standbys

This information is provided from BI Direct (NWFC) and is a count of the number of standby mobilisations into Greater Manchester for the duration of the incident.

These resources did not attend the Saddleworth incident, but other resources from neighbouring brigades, which did not go to Saddleworth incidents, but provided other cover in GM.

Date	OTB Standbys
26/06	7
27/06	14
28/06	17
29/06	19
30/06	11
01/07	16
02/07	16
03/07	21
04/07	8
05/07	7
06/07	11
07/07	13
08/07	15
09/07	13
10/07	8
11/07	7
12/07	6
Total	*209*

Over-the-border standbys were provided by different brigades and the numbers of standbys are shown in the table below.

Brigade	Number of Standbys
Cheshire	148
Lancashire	39
West Yorkshire	10
Merseyside	8
Derbyshire	4
Total	*209*

Peak Numbers

Peak number of GMFRS pumps at Saddleworth: **32 pumps** at 10:45, 27th June

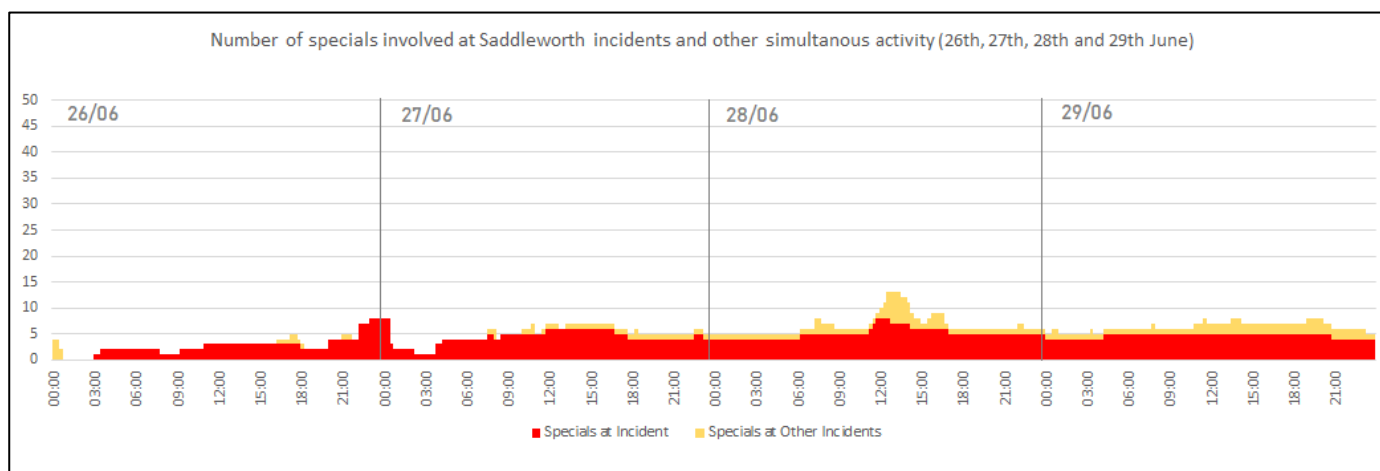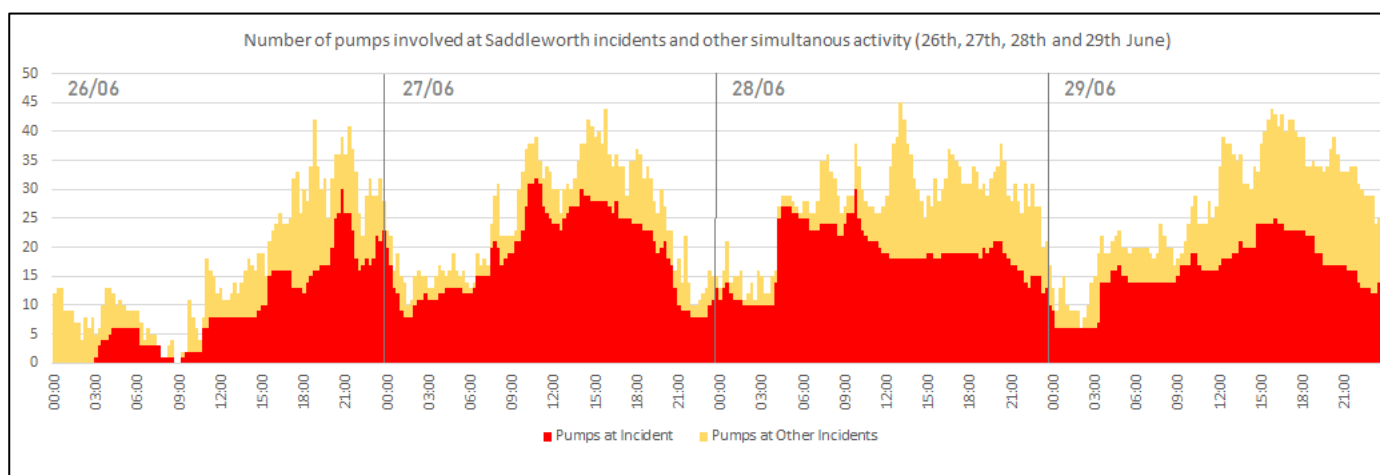Peak number of pumps at Saddleworth: **39 pumps** at 10:45, 28th June; 30 from GMFRS and 9 from OTB

Peak pump activity whilst Saddleworth ongoing: **57 pump** at 13:00, 28th June; 27 in attendance at Saddleworth (18 GMFRS and 9 OTB) and 30 in attendance elsewhere (27 GMFRS and 3 OTB). This time is also the highest number of GMFRS pumps in use at any given time (45), both during the Saddleworth incident, and at any point within recorded history (since 2005).

Peak number of officers at Saddleworth: **19 officers** at 18:45, 28th June. At this time a further four officers were at other incidents. *This does not include any OTB officers, or GMFRS officers at Winter Hill incidents (incident still ongoing).*

Peak officer activity whilst Saddleworth ongoing: **25 officers** at 13:00 28th June. 16 in attendance at Saddleworth and nine in attendance elsewhere. *This does not include any OTB officers, or GMFRS officers at Winter Hill incidents (incident still ongoing).*

The graphs below show simultaneous activity for GMFRS resources for days 26th-29th June, when activity was highest at Saddleworth.

Note: The officer and special graphs do not include resources which were in attendance at Winter Hill within the 'at other incidents' category, however the pumps at Winter Hill are included.

Number of pumps involved at Saddleworth incidents and other simultanous activity (26th, 27th, 28th and 29th June)

Number of specials involved at Saddleworth incidents and other simultanous activity (26th, 27th, 28th and 29th June)

Number of officers involved at Saddleworth incidents and other simultanous activity (26th, 27th, 28th and 29th June)
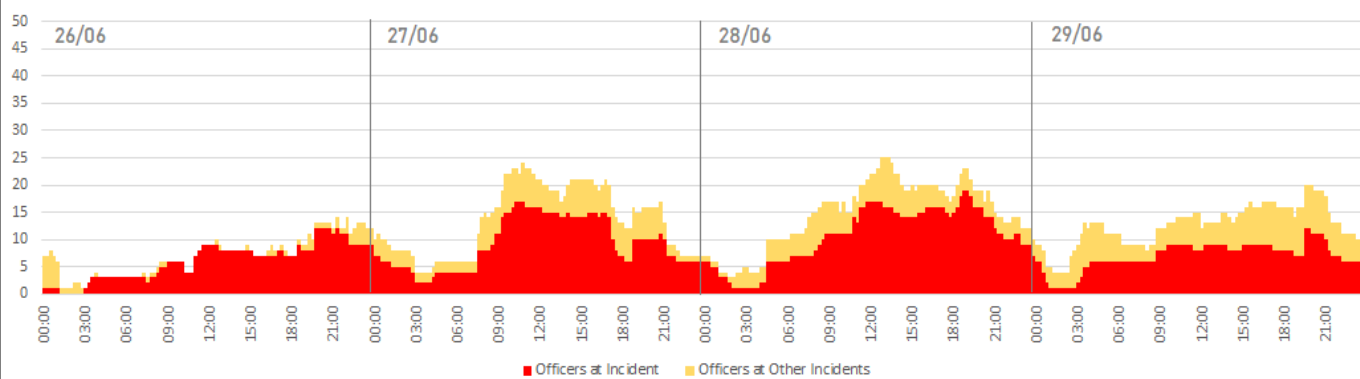
Wing Fat, Beswick – October 24th – November 1st 2017

The Wing Fat Cash and Carry incident (incident number 1710007939) is an example of a large incident that used around half of the available fire engines initially but quickly scaled back once the fire had been controlled. This was a protracted incident but minimal resources were required 48 hours after the incident.

- Declared a Major Incident by GMP at 13:17 hours on 24th October 2017 due to disruption to local community and road networks.

- At 12:50 hours the Incident Commander (IC) sent an Assistance Message for 'Make Pumps 12'.

- The peak number of fire engines, excluding special appliances committed to the Wing Fat fire was 24 at the 30 minutes time period commencing at 18:00 hours on the 24th October 2017. At this time, there were also six special appliances and nine officers committed to the incident.

Date	Pump	Special	Officer	Total
24/10/2017	47	21	18	86
25/10/2017	22	13	8	43
26/10/2017	13	3	2	18
27/10/2017	7	1	1	9
28/10/2017	5		1	6
29/10/2017	5		1	6
30/10/2017	6			6
31/10/2017	6			6
01/11/2017	3	1		4
Total	114	39	31	184

Table 2

- A further seven appliances were committed to other incidents across Greater Manchester.

- Over nine days there were at total of 114 individual fire engine mobilisations, 39 special appliance mobilisations and 31 officer mobilisations (Table 2).

- The following information relates to mobilisations where an attendance was recorded.

- On the first day of the incident, there were 47 fire engine mobilisations, and 22 the following day.

- Fire engine mobilisations ceased on the 1st November 2017.

- Most fire engine mobilisations were between five and six hours, followed by between four and five hours. The aerial appliances tended to remain at the incident for a longer time.

- A sum of the total time spent at the incident is provided in Table 6, split by call sign. In total, fire engines were at the incident for 533 hours.

- Special appliances attended for 383 hours. Whilst G10A1 was only mobilised on two occasions, it was at the incident for a total of 89 hours, including one time when it remained in attendance for 77 hours.

- Officers were in attendance for 194 hours in total.

- Figures 2-4 provide a view of simultaneous activity; i.e. the number of fire engines committed to the Wing Fat fire until 23:00 hours on 25th October 2018. This has been measured every half an hour for the duration of the incident.

- The graphs display the number of fire engines (Fig 2), specials (Fig 3) and officers (Fig 4) committed to the incident, and in use at other incidents. The peak number of fire engines committed to the incident (not including specials) was 24 at 18:00 on the first day.

- At this time there were also seven other fire engines committed to other incidents.

- The first reliefs were ordered at approximately 16:50, and the graph demonstrates this activity in the temporary increase in fire engines with every change in relief duties.

- The highest number of officers in attendance was between 19:00 and 20:00, totaling 11 people. The graph also shows during this time, a further seven officers were committed to other incidents. This includes one officer in the Command Support Room at this time.

Figure 2

Figure 3

Figure 4
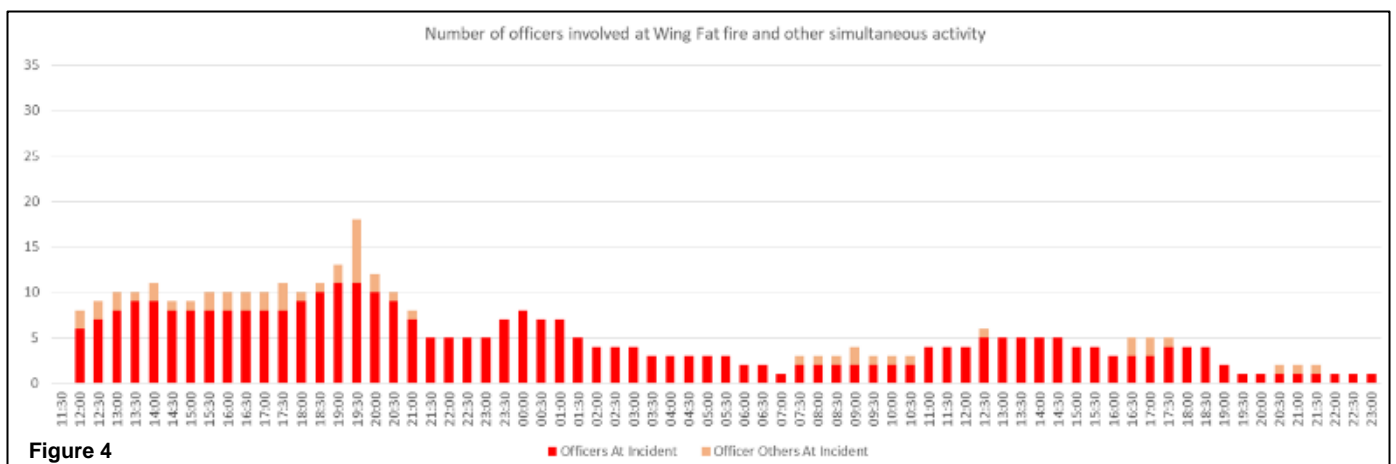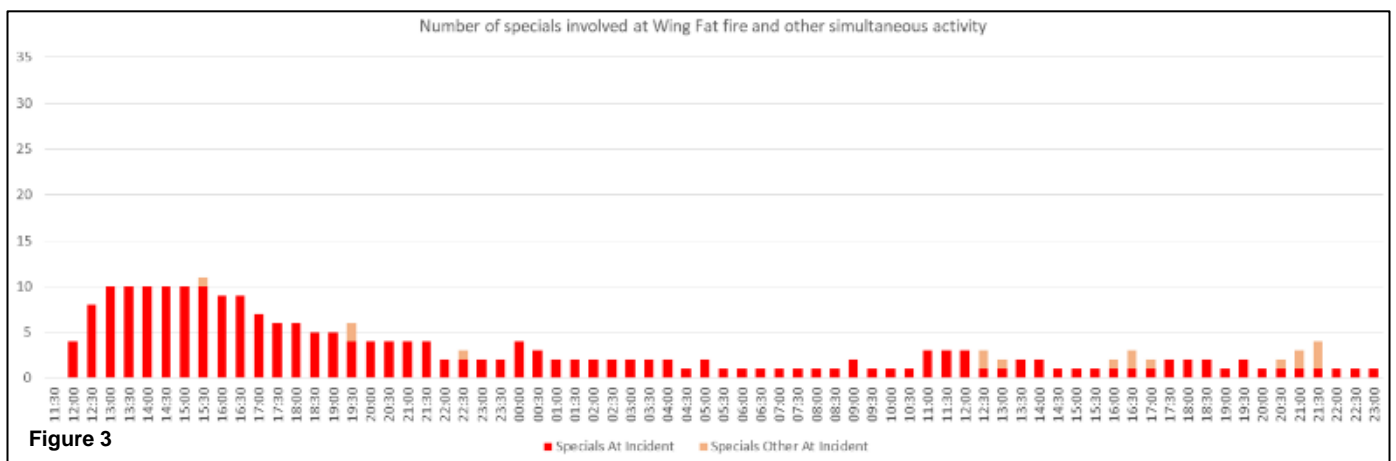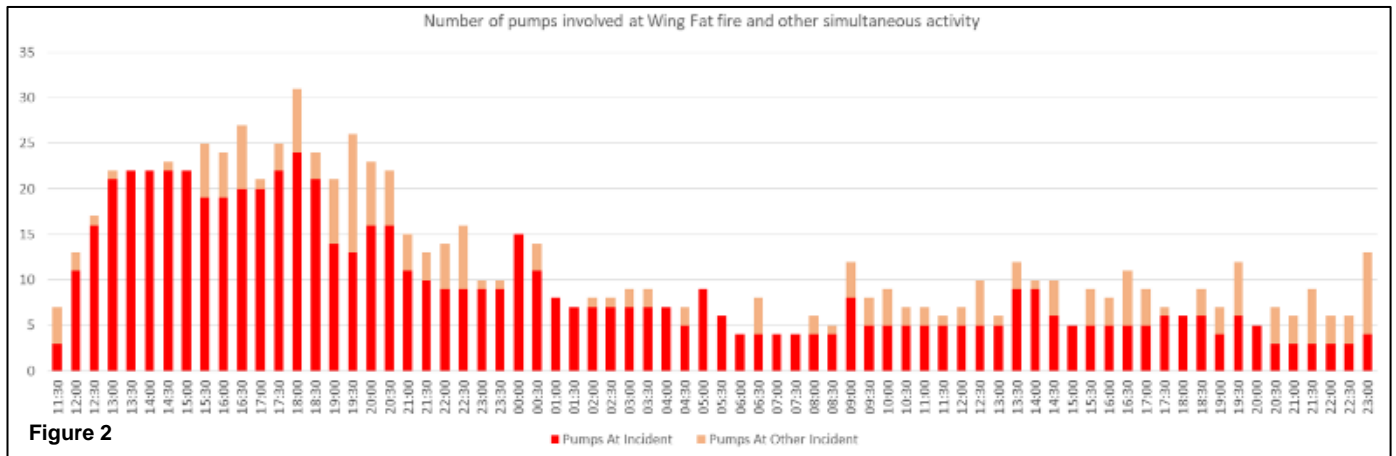
The Christie Hospital, Withington – April 26th – 29th 2017

The Christie Hospital incident (incident number 1704009991) is an example of a large incident that was declared a Major Incident by the Fire and Rescue Service. This is a good example of the impact that one significant incident has on resources over a protracted timescale.

- At 1035hrs, North West Fire Control (NWFC) received the first of 17 emergency calls reporting smoke issuing from the roof of Christie Hospital, Wilmslow Road, Manchester, M20 4BX. At 13:39hrs the Incident Commander (IC) sent an Assistance Message for 'Make fire engines 16'. The incident was declared a Major Incident by Greater Manchester Fire and Rescue Service (GMFRS) at 15:40hrs.

- The Stop Message was sent at 13:49hrs on April 28, 2017.

| Date	Officer	Pump	Special	Total
26/04/2017	18	53	22	93
27/04/2017	12	27	9	48
28/04/2017	3	15	2	20
29/04/2017	1	3		4
Total	34	98	33	165

Table 3

- In total there were 165 mobilisations (Table 3) to the incident at Christie Hospital between 26th April 2017 and 29th April 2017. The data has been extracted from GMFRS data layer and all timestamps are assumed to be correct.

Date Time	Time	Number of Pumps in Attendance
26/04/2017 10:30	10:30	0
26/04/2017 11:00	11:00	5
26/04/2017 11:30	11:30	8
26/04/2017 12:00	12:00	13
26/04/2017 12:30	12:30	13
26/04/2017 13:00	13:00	18
26/04/2017 13:30	13:30	19
26/04/2017 14:00	14:00	22
26/04/2017 14:30	14:30	23
26/04/2017 15:00	15:00	24
26/04/2017 15:30	15:30	24
26/04/2017 16:00	16:00	24
26/04/2017 16:30	16:30	23
26/04/2017 17:00	17:00	31
26/04/2017 17:30	**17:30**	**32**
26/04/2017 18:00	18:00	28
26/04/2017 18:30	18:30	23
26/04/2017 19:00	19:00	16
26/04/2017 19:30	19:30	14
26/04/2017 20:00	20:00	15
26/04/2017 20:30	20:30	11
26/04/2017 21:00	21:00	9
26/04/2017 21:30	21:30	9
26/04/2017 22:00	22:00	10
26/04/2017 22:30	22:30	10
26/04/2017 23:00	23:00	10
26/04/2017 23:30	23:30	9

Table 4

- The peak number of fire engines, excluding special appliances committed to the Christie Hospital fire was 32 (Table 4) at the 30 minutes time period commencing at 17:30 on the April 26, 2017. At this point, a further six appliances were committed to other incidents. During this period a total of 38 appliances were committed to incidents within GMFRS.

- Figures 5-7 display the number of fire engines, specials and officers committed to the incident for the first 36 hours. The peak number of fire engines committed to the incident (not including specials) was 36 at 17:30 on the first day (with 32 in attendance and four in MI status). Relief fire engines were ordered in intervals during this period, which results in a larger number of fire engines simultaneously committed.

- The number of fire engines at the incident increased after each change in watch, coinciding with relief duty movements.

- During the peak time, ten officers were also in attendance at Christie fire, with another three or four in attendance at another incident.

Figure 5

Figure 6

Figure 7
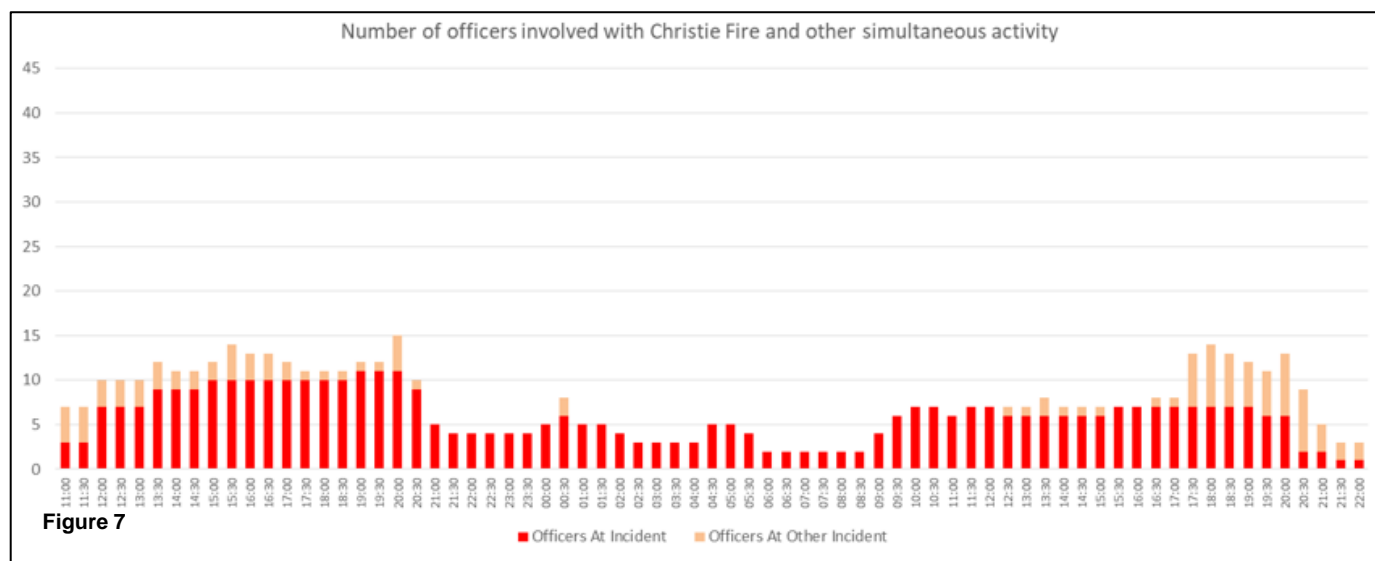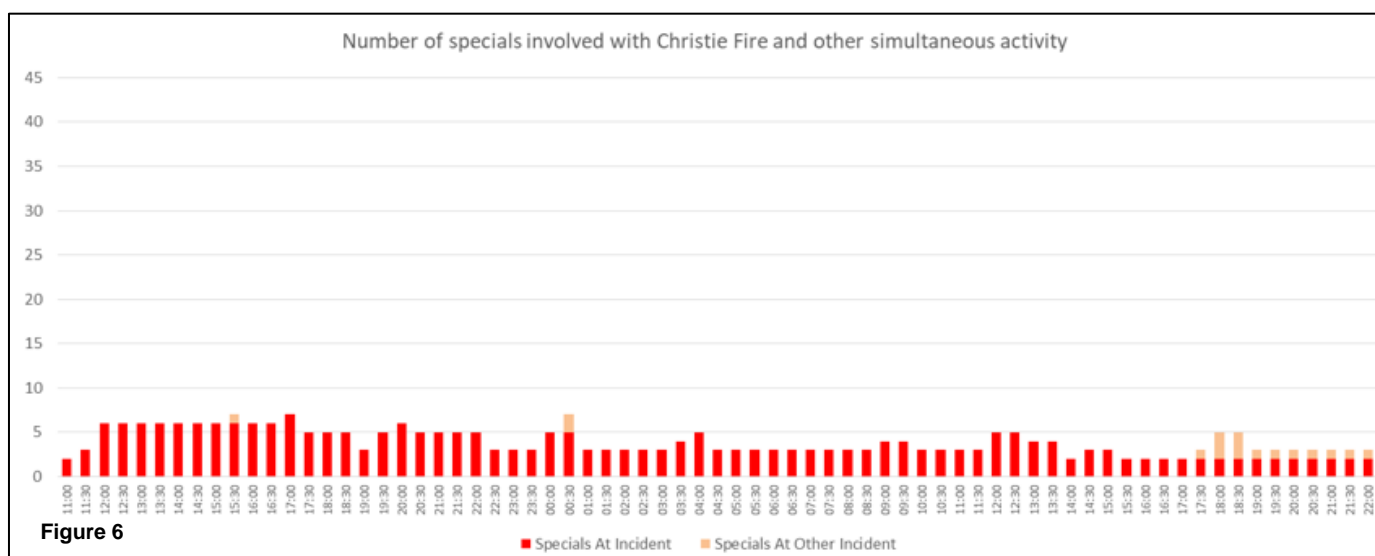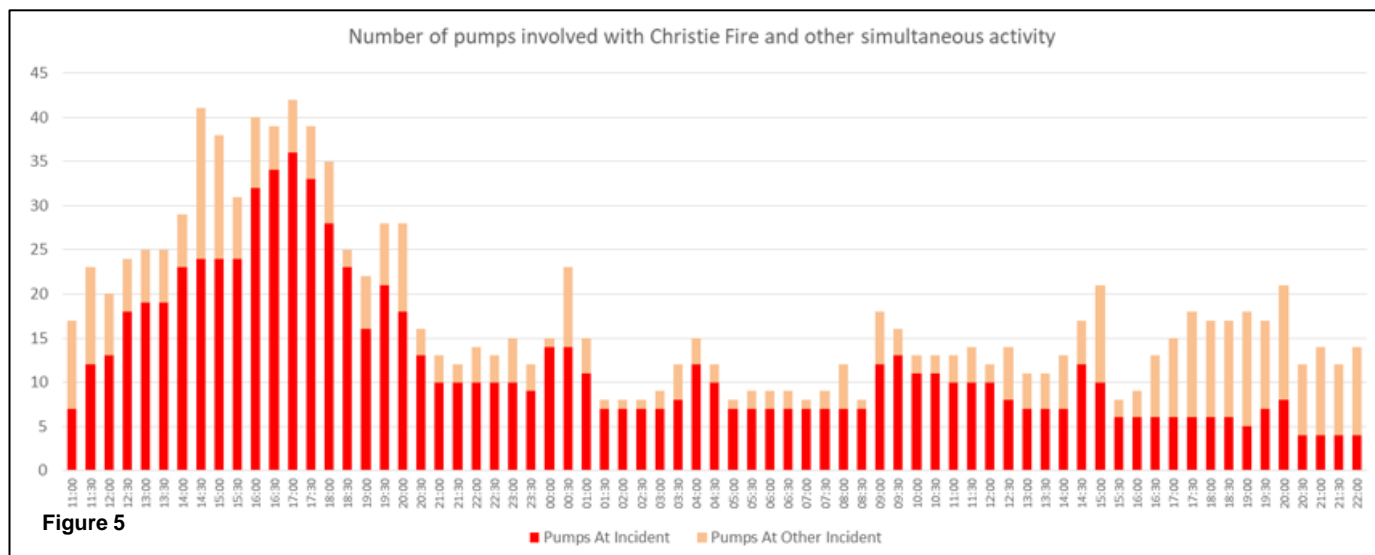
Maple Mill, Oldham – December 15th 2016 – 6th January 2017

The Maple Mill incident (incident number 1612004970) provides an example of a large scale protracted incident, during a period of reduced availability of FDS and support functions due to leave.

- Made a Major Incident by GMFRS at 06:25 hours on 15th December 2017.

- Shortly after the initial attendance at 04:19, at 04:27 hours the Incident Commander (IC) sent an Assistance Message for 'Make Pumps 10'.

- This was a protracted incident. The final fire engine mobilisation was on 6th January 2017. The Stop Message was sent on 6th June 2017.

- At 04:27 hours the Incident Commander (IC) sent an Assistance Message for 'Make Pumps 10'.

- Table 4 shows the total number of resources that attended the incident per day. This would include two changes of watch during this 24 hour period so the figure will include the same appliance being mobilised more than once during a 24 hour period. However, the same will not be true for officer mobilisations as these relate to individuals and not appliances, so they will be relieved by another FDS officer.

Date	Pump	Special	Officer	Total
15/12	60	26	19	105
16/12	44	17	19	80
17/12	22	13	7	42
18/12	15	9	4	28
19/12	15	5	2	22
20/12	14	4	4	22
21/12	13	2	2	17
22/12	9	1	3	13
23/12	10		2	12
24/12	5		1	6
25/12	2			2
26/12	2			2
27/12	2			2
28/12	2			2
29/12	2		1	3
30/12	2		1	3
31/12	2			2
01/01	2			2
02/01	3			3
03/01	1		1	2
04/01	2			2
06/01	1		1	2
Total	**230**	**77**	**67**	**374**

Table 5

- The peak number of fire engines, excluding special appliances committed to the Maple Mill fire was 27 at the 30 minutes time period commencing at 09:00 hours on the 15th December 2016. At this time, there were also nine special appliances and seven officers committed to this incident.

- Also, a further six appliances were committed to other incidents across Greater Manchester, at the peak time of this incident.

- The highest number of officers at the incident at one time, was 14 at 11:00 hours.

- Over nine days there were at total of 230 individual fire engine mobilisations, 77 special appliance mobilisations and 67 officer mobilisations.

- The first two days were the most resource-heavy days, with 60 fire engine mobilisations on the first day, and 44 on the second (Table 5).

- Fire engine mobilisations ceased on the 6th January 2017.

- Most resources attendance times lasted for between five and seven hours, however some special appliances remained at the incident for 24 hours or more and instead the crews were relieved.

- A sum of the total time spent at the incident for fire engines was 1223 hours.

- Special appliances attended for 858 hours, with all the aerial appliances being at the incident for more than 50 hours.

- Officers were in attendance for 4289 hours in total.

- Figures 8-10 provide a view of simultaneous activity; i.e. the number of fire engines in committed to the Maple Mill fire until 16:00 hours on 16th December 2016. This has been measured every half an hour for the duration of the incident.

Figure 8

Figure 9

Figure 10
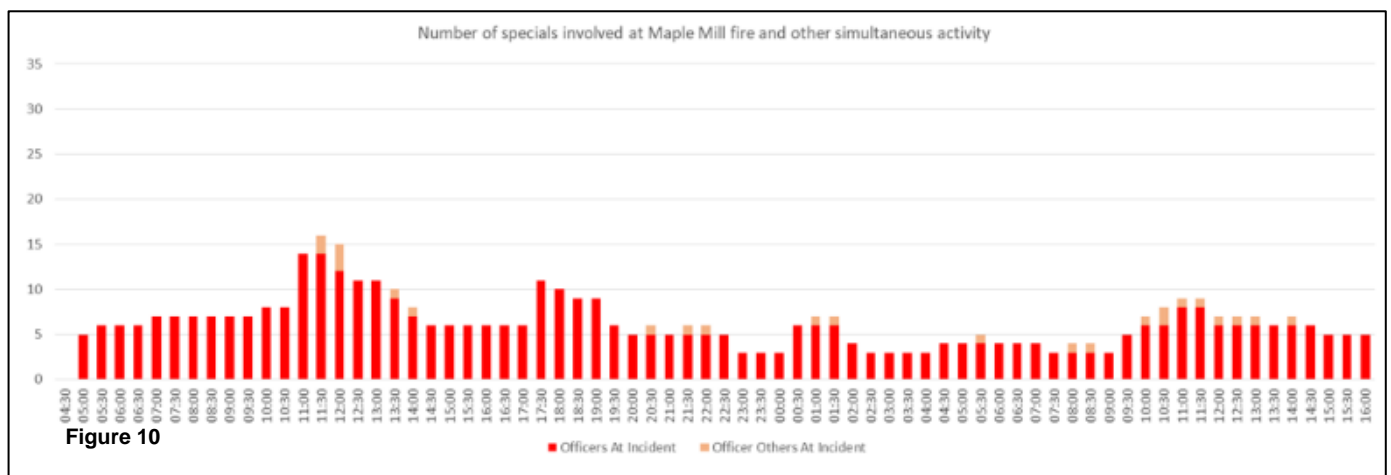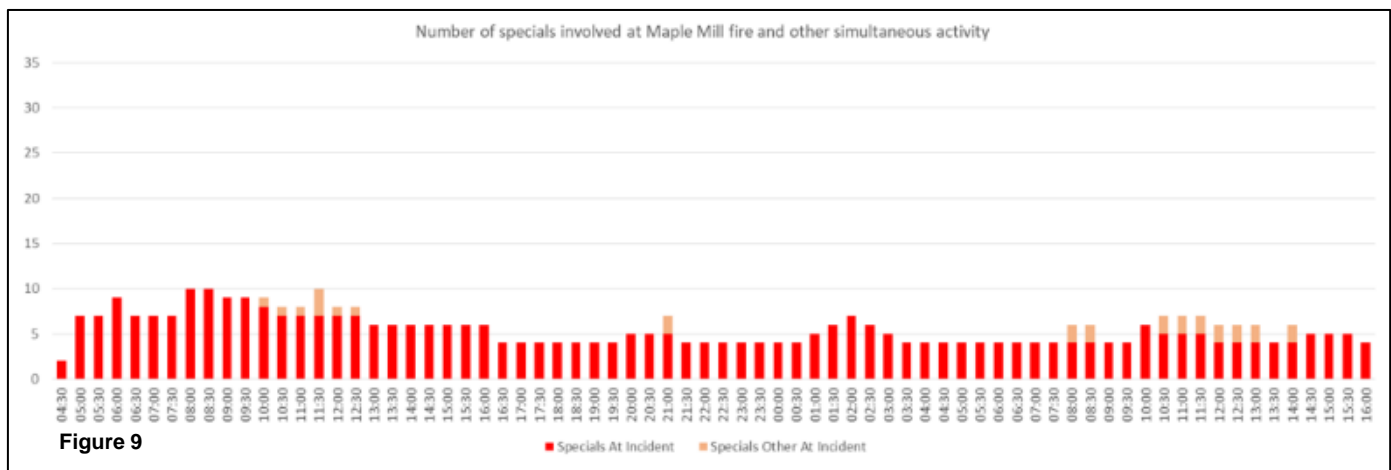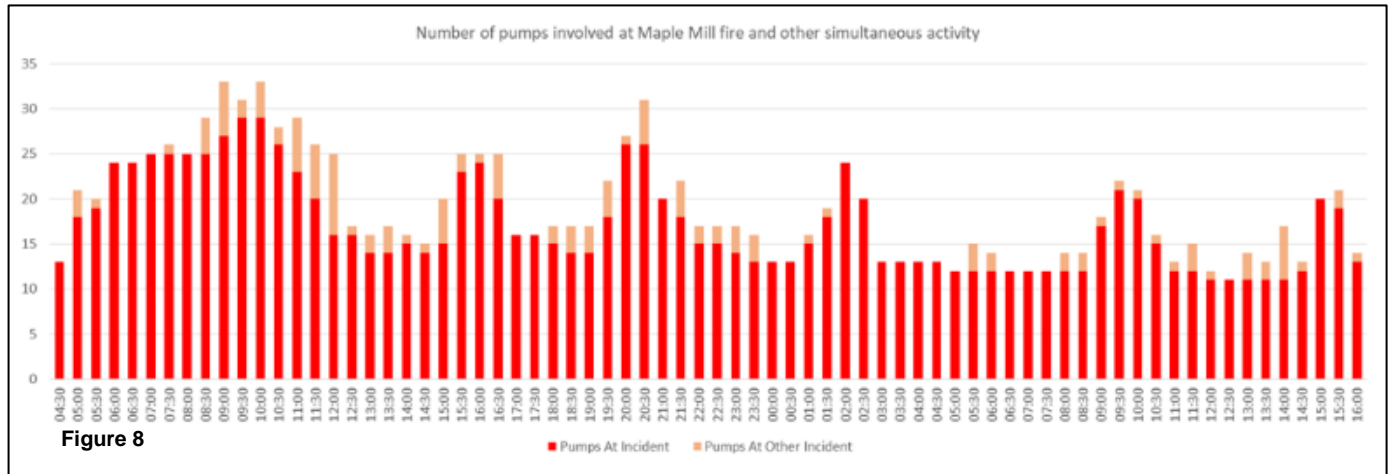
- The graphs display the number of fire engines (Fig 8), specials (Fig 9) and officers (Fig 10) committed to the incident, and in use at other incidents. The peak number of fire engines committed to the incident (not including specials) was 29 between 09:00 hours and 10:00 hours on the first day.

- At this time there were also two to four other fire engines committed to other incidents.

- The first reliefs were ordered at approximately 08:30, and the graph demonstrates this in the temporary increase in fire engines with every change in relief duties. This is particularly notable during the first relief changeover.

- The highest number of officers in attendance was between 11:00 and 12:00, of 14 people.

# Wigan & Bury (Boxing Day) Floods – December 26th 2015

The flooding incidents that occurred predominantly in the Wigan and Bury areas on Boxing Day 2015 demonstrates the impact on resources across the whole of Greater Manchester as a result of a large number of smaller incidents.

- In the days preceding the flooding in Greater Manchester, areas to the north in Cumbria and Lancashire had suffered significant flooding. GMFRS had some resource in surrounding counties, namely officers, high volume pumps and associated support fire engines.

- The first call relating to flooding occurred at 07:07 hours, 26th December 2015.

- North West Fire Control recorded 331 flooding relating calls between this time and midnight. Some of these calls were handled by London Fire Brigade Control before being passed back to NWFC.

- In total, during a 24hr period, there were 206 mobilisations of appliances to 122 incidents (Table 6), 46% of which were flooding or rescues from water. Although the majority of activity resulting from flooding incidents were in the Northern areas of Greater Manchester (Wigan, Bury and Rochdale) and later in the Salford area, the remaining incident types were spread across all areas of Greater Manchester (Fig 11).
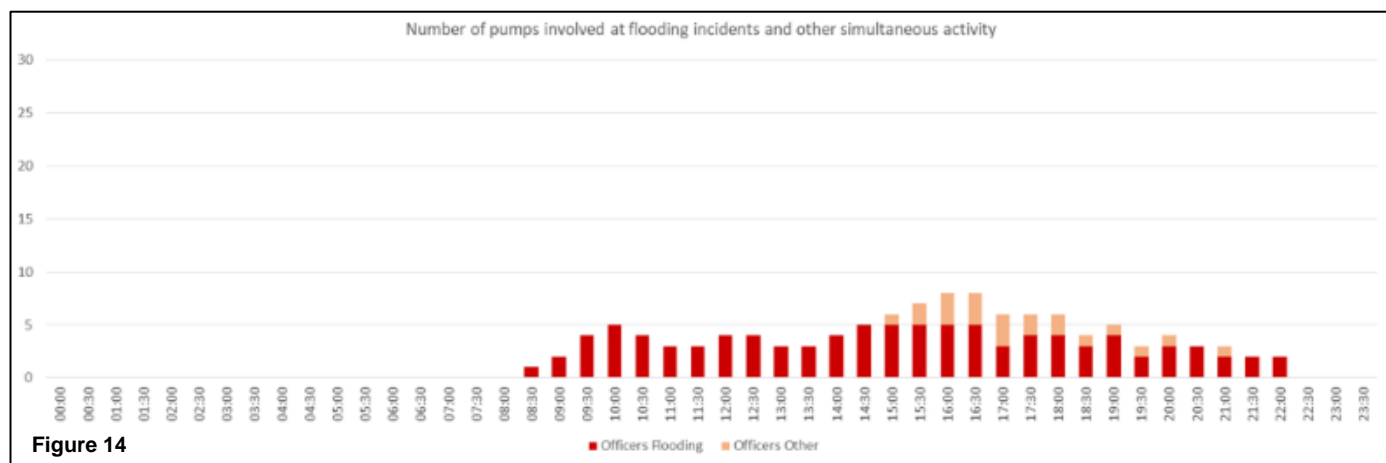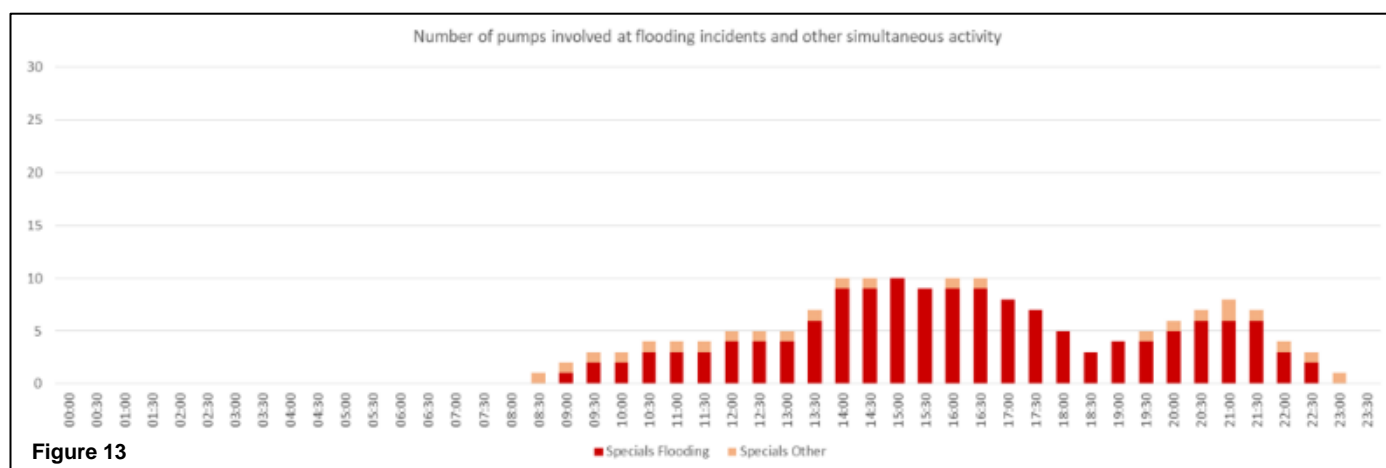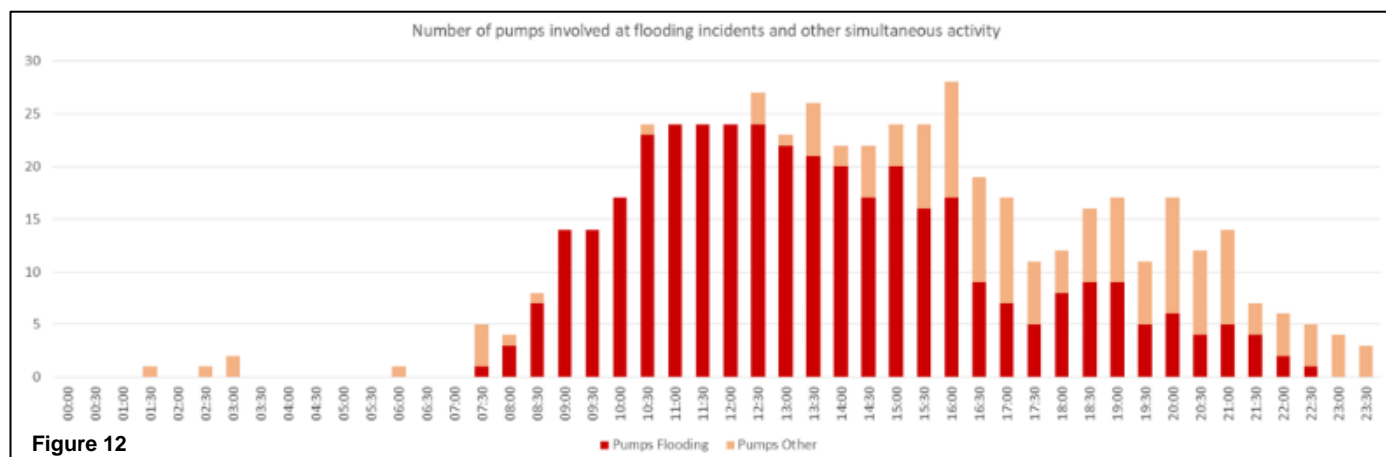
Hour of the Day	False Alarm	Fire	Flooding	Other SSC	Rescue or evacuation from water	Total
1				3		3
2	1	1				2
3	1			1		2
4				1		1
5				2		2
7	4		5			9
8	1		9	1		11
9			12		1	13
10	1		7		1	9
11			3			3
12	3		5			8
13	2	1	3	2		8
14	2	2		2		6
15		2				2
16	2	2	2	1	1	8
17	2		2	3		7
18	2	1	2			5
19		2	1	2		5
20	4	3	1			8
21		2	1	1		4
22	1	1		1		3
23	2			1		3
Total	28	17	53	21	3	122

Table 6

- There were a total of 34 mobilisations of special appliances. Of these 25 were in response for flood related incidents. Water Incident Units (Boats) were the most requested (14).

- There were a total of 29 FDS officer mobilisations. Due to the incident taking place on a Bank Holiday only the on-duty rota group were available. This resulted in all incidents being allocated to 10 different FDS officers over a 24 hour period.

Figure 11
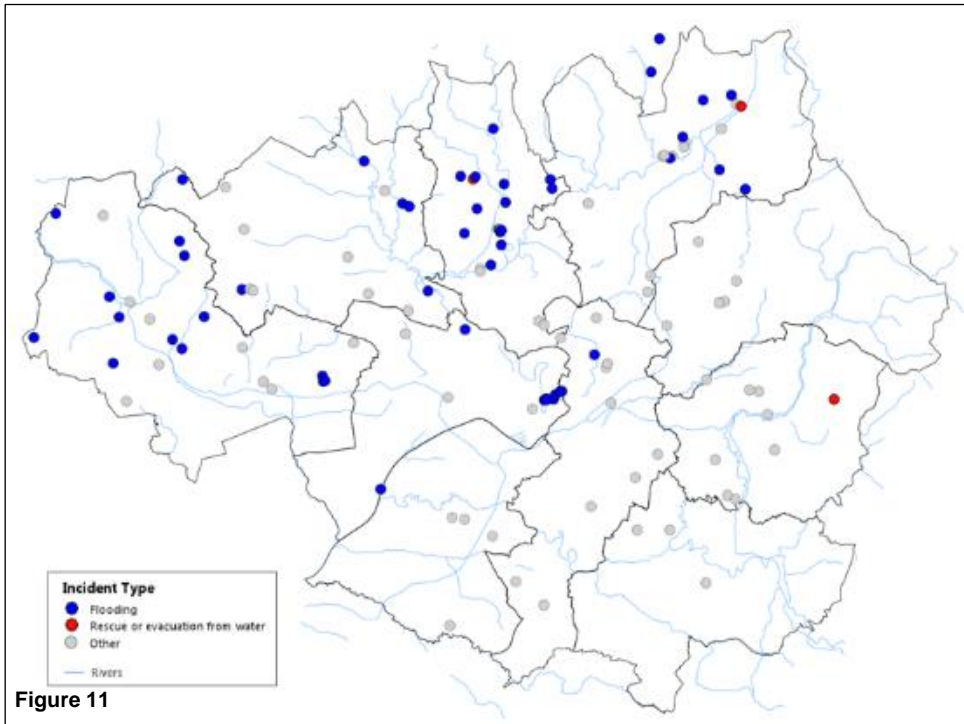
- Most fire engine mobilisations were for a relatively short period of time, up to one hour. Special appliances tended to remain in attendance at flooding incidents for longer periods of time.

- A sum of the total time fire engines were committed at the flooding incidents is 192 hours.

- Special appliances attended for 69.8 hours, with the boats being involved for a combined 20 hours.

- Officers were in attendance for 49 hours in total.

- Figures 12-14 provide a view of simultaneous activity during the day; i.e. the number of fire engines in committed incidents on Boxing Day. This has been measured every half an hour for the duration of the incident.

- The graphs display the number of fire engines (Fig 12), specials (Fig 13) and officers (Fig 14) committed to the flooding incidents, and in use at other incidents. The peak number of fire engines committed to incidents is 27, at 16:00. At this time 16 fire engines were involved with flooding incidents, and a further 11 at other incidents.

- At this time there were 10 specials attached to incidents, a number which remained static between 14:00 and 17:00.

- Between five and eight officers were simultaneously committed to incidents between 14:00 and 18:30.

Number of pumps involved at flooding incidents and other simultaneous activity

Figure 12

Pumps Flooding Pumps Other

Number of pumps involved at flooding incidents and other simultaneous activity

Figure 13

Specials Flooding Specials Other

Number of pumps involved at flooding incidents and other simultaneous activity

Figure 14

Officers Flooding Officers Other

Wigan Wharfside – June 14th – June 17th 2015

The Wharfside incident (incident number 1506004486) is an example of a large incident that was declared a Major Incident by the Fire and Rescue Service. This incident used a significant number of resources but it was closed within 4 days.

The data used within this briefing note has been manually constructed from the narrative log from the incident. An old fault with data transfer between NWFC and GMFRS meant that not all mobilisations were passed into IRS. This fault was fixed in December 2016, but a legacy of this fault is that particularly for large incidents, there can be 'missing' mobilisations.

- The incident was declared Make Pumps 15 one hour after the initial call at 04:58.

- The peak number of fire engines, excluding special appliances committed to the Wigan Wharfside fire was 32 at the 30 minutes time period commencing at 16:00, and again at 17:00. This was the second relief changeover.

Date	Pump	Special	Officer	Total
14/06/2015	52	20	23	95
15/06/2015	31	9	15	55
16/06/2015	12	1	7	20
17/06/2015	3		1	4
Total	98	30	46	174

Table 7

- At this time, there were also three officers and 13 special appliances at the incident.

- Additionally, ten other fire engines were in use at other incidents.

- Over four days there were at total of 98 individual fire engine mobilisations, 30 special appliance mobilisations and 46 officer mobilisations (Table 7).

- On the first day of the incident, there were 27 fire engine, 12 specials and 16 officer mobilisations.

- In total, fire engines were at the incident for 578 hours.

- Special appliances attended for 405 hours. One of the specials that remained at the incident for over 30 hours, was Lancashire's Urban Search and Rescue (USAR) resource.

- Officers were in attendance for 338 hours in total.

- The table below provides an indication of simultaneous activity; i.e. the number of fire engines committed to the Wigan Wharfside fire until 15:30 hours on 15th June 2015. This has been measured every half an hour for the duration of the incident.

- The graphs display the number of fire engines (Fig 15), specials (Fig 16) and officers (Fig 17) in attendance for the first 36 hours. The peak number of fire engines committed to the incident (not including specials) was 32 between 16:30 and 17:30 on the first day.

- There was limited simultaneous activity during the early stages of the incident, however during the afternoon of the second day there are often between seven and ten fire engines in use elsewhere.

- The peak number of fire engines committed to the incident coincides with the second relief phase.

- The highest number of officers at the incident at the same time was 14, which occurred at 12:00 on the first day. The number of officers involved with the incident remained above ten until 18:00 hours.

Figure 15
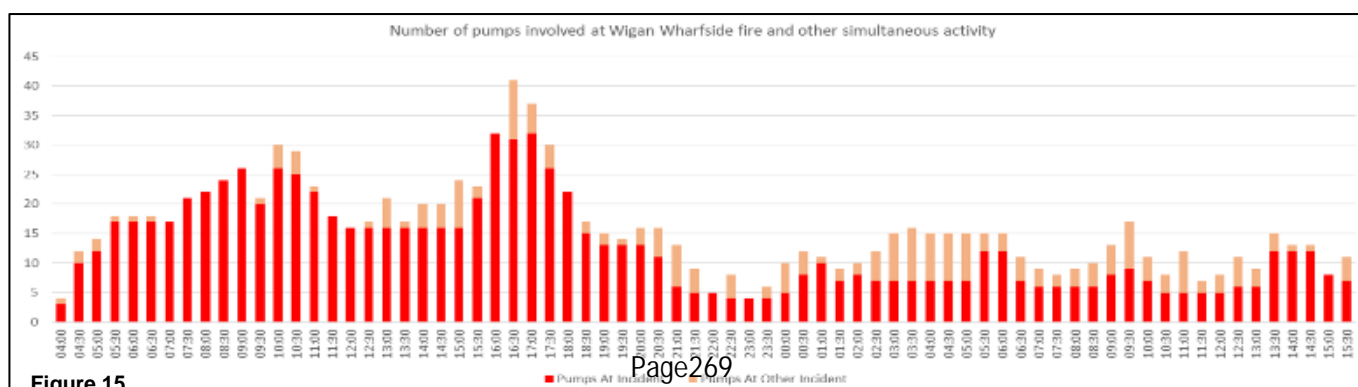
Bredbury (Junction 25) – August 20th – September 30th 2013

The incident that occurred at Bredbury on the 20th August 2013, 21:12 hours (Incident number 19718131) provides an example of a protracted incident (41 days) with a large number of resources.

- The peak number of fire engines, excluding special appliances committed to the Bredbury fire was 16 at the 30 minutes time period commencing at 02:30 on the 21st August, 2013. At this time, there were also eight special appliances and ten officers committed to the incident.

- Another ten fire engine incident in Littleborough occurred four hours before Bredbury, and at the time Bredbury incident started, ten fire engines and six officers were committed to that incident.

- Over 41 days there were at total of 343 individual fire engine mobilisations, 50 special appliance mobilisations and 90 officer mobilisations, where these resources booked in attendance (Table 8).

- There were a further 21 fire engine mobilisations, 10 special mobilisations and 11 officer mobilisations which did not book in attendance.

- The following information relates to mobilisations where an attendance was recorded.

- On the first day of the incident, there were 13 fire engines, followed by 36 the following day.

- Fire engine mobilisations ceased on the 9th September, with the exception of one inspection on the 26th September.

Date	Pump	Special	Officer
20/08/2013	13	7	7
21/08/2013	36	18	18
22/08/2013	31	7	11
23/08/2013	33	11	7
24/08/2013	25	4	4
25/08/2013	20	1	3
26/08/2013	20		3
27/08/2013	20		2
28/08/2013	17		2
29/08/2013	15		4
30/08/2013	16		2
31/08/2013	13		2
01/09/2013	13		1
02/09/2013	10		
03/09/2013	10		1
04/09/2013	10		4
05/09/2013	11	2	
06/09/2013	10		
07/09/2013	10		1
08/09/2013	7		1
09/09/2013	2		3
10/09/2013			2
11/09/2013			2
12/09/2013			1
13/09/2013			2
14/09/2013			
15/09/2013			
16/09/2013			2
18/09/2013			1
19/09/2013			
20/09/2013			1
26/09/2013	1		1
27/09/2013			
30/09/2013			1
Total	343	50	90

Table 8

| Time at Incident (hours)	Pump	Special	Officer	Total
0 to <1	4	11	16	31
1 to <2	4	14	6	24
2 to <3	3	2	6	11
3 to <4	9	2	6	17
4 to <5	92	4	8	104
5 to <6	155	6	12	173
6 to <7	60	1	15	76
7 to <8	6	1	10	17
8 to <9	1		6	7
9 to <10	4	1	2	7
10 to <11	3		1	4
11 to <12	2	2		4
16 to <17		1		1
18 to <19			1	1
22 to <23		2		2
46 to <47		1		1
77 to <78		1		1
488 to <489		1		1
Total	343	50	89	482

Table 9

- Most fire engine mobilisations were between five and six hours, followed by between four and five hours. The aerial appliances tended to remain at the incident for a longer time (Table 9).

- The graphs below provide an indication of simultaneous activity; i.e. the number of fire engines committed to the Bredbury fire until 09:00 hours on 22nd August 2013. This has been measured every half an hour for the duration of the incident.
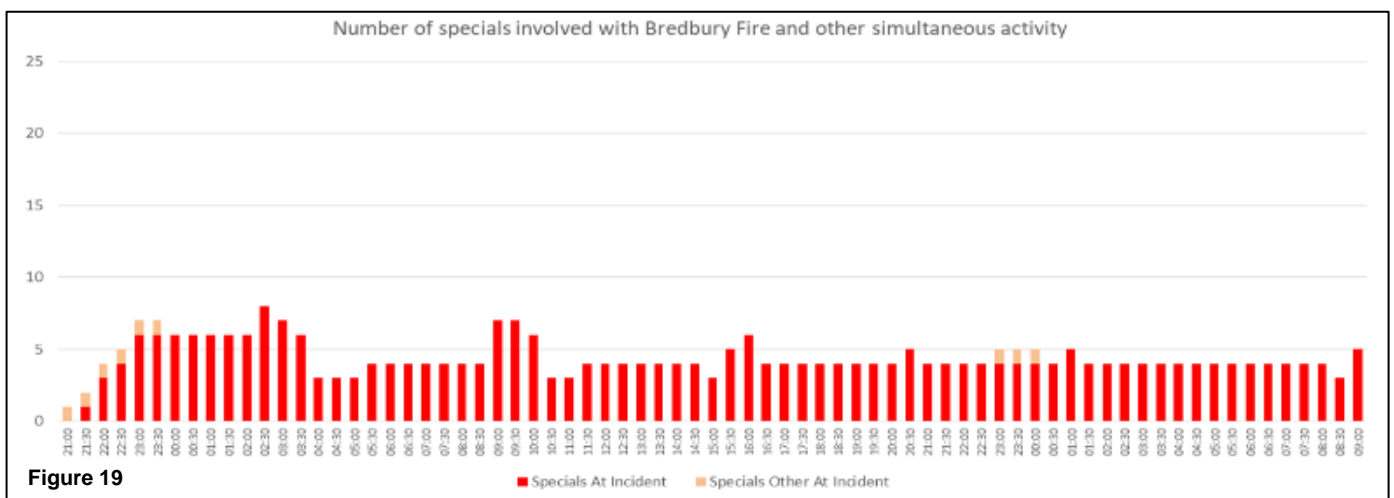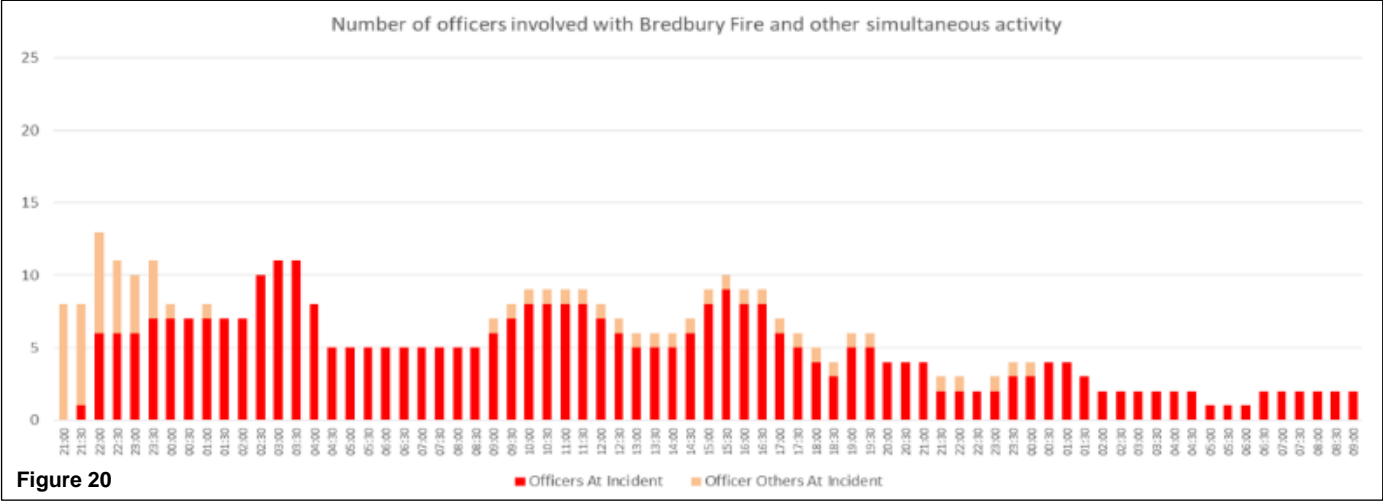
- The graphs display the number of fire engines (Fig 18), specials (Fig 19) and officers (Fig 20) in attendance for the first 36 hours. The peak number of fire engines committed to the incident (not including specials) was 16 at 02:30 on the second day.

Figure 18
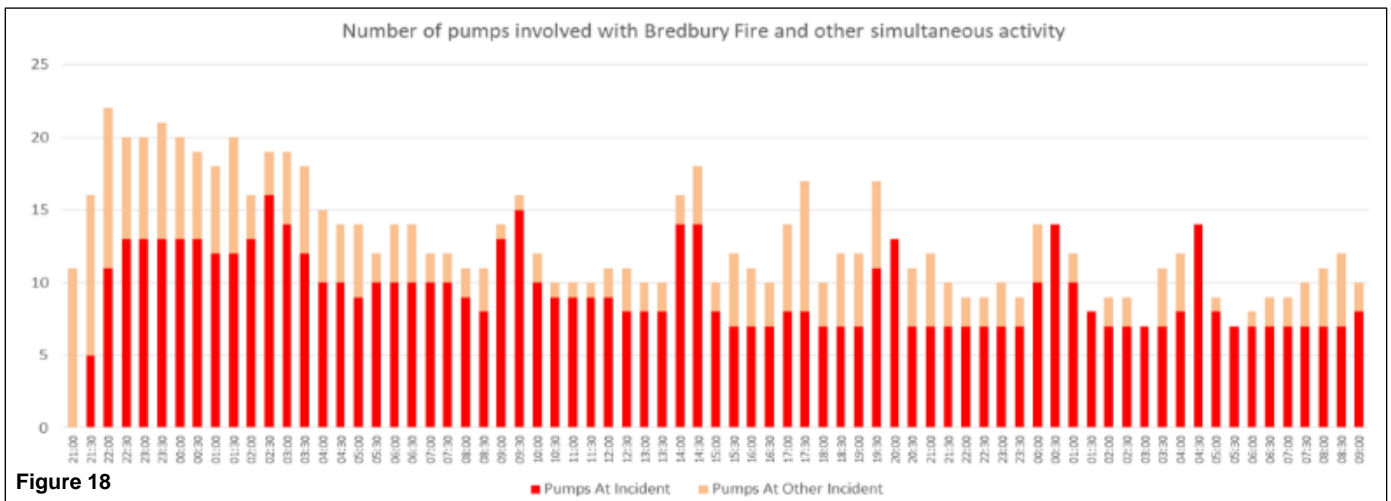
- It can be seen that at the beginning of the incident, there was quite a lot of other simultaneous activity, most of which was at another incident in Littleborough. Overall, the total number of fire engines in use at all incidents was 22 at 22:00 on the first day.

- In total, fire engines were at the incident for 1861 hours.

- Special appliances attended for 347 hours. Whilst G10A1 was only mobilised on two occasions, it was at the incident for a total of 89 hours, including one time when it remained in attendance for 77 hours.

- Officers were in attendance for 437 hours in total.

- The first reliefs were ordered at approximately 01:30, and the graph demonstrates this in the temporary increase in fire engines with every change in relief duties.

- The highest number of officers in attendance was between 03:00 and 03:30, of 11 people. The graph (Fig 19) also shows in the early stages of the incident, there were six or seven officers at Bredbury, but a further five to seven were in attendance at other incidents.


Figure 19

Figure 20

Number of officers involved with Bredbury Fire and other simultaneous activity

■ Officers At Incident   ■ Officer Others At Incident

Following the Manchester Arena incident on 22nd May 2017, on-going police operations required the support of specialist FDS officers. Due to the nature and urgency of the operations the use of officers often did not reflect the duty rota and the officers used had to continue with their office based roles when not being used in an operational role.

Although some appliances were also used, the numbers were very low and would not impact of operational resilience for other incidents. For this reason the data only captures FDS officer mobilisations during this period.

This operation is a good example of how FDS availability can be significantly impacted on and this is a scenario not currently taken in to account in the current planning assumptions. This also highlights limitations around the resilience plans for the FDS rota.

Figure 21
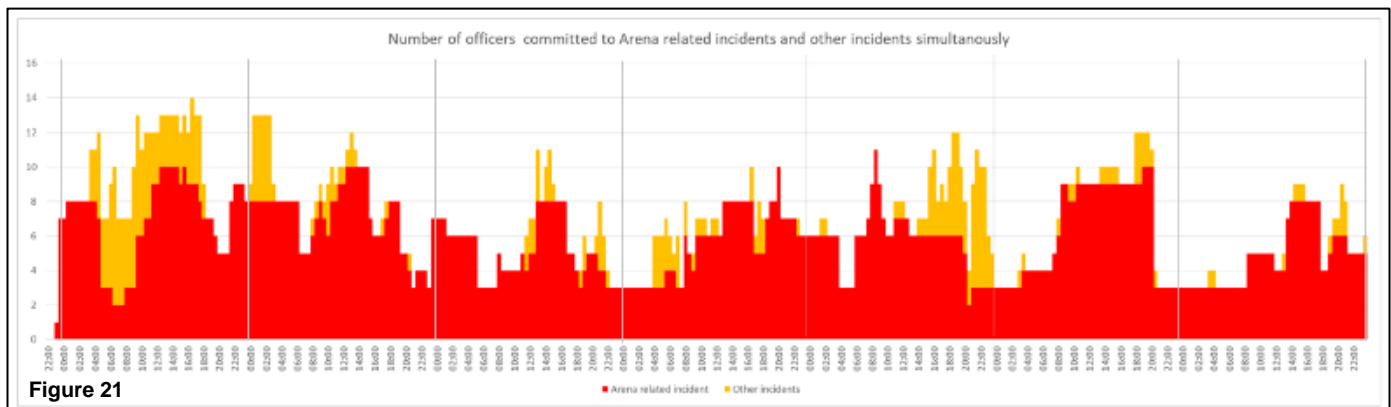
The roles FDS officers were involved in include:

- GMFRS Command Support Room (FSHQ)
  - o Duty Group Manager, Station Manager and Command Support Room Operators for the Co-ordination of resources and personnel to support the overall multi-agency response

- Multi-agency Command and Control (GMP Force HQ)
  - o Area Manager & Station Manager in attendance 24/7 (22nd May – 30th May in support of the Strategic co-ordination Group (SCG) and the Mass Fatalities Group.

- Counter Terrorism Police Operations
  - o National Inter-agency Liaison Officer (NILO) available 24/7 (23rd May – 3rd June) to support Pre-Planned Operations and for the provision of information and support to Security Services, MI5, National Counter Terrorism Command, Forensic Explosive Laboratory (Fort Halstead).
  - o Detection Identification & Monitoring (DIM) Capability supported response to 21 high risk properties.
  - o DIM Team simultaneous activity work alongside CT Forensic Management Teams within live crime scenes
  - o Provision of 21 premises floor plans to support Police operations
  - o Provision of Cordon and Hazard Zones
  - o Fire & Rescue Capability – stood by when required
  - o Planning and Preparation for Specialist Military Response teams
  - o On scene safety support for Forensic Management Teams within the Arena utilising the Technical Response Unit (TRU).
  - o Provision of welfare/storage arrangements at a wide area search site.
- To provide resilience, Merseyside and West Yorkshire Fire and Rescue Services provided DIM and MTFA capability.

- On average, there were 6 FDS officers attached to an incident at any time during the period of 23rd May – 3rd June 2017 (Figure 21).

APPENDIX C

Subject: Incident Command Review

Report of: Leon Parkes – Director of Service Support

Purpose of Report

1. The purpose of the report is to provide the Programme Board with information following the review of the current Incident Command System (ICS) arrangements in GMFRS.

2. The report highlights the historical context to GMFRS' ICS, and summarises the findings of recent analysis of 5 years' worth of incident data which has been used to develop proposals for future arrangements.

3. The approach taken is similar in nature to that taken for the Planning Assumptions work stream, but analysis of the same data focussed purely on the Officer requirements to fulfil a suitable ICS.

Recommendations

4. The Programme Board are asked to recommend that the Steering Group:

   - Support the recommended option (option 3) on the basis that this will provide a suitable and robust ICS that meets the requirements of the revised planning assumptions.
   - Endorse the commencement of a detailed review of Officer Duty rosters to align to the requirements of (option 3).
   - Note that a further paper will be brought to Board which sets out the proposed roster in more detail together with any associated costs.

Background

5. In order to meet our statutory requirements, set out in the National Framework, to provide a fit for purpose emergency service GMFRS undertakes analysis of incident data to identify 'reasonably foreseeable' risks and incidents. Once identified, these risks and incidents become the 'planning assumptions' for the Service around which, personnel, equipment and capability requirements are then determined within what is referred to as *'normal requirements'*.

6. GMFRS defines '*normal requirements'* as;

   'The number of incidents that may reasonably be expected to occur in a given time period, of a year, in the light of known or anticipated incident patterns and with due account taken of the inherent unpredictability of fire and special service occurrence.'

7. Our current planning assumptions were conceived during the 2011/14 Corporate Plan when we committed to review our arrangements for Incident Command. Findings were based on:

   e. The incident types and size (in terms of resources required) that could be reasonably foreseen.

f. Scenarios of two simultaneous 10 appliance incidents, one of which is a hazardous materials incident, and maintaining a level of resilience to provide sufficient incident command resources for a very large single incident (25 appliances).

g. A requirement of 14 Flexi-Duty System (FDS) Officers to effectively support the incident command system.

8. It should be noted however, that this model does not account for resource requirements to support smaller simultaneous incidents that would fall within 'normal requirements' of a Fire & Rescue Service, or take in to account relieving officers if incidents are protracted.

9. There are also no considerations factored into these planning assumptions for incidents which would require a Strategic or Tactical Co-coordinating Group (SCG/TCG) being established which would require additional resources.

Revised Planning Assumptions

10. A recent report presented to the Programme Board highlighted the need, based on robust analysis of data, to revise our current planning assumptions to reflect the scale and frequency at which incidents have occurred within the reference period.

11. Table 1 highlights the number of incidents which have occurred within each level of incident command relevant to flexi-duty officer numbers, within the 5 year reference period. From detailed analysis of these incidents the planning assumptions below were proposed.

Incident Command Level	Number in Last 5 Years
6-10 Appliances (Level 2)	351
11+ Appliances (Level 3)	227
Very Large Incidents/SCG (Level 4)	10

Table 1

12. Planning of resources and personnel should provide an operational response to effectively manage;

(e) Two simultaneous ten appliance incidents (Command Level 3), one of which is a breathing apparatus (BA) incident requiring a BA sector.

Or;

(f) One very large incident, consisting of 20 appliances (Command Level 4)

13. By being able to fulfil the above planning assumptions GMFRS will ensure there are a suitable number of resources and personnel with the appropriate skills to command at all levels of incidents within normal circumstances.

Incident Command System Resourcing

14. The content of this section, and any proposals or recommendations will focus on the following principles:

- To support a safe and effective incident command system which is based on robust planning assumptions and incident data from a five year period.
- To consider efficiency and effectiveness in the use of resources.
- To provide a suitable and robust ICS which meets the requirements of National Guidance.

- An ICS that will consist of a sufficient number of officers to provide effective management of Health and Safety in accordance with legislation.
- To consider capacity within the system to manage the welfare of officers, especially at times of out of hours work within evenings, nights and weekends.

15. The next stage in developing a robust emergency response model, based on established planning assumptions is to determine the flexi-duty officer requirements in order to fulfil the ICS. As with the above planning assumptions, 5 years' worth of data has been analysed to inform proposals.

16. These planning assumptions do not take in to account appliance numbers and focus on the incident command team (Flexi-duty Officer numbers). Legislation that informs statutory requirements in regards to resources and attendance at incident types has been used to support any conclusions, where relevant.

17. The ICS is fulfilled by officers who are conditioned to the flexible-duty system, and currently work a standard 4 week recurring pattern. This pattern includes a mixture of 8, 9 and 24 hour periods of duty, whereby one weekend in every four is their duty weekend running from Friday morning to Monday evening inclusive.

18. The current FDS rota provides a minimum of 12 officers 'on call' at all times to support the ICS. At present GMFRS identifies a number of functional roles, which in general, align to the rank of Station or Group Manager (SM/GM) but have inherent flexibility to operate within operational, tactical and strategic levels of command.

19. For planning purposes the current GMFRS Flexi-Duty System (FDS) Policy states;

'GMFRS will, through workforce planning, predict and maintain an appropriate FDS Officers' Rota ensuring that as far as is reasonably practicable, the appropriate number of officers to support an effective ICS will be available at all times'.

20. In addition to a Principal Officer (PO) and Assistant Principal Officer (APO), the minimum requirements of the ICS should consist of 12 FDS officers which includes the following skills <u>as a minimum</u>:

Skill	Role	Number
Group Manager	GM	3
National Interagency Liaison Officers (NILO)	GM / SM	2
Hazmat, Detection, Identification and Monitoring Advisors (HDIMA) with one detailed as the Duty HDIMA	GM / SM	2
Command Support Officer (CSO)	SM	1
Operational Assurance Officer (OAO)	SM	1

Table 2

21. The ICS provides a management system designed to enable safe, effective and efficient incident management. This is achieved by integrating a combination of facilities, equipment, personnel, procedures, and communications operating within a common organisational structure. It can be used to organise both dynamic and long term operations for a broad spectrum of emergencies of any kind from small to complex incidents an example of the ICs is shown in Appendix 1.

Incident Command Planning Assumptions

22. The planning assumptions determine the following 'minimal' functional roles which are deemed to be required to support the ICS for two simultaneous Level 3 incidents or one Level 4 (very large incident). To validate the current planning assumptions and to test a number of different sized incidents, simulations were run on the mobilising software training system at North West Fire Control. The objective was to run realistic and relevant incidents, some of which were simultaneous, and record the resources used and any impact on business continuity.

23. FDS Officers mobilised within the simulations are based on the current pre-determined attendances for the incident type and size. Any additional resources are based on professional judgement of which resources may typically be required at each incident type to deal with the incident safely and effectively.

Resilience Arrangements

24. Where the Incident Command System in GMFRS has been tested most arduously has been around the availability of FDS officers at major and protracted incidents, particularly when these incidents are in their most dynamic stages in the early evening or at the weekend or last a substantial period of hours, days or weeks. The current FDS rota operates four groups with 15 Officers on each group (minimum of 12 available) inclusive of the roles of SM, GM, and AM, when outside of regular working hours. When a large incident or simultaneous incidents involves one or more relief changeovers, requiring multiple FDS officers, there is a high risk of personnel fatigue.

25. In times of excess demand outside of 'normal arrangements', GMFRS utilise 'recall to duty' to support the Incident Command System as required. However, the system currently employed relies solely on the voluntary goodwill of Officers who are willing to be available for duty outside of their contracted working hours.

26. Recall to Duty is currently a voluntary process and subsequently Officers may, or may not, volunteer for duty. An online service is provided by 'DutySheet' via 'DS-Leap' software. When accessed it allows the user to enter detail which then sends a text message to off duty FDS officers offering the option to make themselves available for duty. Receipt of this message is reliant on off duty officers having their work issue mobile phones or pagers switched on and available.

27. This report recognises that the current system has inadequacies to guarantee a wholly resilient provision of FDS officers when Recall to Duty is activated, and that generally the response rates of officers are poor for a number of reasons. As such, if relief officers are required during the night or weekend, the extant FDS officers would be the only FDS available from the same group, and individuals being relieved could feasibly be mobilised straight to another incident.

28. The following table demonstrates outcomes from the previous 9 times that a recall to duty has been activated.

Table 7.

Event Title	Event Date	Times	Accepted	Acceptance % of potential available officers
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FDS Officers Recall	26/04/2017	18:00 - 00:00	1	2%
Potential Recall	13/01/2018	00:00 - 00:00	2	4%
Recall to Duty availability	26/06/2018	00:00 - 00:00	3	6%
Saddleworth Moor Fire - Officers	27/06/2018	00:00 - 00:00	2	4%
GM Recall to Duty	30/06/2018	00:00 - 00:00	1	2%
Recall to duty request	30/06/2018	00:18 - 00:09	2	4%
Recall for FDS Officers (Moorland)	05/07/2018	00:00 - 00:00	10	21%
Recall to Duty	07/07/2018	00:00 - 23:59	2	4%

29. The welfare of GMFRS Officers aligned to the FDS system is not explicitly covered in existing policy. There is an understanding that on occasions where officers have completed a continuous time period at incidents, a short rest period can be requested via the APO/Duty GM if required. This allows for individuals to take a short welfare break but, in the example of a weekend, inevitably this will only be a few hours as they will be required to return to duty and be available for further operational duties.

30. Fatigue of individuals is generally monitored by the individual themselves and associated APO/Duty GM for each rota group. Current evidence within GMFRS indicates that very few rest periods are undertaken through the 72 hour weekend duty period, and this presents the risk of increased fatigue and 'command stress' as described in the National Operational Guidance document – The Foundation for Incident Command.

31. Table 8 gives an example of the hours that FDS Officers worked on the incident ground during the Wigan Wharfside fire. This incident started at 03:56 hrs on 14th June 2015 on a Sunday morning (FDS Group 1 on duty) and a 'recall to duty' was activated with some relief officers, who agreed to work coming in off duty, and arriving approx. 12.00hrs.

Officer attendance times at Wigan Wharfside Fire. (Call signs are anonymised)

Table 8

Officer Call Sign	Total time at incident (hrs)
GA***(AM)	11.9
GG***(GM)	23.1
GG***(GM)	12.7
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GS***(SM)	22.0
GS***(SM)	17.2
GW***(FIO)	21.7

32. This example taken from incident data shows the length of time some officers remained in attendance on the incident ground. Whilst it is recognised that not all roles held within the ICS may involve risk critical decision making, or command or functional roles fundamental to the management of the incident, it does evidence that prolonged durations of time are being spent on the incident ground by FDS officers.

33. This highlights the need for improvement to current resilience arrangements to allow for relief duties, or actions to mitigate the same Officers being used at numerous incidents within a short period without the relevant rest periods being implemented.

Summary of Findings

34. It is evident that the current minimum officer's rota figure of 12 would only provide sufficient resources to manage incidents outside of office hours through a minimal command structure. In addition, evidence from incidents attended by GMFRS over the previous 5 year period demonstrates that 'peak' numbers of officers used exceeds the current minimum number of 12.

35. In times of excess demand, outside of 'normal arrangements', GMFRS utilises 'recall to duty' to support the ICS as required. However, the system currently employed relies solely on the voluntary goodwill of Officers who are willing to be available for duty outside of their contracted working hours.

36. Due to this limitation it is recognised that the current system has inadequacies to guarantee a wholly resilient provision of FDS officers when Recall to Duty is required. Evidence from previous Recall to Duty requests also shows that generally the response rates of officers are poor for a number of reasons.

37. As such, if relief officers are required during the night or weekend, the ability to provide additional officers to facilitate rest and welfare breaks cannot be guaranteed, presenting a risk of increased fatigue and 'command stress' as described in the National Operational Guidance document – The Foundation for Incident Command.

38. This report seeks to address these shortcomings with proposals and options to provide a more suitable and resilient ICS which supports improved welfare arrangements for staff.

39. Detailed analysis of these findings is available on request, however due to the volume of information it has not been provided as part of this paper to aid brevity.

Recommendations and Options

40. Based on the findings above a number of options have been developed for consideration.

41. Planning Assumptions:

- Current planning assumptions recognise that to provide a safe and effective incident command system at two simultaneous Level 3 incidents **12** officers would be required, and at a Level 4 incident, up to **16** officers would be required.

- The data analysis showed:
  o The average number of officers used at large scale incidents was **13**, and at its peak the average number used was **16**.
  o In relation to welfare arrangements, the average number of hours spent on the incident ground can be excessive, which presents a significant risk particularly when incidents occur at weekends with resilience provided by a voluntary recall to duty system only.

o Historical evidence from 'Recall to Duty' activation shows that there is an average of only a 6% positive response rate to requests from potentially available officers volunteering.

42. When considering the options presented below, it is worth noting that proposals may be presented within the wider Programme for Change to rationalise Officer numbers providing potential fiscal efficiencies. A small proportion of any savings may need to be reinvested into front line officer cover in order to build in a level of resilience and address the weaknesses highlighted in paras 24 – 27.

43. Taking into consideration all of the factors and analysis, a number of recommendations and options have been developed for consideration, summarised in the table below:

Option 1		Option 2		Option 3			Option 4 (as is)	
Increased establishment to minimum **16** officers (*24hr duty*)		Increased establishment to minimum **14** officers (*24hr duty*)		Establishment of minimum **12** officers with supporting resilience rota			Establishment of **12** with 'recall to duty' arrangements	
P.O	1	P.O	1	P.O	1		P.O	1
A.P.O	1	A.P.O	1	A.P.O	1		A.P.O	1
AM	1	AM	1	AM	-	1	-	-
GM	4	GM	4	GM	3	1	GM	3
SM	10	SM	8	SM	8	2	SM	8
Total (*Excluding PO*)	**16**	Total (*Excluding PO*)	**14**	Total (*Excluding PO*)	**12**	**16**	Total (*Excluding PO*)	**12**

Note: the right hand column in option 3 shows officers who are on call but (not) immediately available.

|	Risks	Benefits
Option 1	▪ Additional financial costs ▪ May not be the most efficient system ▪ Only voluntary resilience ▪ No flexibility in resources	▪ Match to planning assumptions ▪ Match to average of incident data ▪ Supports additional roles ▪ May allow for increased welfare arrangements
Option 2	▪ Additional financial costs ▪ Requires revision of roles ▪ Only voluntary resilience ▪ No flexibility in resources	▪ Match to planning assumptions ▪ Supports additional roles ▪ May allow for increased welfare arrangements
Option 3	▪ Does not match planning assumptions without resilience ▪ Additional financial costs ▪ Requires revision of roles ▪ Does not support additional functional roles	▪ Match to planning assumptions (*with resilience activated*) ▪ Increased resilience ▪ Supports additional roles ▪ May allow for increased welfare arrangements ▪ Allows for flexible resourcing ▪ Improves efficiency
Option 4	▪ Does not match planning assumptions ▪ Only voluntary resilience ▪ Requires revision of roles ▪ No flexibility in resources ▪ Does not support additional functional roles	▪ No additional financial costs

Preferred Option

44. Option 3, providing a supporting resilience rota is the preferred option as this provides the most flexible option, making efficient use of resources whilst including a provision to call on additional support to enhance welfare and capacity in times of high demand. Also:

- This option offers the additional flexible resilience required.
- It does not require any additional personnel or increase in current establishment.
- The total of **12** officers meets the requirements of planning assumptions of two simultaneous Level 3 incidents, and with resilience to call upon meets the requirements of the evidenced historical data consisting of an average of **13** personnel, or a peak average of **16** personnel.
- With additional resilience provided by **4** officers consisting of an AM, GM and two SMs planning assumptions can be met as in options one and two.
- By utilising personnel through a resilience system, it allows for additional functional roles to be supported remotely from the ICS, such as attendance at coordinating groups, command support room or 'Silver / Gold' command locations if required.
- This system will require additional financial outlay to provide allowances for personnel aligned to a resilience agreement, however these are yet to be determined and negotiated.
- It may not, as evidence demonstrates, provide enough FDS officers in circumstances of excessive demand, or for protracted incidents that occur over a weekend period, but does give an initial guaranteed response from additional officers; providing extra time to instigate further recall to duty which current provisions do not.

Appendix 1 – Example Incident Command Structure

Source – National OperationalGuidance Programme - *The foundation for incident command (July 2018)*

APPENDIX X

GMCA GREATER MANCHESTER COMBINED AUTHORITY
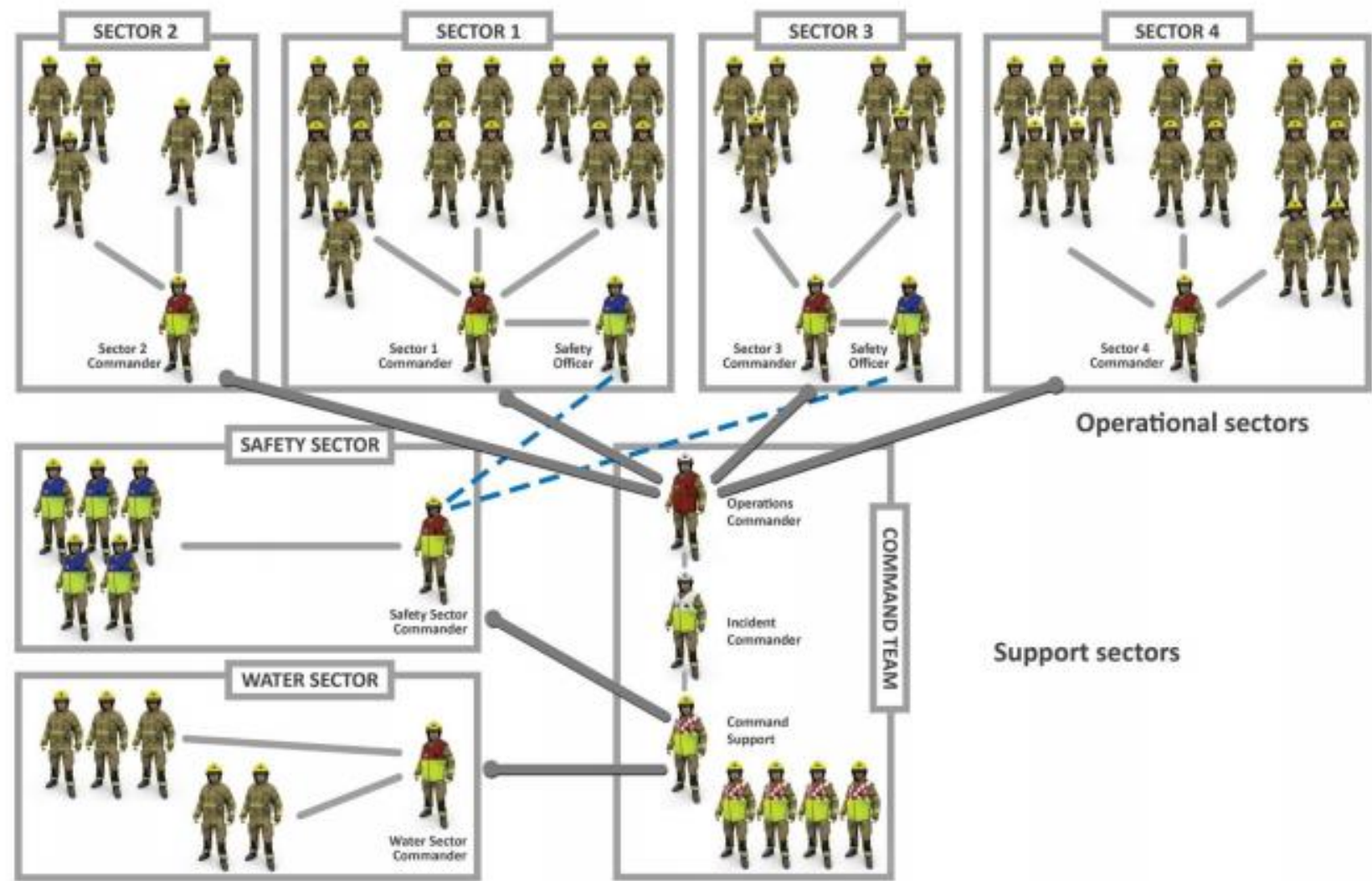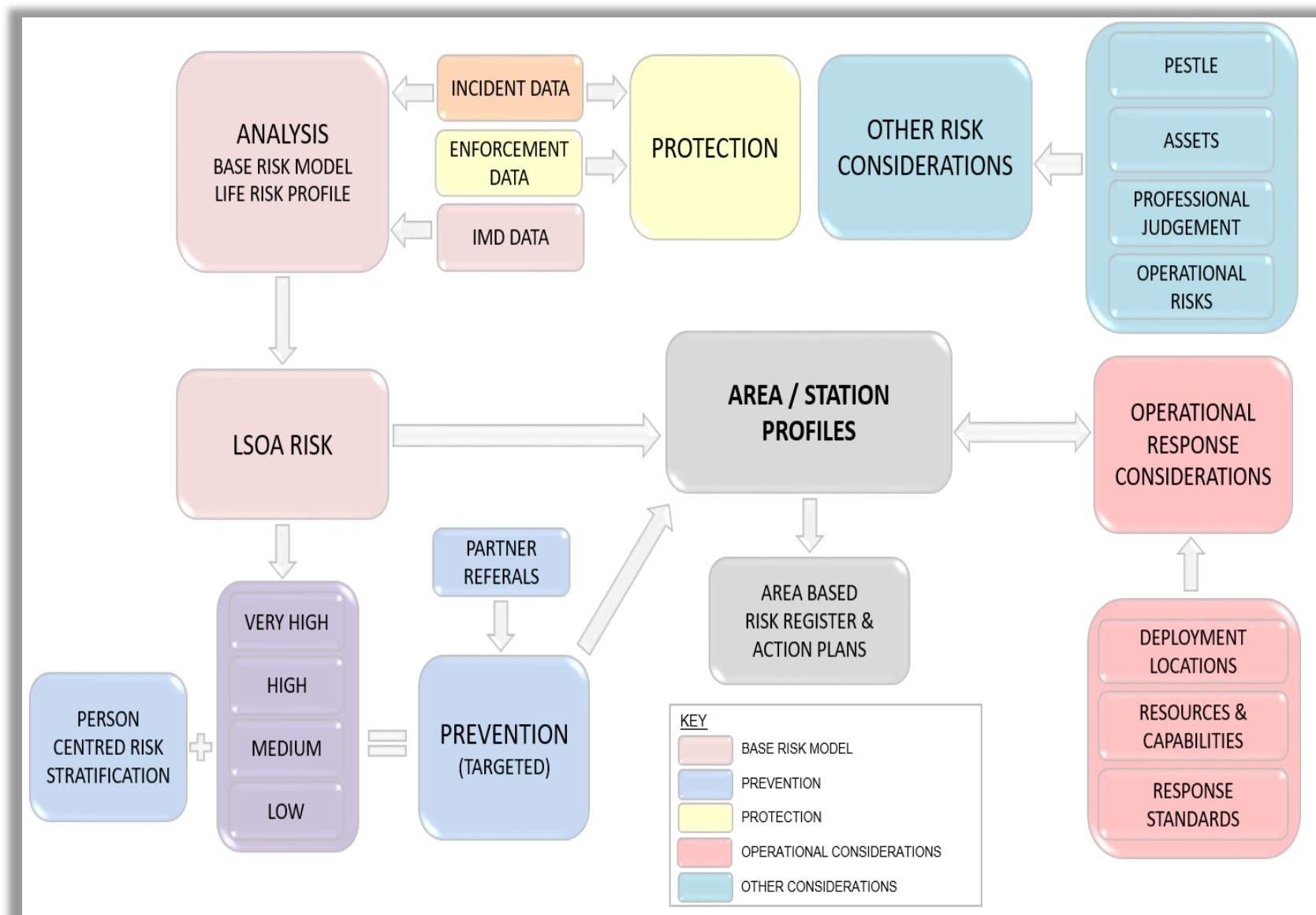
Date: 24th August 2018

Subject: Incident Command Review

Report of: Leon Parkes – Director of Service Support

Purpose of Report

1. The purpose of the report is to provide the Programme Board with information following the review of the current Incident Command System (ICS) arrangements in GMFRS.

2. The report highlights the historical context to GMFRS' ICS, and summarises the findings of recent analysis of 5 years' worth of incident data which has been used to develop proposals for future arrangements.

3. The approach taken is similar in nature to that taken for the Planning Assumptions work stream, but analysis of the same data focussed purely on the Officer requirements to fulfil a suitable ICS.

Recommendations

4. The Programme Board are asked to recommend that the Steering Group:

   - Approve the preferred option (option 3) that will provide a suitable and robust ICS that meets the requirements of the revised planning assumptions.

Background

5. In order to meet our statutory requirements, set out in the National Framework, to provide a fit for purpose emergency service GMFRS undertakes analysis of incident data to identify 'reasonably foreseeable' risks and incidents. Once identified, these risks and incidents become the 'planning assumptions' for the Service around which, personnel, equipment and capability requirements are then determined within what is referred to as *'normal requirements'*.

6. GMFRS defines '*normal requirements'* as;

   'The number of incidents that may reasonably be expected to occur in a given time period, of a year, in the light of known or anticipated incident patterns and with due account taken of the inherent unpredictability of fire and special service occurrence.'

7. Our current planning assumptions were conceived during the 2011/14 Corporate Plan when we committed to review our arrangements for Incident Command. Findings were based on:

   a. The incident types and size (in terms of resources required) that could be reasonably foreseen.

   b. Scenarios of two simultaneous 10 appliance incidents, one of which is a hazardous materials incident, and maintaining a level of resilience to provide sufficient incident command resources for a very large single incident (25 appliances).

    c. A requirement of 14 Flexi-Duty System (FDS) Officers to effectively support the incident command system.

8. It should be noted however, that this model does not account for resource requirements to support smaller simultaneous incidents that would fall within 'normal requirements' of a Fire & Rescue Service, or take in to account relieving officers if incidents are protracted.

9. There are also no considerations factored into these planning assumptions for incidents which would require a Strategic or Tactical Co-coordinating Group (SCG/TCG) being established which would require additional resources.

Revised Planning Assumptions

10. A recent report presented to the Programme Board highlighted the need, based on robust analysis of data, to revise our current planning assumptions to reflect the scale and frequency at which incidents have occurred within the reference period.

11. Table 1 highlights the number of incidents which have occurred within each level of incident command relevant to flexi-duty officer numbers, within the 5 year reference period. From detailed analysis of these incidents the planning assumptions below were proposed.

Incident Command Level	Number in Last 5 Years
6-10 Appliances (Level 2)	351
11+ Appliances (Level 3)	227
Very Large Incidents/SCG (Level 4)	10

Table 1

12. Planning of resources and personnel should provide an operational response to effectively manage;

    (a) Two simultaneous ten appliance incidents (Command Level 3), one of which is a breathing apparatus (BA) incident requiring a BA sector.

    Or;

    (b) One very large incident, consisting of 20 appliances (Command Level 4)

13. By being able to fulfil the above planning assumptions GMFRS will ensure there are a suitable number of resources and personnel with the appropriate skills to command at all levels of incidents within normal circumstances.

Incident Command System Resourcing

14. The content of this section, and any proposals or recommendations will focus on the following principles:
   - To support a safe and effective incident command system which is based on robust planning assumptions and incident data from a five year period.
   - To consider efficiency and effectiveness in the use of resources.
   - To provide a suitable and robust ICS which meets the requirements of National Guidance.
   - An ICS that will consist of a sufficient number of officers to provide effective management of Health and Safety in accordance with legislation.

- To consider capacity within the system to manage the welfare of officers, especially at times of out of hours work within evenings, nights and weekends.

15. The next stage in developing a robust emergency response model, based on established planning assumptions is to determine the flexi-duty officer requirements in order to fulfil the ICS. As with the above planning assumptions, 5 years' worth of data has been analysed to inform proposals.

16. These planning assumptions do not take in to account appliance numbers and focus on the incident command team (Flexi-duty Officer numbers). Legislation that informs statutory requirements in regards to resources and attendance at incident types has been used to support any conclusions, where relevant.

17. The ICS is fulfilled by officers who are conditioned to the flexible-duty system, and currently work a standard 4 week recurring pattern. This pattern includes a mixture of 8, 9 and 24 hour periods of duty, whereby one weekend in every four is their duty weekend running from Friday morning to Monday evening inclusive.

18. The current FDS rota provides a minimum of 12 officers 'on call' at all times to support the ICS. At present GMFRS identifies a number of functional roles, which in general, align to the rank of Station or Group Manager (SM/GM) but have inherent flexibility to operate within operational, tactical and strategic levels of command.

19. For planning purposes the current GMFRS Flexi-Duty System (FDS) Policy states;

'GMFRS will, through workforce planning, predict and maintain an appropriate FDS Officers' Rota ensuring that as far as is reasonably practicable, the appropriate number of officers to support an effective ICS will be available at all times'.

20. In addition to a Principal Officer (PO) and Assistant Principal Officer (APO), the minimum requirements of the ICS should consist of 12 FDS officers which includes the following skills <u>as a minimum</u>:

Skill	Role	Number
Group Manager	GM	3
National Interagency Liaison Officers (NILO)	GM / SM	2
Hazmat, Detection, Identification and Monitoring Advisors (HDIMA) with one detailed as the Duty HDIMA	GM / SM	2
Command Support Officer (CSO)	SM	1
Operational Assurance Officer (OAO)	SM	1

Table 2

21. The ICS provides a management system designed to enable safe, effective and efficient incident management. This is achieved by integrating a combination of facilities, equipment, personnel, procedures, and communications operating within a common organisational structure. It can be used to organise both dynamic and long term operations for a broad spectrum of emergencies of any kind from small to complex incidents an example of the ICs is shown in Appendix 1.

Incident Command Planning Assumptions

22. The planning assumptions determine the following 'minimal' functional roles which are deemed to be required to support the ICS for two simultaneous Level 3 incidents or one Level 4 (very large incident). To validate the current planning assumptions and to test a number of different sized incidents, simulations were run on the mobilising software training system at North West Fire Control. The objective was to run realistic and relevant

incidents, some of which were simultaneous, and record the resources used and any impact on business continuity.

23. FDS Officers mobilised within the simulations are based on the current pre-determined attendances for the incident type and size. Any additional resources are based on professional judgement of which resources may typically be required at each incident type to deal with the incident safely and effectively.

Resilience Arrangements

24. Where the Incident Command System in GMFRS has been tested most arduously has been around the availability of FDS officers at major and protracted incidents, particularly when these incidents are in their most dynamic stages in the early evening or at the weekend or last a substantial period of hours, days or weeks. The current FDS rota operates four groups with 15 Officers on each group (minimum of 12 available) inclusive of the roles of SM, GM, and AM, when outside of regular working hours. When a large incident or simultaneous incidents involves one or more relief changeovers, requiring multiple FDS officers, there is a high risk of personnel fatigue.

25. In times of excess demand outside of 'normal arrangements', GMFRS utilise 'recall to duty' to support the Incident Command System as required. However, the system currently employed relies solely on the voluntary goodwill of Officers who are willing to be available for duty outside of their contracted working hours.

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AM	1	AM	1	AM	-	1	-	-
GM	4	GM	4	GM	3	1	GM	3
SM	10	SM	8	SM	8	2	SM	8
Total (Excluding PO)	**16**	Total (Excluding PO)	**14**	Total (Excluding PO)	**12**	**16**	Total (Excluding PO)	**12**

Note: the right hand column in option 3 shows officers who are on call but (not) immediately available.

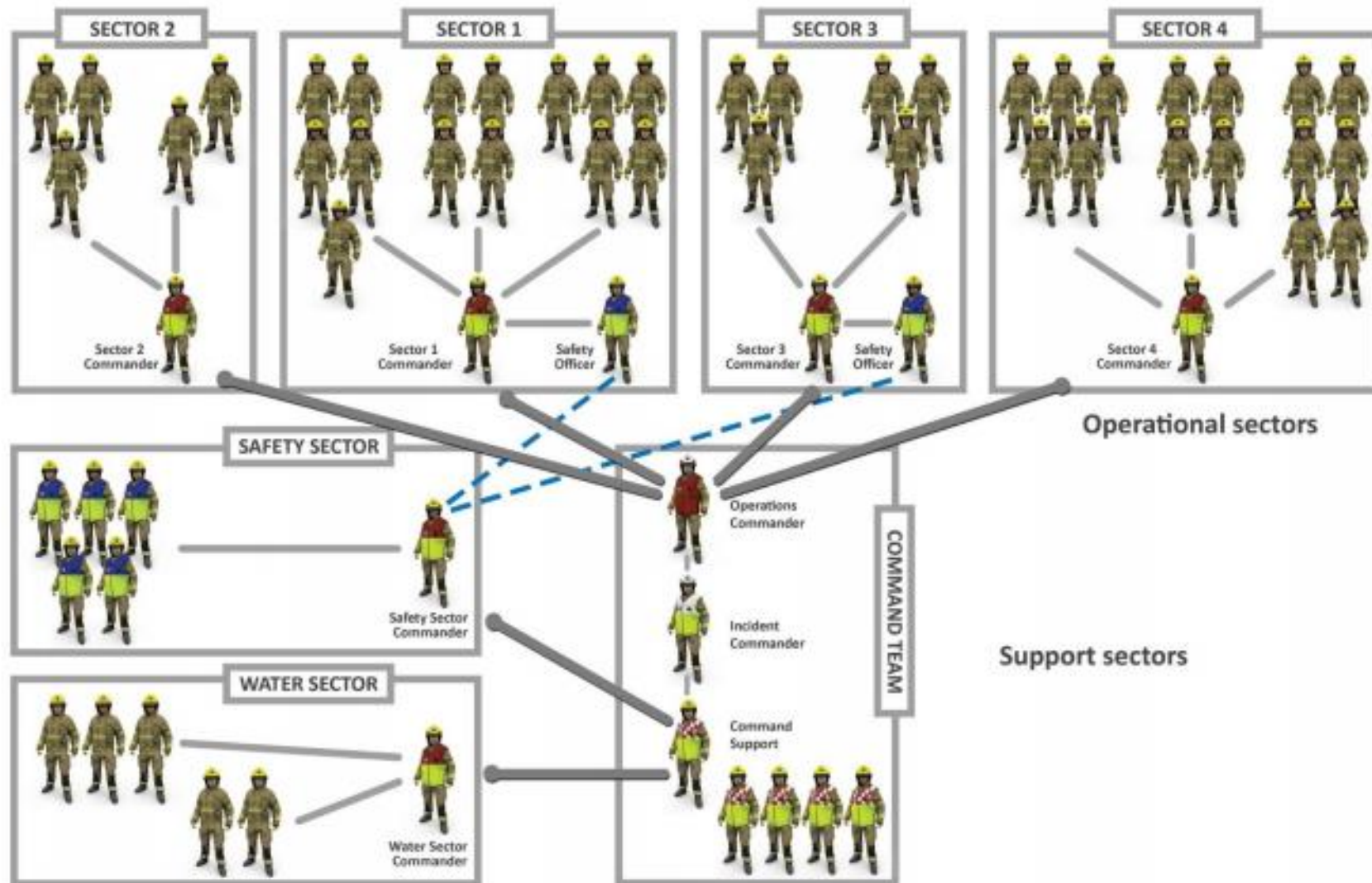|	Risks	Benefits
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Preferred Option

44. Option 3, providing a supporting resilience rota is the preferred option as this provides the most flexible option, making efficient use of resources whilst including a provision to call on additional support to enhance welfare and capacity in times of high demand. Also:

- This option offers the additional flexible resilience required.
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Source – National OperationalGuidance Programme - *The foundation for incident command (July 2018)*

Fire and Rescue Service	Crewing Level	Additional Information	Link to Policy (if available)
South Western Region			
Avon	**5 - 1 st pump (WRL)** **4 - 2nd pump (WRT)**	Avon ride with 5 on our Wrtl (13.5m ladder) and 4 on our Wt (10.5m ladder). If a two pump attendance is required at a house fire and only 8 FFs are on the two pumps we send a 3rd for confidence levels as our current response standard states we will send 9 FFs to a 2 pump incident	Info from NFCC data analyst group
Cornwall	5	Target to ride with 5's on 90% of occassions	https://www.cornwall.gov.uk/community-and-living/cornwall-fire-and-rescue-service-homepage/about-us/who-we-are/service-plan/
Devon & Somerset	5	Devon and Somerset plan to conduct a fire cover review, which will look at shift patterns, fire station locations and vehicles & equipment. They will also look to introduce new, smaller vehicles that may be crewed with fewer firefighters	https://www.dsfire.gov.uk/AboutUs/.../CreatingSaferCommunities20172022.pdf
Dorset & Wiltshire	4	Minimum crew of 4	https://www.dwfire.org.uk/about-us/what-we-spend/efficiency-plan-2016-2020/
Gloucestershire	5		www.glosfire.gov.uk/.../Operational_Response_Overview_September_2015.pdf
Guernsey	**Up to 9 FFs on duty each Watch**	One wholetime station and one retained station to cover the island. There are 4 operational shifts Watches, each consisting of 12 personnel. Each watch has a Watch Commander in charge, 2 Crew Commanders, and 9 Firefighters	https://www.gov.gg/fire
Jersey	**5 - 1 st pump** **4 - 2nd pump**		State of Jersey FRS Inspection Report
South Eastern Region			
Buckinghamshire	4		Info from NFCC data analyst group
East Sussex	4		Info from NFCC data analyst group
Hampshire	4	Pumps = Minimum of 4 firefighters Light rescue pumps = 2 firefighters First response vehicle = 2 firefighters	Hants Fire Analysis Report
Isle of Wight	5	Currently 5 firefighters per pump, *but plans to change to 4*	https://www.fbu.org.uk/news/2018/04/13/isle-wight-council-warned-against-adopting-fire-service-proposals-over-safety-fears
Kent	4	Normal crewing at Wholetime stations is 4	http://www.kent.fire-uk.org/about-us/plans-policies-and-performance/safety-and-wellbeing-plan-2018/?assetdet32afd569-93c5-434e-980b-738dfafcdfe9=14111&assetdete0b3532c-806a-41e5-a8cc-919d30bf7063=14120
Oxfordshire	4	Minimum crew of 4	Oxfordshire FRS Annual Report
Royal Berkshire	4		https://www.rbfrs.co.uk/EasySiteWeb/GatewayLink.aspx?alId=873
Surrey	4	Since 2010, wholetime crews have reduced from 5 firefighters to 4 firefighters	https://www.fbu.org.uk/publication/motion-no-confidence-surrey-county-council%E2%80%99s-fire-authority
West Sussex	4	Planning to make crewing with 4 the standard crewing level	https://www.westsussex.gov.uk/fire-emergencies-and-crime/west-sussex-fire-and-rescue-service/performance-plans-and-reports/fire-rescue-service-integrated-risk-management-plan/
North Eastern Region			
Cleveland	**4** **(as of April 2019)**	Currently preparing to extend the implementation of four riders per appliance to all fire engines on 1st April 2019	https://www.clevelandfire.gov.uk/?wpdmdl=15206
Durham	**5 - 1st pump** **4 - 2nd pump** **4/4 - 2 pump station** **RDS = 4**	RDS appliances can mobilise with 4 depending on skill set of responding crew	Info from NFCC data analyst group
Northumberland	4	Retained pumps have 4 firefighters. Investigating ways to have fewer FFs on pumps to keep retained pumps available	Northumberland FRS - Working towards 2020 consultation document
Tyne and Wear	4	As of June 2018, all wholetime appliances will be crewed with 4 firefighters	http://www.twfire.gov.uk/about/fire-authority/agendaspapers/?entryid47=90838&q=1452303%7eFull+Authority%7e
Yorkshire & Humberside Region			
Humberside	4		www.humbersidefire.gov.uk/uploads/.../Item_15_-_Workforce_Plan_(composite).pdf
North Yorkshire	4	Standard pump has a minimum crew of four. Currently testing new smaller vehicles which can be crewed with fewer firefighters	http://www.northyorksfire.gov.uk/news-events/public-consultations/fcr_jul15/
South Yorkshire	5	Plan to manage resources in such a way as to have five firefighters on the first available fire engine as often as is practically possible. Currently only have four firefighters available on a fire engine. Plan to introduce flexible rostering and an optimum crewing pool to maintain 5 FFs on an appliance	www.syfire.gov.uk/wp-content/uploads/2017/02/IRMP-FINAL-LO-RES.pdf
West Yorkshire	**3/4/5** **Dependent on incident type**	Depending on the type of incident and the location of fire appliances and officers, the number of personnel on a fire engine can vary between three, four or five Also see: http://www.westyorksfire.gov.uk/blog/riding-4s/	www.wyfs.co.uk/wp-content/uploads/2016/01/Auth-Mins-18.12.15.pdf
North Western Region			
Cheshire	4		https://moderngov.cheshireeast.gov.uk/ieListDocuments.aspx?CId=281&MID=6667#AI39085
Cumbria	4	Wholetime stations should have a crew of 5 firefighters, but pumps will remain on the run with a minimum of 4 firefighters	www.cumbria.gov.uk/elibrary/Content/Internet/535/615/6919/43178151413.pdf
Isle of Man		**No Info Available**	
Lancashire	**5 - 1st pump** **4 - 2nd pump** **2 pump stations = 5 / 4**	Normal crewing on a one pump station is five personnel. On a two pump station, normal crewing levels are five on first pump and four on second.	Lancashire Fire Info

Greater Manchester	5 - 1st pump 4 - 2nd pump 2 pump stations = 4 / 4		
Merseyside	4	Minimum crewing level of 4, standard crewing 5 to ensure a safe system of work	http://www.merseyfire.gov.uk/aspx/pages/IRMP/IRMP2017_20/IRMP_2017.html#p=46
Northern Ireland	No Info Available		
Eastern Region			
Bedfordshire	4	5 is preferred, but will ride 4 as minimum ridership	https://www.bedsfire.gov.uk/About/Governance/Community-Risk-Management-Plan.aspx
Cambridgeshire	4	5 is preferred, but will ride 4 as minimum ridership	Robyn Farmer, Cambridgeshire FRS
Essex	5 - 1st pump 4 - 2nd pump 2 pump stations = 5, 4 On call stations = Min. 4	Essex aim for 1 pump WT stations to ride with 5 on 95% of occasions, and 2 pump WT stations to ride 5 & 4 on 75% of occasions. This is supported by dynamic & pre-arranged out duties and additional shift working (over time). On Call is a minimum of 4 riders	Info from NFCC data analyst group
Hertfordshire	4	Minimum of 4 firefighters on each pump	https://www.hertfordshire.gov.uk/services/fire-and-rescue/about-the-fire-service/community-protection-directorate-corporate-plan-2013-18.aspx
Norfolk	4	5 is preferred, but will ride 4 as minimum ridership	Info from NFCC data analyst group
Suffolk	4	Minimum crew of 4 for retained stations	https://www.eadt.co.uk/news/retained-firefighter-shortage-revealed-1-65639
East Midlands Region			
Derbyshire	No Info Available		
Leicestershire	4	Minimum crewing level of 4 on all fire engines	http://www.leicestershire-fire.gov.uk/wp-content/uploads/2016/10/item-13-organisational-change-project-integrated-risk-management-plan-consultation-outcomes-deferred-proposals-1.pdf
Lincolnshire	4	Minimum crewing of 4, but will mobilise with 5 firefighters where possible	https://www.lincolnshire.gov.uk/lincolnshire-fire-and-rescue/about-us/service-planning/irmp-consultation/130351.article
Nottinghamshire	4	Minimum crew of 4, maximum of 6	Nottinghamshire FRS Consultation on Mixed and Alternative Crewing
Northamptonshire	4	Minimum crew of 4	Northamptonshire FRS Draft Strategic Plan
West Midlands Region			
Hereford and Worcester	4	Minimum crew of 4	Hereford and Worcester FRS Consultation for Wyre Forest Emergency Services Hub
Shropshire	5 - 1st pump 4 - 2nd pump	Optimum crewing on wholetime stations is 5 FFs on the first pump and 4 on the second. This is the level of crewing required to deploy the current safe systems of working for undertaking interior attack firefighting	Integrated Crewing Model Project - Shropshire Fire and Rescue Service
Staffordshire	5		Staffordshire FRS Burton-upon-Trent Community Safety Options
Warwickshire	5	Minimum crewing of 5 for Day Crewed Plus stations	Warwickshire FRS Day Crewed Plus info
West Midlands	5	3 riders on a Brigade Response Vehicle (small fire unit), 5 riders on a Pump Rescue Ladder	Written evidence submitted by West Midlands Fire Service for Police and Crime Bill
Wales Region			
Mid and West Wales	4	Minimum crew of 4	Mid and West Wales FRS Authority Minutes
North Wales	5	Optimum crewing on wholetime stations is 5 firefighters	www.nwales-fireservice.org.uk/media/337419/9-resourcing-to-risk-final.pdf
South Wales	5 - 1st pump 4 - 2nd pump	Crew of 5 on one pump station; Crew of 7 one a one pump station with a special; Crew of 11 on a two pump station with a special	Wales National Issues Committee - Review of Crewing Arrangements Position Statement
London Region			
London Fire Brigade	5 - 1st pump (WRL) 4 - 2nd pump (WRT)	Fire rescue unit - 4	https://www.london-fire.gov.uk/media/2226/pn477.pdf
Scotland Region			
Scottish Fire and Rescue Service	5 - 1st pump 4 - 2nd pump	SFRS currently considering a move to a more effective crewing model	http://www.fbuscotland.org/news/all-members-reduced-crewing Also see "A consultation on the safe and planned future of the Scottish Fire and Rescue Service" - Feb 2018

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Leon Parkes
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4th February 2019

Our Ref: GMFRS-03-TL-05 – Issue 2

Task Analysis Review

Dear Leon

Please find attached to this letter our review of the GMFRS Task Analysis. Please call me if you wish to discuss any part of this review.

Yours sincerely

Gary Walsh
for Risktec Solutions Limited

Certificate Number 9783
ISO 9001

Review of operational task analysis 2018

Introduction

GMFRS has a duty to make a suitable and sufficient assessment of the health and safety risk to employees and others affected by their actions and to provide employees with comprehensive and relevant information on risk identified through their IRMP. When developing safe systems of work the matching of tasks to people is an important concept of the 'safe person' in the operational environment that ensure that individuals and teams can make the most effective contribution to achieving the task objectives.

Greater Manchester Fire and Rescue Service (GMFRS) is undertaking a major Fire Cover Review (FCR) programme consisting of several inter-related projects. As part of the FCR programme GMFRS has requested that Risktec review the outcomes from the Service's operational task analysis validation exercise undertaken in late 2018.

It is expected that the outcomes of the operational task analysis validation programme, against each incident type, will form the basis for the future design and implementation of a fully revised Task Analysis Guidance Policy that will eventually result in subsequent changes to the Pre-determined Attendances (PDAs). The PDA is defined, by GMFRS, as the resources initially mobilised to any given incident type, determined via pre-planning of tasks and equipment required.

The overall purpose of the operational task analysis validation exercise programme is to assure GMFRS that it can effectively mobilise sufficient resources directed by the incident type and which will provide at least the number of personnel required to undertake all initial risk critical actions whilst adopting and maintaining Safe Systems of Work (SSoW).

The evidence from the operational task analysis validation exercise programme will, in Risktec's view, provide a robust methodology which in turn can improve ways of working, identify training needs and methods, whilst confirming resource levels and equipment that could improve efficiencies when resolving incidents as well as reviewing PDA's against current resource planning expectations.

Historical Background to GMFRS Task Analysis Prior to 2018

The Fire Brigades Union (FBU) developed its proposals for Critical Attendance Standard (CAST) in 2004 in its National IRMP document. The intention was to propose to Fire and Rescue Authorities that the use of the CAST methodology supported effective command at emergency incidents.

The 35 CAST planning scenarios contained within FBU's National IRMP document were restricted to the relatively smaller and more routine incidents that Fire and Rescue Authorities could expect to encounter. This approach has been, over the years, developed or adapted by several Fire and Rescue Services across the UK. Significantly, since 2005, the number and diversity of incident types expected to be attended by fire and rescue services has increased as new roles for the fire and rescue service have arisen, often based on the outcomes of the UK Government's national risk assessment which has classified new risks (e.g. MTFA). It is understood that GMFRS has to date classified some 64 incident types (Guidance Task Analysis 2018, Ref GMFRS 26-944).

The GMFRS Task Analysis Review 2013, which interestingly did not reference the Fire Brigades Union National IRMP document or CAST, comprised of 44 scenarios covering various incident types.

The 2013 Review looked at the methodology and results of the Task Analysis of Operational Incidents 2011 and how it impacted on the number of appliances the Service proposed to be mobilised to deal with an incident, based on the existing crewing arrangements. The 2013 Review made a recommendation for an annual review considering the rapid pace of change, future firefighting projects and the changeover to North West Fire Control in 2014.

In 2016 GMFRS's Operational Information Team carried out a review of the Service's approach against the Task Analysis 2015. The 2016 Review importantly discounted an alternative methodology to send minimum resources to an incident and to wait for the initial attendance to request further resources.

It was also noted, by the Review (2016), that the number of personnel suggested in the 'Task Analyses' would be considered a minimum to maintain safe systems of work, with additional personnel not being surplus to requirements, but being able to fulfil tasks more effectively or to undertake other tasks that will ultimately resolve the incident in line with organisational expectations.

The Task Analysis produced in the 2016 Review document were based on three criteria for crewing for comparison purposes and detailed the resources needed with pumping appliances having a crew of four, three or two personnel. The result of this would have had significant impact on the TA and PDA outcomes for each of the scenarios but do not, by the evidence provided to Risktec, seem to have been implemented. The 2016 Review also reduced the number of incident types (39) to give the document review a more simplistic approach.

Review of Task Analysis 2018

In 2018 GMFRS undertook an internal review of the GMFRS Task Analysis (2016) that included a refresh of the extant guidance alongside the consideration of operational procedures and guidance whilst applying an element of professional judgement. The 2018 review was the first to acknowledge the external guidance provided in the following documents:

- Critical Attendance Standards (CAST) (Fire Brigades Union Document)
- National Operational Guidance Breathing Apparatus (NOGBA)
- Health, Safety and Welfare framework for the Operational Environment
- Fire Control Response Matrix

Risktec has previously reviewed the Task Analysis V1.0 24 April 2018 and presented its findings in the Technical Letter ref GMFRS-03-TL-03 dated 9 July 2018. Alongside the timing of the Risktec review GMFRS made some important, but limited, amendments resulting in the document referenced as Task Analysis V2 July 2018.

Risktec's view is that these amendments, do provide some limited improvements, specifically to the wording in the Scope and Assumptions and Principles sections of the document, but do not make the changes as proposed by the Risktec review. On further exploration of this finding, with GMFRS, Risktec were advised that it is the intention of GMFRS to amend the Task Analysis V2 July 2018 and that this will include consideration of Risktec Review GMFRS-03-TL-03 findings alongside the outcomes of related workstreams including the practical operational task analysis.

Task Analysis - Final Project Report November 2018

The scenarios tested within the 2018 operational task analysis validation exercises were based on the immediate risk critical actions only, expected to be carried out in the initial dynamic phase of an operational incident, and that further additional resources that could be requested by an incident commander were not in the scope.

The practical validations detailed and recorded what happened during the exercising of the scenarios with the available crews, facilities and the weather conditions on the day. It did not account for other situational factors such as double parking, access to property, high security doors and excess fire loading in the property.

The methodology and approach for each of the exercises were based upon a breakdown of the Job Roles defined in the CAST approach into specific tasks expected to be carried out by the first attending crew and those attending as personnel on the subsequent appliances reaching the incident ground.

The Final Project Report sets out the current full Task Analysis (TA) and provides evidence from the practical validation exercises undertaken to cover four common life risk scenarios. These scenarios are common to those referred to in the 2004 Fire Brigades Union National IRMP document, Section 4 Critical Attendance Standards.

The four TA scenarios chosen for practical validation testing were as follows;

a.   Domestic single occupancy buildings - Fire scenario B Unknown fire, no signs of flashover or backdraft, ground floor, persons reported. (CAST No.12.)

b.   Multi occupancy High Rise buildings - Fire scenario C large-scale incident in a high-rise building, above the 5th floor, persons reported. (CAST No.1)

c.   Incidents Involving Transport - Small road vehicles - Two vehicles – one casualty trapped per vehicle, including vehicle on fire. (CAST No.29)

d.   Waterside incidents - Scenario A - One casualty requiring rescue from the water. (CAST No.26.)

For the scenarios involving fire situations, a traditional approach to firefighting was adopted, with any other tactical options for example the use of phased tactical ventilation or Ultra High-Pressure Lance were precluded from the task analysis.

Observations and Recommendations

Health, safety and welfare framework for the operational environment states that:

"An integrated safety management system will support the safe person principles that describe how a Fire and Rescue Authority can secure firefighter safety in the operational environment".

4.1 Guiding principles

The guiding principles of health, safety and welfare in the Fire and Rescue Authority include:

• Well-established management and incident command arrangements are in place for controlling the operational risks to firefighters

• Appropriate resources are made available to ensure a high standard of safety management, incident command and the integration of good health, safety and welfare management within operational and business decisions

• Provision of high-quality training to ensure all personnel are competent to perform their roles and to make appropriate operational decisions

• Ensuring internal standards and safe operational procedures aim to optimise the balance between risks and benefits – which does not mean avoiding risks but managing them responsibly on the basis of likelihood and severity.

• Detailed procedural guidance on how to establish a safe system of work.

At an operational incident the overriding priority of the Incident Commander is the safety of everyone that may be affected by Fire and Rescue Authority operations. A safe working environment should be established as soon as is practicable by selecting the most appropriate control measures given the demands of the incident and considering an assessment of the risks and benefits to be gained and any time constraints.

A SWoW provides a framework of how to manage an incident safely while achieving the expected outcomes set by the Fire and Rescue Authority. They should provide the information and detailed guidance necessary to assist incident commanders in dealing with the incident and to effectively control risk to fire and rescue personnel, partner agencies and members of the public.

The selected safe systems of work should be implemented, developed maintained and reviewed, throughout the life of any incident. Standard operational procedures need to be sufficiently flexible to allow the Incident Commander to exercise discretion on the resources and the procedures required to resolve the emergency.

It is Risktec's opinion that GMFRS is discharging its duty through its approach to reviewing the deployment of its operational resources to ensure that they have the right equipment and appliances and personnel to meet the

changing risks in Greater Manchester and in turn the TA's produced will define appliance resource requirements for the standard incidents it may expect to mobilise its resources to.

Risktec agrees that the following statement in Task Analysis V2 July 2018 assists the Service in setting the scene to the operational task analysis validation exercise programme to make them meaningful and concise.

"The scenarios within this TA are based on the immediate risk critical actions only expected to be carried out in the initial dynamic phase of an operational incident providing the minimum safe systems of work required to perform the tasks". It is also expected that operational personnel have sufficient training and knowledge to assist the Incident Commander (IC) with successfully resolving operational incidents".

Importantly, in Risktec's view, GMFRS has clearly defined the PDA as the resources initially mobilised to any given incident type, determined via pre-planning of tasks and equipment required whilst crews will follow operational procedures and guidance, they also indicate that an element of professional judgement is expected in the sequence of task management.

This approach is consistent with the framework suggested in the DCLG's 'Health, safety and welfare framework for the operational environment'. In Risktec's view the key to the successful application of the methodology applied is that GMFRS has identified the difference between job roles and tasks or activities and then defined those activities that are risk critical. Risktec take the view that the approach to utilise TA's as part of the planning for the resources to be deployed to incidents within GMFRS is appropriate and could be recognised as good practice.

The main outcome of the four operational task analysis validation exercises is that on all occasions that irrespective of the ridership numbers all tasks were achieved safely and in a controlled, timely manner.

Risktec would make the following recommendations for consideration by GMFRS which we believe would enhance the approach to Task Analysis as adopted by GMFRS for its FCR:

1. For completeness GMFRS should ensure that those recording the activity undertaken by individual crew members, during the operational task analysis validation exercise, have sufficient knowledge of the expected sequencing of events to identify and record where they believe that professional judgement has been applied. This could then be tested with the crews at the hot debrief. As a result, GMFRS will be able to review the findings of the validation exercises and apply the learning in a review of the SWoW and/or organisational training needs.

2. It is noted by Risktec that in the Related Document section there is a reference to the "Health, safety and welfare framework for the operational environment" but not to the national Generic Risk Assessments (GRA). A series of National GRA's were developed to meet the requirements of the Management of Health and Safety at Work Regulations and to provide information to inform the local fire and rescue service's own risk assessments and Standard Operating Procedures (SOP) for the various incidents which firefighters can routinely expect to attend. The outputs of the operational task analysis validation exercises should be directly linked to the GRA's, and therefore the development of control measures including identifying training needs, pre-planning for incidents, the development of standard operational procedures.

3. It is Risktec's understanding that it is GMFRS's proposal, once the methodology has been fully tested, to perform the operational task analysis validation exercise for each of the Service's incident types contained within the Task Analysis V1.0 24 April 2018. It is Risktec's view that prior to implementing this programme of work that the opportunity should be taken to ensure that the definitive version of the Task Analysis V2 July 2018 is produced which is clear and unambiguous to aid future decisions within the organisation and considers the Risktec Technical Letter ref GMFRS-03-TL-03.

   Additionally, Risktec agrees with GMFRS view that practical validation is beneficial to validate the tasks that should be employed at the early stages of an incident in order to adopt and work within SSoW, however, the resources necessary to perform effective operational task analysis validation exercises for each incident type is particularly onerous and has the potential to never be completed. GMFRS should consider a risk and priority analysis for the incident types against agreed criteria accepting that in some lower risk incident types it is appropriate to undertake a table top exercise rather than a full operational

task analysis validation exercise. GMFRS should also reconsider the frequency at which the organisation has stated that the Task Analysis should be reviewed, as in Risktec's view an annual review is onerous and not necessary as incident types, and national operational guidance do not change significantly over this period of time. Risktec would recommend a three-year review period with an agreed internal process for identifying the need for interim reviews, for specific incident types, based on changes to operational guidance, or as outcomes from the Service's operational assurance programme. Risktec believe that GMFRs were correct in removing the following scenarios from the operational task analysis validation exercise.

- Scenarios involving a fire situation do not take account for survivability factors such as doors being closed, working smoke alarms, location of seat of fire and casualties.

- Scenarios involving a fire situation do not account for any rapid fire development, use of accelerants or other fire phenomena.

- Scenarios involving a fire situation do not account for exceptional numbers of casualties.

GMFRS should however, consider how they will train operational personnel to make the correct decisions when faced with a range of tactical options outside of the expected norm. Some fire and rescue services address this using Tactical Decision-Making Exercises and Recognition-primed decision (RPD) models of learning which are based on a model of how people make quick, effective decisions when faced with complex situations. In this model, the decision maker is assumed to generate a possible course of action, compare it to the constraints imposed by the situation, and select the first course of action that is not rejected.

4. GMFRS has used the lag times for second, third or fourth appliances attending taken from the 2004 Fire Brigades Union National IRMP document which details attendance times for appliances and details 'Critical Attendance Standards' and not actual or average of response times of appliances mobilised from station locations. Risktec suggests that in GMFRS it would be preferable to utilise actual lag times to enhance the findings from the operational task analysis validation exercise.

Conclusions

It is Risktec's conclusion that the approach adopted by GMFRS over the recent years, and its intention to practically validating scenarios through its proposals for a comprehensive operational task analysis validation exercise programme is both robust and accurate. The methodology proposed by GMFRS significantly expands on the CAST job role approach by improving, and measuring, the definition of the tasks necessary to perform risk critical actions at specific incident types. The programme provides the opportunity to make a practical, and measured, assessment of the real situation faced at an incident type and allow for the reasonable planning of risk control measures resulting in a SSoW which can then be translated into operational guidance, training strategies, and measured through the operational assurance process.

By developing each scenario through a timed analysis of what must be done by the personnel deployed to a specific incident type, to create a SSoW, will lead directly to the identification of the resources required to complete those tasks. It is accepted by GMFRS that it is not necessary for all the resources to be delivered to the incident at the same time in order to provide for implementation of immediate risk critical actions only, carried out in the initial dynamic phase of an operational incident and thereby provide the minimum SSoW. Importantly, neither does this approach, by GMFRS, remove the requirement for Incident Commanders to fully understand the requirement and rationale for using operational discretion nor is it expected to be prescriptive and recognises the important role of the first attending officer.

It is Risktec's view that the outcomes from the operational task analysis validation exercise will assist GMFRS to achieve the following objectives:

- Maintain the safety of all personnel, other responders and the public

- Save life and reduce harm

- Minimise the impact of the incident and fire service actions on any identified environmental risk

- Promote community recovery and restore normal operations

GMFRS Operational response framework

FCR independent review: second report, options analysis
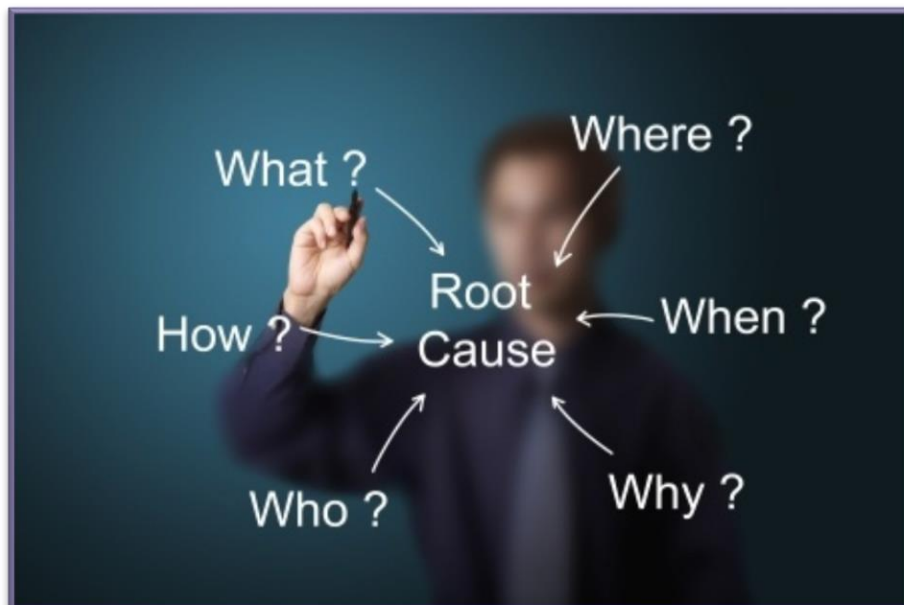
Our ref: CL3148

AUTHOR: MICHAEL WRIGHT

Certificate number 598583

Revision Record

Title	*GMFRS Operational response framework*	
	FCR independent review: second report, options analysis	
Client Ref		February 2019
Status	GSB CL3148 R2 V1	
Previous version	None	
Author	Michael Wright	
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Terms and abbreviations

Term or abbreviation	Definition
Appliance / Pumps / Engines	These terms are used interchangeably to refer to 'standard' fire and rescue vehicles.
CAST	Critical Attendance Standards. CAST is a Fire Brigade Union tool that uses desktop task analysis to indicate numbers of personnel per operational scenario, developed in 2004.
Commanders	Commanders are GMFRS officers who typically act as managers and, on demand, deploy for incident command.
CRM	Community Risk Model
Duty systems	The shift pattern and type of shift. Whole time or shift duty system – typically an appliance is crewed 24 / 7 by three watches (teams of personnel). Day crewed – typically crewed during the day time only by a watch (crew) at the station and operated by a retained / on call watch at other times. Retained or on call – an appliance which is operated by personnel who are called in from their place of residence or work when an incident occurs.
FCR	Fire Cover Review
GMFRS	Greater Manchester Fire and Rescue Service
GSB	Greenstreet Berman Ltd.
IRMP	Integrated Risk Management Plan. Each fire and rescue authority must produce an Integrated Risk Management Plan

Term or abbreviation	Definition
	(IRMP). It requires an assessment of risk and identification of prevention, protection and response arrangements to mitigate these risks.
Life risk incidents	These are incidents that are considered to pose an imminent risk to life, in the absence of being rescued.
LSOA	Lower Super Output Area
Major incidents	A major incident can be defined as any emergency that requires the implementation of special arrangements by one or more of the Emergency Services, the NHS or local Authority for: • The initial treatment, rescue and transport of a large number of casualties. • The involvement, either directly or indirectly, of large numbers of people. • The handling of a large number of enquires likely to be generated, both from the public and the news media, usually to the Police. • The need for large scale combined resources of the emergency services. • The mobilisation and organisation of the emergency services and supporting organisations, e.g. local authority, to cater for the threat of death, serious injury or homelessness to a large number of people. A major incident may involve a single-agency response, although it is more likely to require a multi-agency response, which may be in the form of multi-agency support to a lead responder. A major incident is beyond the scope of business-as-usual operations, and is likely to involve serious harm, damage, disruption or risk to human life or welfare, essential services, the environment or national security.
PDA	Predetermined Attendance is the number and type of appliances deployed according to pre-planning. The PDA is specific to a type of incident.
Response time	Response time is the time between receipt of an emergency call by North West Fire Control and the recorded time of arrival at an incident by the first fire and rescue unit.
Ridership	This is the number of personnel on an appliance, such as five.
RTC	Road Traffic Collision
Special appliances	These are aerials, water rescue units, technical rescue units, command vehicles.
SWOT	Strengths, Weaknesses, Opportunities and Threats
Watch	Personnel who are employed for a shift.

1   INTRODUCTION

1.1   Background

The 2016-2020 Fire Cover Review (FCR) and related aspects of the Integrated Risk Management Plan (IRMP) were placed on hold in 2018. The opportunity has been created for Greater Manchester Fire and Rescue Service (GMFRS) to complete a fresh review of how it may best transform its services and capabilities over the next few years, particularly its operational response framework and thence the Service's IRMP from 2019 / 2020 onwards. This is in the context of a requirement to reduce expenditure in accordance with reduced central government funding, address shortfalls in staffing and meet public safety goals and statutory duties.

The GMFRS scoping document states the aim to "*present options for the future operational landscape for GMFRS".*

It is understood that this fire cover review is free to consider fundamental options for change. The option of investing capital (or loans) to fund a future operational response framework is a possibility.

The fire cover review must be robust. Data, methods, principles and process must all be suitable and sufficient with respect to assessment of risk, operational feasibility and for identifying best options for change.

1.2   Greenstreet Berman (GSB)

The work has been completed by Michael Wright (BSc, MSc, CMIOSH, Director). Michael Wright has supported the UK fire service for 26 years, including:

- 1992-1995: Assisting London Fire Brigade to develop a new approach to firefighter operational safety in response to the death and serious injury of firefighters, including dynamic, generic and site-specific risk assessment, realistic training and operating procedures.

- 1995-1998: Development of a new risk-based approach to planning fire cover and community fire, a part of the 'Out of the line of fire' response to the Audit Commission's 1995 report 'In the line of fire'. This work underpinned the national transformation of the UK fire service approach to fire safety and fire cover, culminating in the IRMP process.

- 1998 to date: Support to national government and fire and rescue services to develop and apply fire cover review, risk assessment and IRMPs. This has also included peer review and validation of fire cover reviews for FRSs.

- 2000 to date: Support to national government and fire and rescue services to develop and evaluate community fire safety strategies, including Home Fire Risk Checks, arson prevention, schools-based fire safety education, fire regulation and enforcement.

Outside of the fire service, Michael has led the development and application of operational response and coastal review projects for the Royal National Lifeboat Institution (which are very similar to fire cover reviews), and developed risk assessment methods for use by the UK Maritime and Coastguard Agency, and reviewed specialist response teams for responding to terrorist attacks.

2   WORK DONE

2.1   Scoping of work

The aims of the review included:

- To review the scope of assessment, assessment methods and terms of reference of selected work streams;

- Identify where additional or alternative analyses would further support the transformation review;

- Determine, in consultation with GMFRS, next steps in respect of GSB supporting the transformation review;

- To highlight matters that would benefit from clarification and communication within FCR consultations.

Key goals were to ensure that the approach used by GMFRS is valid and supports the newly defined transformational goals.

2.2   GSB's initial 2018 tasks

The initial GSB review was reported in July 2018[1]. It included critique of the following GMFRS work streams:

- Community risk management model;

- Response standard;

- Optimum location analysis;

- Major incident planning assessment;

- Incident Task Analysis.

The following items were not developed at the time of the July 2018 interim report:

- Analysis of proposals;

- Review of outcomes.

As part of this the July 2018 review considered:

- The terms of reference and principles governing these work streams, such as what principles and operating models were being applied in these work streams;

- Whether the current scope of review per work stream covered all significant issues;

- The methods and data being adopted per work stream;

- Whether the methods considered feasibility of options, emerging risks and developments and supported identifying best transformation options.

This entailed:

- GSB collating and reviewing GMFRS documentation relating to the review;

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[1] GMFRS Operational response framework: FCR independent review: initial observations. Michael Wright, Greenstreet Berman Ltd report for GMFRS, July 2018.

- GSB consulting GMFRS staff on their methods, data, rationale and processes;

- Recommendations on any changes or extensions to the fire cover review.

An interim report was submitted in 2018 providing observations and advice on further development of the FCR.

2.3   GSB January 2019 review tasks

The January 2019 review covered:

- Review of the October 2018 reports completed by GMFRS, which covered the options analysis;

- A whole day exploration of the analysis with GMFRS FCR staff;

- Clarifications by correspondence.

The review focused on:

- The FCR logic;

- The clarity of reporting;

- The analysis methods.

Advice was provided on matters that would benefit from clarification and communication within future FCR consultations and any iterations of the analysis.

Table 1: Documents reviewed in January 2019

1. Closing stations options (undated).

2. Exploration of day crewing overall options.

3. Exploration of moving / merging stations options (undated):
    - Bolton,
    - Manchester,
    - Stockport.

4. Locations analysis options (October 2018).

5. Removal of second pump options (undated).

6. Special appliance review (October 2018).

7. SWOT analysis of options (October 2018).

8. Task analysis (October 2018).

9. Task analysis 2018 – working assumption timings.

10. Fire Cover Review, Station Locations, Land Options, Potential Mergers, & Changes to Emergency Response Assets (PowerPoint, October 2018).

11. Life risk incident classification (June 2018).

2.4   This report

This report provides a summary of the GSB review, completed in January and February 2019, of GMFRS FCR October 2018 reports as listed in Table 1.

3   2019 OBSERVATIONS OF OPTIONS ANALYSIS

3.1   Task analysis

The FCR includes the option of having four-person crews[2] per appliance, instead of a crew of five on the first appliance and (possibly) four on the next appliance. It should be noted that a requirement for five and four crew in the first two appliances may in practice require all appliances to have five crew to ensure that the first appliance has five crew if the appliances come from different stations as it is not possible to determine which appliance arrives first.

The task analysis report provides input to the evaluation of these two options by assessing the safety and operational feasibility of different crewing levels.

The Task analysis report cites examples of the number of personnel required for these scenarios in other English FRSs. It notes that a) GMFRS are equal to or above the numbers in CAST and b) the numbers required by other FRSs are very varied. Hence there is no consistent benchmark in the UK.

A new task analysis was performed by GMFRS in Autumn 2018 using physical trials. Physical trials were advocated by GSB as superior to desktop paper-based assessment, as these would provide "harder" evidence of operational performance. Indeed, one of the trials (water rescue) revealed issues with the crew interpretation of "established" safe systems of work that adversely impacted rescue performance.

The trials were guided by and consistent with the recommendations of GSB's July 2018 interim report. In particular, they included:

- Defining and conducting physical trials for four scenarios, using GMFRS fire houses and operational training facilities. The four scenarios were taken from CAST.

- Using a ridership of four and then a ridership of five, as a comparison;

- Imposing a three-minute time lag between arrival of 1st and 2nd appliances and a two-minute time lag between 2nd and 3rd appliances as per the Critical Attendance Standards' (CAST[3]) assumptions and the criteria applied in the GMFRS FCR;

- Limiting tasks to "immediate risk critical actions" of the first three appliances;

- Requiring safe system of work being adopted, using traditional firefighting and rescue techniques;

- Recording with GoPro and critical events timed, including successful completion of risk critical tasks.

The physical trials were designed to test the safety and operational feasibility of alternative crew numbers. In addition:

- The time lag assumptions align to the impact assessment in the FCR;

- The four scenarios would dominate the life risk incidents covered by the proposed life risk response time standard.

This enables the task analysis to be used to inform the criteria used in the FCR impact

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[2] The assumed number of crew per appliance is termed "ridership".

[3] CAST is a Fire Brigade Union tool that uses desktop task analysis to indicate numbers of personnel per operational scenario, developed in 2004.

assessment and review of options.

The four scenarios reflected 'bounding' scenarios that might represent common life risk incidents (dwelling fire persons reported, RTC trapped person, water rescue and high-rise fire persons reported). This was also consistent with GSB's interim recommendations.

The GMFRS task analysis report does cite task completion, task 'deviations' from standard practice, crew fatigue and key events. The timings per critical task step were recorded and transparently reported.

It was reported that:

- All tasks were "achieved safely and in a controlled timely manner, for both ridership levels";

- The order of tasks was affected by the crewing level;

- There were impacts on crew fatigue and task performance of the first crew being four persons, especially in the high-rise fire scenario (e.g. the task briefing was impaired);

- For the dwelling fire scenario, the Breathing Apparatus (BA) crew was ready to commit at minute three, when the second appliance would arrive;

- The lag time of the 2nd and 3rd appliance is a critical factor;

- Operational procedures would need to change to enable a ridership of four.

The timings data (to Casualty recovered safely) indicate that trials where the first appliance had a crew of five, were a little faster than trials where the first crew was of four, except for RTCs where the crew of four was faster.

It was also noted that 60% of GMFRS appliances already arrive first with a crew of four, especially as the North West Fire Control does not distinguish between crews of four or five. Therefore, irrespective of a change in ridership, the trials indicate a need for GMFRS to change training and procedures to cover an appliance with a crew of four arriving first.

The conclusion that changes to training and operational procedures are required for a ridership of four could be formally noted as a dependency (pre-requisite) in the event that the option of a ridership of four is taken forward. It equally indicates that a ridership of four may be acceptable for some PDAs if the identified changes are implemented. Ideally the changes to training and operational procedures would be developed and re-tested by physical trials either as part of or as a pre-condition to changes in ridership.

3.2 Locations analysis options

3.2.1 Overall method

The overall process of analysis as described by GMFRS in the PowerPoint presentation is given in Figure 1. The figure and the process it describes is consistent with good practice in impact assessment and options analysis.

Presentation and transparency of the method

It is noted that:

- The sequence of analysis and option development applied in the Land Options PowerPoint presentation is not described in the supporting reports. It is understood that the reports preceded the development of Options Packages. This means that key elements of the method are not explained in the supporting reports;

- The analysis and specific options process is stated within subsidiary reports. In order to understand the method, it is necessary to read all of the reports and for the reader to draw them together;

- The GMFRS presentation of the FCR process in Figure 1 does not mention the "definition of operational performance criteria", which has formed a step and guided the analysis and comparison of options. This could be added to the process diagram;

Figure 1: GMFRS figure for process of assessment

- The Task analysis is not separately cited in the process diagram;

- The Options step could be better labelled something to the effect of 'Options identification';

- None of the steps are defined as Options Packages;

- The 'Agree Options' step might be better labelled 'Options Appraisal'.

A clearer statement of the method, especially the evaluation criteria, Analysis and Options Comparison, and development of Options Packages would be more transparent and would also help ensure the options assessment is guided by all of the operational evaluation criteria.

3.2.2 Development of Options Packages

It is understood that, from correspondence with GMFRS, the three Options Packages:

- All assumed that six appliances had to be removed in order to satisfy 2019-2020 budget requirements;
  - Then an additional set of options are added to the Options Packages to achieve further savings, and that

- The savings per Options Package included the removal of the six pumps and the additional options.

The FCR Land Options PowerPoint slides do clearly show a comparison of operational performance between:

- Historic (56) pumps;

- April 2019 (50) pumps;

- The cited additional option.

The impact analysis in the FCR Land Options PowerPoint presentation is transparent and valid in this respect. It states the impact on 1st, 2nd and 3rd appliance response times.

Whilst this is clear in the PowerPoint slides, this comparison is not contained in any of the supporting reports. This sequence of analysis is not explained in any of the method statements in any of the reports which preceded the presentation.

The impact assessment for "Closing Stations options" cites historic response times and states that the impact assessment for station closures "…investigate the impacts of removing six pumps from the current resources" (p3). It then cites 56 pumps as the current resource. This does not match the explanation of the method provided in communication with GMFRS.

3.2.3 Recommended minimum fleet: evaluation criteria

One aspect of the method is implicit in the "Locations analysis options" paper, namely the recommendation of a minimum fleet size required to a) meet the response time standard, b) handle large and protracted events, c) provide a resilience allowance and d) meet training needs. This cumulative approach is consistent with the recommendations of the GSB interim review. The minimum fleet size can then be used as a test of the options. However:

- The estimation of a recommended minimum fleet size and its use as a test of the options is not clearly stated;

- The estimation of the minimum fleet size is not clear (as noted below in section 3.4), nor is its use in testing the Options Packages.

3.2.4 Terms of reference

The method provides a set of options for achieving savings whilst minimising the impact on operational performance and firefighter safety. The assessment does not state any particular savings target.

There is no statement of the assumptions that constrain the range of options considered. The options that have been considered are all "within FRS" operational options, namely station closures, mergers / moving, ridership or changes to station duty systems.

These elements of the method and scope could be explicitly stated.

3.2.5 Life risk incident classification

The GMFRS proposed a revision to the list of incidents classed as life risk to draw on those recommended by GSB in the interim report. The list of incidents applied by GMFRS match the GSB recommendations and are considered valid.

3.3 Defining evaluation criteria

3.3.1 Transparent definition

A number of criteria have been applied in the Locations analysis, however, these are not necessarily explicitly and clearly presented as criteria for evaluation of the options.

The operational criteria include:

1. Meeting a 10-minute response time standard for 80% of life risk incidents;

2. Resourcing Pre-Determined Attendance requirements;

3. Assuring minimum safe crewing levels,

    a) Ridership,

    b) Average time lag between 1st and 2nd appliance of three minutes and between the 2nd and 3rd of two minutes.

4. Maintaining a minimum fleet to fulfil:

    o A safety margin for temporary unavailability of appliances;

    o Handling major and protracted incidents, whilst maintaining a minimum fire cover;

5. Resourcing the operational training model;

6. Maintaining minimum officer capacity to effectively command.

These operational criteria could be explicitly defined.

3.3.2   Applying operational criteria

The operational criteria could be more clearly and explicitly applied in the comparison of options, as noted in 4.2.2.

3.4   Minimum fleet

3.4.1   Presentation of recommendation

The explanation of the minimum fleet size recommendation in the October 2018 report "Locations analysis options" could be clarified.

A simple tabulation could be used such as in Table 2.

Table 2: Simplified presentation of minimum fleet size recommendation

Requirement	Number of appliances
a) Attend 80% of life risk in 10 minutes	35
b) Safety margin for temporary unavailable appliances	5
c) Minimum needed for major / protracted incidents plus minimum fire cover	42
d) Operational training	10*
Recommended minimum fleet (c + d)	52*

*To be reviewed by GMFRS

3.4.2   Safety margin and minimum fleet of 42

The estimate of 35 appliances achieves the 10 minutes on 80% of occasions standard and allows for deployment of full PDAs. The minimum fleet operational requirement of 42

is based on a safety margin and planning assumptions, adding seven appliances to the 35 minimum for meeting a 10-minute standard.

Safety margin

The safety margin is expressed as a professional judgement for "unseen circumstances and a need to have some additional resilience within the fleet". This could benefit from being evidenced. For example, what is the historic frequency of appliances not being available due to, for example, vehicle breakdowns, extreme weather or other reasons.

Minimum of 42

The minimum of 42 is based on a "planning assumptions" work stream completed in August 2018. It is understood that this included review of past major and protracted incidents and identified the frequency of requiring large numbers of appliances and crews. This work could usefully be reported and appended as evidence for the recommended minimum operational fleet of 42 (plus training requirements).

The planning assumptions were reviewed by GSB in 2018 and were found to be robust.

3.4.3   Operational training model

The October 2018 report cited the current operational training requirement to be 10. The addition of a minimum recommended fleet of 42 plus 10 for training equals 52. This is greater than the number of appliances indicated by the three FCR Options Packages.

Correspondence with GMFRS indicated that this was noted and that the Options Packages create a need to review and revise the operational training model. The Options Packages give a maximum of 48 appliances, with Option 1 and 3 giving a maximum of 47 appliances. This implies a need to reduce the training model requirement from 10 to five appliances, i.e. 42 plus 5.

The implications of the Options Packages for operational training could be clarified, stated and addressed.

3.4.4   35 locations

The Locations analysis options, at paragraph 2.11 (page 6) state, "For example, both could be achieved by providing 42 fire engines across 35 locations". This can be read to mean requires 35 fire and rescue stations, with seven of them having two appliances. This could be clarified.

3.5   Options analyses

3.5.1   Closing stations and removal of second pumps

Ranking of stations / pumps: Permutations

The ranking of stations / pumps and the potential closure and removal of second pumps options papers are based on a series of risk factors, including:

- Impact on the five risk factors included in the GMFRS Community Risk Model (CRM);
- Life risk incidents;
- Coverage (number of appliances that can reach area in 10 minutes).

The principle of ranking stations by risk is robust and valid.

The stations / 2nd pumps were ranked by 13 permutations of these factors. In the case of, for example, Closing Stations Options, four of these permutations of rankings were further analysed. It is not stated why these four permutations of rankings were selected over the other nine, although the analysis correctly tests which permutation of ranking has least impact on performance. Ten appliances are given from these four permutations of rankings, with four given three or four times. The "target" was to identify six appliances in this paper. An option would be to simplify this analysis by using fewer permutations of rankings and to state a rationale for selecting these permutations.

Weighting of CRM in appliance ranking

The GMFRS Community Risk Model risk factors are primarily dwelling fire risk and are used for targeting fire safety work. This creates a potential for giving more weight to dwelling fire risk than to other types of life risk incidents, noting that life risk incidents weight RTCs and fires according to their frequency. The proposed 10-minute response time standard is for life risk incidents. The definition of life risk incidents is broader than the CRM, including RTCs person trapped for example. Therefore, the use of five CRM factors may give too much weight to dwelling fire risk relative to other types of life risk incidents and cause stations to be ranked differently compared to a life risk ranking.

An alternative would be to either:

- Rank stations / 2nd pumps based on 'coverage' and life risk incidents; or
- Rank stations / 2nd pumps based on 'coverage', life risk incidents and a single composite CRM risk factor.

Either of these options might give a ranking that more closely reflects the proposed new response time standard.

Performance by risk category

The impact assessment compares predicted response times to historical response times for each LSOA based on their risk levels. The risk levels are based on the CRM. This does enable transparent review of the impact on performance relative to the current response time standards. It is also noted that the proposed 10-minute response time standard has not been confirmed and it is valid to test the impact of changes on the current risk-based response time standards.

The CRM as noted above is weighted towards dwelling fire risk and does not align to the definition of life risk in the proposed new response time standard.

An option is to also present a map of life risk incidents, coloured coded to show those attended within or over 10 minutes. This would provide a clearer test of the changes on the proposed life risk response time standard.

3.5.2 Moving / merging stations

The analysis of moving / merging stations has:

- Identified potential merger locations by assessment of the proximity of stations;
- Exhaustively considered all reasonable permutations of options for each location;
- Compared impact against historic performance;

- Assessed impact on 1st, 2nd and 3rd appliance arrival times;
- Assessed all incidents and impact by borough, by station area and by ward – thereby ensuring small area impacts can be noted.

No potential amendments were identified for this analysis.

3.5.3   Day crewing options

The exclusion criteria of only considering one pump stations is clearly stated. Stations with special appliances were not included.

A wide range of options for shift systems was modelled, effectively considering all possible options.

The assessment considered different stations and different shift systems, such as different shift hours.

The preferred stations and shift systems were selected on basis of least impact on performance.

It is noted that the impact assessment in the report was limited to meeting the 10-minute response time standard. The impact assessment could also compare response times to historical performance as per the other options analyses.

Feasibility of on call duty system

The scope of the options report did not cover assessing the feasibility of retained crews. If this option is pursued, further work could assess feasibility of retained crews.

No potential amendments were identified for this analysis.

3.6   **PowerPoint presentation: FCR Land Options**

A PowerPoint presentation was used by GMFRS to summarise results.

The presentation clearly presents the following points:

- Current and proposed response time standard;
- The number of appliances and budget needed to meet a 10-minute standard on more or less occasions. This clearly explains the minimum of 35 appliances for a 10-minute standard on 80% of occasions;
- The sequence of analysis and options considered;
- The option of riding four or five crew per appliance.

The impact assessment clearly indicates:

- The impact on response times for the 1st, 2nd and 3rd appliance. It is expressed as a % of incidents attended in 10 minutes and a change in average response times. This is comprehensive and transparent;
- Cost per option.

The Options Packages help to present what could be a vast array of options into a transparent and meaningful set of options.

The presentation of the Options Packages could be further developed by more clearly comparing them against all of the operational evaluation criteria, including the minimum

fleet requirement, operational training model requirement and ridership (safe crewing). This is discussed further in section 4.2.2 of this report.

3.7 Special appliance review

The assessment of special appliances (aerials, water rescue units, technical rescue units, command vehicles) included:

- Assessment of utilisation and use of special appliances;

- Frequency of simultaneous use;

- Mapping of special appliance locations relative to incidents;

- Review of average response times;

- Analysis of performance against a 20-minute response time standard;

- The ability of neighbouring special appliances to reach each area (a test of overlap);

- Workload modelling;

- The assessment of special appliances considered an exhaustive set of options, drawing on risk profiles and historical performance;

- The impact on performance is transparently stated.

It is understood that there is a guideline response time of 20 minutes for water rescue units and other special appliances. The status of this guideline is not clear. It is not a Key Performance Indicator but is described as a response time standard in the GMFRS paper. An option is to clarify its status and application, such as to life risk incidents.

It is noted that:

- Removing alternately crewed special appliances offers minimal savings, as the crew remains for the fire appliance;

- The analysis indicates that whilst most special appliances are utilised, their locations are not optimal in all cases;

- Leigh is not the best location with respect to proximity to incidents or transport routes.

The assessment did not consider Technical Rescue Teams swift water rescue capability.

No potential amendments were identified for this analysis.

3.8 Incident command and recall to duty system

The 2018 GMFRS assessment of command requirements was clear, robust and conclusive. It clearly assesses the frequency of incidents and their respective command requirements, with a history of major incidents out of hours and being protracted.

The proposed recall to duty system appears clearly supported by the assessment.

It is also suggested that an operational guideline is developed regarding the maximum hours on duty for commanders and minimum rest time between operational duty. This should then be used to test the adequacy of a recall to duty system and the number of officers on the rota. National operational guidance does cite a need to consider the impact of fatigue on command performance.

There are a few examples of guidelines[4,5] for operational hours that can be drawn upon. The risk of fatigue amongst commanders should be considered in the determination of minimum officer numbers.

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[4] **https://www.cdc.gov/niosh/topics/oilspillresponse/pdfs/NRT-Fatigue-for-Emergency-Workers.pdf** [accessed Feb 10]

[5] **https://tandfonline.com/doi/full/10.1080/10903127.2017.1380098** [accessed Feb 10]

4   CONCLUSIONS AND RECOMMENDATIONS

4.1   Conclusions

Conclusions are noted below.

Positive points

1. An appropriate sequence of analysis has been applied to the development of Options Packages;

2. The creation of Options Packages fulfils the valid need to consolidate an immense array of options down into a meaningful sub-set that can be evaluated;

3. The recommendation of a minimum fleet size required to a) meet the response time standard, b) handle large and protracted events, c) provide a resilience allowance and d) meet training needs. This cumulative approach is consistent with the recommendations of the GSB July 2018 recommendation;

4. The list of incidents within the definition of life risk incidents is valid and fulfil GSB's July 2018 recommendation;

5. The modelling of response times and impact is well developed and comprehensive, and transparent for all options, including taking account of appliance availability;

6. The assessment clearly and validly considered the response time impacts on PDAs and crew safety, including testing,

   a) 1st, 2nd and 3rd appliance arrival times, and

   b) Fulfilment of PDAs;

7. The physical trials provide a more robust basis on which to assess the operational and safety of a ridership of four vs five and fulfil GSB's July 2018 recommendation;

8. The assessment of special appliances is well developed and comprehensive;

9. The assessment of command requirements is well developed and comprehensive.

Points requiring further consideration

10. The current October 2018 reports and FCR Land Options PowerPoint slides do not clearly, completely nor accurately describe the method applied to produce the Options Packages. Indeed, the reports and FCR Land Options PowerPoint slides differ in the communicated method. In addition, key elements of the method are not explained, such as the formulation and definition of evaluation criteria;

11. The derivation of a recommended minimum fleet size is unclear, as is the final fleet size recommendation;

12. The 'scoring' of Options Packages against the operational evaluation criteria could be further developed and made more transparent;

13. The ranking of stations for closure and removal of second pumps may have given more weight to dwelling fire risk (as per the CRM factors) than to the life risk incidents on which the proposed response time standard is based. This could impact the choice of stations / pumps for removal;

14. The need to change procedures and training as a pre-requisite of changing ridership.

The current phase of work was scoped to identity and assess potential options. Some aspects of feasibility were beyond the scope of these analyses. Further work on selected options could usefully assess feasibility.

4.2 Recommendations

4.2.1 Overview

A key recommendation is to review and iterate the array of reports, presentations and information to ensure that they clearly, fully and transparently communicate the method, assumptions, criteria and results in a way that can be readily understood.

Other recommendations are mostly regarding next steps in further assessing and developing shortlisted options.

Only one point, namely the factors used for ranking stations / pumps, relates to the FCR analysis, with the potential to impact the selection of stations and pumps for removal.

4.2.2 Method statement

It is recommended that:

1. A single consolidated method statement is produced that accurately and fully explains the assessment method and development of Options Packages. That this should clearly state:

   o That the starting point is to remove six pumps to meet 2019-2020 budget,

   o The operational evaluation criteria and their application to each Options Package,

   o The derivation of the minimum fleet recommendation, including evidence for the safety margin and handling major / protracted incidents (as per previous GMFRS analyses),

   o A statement of the assumptions that constrain the range of options being made. The options that have been considered are all "within FRS" operational options, namely station closures, mergers / moving, ridership or changes to station duty systems;

2. All supporting reports and analyses are iterated to match and explain the final approach used;

3. The reports and any other communications material clearly align.

4.2.3 Applying evaluation criteria to the Options Packages

4. The 'scoring' of Options Packages against the operational evaluation criteria could be further developed.

The Options Packages are currently presented as per Table 3. The "impact on performance" is shown in a separate table and covers attendances within 10 minutes, and change in 1st, 2nd and 3rd average response times.

This could be further developed by more clearly presenting all of the operational criteria, for example, in the Options Packages comparison table:

- Adding a column "Minimum fleet requirement met" with a yes / no entered;
- Adding a column "80% of life risk incidents attended in 10 minutes", entering yes / no or a % attended in 10 minutes coloured coded as green if ≥80%;
- Predetermined Attendances fulfilled, entered as yes / no;
- Possibly having columns showing the *time lag* between 1st and 2nd, and 2nd and 3rd response times, rated as met or not met – as per the safe crewing guideline.

  It may be noted that the time lag between the 1st and 2nd appliance meets the 3-minute CAST criteria for all options, whilst the time lag between 2nd and 3rd exceeds the 2-minute CAST criteria by between 14 and 35 seconds but is not greatly affected by any of the Options Packages. This positive conclusion is not explicitly communicated;
- Stating Historical (56) pumps rather than just "Historical";
- The £ values could be titled, "financial savings".

Table 3: Current GMFRS presentation of Options Packages

Options	1st April '19 (5,4:4)	Pumps Following FCR Changes	Riding 4,4:4	Riding 5,4:4
Option 1	50	47	£4.68m	£4.35m
Option 2	50	48	£5.45m	£5.29m
Option 3	50	47 Day 45 Night	£7.76m	£7.43m

Model	1st Pump		2nd Pump		3rd Pump	
	Performance	Diff vs historical	Performance	Diff vs historical	Performance	Diff vs historical
Historical	87.5%		70.3%		47.7%	
April 2019 (50 pumps)	86.6%	-0.9%	64.7%	-5.6%	40.1%	-7.6%
Option 1	86.5%	-1.0%	62.8%	-7.5%	34.8%	-12.9%
Option 2	86.1%	-1.4%	63.4%	-7.0%	35.8%	-11.9%
Option 3	84.9%	-2.6%	60.2%	-10.2%	30.8%	-16.9%

Model	1st Pump		2nd Pump		3rd Pump	
	Ave resp. time	Diff vs historical	Ave resp. time	Diff vs historical	Ave resp. time	Diff vs historical
Historical	07:19		09:28		11:49	
April 2019 (50 pumps)	07:24	5	10:02	34	12:16	27
Option 1	07:29	11	10:10	43	12:35	46
Option 2	07:33	14	10:06	38	12:34	45
Option 3	07:41	23	10:21	54	12:56	67

4.2.4   Ranking of stations / appliances

The ranking of stations and appliances in the options analysis could be further developed as follows:

5. Simplify this analysis by using fewer permutations of rankings and to state a rationale for selecting these permutations;

6. Give more equal weight to life risk incidents compared to the CRM risk factors by either:

    o   Ranking stations based on coverage and life risk incidents, or

    o   Ranking stations based on coverage, life risk incidents and a single composite CRM risk factor;

7. Present a map of life risk incidents, coloured coded to show those attended within or over 10 minutes.

This is judged to have a moderate to minor impact on the selection of stations and appliances for removal.

4.2.5   Feasibility of shortlisted options

8. The feasibility of shortlisted options could be assessed as a next stage of work, such as:

•   The feasibility of on call duty system options, in respect of being able to recruit and retain on call personnel;

•   Whether new station locations can be procured.

4.2.6   Ridership

9. The conclusion that changes to training and operational procedures are required for a ridership of four could be formally noted as a dependency (pre-requisite) in the event that the option of a ridership of four is taken forward;

10. Changes to ridership should only be made after necessary changes to training and procedures have been implemented and verified, ideally by physical trials and monitoring of operational performance;

11. As 60% of first appliances already arrive with four riders, the identified need to change training and procedures should be a priority.

4.2.7   Operational training model

12. The Options Packages imply a need to revise downwards the Operational Training model need for 10 appliances. This should be clearly stated and assessed in further work and could be cited as a pre-requisite / pre-condition for the shortlisted Options Package. The adequacy of the revised training model should also be assessed.

4.2.8   Command and recall to duty system

It is also recommended that:

13. The analysis of command requirements be accepted as grounds for a recall to duty system;

14. The risk of fatigue of protracted working hours and restricted rest periods be assessed, a guideline on maximum hours / minimum rest periods be developed and applied as a test to the estimated minimum number of officers required by GMFRS for major and protracted incidents. This should take note of the 'day time' managerial duties of officers.

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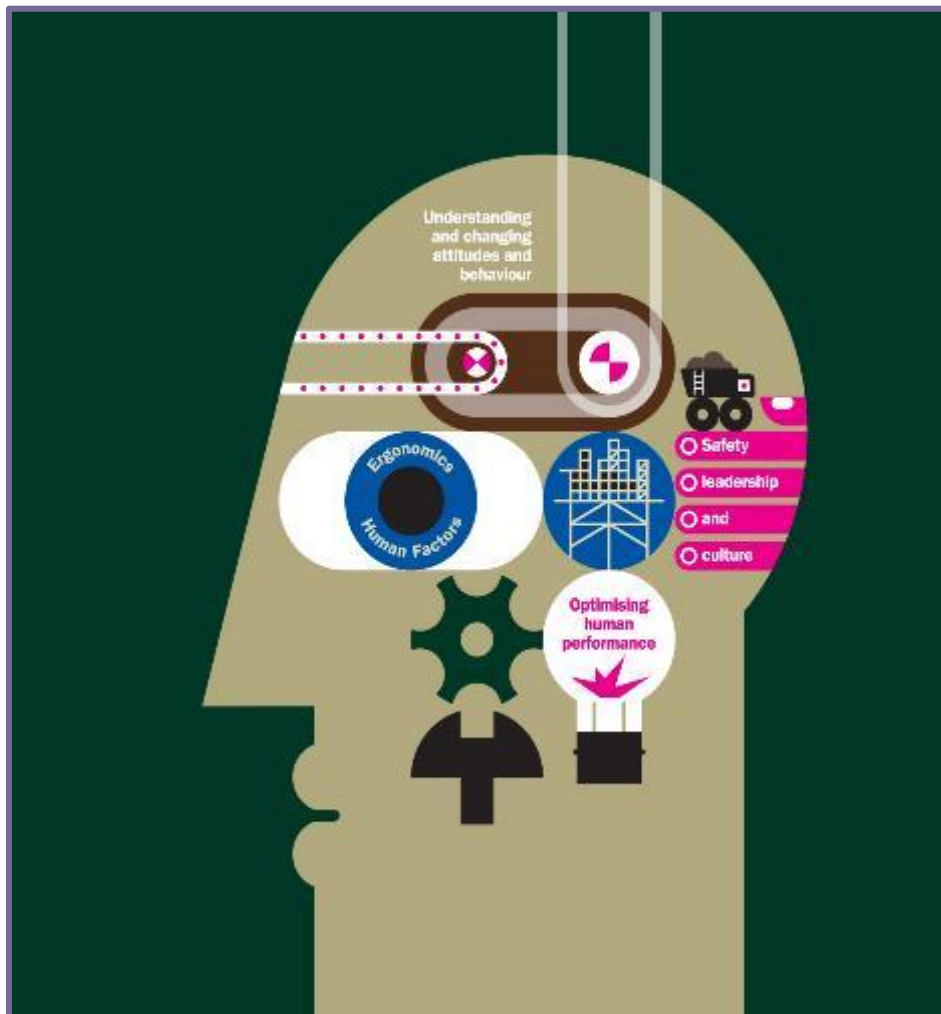
'managing the human element of risk'

Fire Cover Review Station Locations

Land Options, Potential Mergers, & Changes to Emergency Response Assets

November 2018
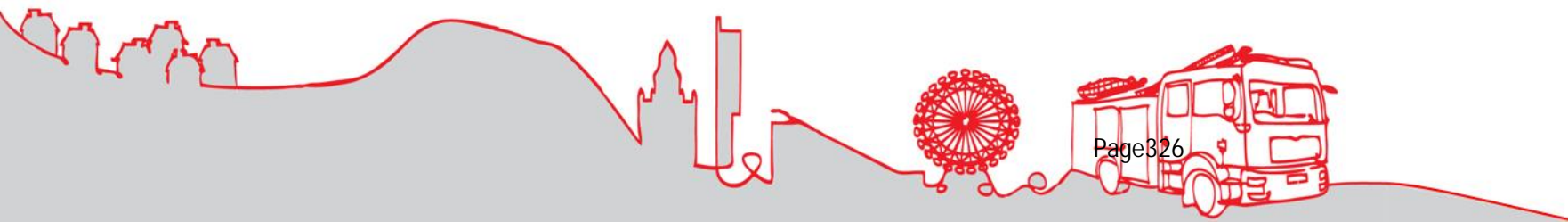
Response Standards

Current Response Model				Proposed Response Model		

Risk Level	Response Standard	Actual Response Standard	% Households	Greater Manchester Single Response Standard
Very High	05:00	07:30	8%	Life Risk Incidents: 10 Minutes (80% Pass Rate)
High	07:00	09:30	28%	Inclusive of Call Handling, Turnout and Travel Time
Medium	12:00	14:30	40%	
Low	17:00	19:30	24%	
Current Response Standards Refer to Travel Time Only				
Actual Response Includes; 1.5 minutes for Call Handling and 1 minute for Turnout				

GMFRS Average Response Time to Life Risk Incidents: 7 minutes 19 seconds

(1st April 2015-31st March 2018)

GREATER MANCHESTER
FIRE AND RESCUE SERVICE
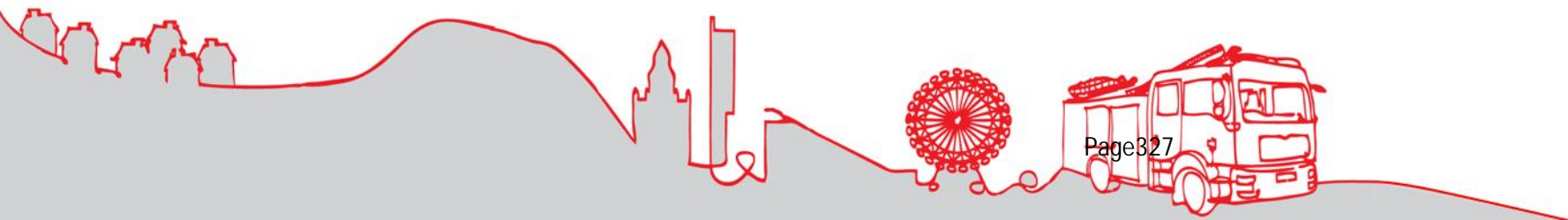
8 minutes vs 10 minutes?

No of Pumps	No of Stations	Performance 10 min resp	Performance 8 min resp
35	35	80.4%	65.3%
41	41	84.1%	66.6%
50	41	86.6%	69.8%
56	41	87.5%	71.0%
66	41	88.3%	73.5%
64	49	90.3%	76.4%

- It is evident that there are a number of limitations relating to a response standard of 8 minutes on 80% of occasions

- This is still true assuming capital for an additional 8 stations and additional revenue costs for 64 pumps can be found

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FIRE AND RESCUE SERVICE
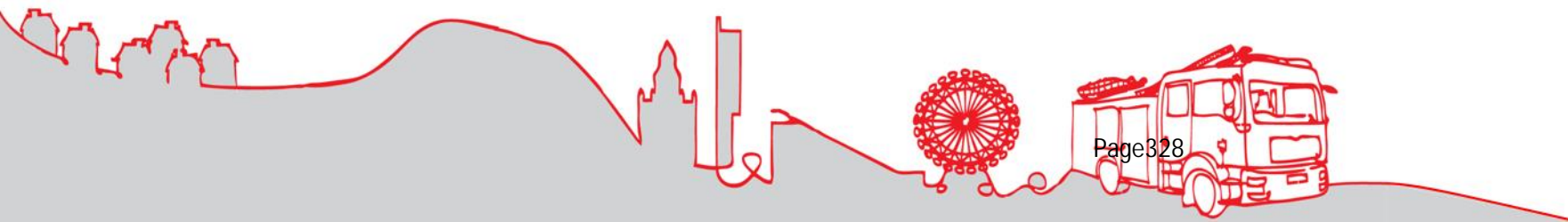
Fire Cover Review Options Menu

The FCR team developed a number of approaches to identifying the most effective response model which can be partially or wholly adopted. This was with a 'front line first' approach and included:

- Changes to existing non-SDS

- Station mergers

- Removal of second pumps

- Increasing non-SDS stations

- Station closures

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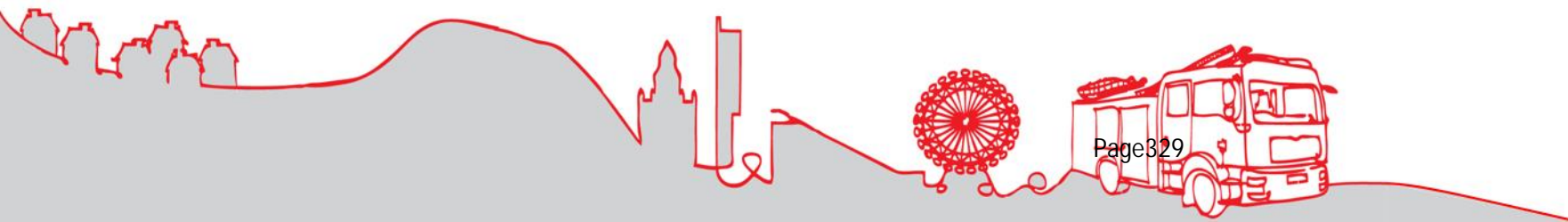
Process

Data used in the analysis process to inform the options include:

- Number of life risk incidents

- Number of mobilisations

- Individual impact of change

- Geographical coverage and spread from other stations

- Mosaic data denoting likelihood of people having fires

- Risk Based Inspection Profile data

- Professional judgement

Analysis
↓
Options
↓
Workload modelling to assess impact upon performance
↓
Financial Implications
↓
Agree Options
↓
Implementation Plan

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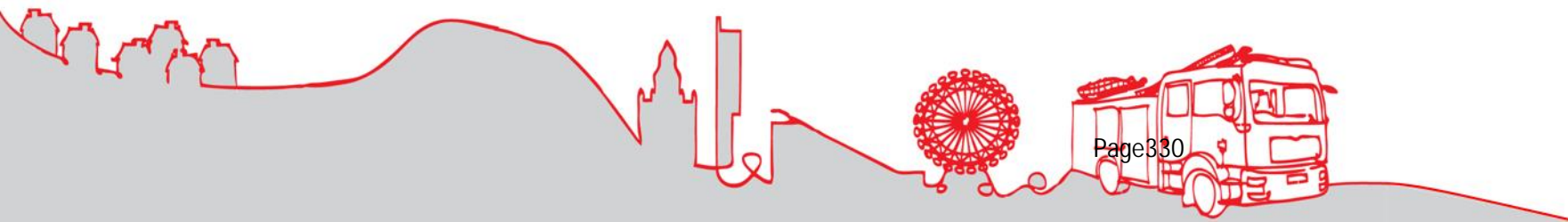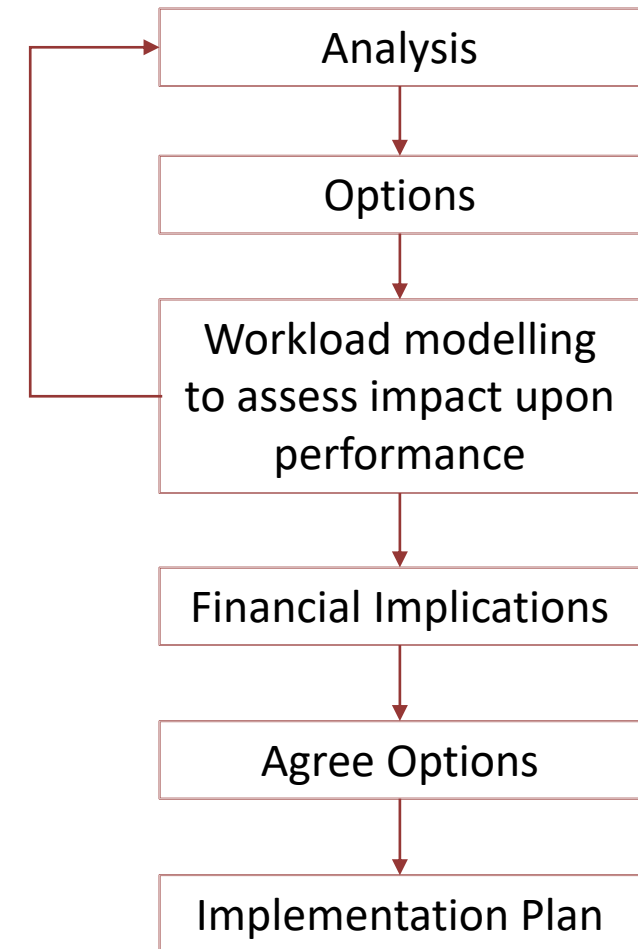
Appliance Crewing (5s or 4s) - GMFRS Task Analysis

Unknown fire, no signs of flashover or backdraft, ground floor, persons reported. CAST No.12

Incident Command	1x IC	
Sector Commander / Rear of Property	1x CM	
Water Provision / Command Support	1x FF	
BA Entry Control	1x FF	
Firefighting and Rescue in BA	4x FF	
PPV Fan Operative	1x FF	
Covering Jet Operative	1x FF	
Casualty Care	1x FF	Total = 11
Current PDA	3 pumps (building fire)	

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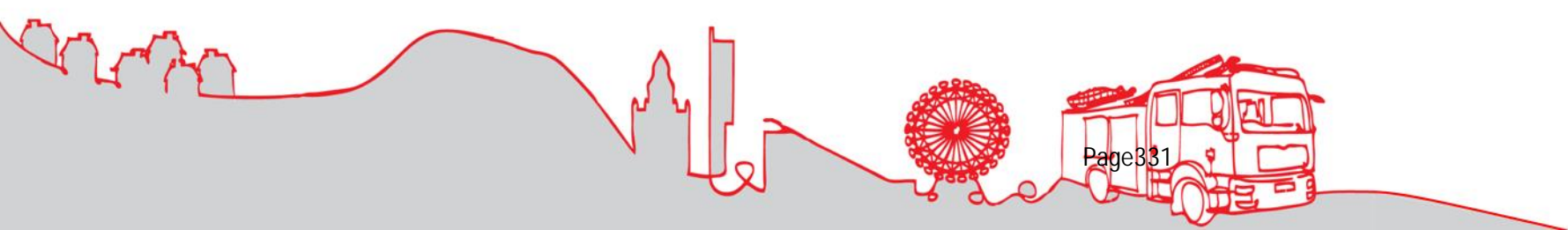
Appliance Crewing (5s or 4s)

NWFC system proposes the quickest resources regardless of the number of riders

2

4 riders

1

4 riders

3

5 riders

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FIRE AND RESCUE SERVICE
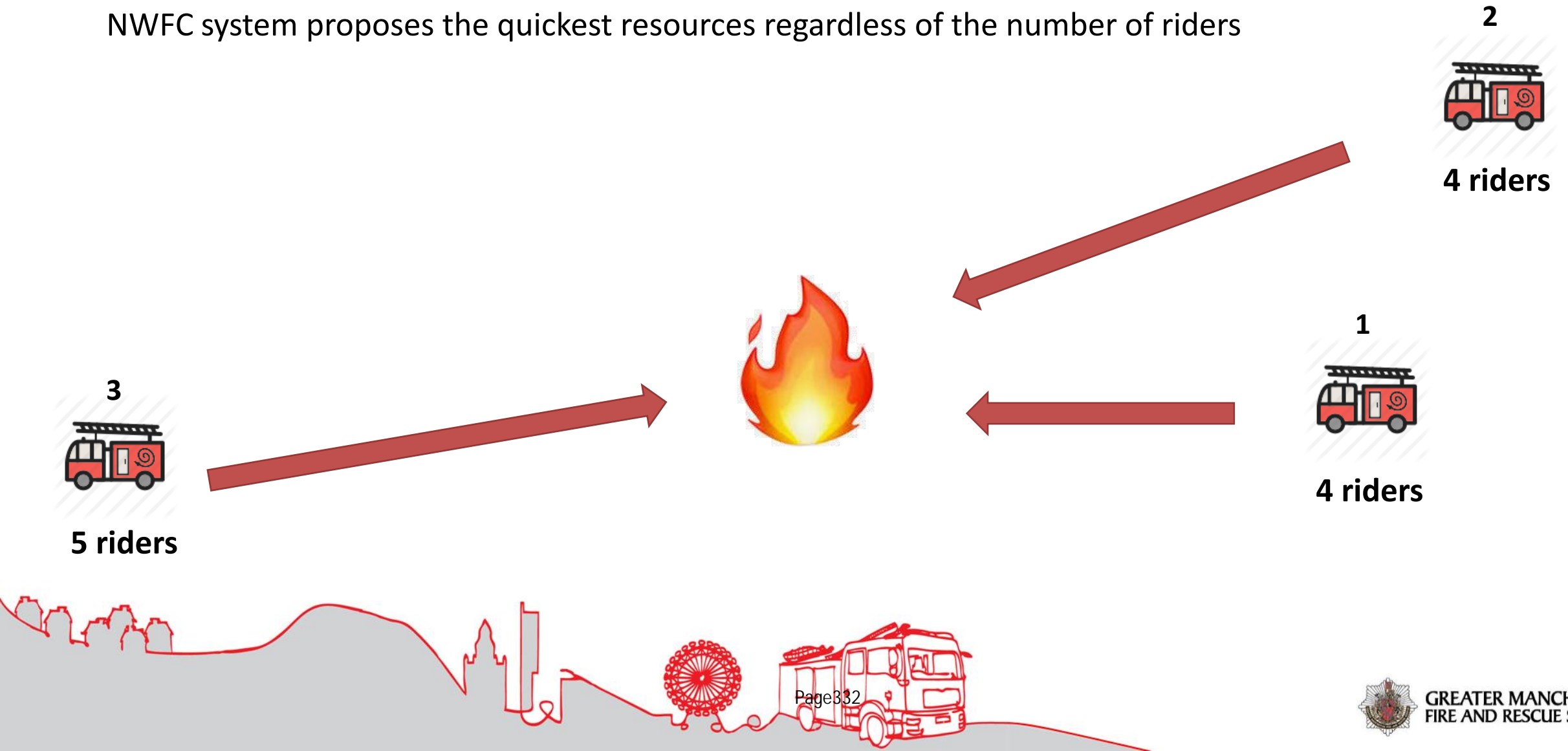
Cost Calculations

All subsequent pay costs are based on the following assumptions;

- All personnel are in the 2015 pension scheme

- Allowances for day crewed stations have been omitted

- Includes the 2% pay rise awarded in June 2018

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FIRE AND RESCUE SERVICE
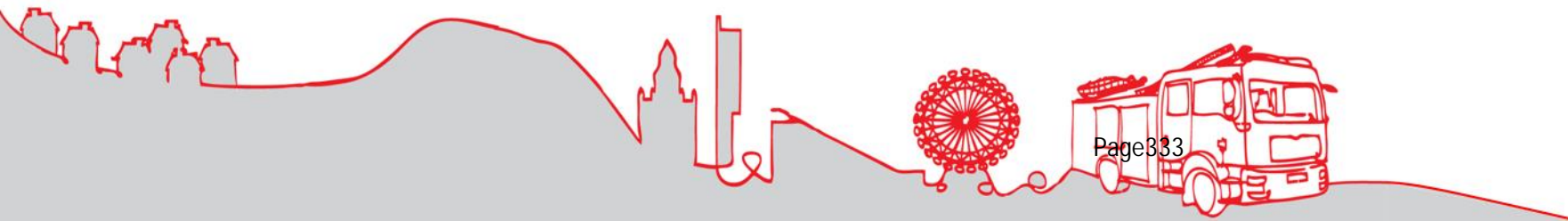
Riding 4s or 5s

The table below highlights the cost differential for 50 pumps (equivalent to 1,239 posts) against a budget pay cost of £51.1M

50 Pumps		
Riders	5,4:4	4,4:4
Cost	£51,514,236	£47,246,616
Variance against £51.1M	+ £414,236	- £3,853,384
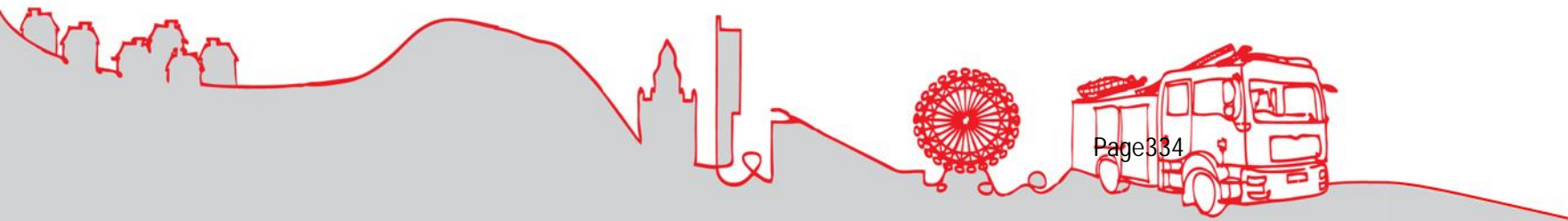
Removal of six 2nd Pumps – April 2019

- In order to meet budget requirements in April 2019, six fire engines must be removed.

- Based on risk, impact and coverage the following order of 2nd pumps was identified, also considering professional judgement.

- Below is the suggested priority of removal from the fleet:

  1. G16P2 – Manchester Central
  2. G17P2 – Blackley
  3. G32P2 – Heywood
  4. G13P2 – Moss Side
  5. G33P2 – Oldham
  6. G61P2 – Eccles

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FIRE AND RESCUE SERVICE
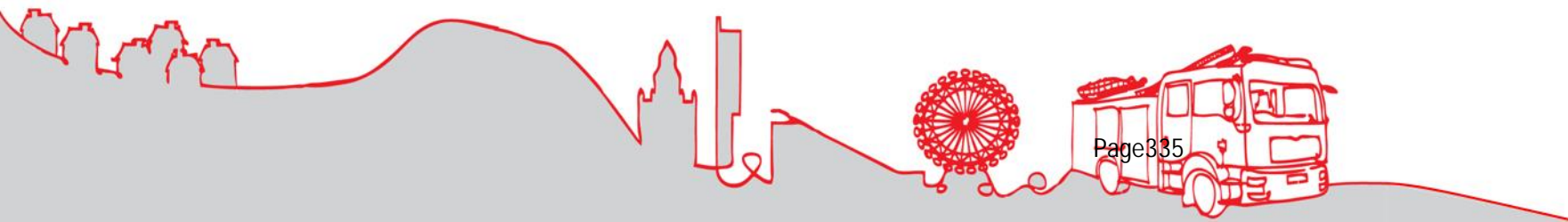
Impact Upon Performance

- With the removal of six second pumps, overall GM 1st pump performance is reduced by 0.9%, whilst 2nd and 3rd pumps reduce by 5.6% and 7.6% respectively.
- The associated average response time increases by five seconds for the 1st pump, 34 seconds for the 2nd pump, and 27 seconds for the 3rd pump

Percentage of mobilisations 'in time' against a 10 minute response standard, and difference compared to historical (red)

Model	1st Pump		2nd Pump		3rd Pump	
	Performance	Diff vs historical	Performance	Diff vs historical	Performance	Diff vs historical
Historical	87.5%		70.3%		47.7%	
April 2019 (50 pumps)	86.6%	-0.9%	64.7%	-5.6%	40.1%	-7.6%

Average response time, and difference compared to historical (red)

Model	1st Pump		2nd Pump		3rd Pump	
	Ave resp. time	Diff vs historical	Ave resp. time	Diff vs historical	Ave resp. time	Diff vs historical
Historical	07:19		09:28		11:49	
April 2019 (50 pumps)	07:24	5	10:02	34	12:16	27

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Options for Existing Non-SDS

- Reduction in existing non-SDS establishment
  - **Would see 2 watches totalling 12 staff become one 'pool' of nine staff on a self-rostering basis**
  - Station establishment would consist of:
    - 1 x WM
    - 2 x CM
    - 6 x FF

- Additionally, propose to change non-SDS shift system to be 7am-7pm

- Saving of £119,000 per station to reduce the non-SDS establishment (RDS at night)

- Across 6 stations, savings of £711,000 in total

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FIRE AND RESCUE SERVICE
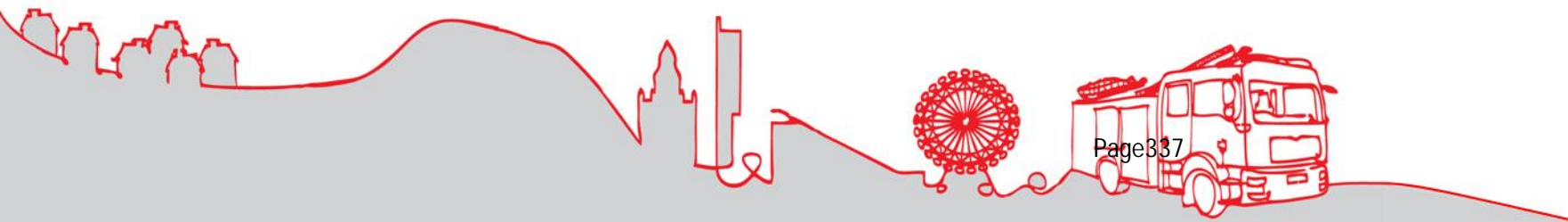
Impact Upon Performance

- Changing the shift times for non-SDS slightly improves performance without any other changes.
- This is due to the pumps being on station for longer – 12 hours compared to eight hours.

Percentage of mobilisations 'in time' against a 10 minute response standard, and difference compared to historical (red)

Model	1st Pump		2nd Pump		3rd Pump	
	Performance	Diff vs historical	Performance	Diff vs historical	Performance	Diff vs historical
Historical	87.5%		70.3%		47.7%	
April 2019 (50 pumps)	86.6%	-0.9%	64.7%	-5.6%	40.1%	-7.6%
Change DC Shift Time	86.9%	-0.6%	65.1%	-5.2%	40.4%	-7.3%

Average response time, and difference compared to historical (red)

Model	1st Pump		2nd Pump		3rd Pump	
	Ave resp. time	Diff vs historical	Ave resp. time	Diff vs historical	Ave resp. time	Diff vs historical
Historical	07:19		09:28		11:49	
April 2019 (50 pumps)	07:24	5	10:02	34	12:16	27
Change DC Shift Time	07:22	3	10:00	33	12:15	26

GREATER MANCHESTER
FIRE AND RESCUE SERVICE
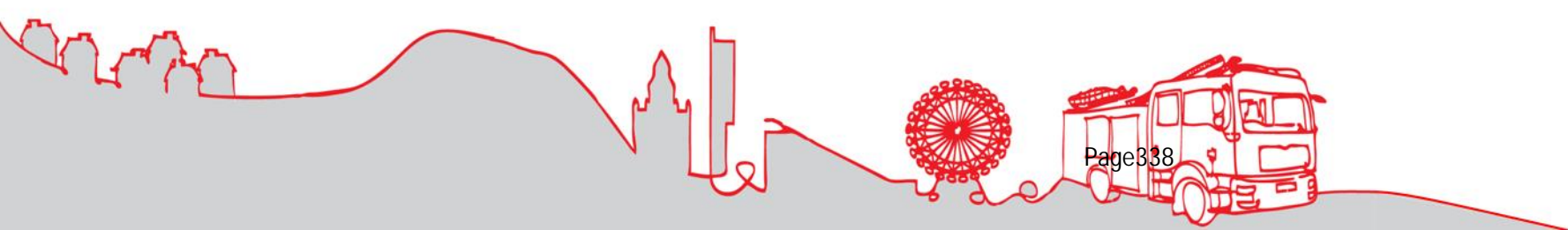
Increasing Non-SDS Stations

- By **increasing** the number of non-SDS stations the following potential savings have been identified:

  - Hollins, Broughton & Withington identified as potential to change
  - **Reduction in establishment from 28 personnel to 9 personnel**
    - 4 x WM, 4 x CM & 20 x FF = 28 personnel
    - 1 x WM, 2 x CM & 6 x FF = 9 personnel

  - This equates to approximately £695,000 per station (day crewed/retained at night)

  - Across the 3 proposed stations this would total £2.08M

  - This change does not make a great difference to overall Greater Manchester performance.

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FIRE AND RESCUE SERVICE
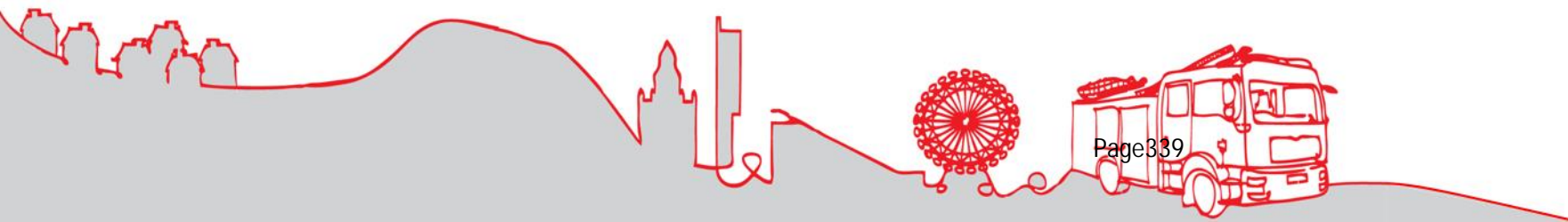
Impact Upon Performance

- First pump performance reduces by 0.3% against 50 pumps, and by 1.2% compared to historical.

- The related increase in average response time is 10 seconds.

Percentage of mobilisations 'in time' against a 10 minute response standard, and difference compared to historical (red)

Model	1st Pump		2nd Pump		3rd Pump	
	Performance	Diff vs historical	Performance	Diff vs historical	Performance	Diff vs historical
Historical	87.5%		70.3%		47.7%	
April 2019 (50 pumps)	86.6%	-0.9%	64.7%	-5.6%	40.1%	-7.6%
Day crew 3 additional	86.4%	-1.2%	63.7%	-6.7%	38.6%	-9.1%

Average response time, and difference compared to historical (red)

Model	1st Pump		2nd Pump		3rd Pump	
	Ave resp. time	Diff vs historical	Ave resp. time	Diff vs historical	Ave resp. time	Diff vs historical
Historical	07:19		09:28		11:49	
April 2019 (50 pumps)	07:24	5	10:02	34	12:16	27
Day crew 3 additional	07:29	10	10:06	38	12:21	32

GREATER MANCHESTER FIRE AND RESCUE SERVICE
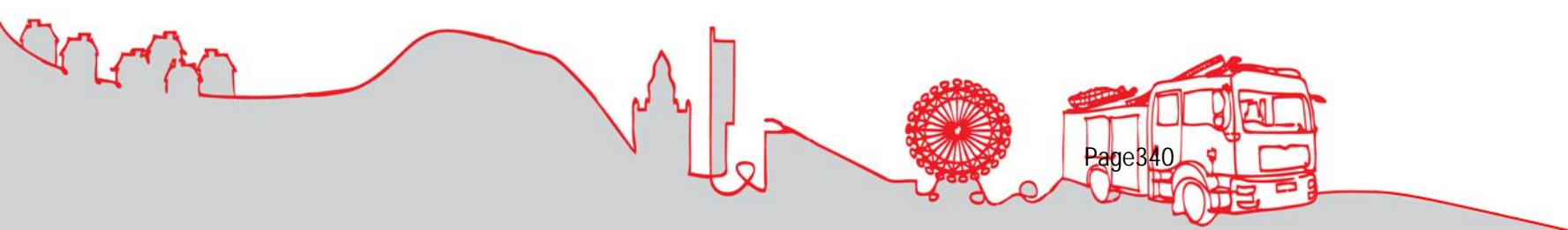
Bolton Stations Merger

Bolton Central – G50

Bolton North – G51

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FIRE AND RESCUE SERVICE

Bolton Stations Merger

Key Information:

- Existing interest in G50 site from College

- Indicative value of G50 site – c.£1.4M

- Indicative value of G51 site – c.£250,000

- Would see 2 stations & 3 pumps merge into a single 2 pump station

- Attendance times affected to the North but still within 10 minute planning standard

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FIRE AND RESCUE SERVICE
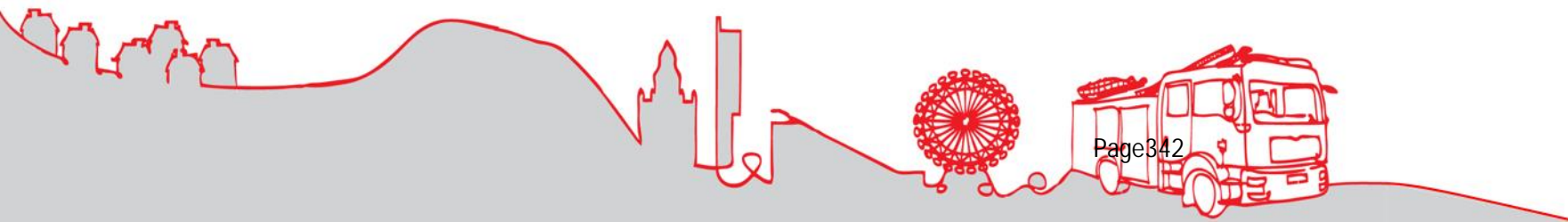
Stockport Stations Merger

King Street – G21

Whitehill – G20

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Stockport Stations Merger

Key Information:

- Would see 2 stations & 2 pumps merge into a single 2 pump station

- Indicative value of G20 site – c.£900k

- Indicative value of G21 site – c.£800-900,000

- **Attendance times improved as a result of the move**

- Potential land already identified close to M60

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FIRE AND RESCUE SERVICE
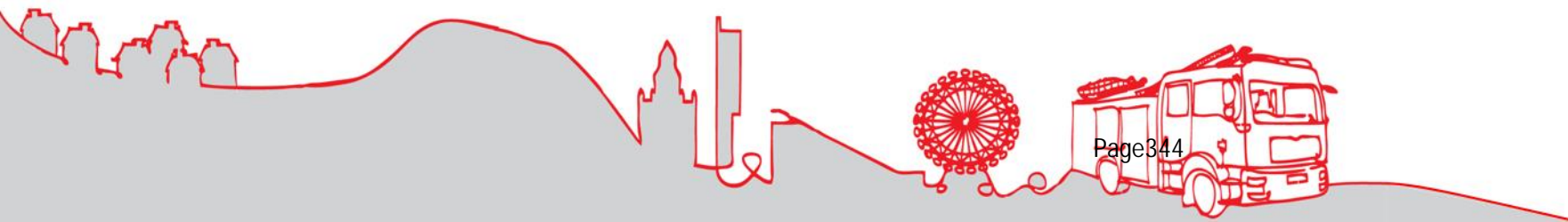
Manchester Stations Merger

Manchester Central – G16

Philips Park – G18

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FIRE AND RESCUE SERVICE

Manchester Stations Merger

Key Information:

- Would see 2 stations & 3 pumps merge into a single 2 pump station

- Indicative value of G16 site – c.£7.7 - 9.7m

- Indicative value of G18 site – c.£425k

- 10 min response standard met

- Potential land to be identified by MCC

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FIRE AND RESCUE SERVICE
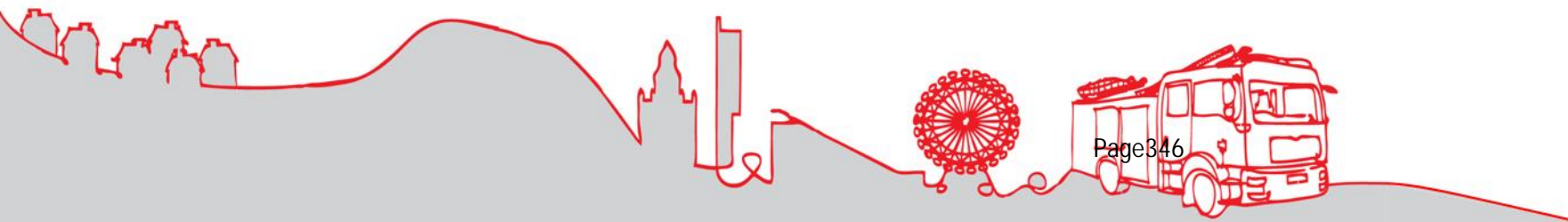
Financial Implications

- Stockport/Whitehill & Manchester Central/Phillips Park mergers realise same savings
  - Riding 5,4:4 saves £433,194 (saves 10 posts)
  - Riding 4,4:4 saves £117,074 (saves 2 posts)

- Bolton merger savings
  - Riding 5,4:4 saves £924,690 (saves 22 posts)
  - Riding 4,4:4 saves £1,003,720 (saves 24 posts)

- Total savings for all mergers are between:
  - £1.24M and £1.79M

(POTENTIAL CAPITAL RECEIPTS £12.7M)

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FIRE AND RESCUE SERVICE
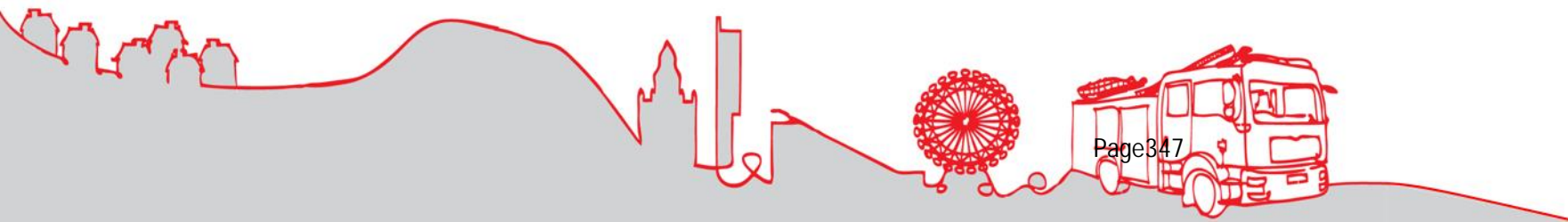
Impact Upon Performance

- Overall first pump performance is neutral against 50 pumps, with a 0.9% reduction against historical. There is an associated increase in average response time of 11 seconds.

- The reduction in 2nd pump performance is 6.1%, with an increase of 33 seconds in Manchester and 11 seconds in Stockport.

Percentage of mobilisations 'in time' against a 10 minute response standard, and difference compared to historical (red)

Model	1st Pump		2nd Pump		3rd Pump	
	Performance	Diff vs historical	Performance	Diff vs historical	Performance	Diff vs historical
Historical	87.5%		70.3%		47.7%	
April 2019 (50 pumps)	86.6%	-0.9%	64.7%	-5.6%	40.1%	-7.6%
Merge 6 to 3 stations	86.6%	-0.9%	64.2%	-6.1%	37.1%	-10.6%

Average response time, and difference compared to historical (red)

Model	1st Pump		2nd Pump		3rd Pump	
	Ave resp. time	Diff vs historical	Ave resp. time	Diff vs historical	Ave resp. time	Diff vs historical
Historical	07:19		09:28		11:49	
April 2019 (50 pumps)	07:24	5	10:02	34	12:16	27
Merge 6 to 3 stations	07:30	11	10:01	33	12:26	37

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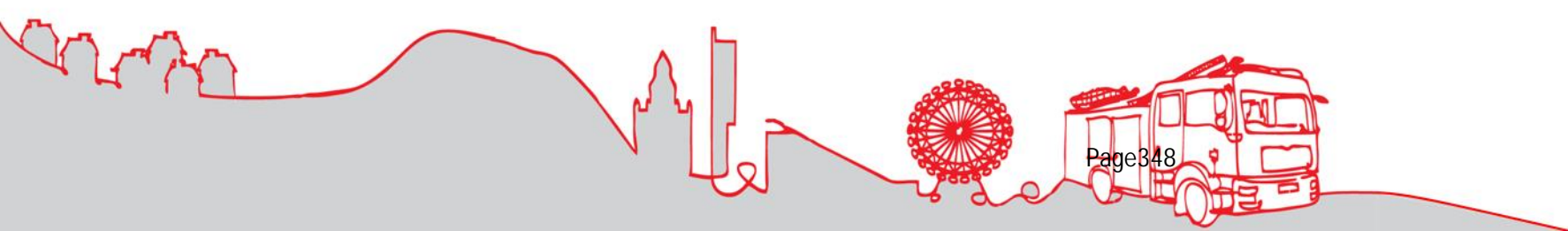
Impact Upon Performance – by Borough

The tables and graphs show how performance differs across the affected boroughs, including a 3.7% increase in performance in Stockport.

Percentage of mobilisations 'in time' against a 10 minute response standard, and difference compared to historical (red)

Model	Bolton		Manchester		Stockport	
	Performance	Diff vs historical	Performance	Diff vs historical	Performance	Diff vs historical
Historical	89.0%		91.8%		86.7%	
April 2019 (50 pumps)	89.0%	0.0%	90.9%	-0.9%	86.7%	0.0%
Merge station	86.8%	-2.3%	90.5%	-1.3%	90.4%	3.7%

Average response time, and difference compared to historical (red)

Model	Bolton		Manchester		Stockport	
	Ave resp. time	Diff vs historical	Ave resp. time	Diff vs historical	Ave resp. time	Diff vs historical
Historical	07:07		07:01		07:30	
April 2019 (50 pumps)	07:07	0	07:09	8	07:30	0
Merge station	07:19	12	07:18	17	07:48	18

Distribution of response times to incidents within Bolton

Distribution of response times to incidents within Manchester

Distribution of response times to incidents within Stockport

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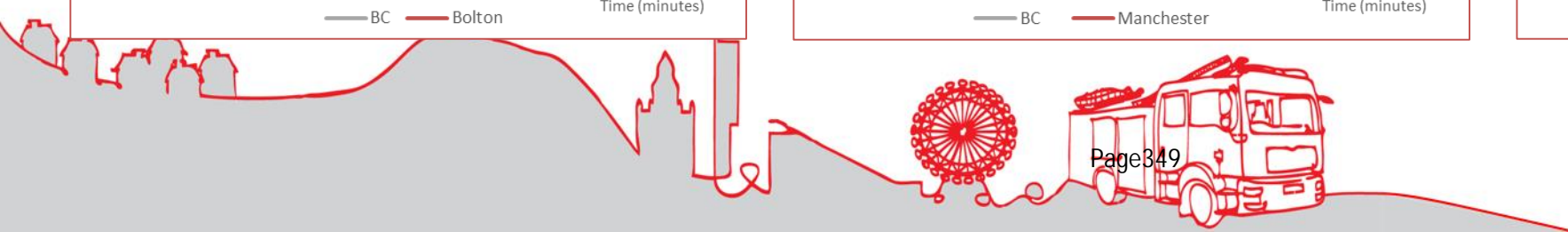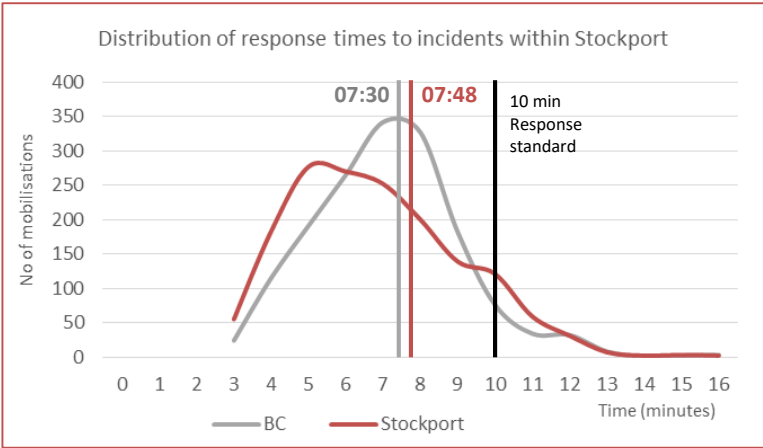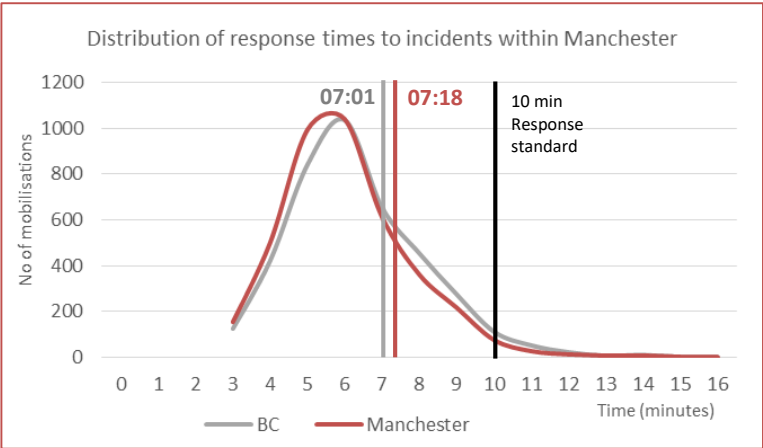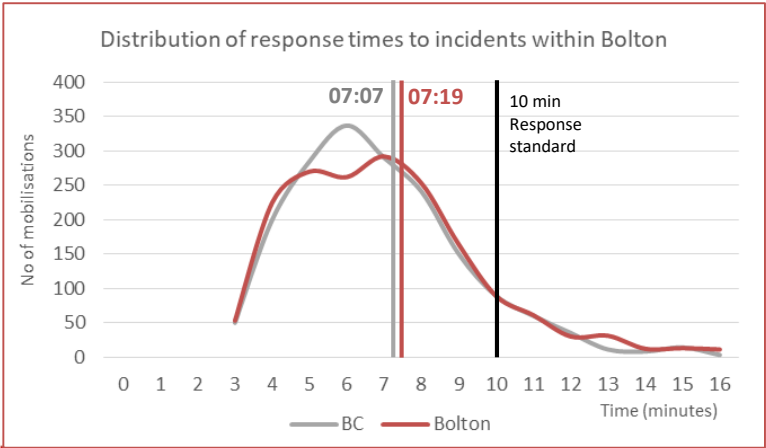
Other Sites Considered but Discounted

Models have also considered a combination of merging, closing & relocating of:

- Withington & Moss Side

- Cheadle & Wythenshawe

- Oldham, Chadderton & Hollins

- Sale & Altrincham

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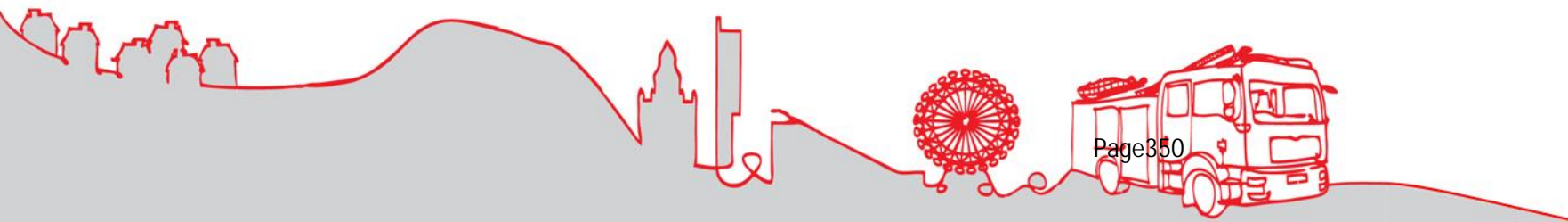
Removal of 2nd Pumps

- Based on risk, impact and coverage the following order of 2nd pumps was identified, considering professional judgement also.

- Below is the suggested priority of removal from the fleet:
    1. G58P2 – Salford
    2. G19P2 – Gorton
    3. G15P2 – Wythenshawe
    4. G53P2 – Farnworth
    5. G50P2 – Bolton Central (or New Bolton)
    6. G54P2 – Wigan

- This approach identifies savings of £729,000 to £887,000 per pump dependent upon riding 5,4:4 or 4,4:4

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FIRE AND RESCUE SERVICE
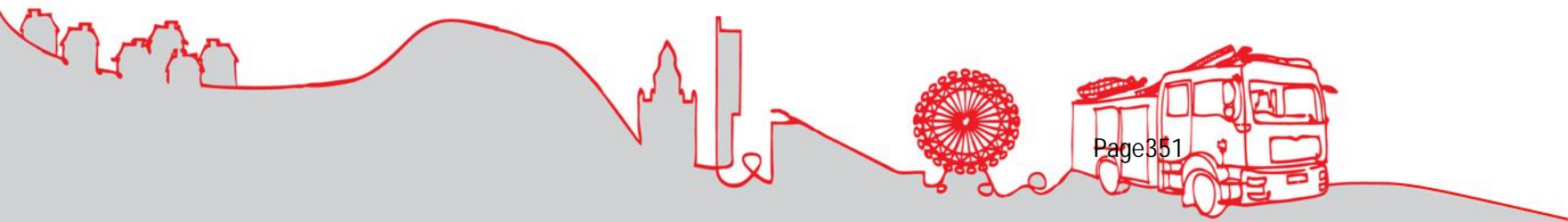
Impact Upon Performance

- The removal of a further six pumps results in a further 1.8% reduction in performance against 50 pumps, and 2.7% reduction against historical. The related increase in average response time is 14 seconds.

- Second and third pump performance reduces drastically against historical performance.

Percentage of mobilisations 'in time' against a 10 minute response standard, and difference compared to historical (red)

Model	1st Pump		2nd Pump		3rd Pump	
	Performance	Diff vs historical	Performance	Diff vs historical	Performance	Diff vs historical
Historical	87.5%		70.3%		47.7%	
April 2019 (50 pumps)	86.6%	-0.9%	64.7%	-5.6%	40.1%	-7.6%
Remove 6 pumps	84.8%	-2.7%	54.3%	-16.1%	31.5%	-16.2%

Average response time, and difference compared to historical (red)

Model	1st Pump		2nd Pump		3rd Pump	
	Ave resp. time	Diff vs historical	Ave resp. time	Diff vs historical	Ave resp. time	Diff vs historical
Historical	07:19		09:28		11:49	
April 2019 (50 pumps)	07:24	5	10:02	34	12:16	27
Remove 6 pumps	07:32	14	10:29	61	12:28	39

GREATER MANCHESTER FIRE AND RESCUE SERVICE
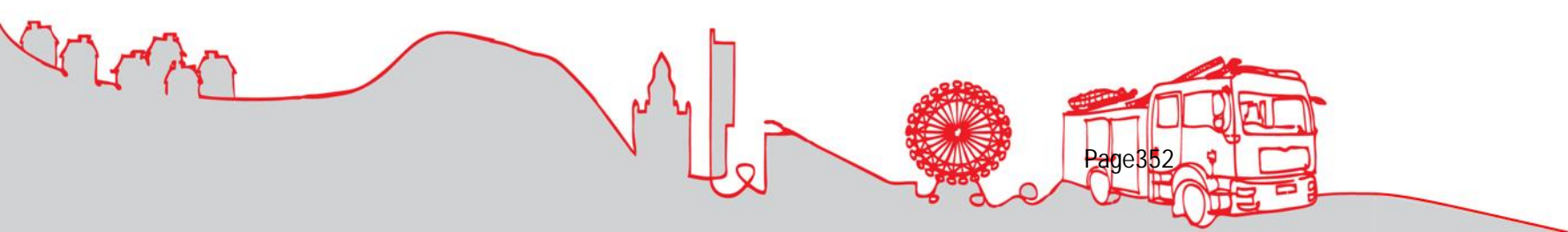
Options for Station Closures

- Potential station closures were identified based on performance impact at both a GM, Borough, station area, and ward level.

- This identified the following stations:
  - G16 – Manchester Central
  - G31 – Littleborough
  - G41 – Mossley
  - G24 – Marple

- Closure of these stations identifies the following savings:
  - G16 - £1M - £1.16M (riding 4,4:4 or 5,4:4)
  - G31 - £492,000
  - G41 - £492,000
  - G24 - £492,000

GREATER MANCHESTER
FIRE AND RESCUE SERVICE
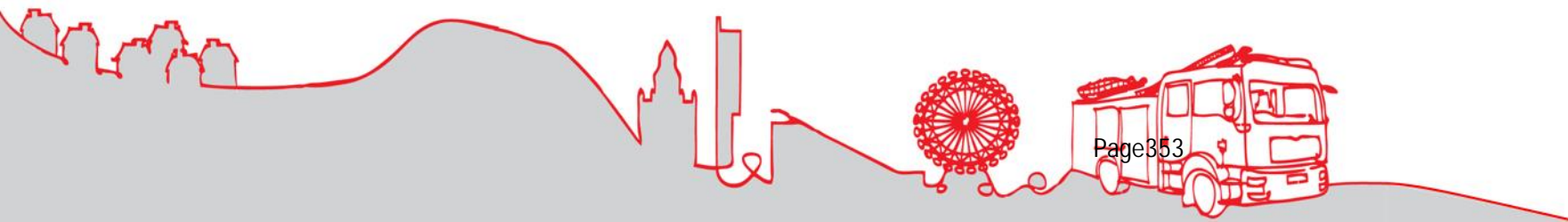
Alternative to Station Closures

- An alternative approach is to convert some of these stations to wholly RDS stations.

- Indicative allowances of £150,000 per station (based on previous payments to Littleborough)

- With the exception of Manchester Central this would reduce total savings by £450,000 from £2.64M to £2.19M

GREATER MANCHESTER FIRE AND RESCUE SERVICE
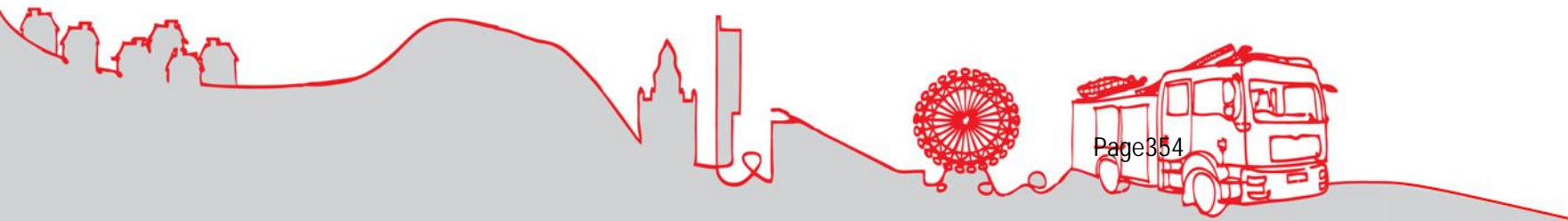
Impact Upon Performance

- The closure of four stations results in a 2.8% reduction in performance against historical, and a 1.9% reduction against 50 pumps.

- This improves when the three non-SDS stations become retained.

Percentage of mobilisations 'in time' against a 10 minute response standard, and difference compared to historical (red)

Model	1st Pump		2nd Pump		3rd Pump	
	Performance	Diff vs historical	Performance	Diff vs historical	Performance	Diff vs historical
Historical	87.5%		70.3%		47.7%	
April 2019 (50 pumps)	86.6%	-0.9%	64.7%	-5.6%	40.1%	-7.6%
Closing 4 stations	84.7%	-2.8%	62.6%	-7.8%	36.3%	-11.4%
Close 1, retain 3	85.9%	-1.7%	63.4%	-6.9%	37.0%	-10.7%

Average response time, and difference compared to historical (red)

Model	1st Pump		2nd Pump		3rd Pump	
	Ave resp. time	Diff vs historical	Ave resp. time	Diff vs historical	Ave resp. time	Diff vs historical
Historical	07:19		09:28		11:49	
April 2019 (50 pumps)	07:24	5	10:02	34	12:16	27
Closing 4 stations	07:35	16	10:13	45	12:34	45
Close 1, retain 3	07:29	11	10:07	39	12:24	35

GREATER MANCHESTER FIRE AND RESCUE SERVICE
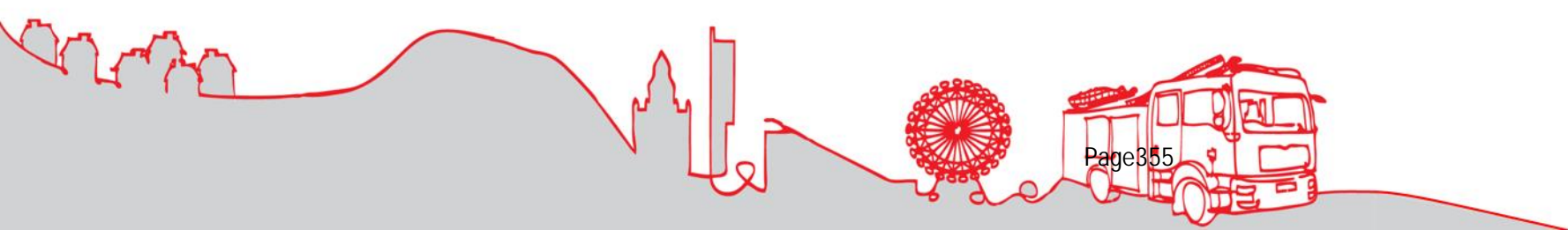
Option 'Packages' – Riding 5,4:4

Please note that options start from 3 as the first two options are not related to the Fire Cover Review

Option 3:

- Remove top six 2ⁿᵈ pumps from the proposed list: G16P2, G17P2, G32P2, G13P2, G33P2, G61P2

- Undertake the three mergers at Bolton, Manchester Central & Stockport

- Change shift system at the six non-SDS stations (12 hour days)

- Implement changes to the non-SDS establishment (12 to 9)

- Remove the next two 2nd pumps from the proposed list: G58P2, G19P2

Resulting effect on 1st pump performance at GM level: -1%

This approach will provide indicative savings of:

- Riding 5,4:4 Globally: £3.96M (Establishment = 1,150)

GREATER MANCHESTER
FIRE AND RESCUE SERVICE

Option 'Packages' – Riding 5,4:4

<u>Option 4:</u>

- Remove top six 2nd pumps from the proposed list: G16P2, G17P2, G32P2, G13P2, G33P2, G61P2

- Undertake the three mergers at Bolton, Manchester Central & Stockport

- Convert existing six non-SDS stations to a wholly retained model

- Remove one further 2nd pump from the proposed list: G58P2

Resulting effect on 1st pump performance at GM level: -1.4%

This approach will provide indicative savings of:

- Riding 5,4:4 Globally: £4.57M (Establishment = 1,114)

**GREATER MANCHESTER
FIRE AND RESCUE SERVICE**

Option 'Packages' – Riding 5,4:4

Option 5:

- Remove top six 2nd pumps from the proposed list: G16P2, G17P2, G32P2, G13P2, G33P2, G61P2
- Undertake the three mergers at Bolton, Manchester Central & Stockport
- Close G31 and G41
- Change shift system at other non-SDS stations (12 hour days)
- Implement changes to the other non-SDS establishment (12 to 9)
- Convert G14 Withington to day-crewed
- Convert G59 Broughton and G34 Hollins to day only
- Remove further two 2nd pumps: G58P2, G19P2

Resulting effect on 1st pump performance at GM level: -2.6%

This approach will provide indicative savings of:

- Riding 5,4:4 Globally: £7.01M (Establishment = 1,075)

GREATER MANCHESTER
FIRE AND RESCUE SERVICE
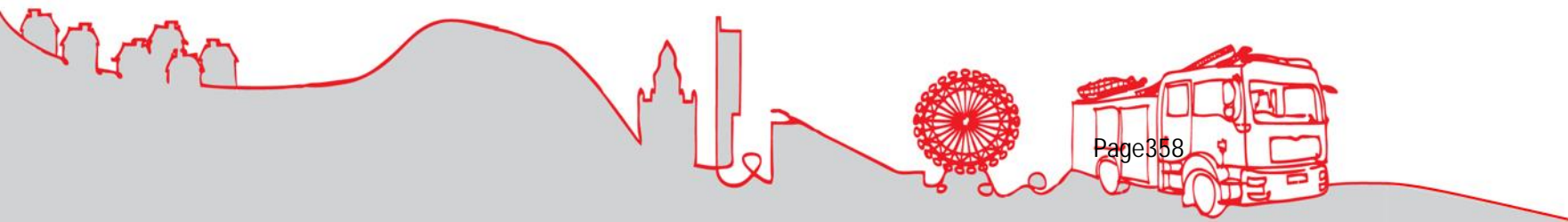
Option 'Packages' – Riding 4,4:4

Option 6:

- Remove top six 2nd pumps from the proposed list: G16P2, G17P2, G32P2, G13P2, G33P2, G61P2

- Ride 4s across the board at all stations

- Undertake the three mergers at Bolton, Manchester Central & Stockport

- Change shift system at the six non-SDS stations (12 hour days)

- Implement changes to the non-SDS establishment (12 to 9)

- Remove the next two 2nd pumps from the proposed list: G58P2, G19P2

Resulting effect on 1st pump performance at GM level: -1%

This approach will provide indicative savings of:

- Riding 4,4:4 Globally: £7.99M (Establishment = 1,052)

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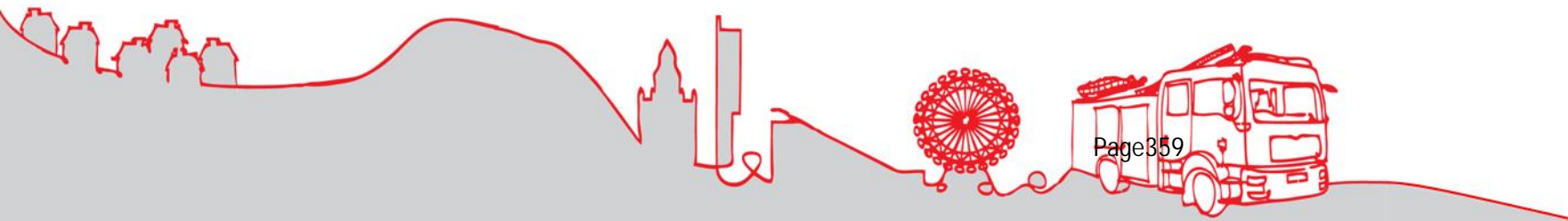
Option 'Packages' – Riding 4,4:4

Option 7:

- Remove top six 2nd pumps from the proposed list: G16P2, G17P2, G32P2, G13P2, G33P2, G61P2

- Ride 4s across the board at all stations

- Undertake the three mergers at Bolton, Manchester Central & Stockport

- Convert existing six non-SDS stations to a wholly retained model

- Remove one further 2nd pump from the proposed list: G58P2

Resulting effect on 1st pump performance at GM level: -1.4%

This approach will provide indicative savings of:

- Riding 4,4:4 Globally: £8.45M (Establishment = 1,018)

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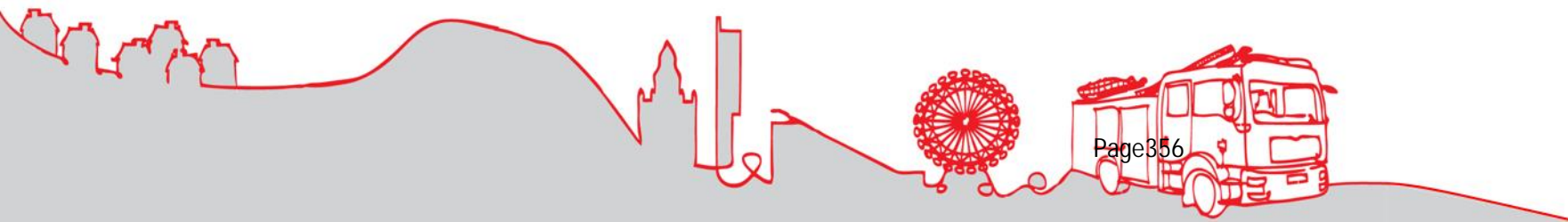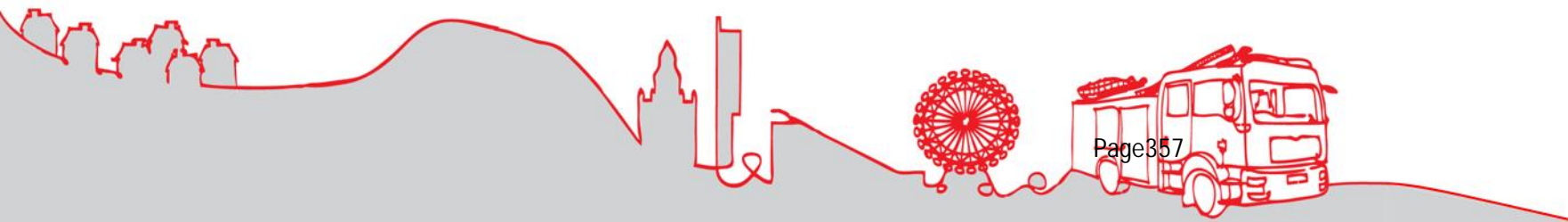FIRE AND RESCUE SERVICE
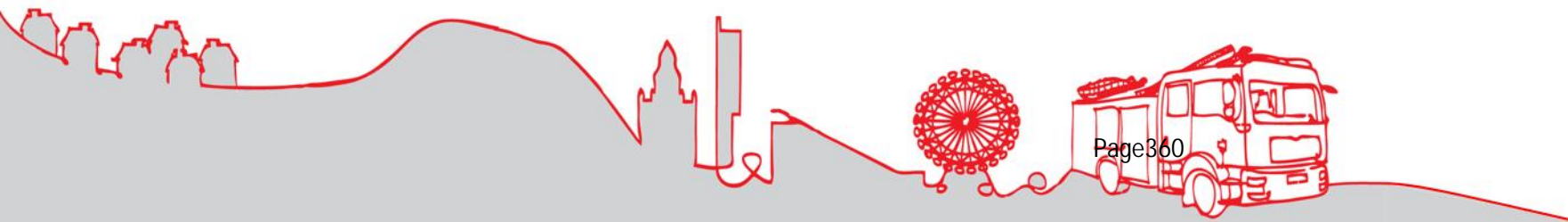
Option 'Packages' – Riding 4,4:4

Option 8

- Remove top six 2nd pumps from the proposed list: G16P2, G17P2, G32P2, G13P2, G33P2, G61P2
- Undertake the three mergers at Bolton, Manchester Central & Stockport
- Ride 4s across the board at all stations
- Close G31 and G41
- Change shift system at other non-SDS stations (12 hour days)
- Implement changes to the other non-SDS establishment (12 to 9)
- Convert G14 Withington to day-crewed
- Convert G59 Broughton and G34 Hollins to day only
- Remove further two 2nd pumps: G58P2, G19P2

Resulting effect on 1st pump performance at GM level: -2.6%

This approach will provide indicative savings of:

- Riding 4,4:4 Globally: £10.56M (Establishment = 989)

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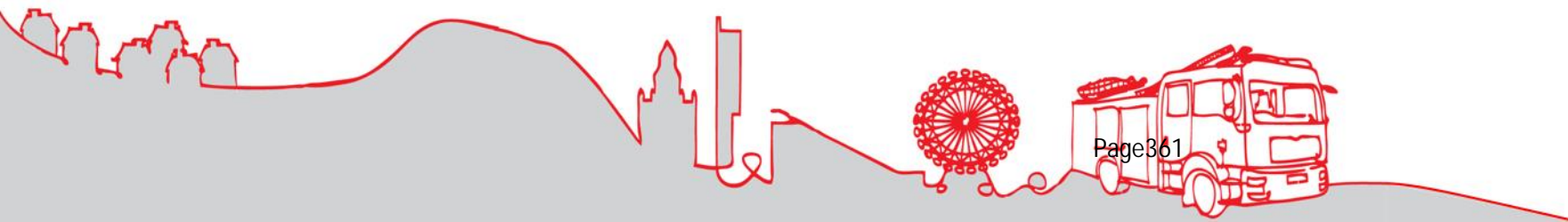
Option 'Packages'

The table below provides a summary of **global savings** for each option against an assumed budget of £51.5M (equivalent to 1,246 posts) to crew 50 fire engines:

Options	1st April '19 (5,4:4)	Pumps Following FCR Changes	Riding 4,4:4	Riding 5,4:4
April 2019*	50	n/a	-£3.85m	+ £414k
Option 3	50	47	- £7.99m	- £3.96m
Option 4	50	48	- £8.45m	- £4.57m
Option 5	50	45 Day 43 Night	- £10.56m	- £7.01m

* Against a budgeted pay cost of £51.1M (equivalent to 1,239 posts)

GREATER MANCHESTER FIRE AND RESCUE SERVICE
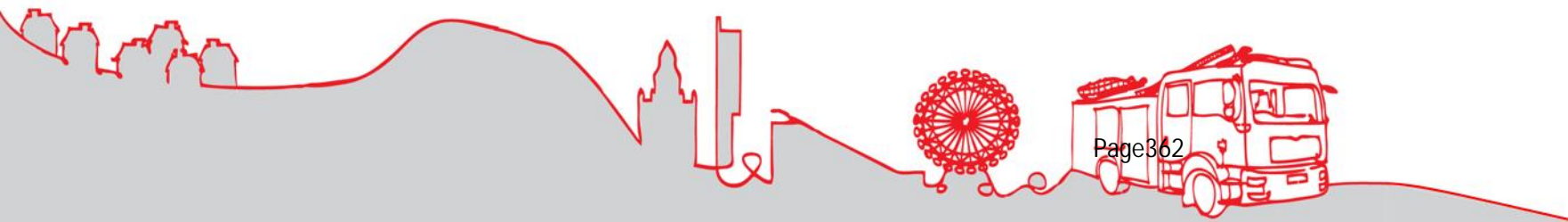
Impact Upon Performance - Option 'Packages'

- The graph shows impact upon performance all the options

- Overall first pump performance reduces by 1.0% to 2.6% as detailed in the options below

- The related average response time increases between 11 and 23 seconds.

- Impact upon the borough, station area, and ward, should also be considered for all options

Model	1st Pump		2nd Pump		3rd Pump	
	Performance	Diff vs historical	Performance	Diff vs historical	Performance	Diff vs historical
Historical	87.5%		70.3%		47.7%	
April 2019 (50 pumps)	86.6%	-0.9%	64.7%	-5.6%	40.1%	-7.6%
Option 3	86.5%	-1.0%	62.8%	-7.5%	34.8%	-12.9%
Option 4	86.1%	-1.4%	63.4%	-7.0%	35.8%	-11.9%
Option 5	84.9%	-2.6%	60.2%	-10.2%	30.8%	-16.9%

Model	1st Pump		2nd Pump		3rd Pump	
	Ave resp. time	Diff vs historical	Ave resp. time	Diff vs historical	Ave resp. time	Diff vs historical
Historical	07:19		09:28		11:49	
April 2019 (50 pumps)	07:24	5	10:02	34	12:16	27
Option 3	07:29	11	10:10	43	12:35	46
Option 4	07:33	14	10:06	38	12:34	45
Option 5	07:41	23	10:21	54	12:56	67

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FIRE AND RESCUE SERVICE
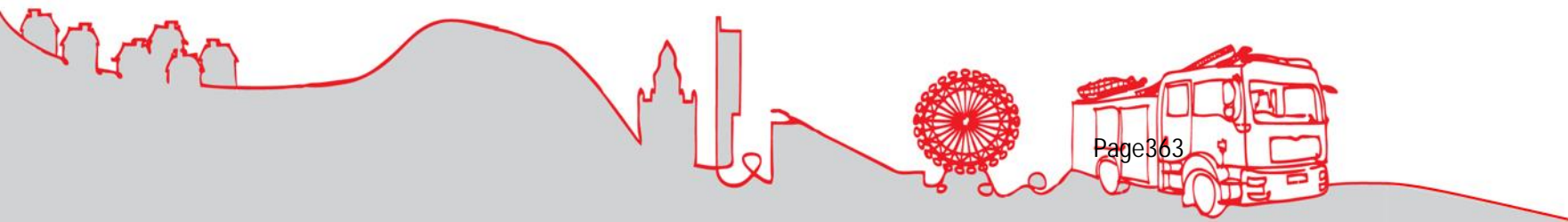
Impact Upon Performance - Option 'Packages'
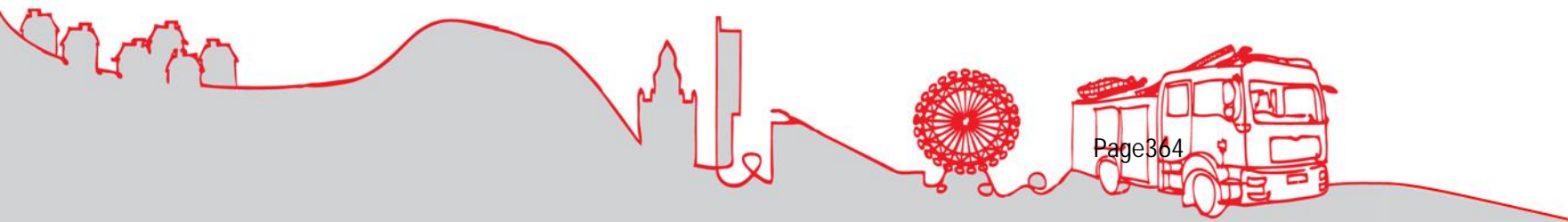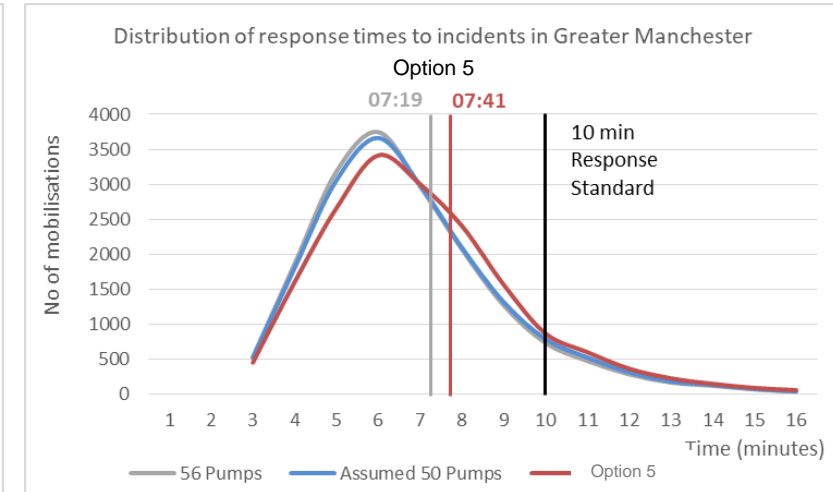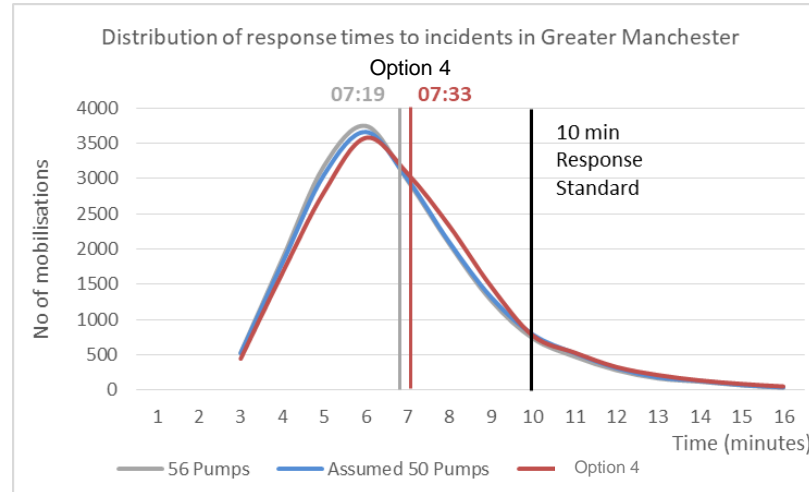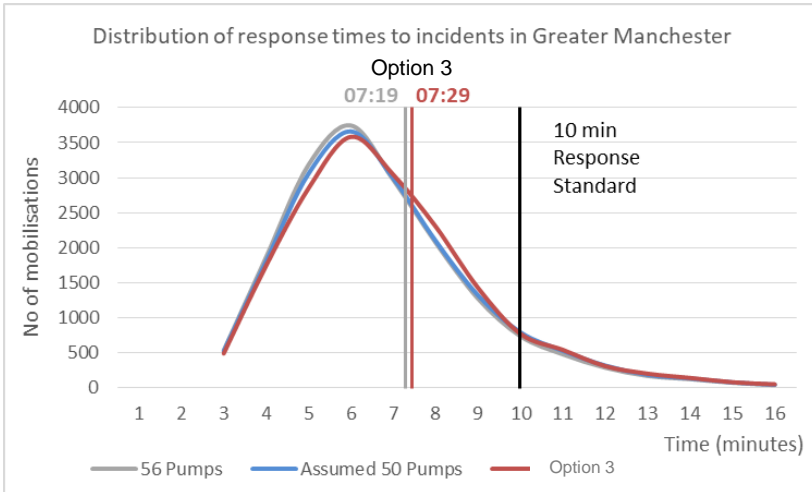
Questions?
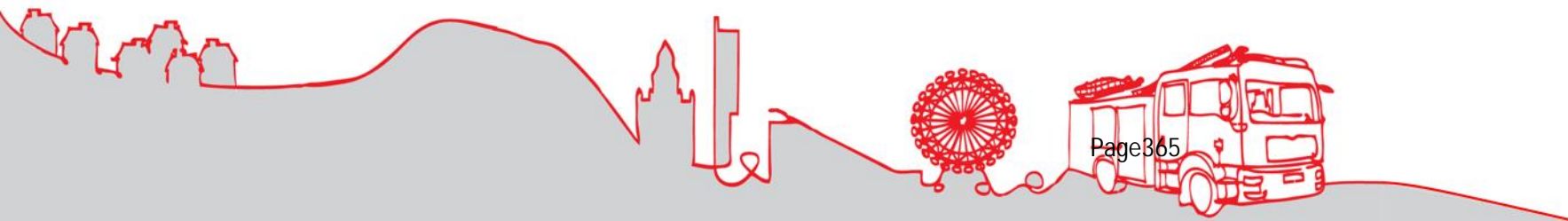
APPENDIX XV

FIRE COVER REVIEW

Comparison of IRMP and Fire Cover Review Options

Emergency Response Directorate

November 2018
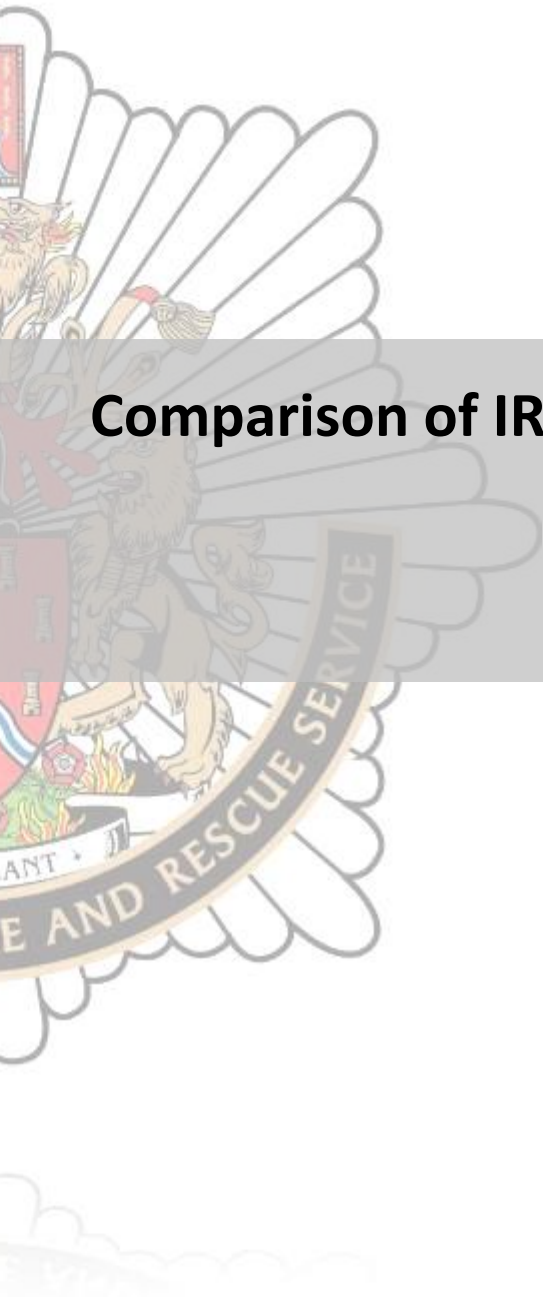
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**GREATER MANCHESTER
FIRE AND RESCUE SERVICE**

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Document Version Control

Document Version Control		
Document Version	**Date**	**Document Authors**
V1.0	November 2018	Emma Dean, Research & Evaluation Officer
V2.0	March 2019	Sarah Scoales, Partner – Planning, Performance & Programme Manager

APPENDIX XV

1. Introduction

1.1. This paper aims to provide a comparison between the proposals outlined in the Integrated Risk Management Plan (IRMP) 2016-20 document and the preferred option package developed as part of the Fire Cover Review.

1.2. Both the IRMP 2016-20 and the Fire Cover Review proposals suggest there is a need to remove fire engines to achieve savings, however each document recommends that different fire engines are to be removed and in a different order. In addition, the IRMP 2016-2020 suggests that some fire engines are to be removed permanently and others are to be removed overnight only. The Fire Cover Review preferred option only suggests permanently removing some fire engines, maintaining the same levels of fire cover during the day and at night.

1.3. The following sections of this report summarises and compares the proposals in both documents.

2. Integrated Risk Management Plan 2016 – 2020

2.1. The IRMP 2016-2020 outlined the need for Greater Manchester Fire and Rescue Service to save £14.79million by 2020. Seventy-eight percent of this needed to be saved in the first two years.

2.2. The IRMP 2016-2020 outlined a number of ways GMFRS would achieve savings. This included savings from removing fire engines and savings from restructuring support services. This is described further in the following sections:

Year One

2.3. In Year One, the following was proposed:
- Remove 60 firefighter posts
- Alternatively crew special appliances, such as high reach aerial platforms and command support vehicles
- Introduction of six CRVs are various locations across Greater Manchester

2.4. The IRMP was paused in December 2017. This was to provide a more detailed analysis of risk in Greater Manchester before any further proposals were implemented. A review into fire cover in Greater Manchester was commissioned to address this.

Year Two

2.5. In Year Two, the following was proposed:
- Remove a further 48 firefighter posts
- Removal of four fire engines during the night, therefore having 56 fire engines available during the day and 52 available overnight
- Introduction of a new shift system to more efficiently manage the available staff hours to crew fire engines

Year Three

2.6. In Year Three, the following was proposed:
- Remove a further 88 firefighter posts
- Permanently remove two fire engines from the emergency response fleet
- Removal of a further four fire engines overnight, therefore having 54 fire engines available during the day and 48 overnight

APPENDIX XV

Year Four

2.7. In Year Four, the following was proposed:
- Remove a further 57 firefighter posts
- Permanently remove four fire engines from the emergency response fleet
- Removal of a further two fire engines overnight, therefore having 50 fire engines available during the day and 46 available overnight.

2.8. In summary, over the four years covered by the IRMP, it was proposed that a total of 253 firefighter posts would be removed, six fire engines would be permanently removed from the emergency fleet and ten fire engines would be unavailable overnight.

3. Fire Cover Review Options

3.1. The Fire Cover Review was commissioned to explore all areas of emergency response. The review aimed to identify a range of feasible options for delivering an effective and efficient operational response which, subject to Mayoral approval, will inform the Service's IRMP from 2019/2020 onwards.

3.2. To ensure that key decisions can be made in respect to the future operational response model within Greater Manchester, a fundamental review and analysis of every key component will be required.

3.3. Following detailed analysis and research, combined with professional judgement, a series of Option Packages were developed. Following discussions with the Mayor, the Option 3b emerged as the preferred option. The following proposals were made in this package:

Year One

3.4. In Year One, the following was proposed:
- Removal of six fire engines from the emergency fleet on 1st April 2019
- Implement a new shift system at non-SDS stations
- Reduce establishment at non-SDS stations and implement a self-rostering system
- Reduce the crewing levels on fire engines to four firefighters

Year Two

3.5. In Year Two, the following was proposed:
- Removal of a further two fire engines from the emergency fleet

Year Three

3.6. In Year Three, the following was proposed:
- Fire station mergers at Bolton, Manchester Central and Stockport

3.7. In summary, over the three years covered by the Fire Cover Review option, it was proposed that a total of 194 firefighter posts would be removed, and nine fire engines would be permanently removed from the emergency fleet. This would reduce the emergency fleet from 56 to 47.

3.8. When comparing the reduction in the number of firefighters between the original proposals within the IRMP against the propsals in the outline business case, whilst the final numbers are similar, the end date for the implementation of the PfC is two years later than the IRMP.

3.9. The year on year comparison for 2019/20 actually sees us with an additional 62 firefighters in communities at that point in time. The below graph demonstrates that if the trajectory of the original IRMP continued, it is likely that the numbers of firefighter posts would have been significantly lower by 2020/21.
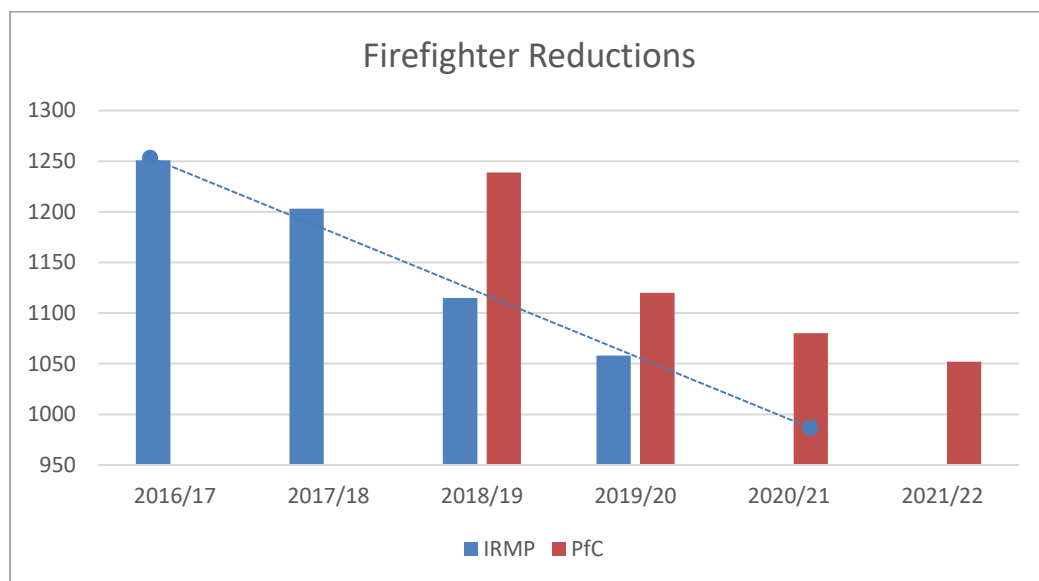
4. Comparison of IRMP with Fire Cover Review Options

4.1. There are some differences between the proposals outlined in the IRMP 2016-2020 document and the cespreferred option developed as a result of the Fire Cover Review. This is illustrated in Table 1.

Table 1 - Comparison of proposed fire engine removal in IRMP 2016-2020 and Fire Cover Review Option 3b

Year in Plan	IRMP 2016-20	Fire Cover Review Option 3b
Year One	No Fire Engines removed	G16P2 Manchester Central G17P2 Blackley G32P2 Heywood G13P2 Moss Side G33P2 Oldham G61P2 Eccles
Year Two	G13P2 Moss Side (Night Only) G32P2 Heywood (Night Only) G33P2 Oldham (Night Only) G58P2 Salford (Night Only)	G58P2 Salford G19P2 Gorton
Year Three	G13P2 Moss Side (Permanently) G32P2 Heywood (Permanently) G17P2 Blackley (Night Only) G19P2 Gorton (Night Only) G50P2 Bolton Central (Night Only) G53P2 Farnworth (Night Only)	No Fire Engines removed
Year Four	G17P2 Blackley (Permanently) G33P2 Oldham (Permanently) G53P2 Farnworth (Permanently) G58P2 Salford (Permanently) G15P2 Wythenshawe (Night Only) G61P2 Eccles (Night Only)	No Fire Engines removed

4.2. Both the IRMP 2016-2020 and the Fire Cover Review Option 3b suggest that the following fire engines are to be removed permanently:
- G13P2 Moss Side
- G32P2 Heywood
- G33P2 Oldham
- G17P2 Blackley

4.3. In addition, both the IRMP 2016-2020 and the Fire Cover Review Option 3b suggest that a number of other fire engines are to be removed. The IRMP 2016-2020 document suggests these should be removed overnight only, whereas the Fire Cover Review Option 3b suggests they are to be removed permanently:
- G61P2 Eccles
- G58P2 Salford
- G19P2 Gorton

4.4. There are some differences between the suggested fire engines to be removed between both documents. The IRMP 2016-2020 suggests that fire engines from Bolton Central, Farnworth and Wythenshawe are to be removed. The Fire Cover Review Option 3b suggests that a fire engine from Manchester Central is to be removed.

4.5. Table 1 shows that the process of removing fire engines would take a number of years if the IRMP 2016-2020 proposals were to be implemented. Initially, a number of fire engines would be unavailable overnight before being permanently removed from the operational fleet. In addition, the level of fire cover will be reduced overnight compared to during day time hours as fewer fire engines will be available.

4.6. The removal of fire engines in the Fire Cover Review Option 3b is front loaded, with eight fire engines being removed in years one and two. In addition, these eight pumps will be permanently removed, meaning there is no difference in fire cover during the day compared with overnight.

GREATER
MANCHESTER
DOING THINGS DIFFERENTLY

The Greater Manchester Model: Further, Faster

Reforming Public Services

THE GREATER MANCHESTER MODEL

This is a summary of the Greater Manchester model of public service delivery. It is about moving from the principles of place-based working, to a new operational model that embeds it in practice. This sets out what our operating model will look like and the key features our public services should be working towards to achieve this. This model and these key features have been built from an understanding of the needs of the people and the communities that we serve right across Greater Manchester.

We do things differently around here. We have always been a pioneers, at the forefront of innovation, we now want to be leading the delivery of a new model of public services

which places people at the centre. This requires a seismic change in thinking as radical as the creation of the welfare state and the NHS.

Westminster can no longer provide all the answers to the challenges facing our communities and devolution has given us energy, hope and a sense of possibility. We have already made great progress and are delivering results but we want to go further, faster. To achieve this we are setting out a completely new approach to public service. Instead of a drive towards more institutions, fragmentation and outsourcing, it is about the very opposite - a one integrated public service team with that ethos at its heart. We are now ready to embed this model of place-based integration system-wide. To succeed, there are barriers to remove and challenges to be overcome and this requires financial reform, workforce reform and culture reform.

Our Greater Manchester model of public service delivery means organising resources – people and budgets – around neighbourhoods of 30,000-50,000 residents, rather than around themes or policy areas as is traditionally done. This new model will mean freeing up the frontline, devolving power, and allocating resources around need more effectively. Each neighbourhood should be served by an integrated place-based team - with co-located professionals from all public services working together.

We want to completely break down the silos which exist between public services that can lead to isolated decision making and a narrow focus to delivery. This often results in people being passed from pillar to post with no one truly listening to or understanding what people and communities really need.

We want to collaborate, as one public service, on prevention rather than individually picking up the pieces. We want to be proactive rather than reactive. We want to promote a model of public service delivery that is truly preventative and person-centred.

There are features which are key to this that will enable us to move from principles to the new delivery model. We need to be able to work to the same geographies, make decisions as one. Dedicated public servants need to be freed up to do what is right, what is needed at the front line and to lead across organisations. We all need to challenge the things that get in the way, we need to work towards a common purpose and we need to be able to combine our resources in a place to do this.

Some of this is within our gift if we work as one but Greater Manchester needs more power to take control of its own destiny. We believe Greater Manchester should now be trusted with more oversight of the whole system and greater freedom in the use of finance. More power, more responsibility and the proper resources to make real change. Our model for Greater Manchester sets out our common goal to help us do just that.

Andy Burnham
Mayor of Greater Manchester

From principles to practice

Our principles have provided the foundation of the Greater Manchester model.

- A new relationship between public services and citizens, communities and businesses that enables shared decision making, democratic accountability and voice, genuine co-production and joint delivery of services.

- An asset based approach that recognises and builds on the strengths of individuals, families and our communities rather than focussing on the deficits.

- Behaviour change in our communities that builds independence and supports residents to be in control.

- A place based approach that redefines services and places individuals, families, communities at the heart.

- A stronger prioritisation of wellbeing, prevention and early intervention.

- An evidence led understanding of risk and impact to ensure the right intervention at the right time.

- An approach that supports the development of new investment and resourcing models, enabling collaboration with a wide range of organisations.

It is now time to move from principles to practice.

GREATER MANCHESTER CONTEXT

Greater Manchester has many great strengths as well as many challenges. The complexity of the challenges our communities face, combined with significant pressures on resources, mean that we can't respond with the same thinking and the same ways of working as we've always done.

We have to work as one.

£22 billion resource
£7 billion gap between public spend and tax income

2.8 million population
Growth of 170,000+ in last decade

65,700 unemployed
4.9% down from 6.2% the previous year

1.7 million calls to police
In the last year

1/4 of 16-19 year olds unemployed
15,300 (26.8%), up from 22.1% the previous year

12,000 children not ready for school
At the end of early years foundation stage

Life expectancy 77.8
Below England average of 79.5

Life expectancy 81.3
Below England average of 83.1

7,892 net additional new homes
In 2016/17

441,000 aged over 65
Growth of 50,000+ in last 25 years

£62.7 billion GVA

268 rough sleepers
And more than 18,000 people at risk of homelessness

OUR COMBINED STRENGTHS

In Greater Manchester we see public services in the widest possible scope; harnessing the combined strengths of our formal services, the voluntary, community and social enterprise sector, local businesses and the assets of our communities.

Public Services Together As One

10 local authorities

15,890 voluntary organisations, community groups and social enterprises

15 NHS trusts

10 GP federations

A Greater Manchester police service

A Greater Manchester fire and rescue service

10 clinical commissioning groups

Our Job Centre Plus partners

Greater Manchester probation partners

28 Greater Manchester housing providers

In 2016 we took charge of health and care in Greater Manchester. Our programme of work reflected a clear and distinct philosophy: that the NHS belongs as part of a wider system of population health, accountable to the people through the framework of local democracy.

What makes health and care devolution in Greater Manchester unique is our commitment to work as part of a connected public service system in our city region. The reform of health and social care is vital to improving GM's productivity by helping more people to become fit for work, get jobs and stay in work for longer. We can also harness the potential of the health and care system to contribute to innovation and drive economic growth.

As the only city region with health devolution, we are remaking the connection between health and other public services that has been lost down the years.

For our residents, this will be most clearly seen in our Local Care Organisations. Unlike other areas in the country that see integration solely through an NHS lens, our ambition through LCOs has always been much broader. It is through the neighbourhoods of 30k to 50k population on which the LCOs are built that health and care will connect with the full range of public services in GM and the community and voluntary sector.

In these neighbourhoods, health and care will play its full role in the Greater Manchester model of public service delivery. Our approach to the neighbourhoods has always been guided by a core principle: identifying who contributes to health creation and how they can be better connected.

Equally, we recognise our responsibility in health and care to work with all partners to change the way public services are delivered for our residents in GM. Public services, including health, are too often characterised by short-term, uncoordinated reaction to crisis rather than an approach centred on early intervention, prevention and proactive support that draws on the assets of individuals and their communities. We must all work together to tackle this – particularly in the areas of workforce, digital and joined up budgets.

It is only through working in this way that we will secure the happy, healthy and hopeful lives that we seek for all of our residents. The Health and Social Care Partnership stands ready to play a leading role in this.

Jon Rouse CBE
Chief Officer
Greater Manchester Health and
Social Care Partnership

21ST CENTURY PUBLIC SERVICE DELIVERY

The prevailing national model of public service delivery remains grounded in the underlying assumptions of how services and organisations operated at the turn of the last century. Society was a lot less complex, a lot less diverse and a lot less connected 100 years ago. That's why we need a new public service model that is fit for purpose now, and for the future.

In Greater Manchester we have extensively studied this traditional model of public service delivery and have identified where it falls short in managing need and fostering capability. We have identified the key features that distinguish our model from the traditional model and recognise the fundamental shift needed in these underlying assumptions to ensure public services meet the needs and build on the strengths of Greater Manchester's greatest asset – its people.

The Greater Manchester Model – What's different?

Traditional national model		Greater Manchester model
Driven by process and formality	**Relationships**	With people, communities, businesses and places
Reactive response – picking up the pieces	**Demand**	Proactive and preventative, focus is on an effective response, we come to you and work together
Siloed and specialised	**Service design**	Co-design and co-production, purposeful and based on the needs of individuals
Programmes and projects fixing problems within policy limits	**Method**	Strengths-based, building integrated solutions around people
Top down and disconnected from reality	**Decision making**	Connected to individuals and communities, informed by bottom-up approaches
Do to people	**Citizen and State**	Do with, supporting communities
Achieving organisational outcomes	**Focus**	What matters to people – their strengths and hopes
Manage spend, reduce demand, reduce organisational risk	**Purpose**	Empowered to change lives – good physical, mental and social wellbeing in thriving and caring communities
Short-term budgets and monitoring lagging statistics	**Measurement**	Measure what matters to people, long-term incentives to invest in prevention and improve through innovation

Place-based Reform: The Greater Manchester Model

Our focus is on bringing services together at the neighbourhood level, designed around the person and their needs. In order to do this we also need to bring services together, above this, at a locality level. This is both about ensuring specialist services can be seamlessly pulled into the neighbourhood and also having the right arrangements in place to work as one public service within the locality. The map provides an overview of what needs to be in place at both the locality and neighbourhood level to enable us to deliver our public service operating model.

Locality level	Neighbourhood level
Specialist services operate at the locality level which have skills, knowledge and expertise that can be drawn on by the integrated neighbourhood function, or to provide strategic insight and intelligence. A single integrated locality function also exists to bring together intelligence and coordinate resources around the most complex and costly cohorts, providing one front door for those cohorts, and working in close conjunction with the integrated neighbourhood functions.	Integrated delivery of services at neighbourhood level (30-50k population), intervening early and responding to the person in the context of their community. The assets within those communities, alongside universal services, are at the heart of this approach.

Services also operate at cluster, or GM level providing acute or specialist capabilities needed at that level, and engaging outwardly with regional and national agencies.

A completely new approach to public service delivery.
Breaking down the silos between public services, collaborating on prevention rather than individually picking up the pieces.
Promoting a model of public service delivery that is truly preventative, proactive and person-centred.

A single programme of transformation and reform across all disciplines

Further devolution, policy change, new regulatory environment

Supported by place-based pooled budget

Directed by **one public service leadership team**

Universal services, like schools and GPs, are **cornerstones of public services** in their communities and are connected with other public services through integrated neighbourhood functions

A **single commissioning function** for the locality

Integrated specialist/acute services for the most complex and costly

A **single function** for triage, assessment, tasking and coordination across all cohorts

One integrated neighbourhood function for each geographic footprint (30-50k). Frontline practitioners, pulling on specialist support.

• Care coordinators/navigators
• Community safety advisors
• CRC workers
• District nurses
• Early years workers
• Environmental health officers
• Family support workers
• Focused care workers
• Health visitors
• Housing officers
• Key workers/early help workers
• Mental health practitioners
• Neighbourhood beat officers
• Neighbourhood/community safety officers
• Pharmacists
• Police community support officers
• Social workers
• Substance misuse workers
• VCSE sector workers and volunteers

Information is shared between agencies safely to support effective delivery and identifying those most at risk

Working as **one public service workforce**, with redesigned roles and shared Job Descriptions across organisations

The **VCSE sector** are part of the fabric of public services. Public services are delivered with local citizens, communities, businesses

The landscape of policing is changing and crime is becoming ever more complex in nature. The demand for policing services continues to increase and so the prioritisation of scarce resources is of critical importance to ensure that we continue to protect the most vulnerable in our society. The public expectation of policing does not reflect the demands we face. It is imperative that we work more closely with the public, as well as other public services, to continue to enhance the services we deliver.

The Greater Manchester Police vision sets out the need to work with citizens and our statutory and voluntary partners to build better outcomes for the public. It recognises that we must work differently in this challenging environment to create the space to solve problems, keep people safe, and deliver against the Police and Crime Plan, 'Standing Together'.

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Recent work we have carried out, with other public services, means we now have a much better understanding of the root causes of the demands faced by policing. It provides a compelling case for the need to overcome the information sharing, physical, cultural, and financial barriers which inhibit the integrated working required to stop the cyclical demand generated by an increasing number of often vulnerable individuals and families.

A number of place-based early adopter sites have demonstrated how integrated teams have improved the life experience and outlook for individuals with complex needs by making the system more responsive to their aspirations, thereby reducing dependency on police and public services. The challenge for us now is in how to upscale these different working practices. Greater Manchester has embraced this challenge by adopting a shared operating model for public services that will provide a new offer to people in Greater Manchester, which places them at the heart of improving their life opportunities. At the same time a more effective approach to complex social and health needs will release resources needed to tackle continuing threats from organised crime and address the growing problem of digital and digitally enabled crime carried out by individuals and groups who often victimise the most vulnerable in society.

Ian Hopkins QPM
Chief Constable, Greater Manchester Police

KEY FEATURES OF THE GREATER MANCHESTER MODEL

Setting out our model for Greater Manchester has not come out of the blue. We have been on a long journey of reform and integration throughout our history of collaboration and our more recent devolution deals.

We have spent time understanding how public services are experienced from the person's point of view, understanding how the system works as a whole and understanding what gets in the way. We have tested, adapted and built our evidence base, putting our common purpose above individual organisational interests.

Our operating model has been developed from the ground up, working with front-line teams and being part of local conversations. In addition we have undertaken honest self-assessments which have identified common themes across all public service, health and care organisations in each of the ten localities and Greater Manchester as a whole.

The six key features of our operating model highlight those areas in which it is essential we make progress if we are to truly realise our ambitions. These six features will need to inform our future decisions about investment, will require joint policy decisions at a Greater Manchester level and importantly will require a direct dialogue with central government to inform future devolution asks.

THE GREATER MANCHESTER MODEL

Key feature

1

Geographic alignment

"It's really easy to access services here, I know exactly who and where people are and can see them all working together in one place."

- All services share coterminous service delivery footprints and integrated services are delivered at either Greater Manchester, locality or neighbourhood level.

- The neighbourhood level is the building block for local care organisations and the foundational unit for delivery recognised across public service organisations.

- Neighbourhood level delivery aligns to populations of 30k-50k residents. All services can describe how they align capacity and capability at this level for mutual benefit.

- Focussed activity may be delivered below the neighbourhood level but this will stack into the neighbourhood service delivery footprint, which in turn stack up to the locality level.

THE GREATER MANCHESTER MODEL

Key feature
2

Leadership and accountability

- Integrated leadership, accountability, performance and governance structures reflect the geographic alignment of services at Greater Manchester, locality and neighbourhood levels.

- Joint decisions can be made across organisations at each spatial level with an emphasis on leading for the people and the place as opposed to purely on an organisational or functional basis.

THE GREATER MANCHESTER MODEL

Key feature
3

One workforce

"I feel like people really listen to me and what's going on in my life. I never thought I'd see people from the council, the doctors, the police, the housing office and the Job Centre all working as one team."

- There is a look and feel of one public service workforce functioning together, unrestricted by role titles or organisational boundaries – working for the place and people.

- Driving service effectiveness, focussing on prevention and taking a person-centred approach is at the heart of everything we do, based on a new relationship with citizens.

- Structures support this way of working through policy, practice and organisational form.

- There is a common culture across organisations displayed through shared assumptions, values and beliefs that enable this way of working.

THE GREATER MANCHESTER MODEL

Key feature
4

Shared financial resource

- There is a clear understanding of the full public spend across the locality including how this operates at each neighbourhood level.

- A mechanism is in place to pool transformation and reform funds for collective benefit.

- There is a single commissioning function which pools budgets across all public service, health & care organisations. Integrated core budgets exist where relevant e.g. neighbourhood functions.

Key feature

5

Programmes, policy and delivery

"I don't have to tell my story over and over again. I don't have to fill in hundreds of forms or go to assessments for different things, it feels like things are much more flexible."

- **All strategic plans and change programmes work towards a common goal of integrated public service delivery.**

- **The key features of our operating model are embedded in the blueprint design of all programmes of work, driving out duplication and divergence.**

- **Multiple integrated delivery models come together as a single neighbourhood delivery model with this approach reflected at the locality and Greater Manchester levels.**

- **There is a shared knowledge of the strengths and issues in a place, human and digital capabilities form the basis of a collective intelligence across organisations that shapes decision making and strenghtens relationships.**

THE GREATER MANCHESTER MODEL

Key feature

6

Tackling barriers and delivering on devolution

- Each locality has a formal mechanism to identify, act on and escalate issues that impact on delivering the most effectives services for people or act as a barrier to wider and deeper integration.

- Greater Manchester is able to have a single conversation nationally around policy, legislative and financial flexibilities which support our ambitions and further strengthen our devolution deals.

Who is the model for?

Clinical commissioning groups
Community rehabilitation companies
GP Federations
Greater Manchester Combined Authority
Greater Manchester Fire and Rescue Service
Greater Manchester Health and Social Care Partnership
Greater Manchester Police
Housing providers
Job Centre Plus
Local authorities
National Probation Service
NHS Trusts
Other NHS bodies
Providers of public service, health and care commissions
Schools and colleges
Transport for Greater Manchester
Universal service providers
Voluntary, community, faith and social enterprise groups

For the benefit of all citizens of Greater Manchester

In Greater Manchester we currently face unprecedented challenges of increasing demand and reducing budgets. If we don't come together to radically reform our public services we will all fail our communities and police, council, DWP and NHS funding will not be sufficient to meet the growing needs of our communities.
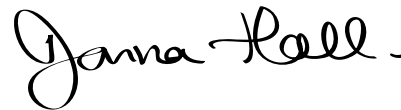
Integrated place-based working in Greater Manchester is key to supporting our residents to lead happier and healthier lives as well as building community resilience and saving public money wasted on propping up a broken system. As the lead officer for Public Service Reform supporting Andy Burnham, Greater Manchester Mayor, I'm delighted to set out our public service model for Greater Manchester .

We have a brilliant opportunity for all public services to come together with the community and voluntary sector to challenge ourselves to go further and to go faster in rolling out integrated place-based working.

As part of the Wigan Deal, which is a different relationship with our residents, we have developed with communities and partners seven fully integrated Service Delivery Footprint areas. Populations of between 30,000 and 50,000 have public services sharing data and joined up approaches in "huddle" meetings. Local police officers, drug and alcohol workers, housing staff, doctors, local community groups, veterans groups, hospital staff, children and adult social workers, Job Centre staff all work together to share information about residents who need our support. Through a trusted keyworker they build a different relationship and support everyone to achieve the life they deserve to live.

This approach enables us in Wigan and across all of Greater Manchester to deliver Andy's reform priorities of school readiness, life readiness, aging well and homelessness, working alongside local communities and investing in grass roots community projects.

 We cannot achieve our Greater Manchester Strategy goals unless we work closer with our residents and stop passing them around a fractured system of expensive and reactive public services.

Donna Hall CBE
Chief Executive of Wigan Council, and
Accountable Officer of NHS Wigan Borough CCG.
Greater Manchester Portfolio lead for Reform
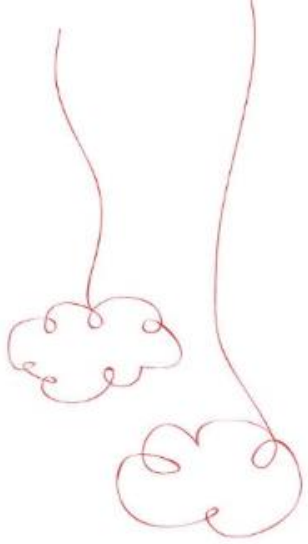
A new approach to Training

17.10.18

"The vision is to create a culture of learning, development and improvement across the Greater Manchester Combined Authority and to utilise our assets to maximum ability."

GREATER MANCHESTER
FIRE AND RESCUE SERVICE
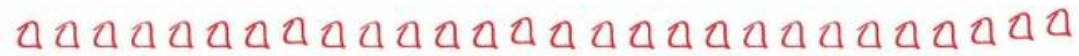
The current arrangements for the delivery of training could be more effective and efficient with numerous areas for improvement including;

- **Governance**

- **Training estate and facilities**

- **Capacity**

- **Organisational Culture**

- **Systems**

- **Processes**

- **Business Development**

Key drivers for change

GREATER MANCHESTER
FIRE AND RESCUE SERVICE

Strategy & Direction			
Organisational Training Support	**Organisational Training Delivery**	**Quality Improvement Team**	**Business & Commercial Development**
Workforce & Succession Planning	Specialist Skills	Qualifications Management	Training & Safety Centre Operations
Digital	Essential Learning	EQA - Audit & Assurance	Business Development
Systems	Leadership & Management	Evaluation & Impact	Community Development
Procurement & Contract Management	Community Learning	Data Analysis	
Administration		Policy Development	

GREATER MANCHESTER
FIRE AND RESCUE SERVICE

Investment is required to complete the Bury TSC and allow it to become the single central site for learning and development.

An indicative total investment of circa. £2.4m which includes;

- £607k to complete the outstanding six scenarios to meet the existing requirements of the annual Training Needs Analysis

- £1.6m to renovate the Sage building and reconfigure the inside RTC area to create extended classroom and welfare facilities

- £35k to develop resource booking software

- £85k resurfacing works

- £7k for the relocation of existing XVR software

GREATER MANCHESTER
FIRE AND RESCUE SERVICE
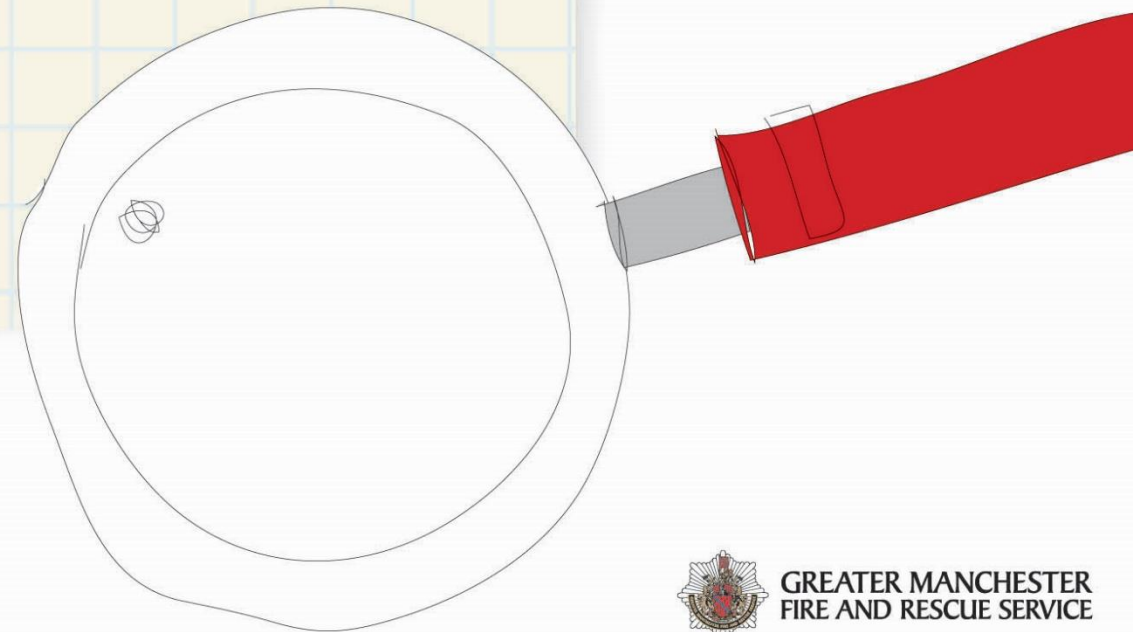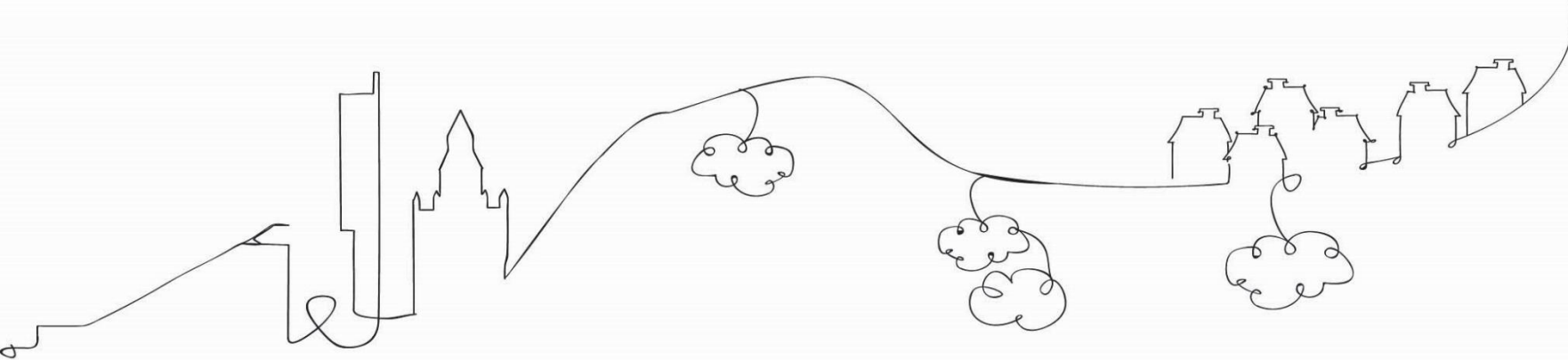
Initial Suggested Timeline

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
Scenario completion	Stage One			Stage Two			Stage Three											
Sage Refurb	Design			Ground Floor			Second Floor			Commission								
RTC Refurb							Design			Build						Commission		
Staffing model	Task Analysis			Gap Analysis			Matching			Recruitment			Implementation					

GREATER MANCHESTER
FIRE AND RESCUE SERVICE

Example of existing courses that could be delivered externally with the introduction of a new learning and development team;

Indicative Potential Return on Investment

Course	No. of delegates per course	Expenditure	Potential income- based on FSC comparison
L3 Certificate Fire Safety	16 delegates	£16,000	£80,000
Level 3 Award In Initial Incident Command in Fire and Rescue Services	6 delegates	£8548.00	£62,252.00
Level 3 Award In Breathing Apparatus Instruction	8 delegates	£30440.00	£68,600.00
Award in Education and Training	6 delegates	£2142.00	£1071.00
		Total Annual	**Approx £212,000***

Based on the delivery of one course per quarter

GREATER MANCHESTER FIRE AND RESCUE SERVICE

Example of other income streams that could be accessed with the introduction of a new learning and development team plus investment at Bury TSC;

Income Stream	No. currently delivered	Potential delivery no.*	Expenditure	Approx projected income
Site hire	4	8	£134.00	£7866.00
Room Hire	4	12	£33.62	£2186.00
Scenario Hire- per property**	0	12	£2213.00	£2244.00
Office space	1	1	-	£995.00
Filming***	3	2	£736.00	£4264.00
Corporate experience days	2	4	£2552	£1276.00
			Total	**£18,831.00***

*Based per annum

** Price based on one property multiple properties can be used at one time

***Based on filming twice per year at weekends

Indicative Potential Return on Investment

GREATER MANCHESTER FIRE AND RESCUE SERVICE

Outcomes

Commitment to both the development of a new learning and development model and investment into the Bury TSC will result in the following outcomes;

- A successful single enterprise, with the potential to become self sustaining

- A unique training and development facility that meets the needs of the GMCA

- An organisational approach to Training Needs Analysis

- The opportunity to release Training & Development Centre (TDC)

GREATER MANCHESTER
FIRE AND RESCUE SERVICE
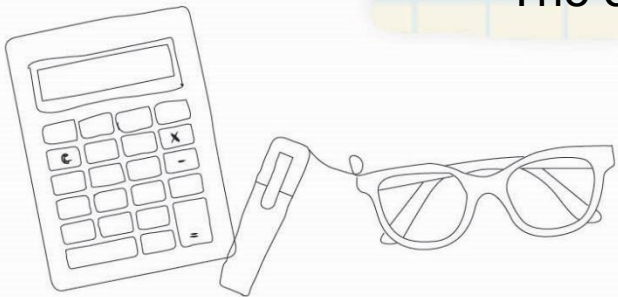
Appendix XVIII

<u>Overview of non-station based operational teams</u>

<u>Operational Assurance</u> - The Operational Assurance team provides support and guidance for operational staff on the incident ground whilst also assuring on operational related activities to ensure we operate in a safe, effective and generic manner and comply with H&S requirements, policy, procedure and guidance. Learnings from assurance processes are fed into other frontline support service to continually improve operations.

<u>Operational Support</u> - The Operational Support Department is responsible for the provision of expert sector led advice on operational matters. The team are responsible for the provision of high quality operational and personal protective equipment (PPE) through effective research, development and evaluation of feedback from operational firefighters.

<u>Operational Training</u> - The Operational Training Department supplement station based training to ensure that our firefighters are training to the required standards. Areas of training covered are, recruitment of new firefighters, technical training (national resilience, urban search & rescue, technical response unit specialist training and safe working at height), breathing apparatus, incident command training and assessment and driving training.

<u>Operational Policy and Procedure</u> - This front line support department is responsible for developing, reviewing and publishing Standing Operating Procedures (SOP) for all incident types, SOP Action Cards, Operational Information Cards and Operational Risk Assessments.

<u>Contingency Planning Unit</u> - The Contingency Planning Unit (CPU) ensures the discharge of our functions in relation to Emergency Preparedness on behalf of the Greater Manchester Combined Authority. This includes the legislative requirements imposed by the Civil Contingencies Act 2004, the Control of Major Accident Hazard Regulations, the Pipeline Safety Regulations 1996, the Radiation Emergency Preparedness & and Public Information Regulations 2001 and the National Fire and Rescue Service Framework.

The CPU also assesses risks identified in the National Risk Register of Civil Emergencies and the Greater Manchester Community Risk Register and co-ordinates the implementation of relevant work streams contained in the Greater Manchester Local Resilience Forum strategy designed to mitigate the identified risks.

<u>Resilience</u> - The Resilience Department can be divided into three main areas:

<u>Hazardous Materials and Environmental Protection</u> - This section provides logistical support and training to frontline operational staff and Hazardous Materials and Environmental Protection Officers in-line with legislative requirements under different statutory duties. Also they support internal departments with strategy, policy and procedures and new national policy guidance. They oversee and manage environmental protection on behalf of GMFRS and with other partner agencies and bodies i.e. the Environment Agency and the Health and Safety

Executive (HSE) and ensure statutory radiation compliance and premises listings across the county

Hazardous Materials Detection, Identification and Monitoring (HDIM) - The team are responsible for our operational response to incidents involving hazardous materials to assist front line staff resolve operational incidents by the detection of a range of chemicals or radiological hazardous substances, identification of hazardous substances whether chemical, biological or radiological and by monitoring the levels of contaminate present to aid frontline staff to establish and maintain safe systems of work and cordons.

The Technical Response Capability - This section oversees the Technical Response Units (TRUs) and support vehicles and operational crews that are located at Leigh and Ashton. These specialist vehicles and highly trained operational crews deal with more complex and serious incidents involving: heavy and specialist rescue skills.

APPENDIX XIX

STRATEGIC OPTIONS FOR CHANGE

In developing the new target operating model, a number of strategic options were discussed with CLT and other advisors supporting the programme. The options for change which would deliver the required drivers were set against a relatively narrow list of deliverables to be achieved.

A high-level options appraisal was undertaken and options were evaluated against a set of agreed criteria.

The evaluation criteria were developed to enable each option to be assessed against its ability to respond to each of the key change drivers, including:

- Strategic alignment with the vision
- Ability to deliver cultural change
- Financial appraisal in relation to the achievability of savings
- Future sustainability
- Impact on operational effectiveness
- Improved partnership working
- Level of risk associated with implementation

This section presents a brief summary of each option against the agreed criteria. In addition to the evaluation criteria, each option is also considered in the broader context of its ability to optimise the delivery of services within the new operating model against a backdrop of funding constraints.

Option A – As-Is (Do Nothing)

The Do Nothing option is not sustainable in the longer term. With a reducing funding envelope and diminishing reserves (which are no longer under the direct control of GMFRS following the recent transition to GMCA) the organisation cannot afford to stand still. In addition to this, the do nothing option would continue to re-inforce the silos between frontline delivery and back office support functions, and would fail to achieve the cultural shift to a more joined-up cohesive organisation.

Option B – Deliver all change and associated savings from support functions

This option relies upon all savings being derived from operational and business support functions such as fleet, logistics, training, administration etc. as well as corporate support functions such as finance, legal, HR & IT.

Whilst this option has the potential to deliver the required savings without impacting on frontline Firefighter roles, it is not a sustainable option in the longer-term.

Discussions with Scotland Fire & Rescue service also indicated that one of the key learnings from their change programme was that the organisation was not able to cope with the significant reductions in business support functions early on in their change programme. This ultimately resulted in operational staff and firefighters having to fill voids and undertake more administrative duties.

In addition to this, the delivery of corporate support functions and services to GMFRS is also complicated due to the recent migration of services out of the direct management and budgetary control of GMFRS to GMCA as the corporate body.

The core services of people (HR), finance & procurement, communications and digital services, are within the direction of GMCA, with a recharge model in place, with a split of services charged back to the budget for GMFRS, and associated services provided based on this model.

Therefore, any efficiencies identified within these corporate support areas would need to be realised as part of the broader GMCA Service Improvement Programme with a subsequent reduction in service charges to GMFRS.

Option C – Deliver all change and associated savings from firefighter roles and operational delivery

This option relies upon achieving all savings through a reduction in frontline Firefighter roles.

Whilst this option could be achieved through natural attrition and vacancy management it does not align with the future vision or the focus on response and frontline service delivery.

This option is does not deliver any efficiencies in operational and business support functions, relying instead on a reduction of frontline Firefighter posts which in turn carries a significant political risk due to public perception and value for money.

This option also carries a greater operational risk due to fewer frontline Firefighters.

Option D – Streamline support functions, retain P&P delivery 'As-Is', balance of savings from firefighter roles and operational delivery

This option seeks to streamline non-business critical activity and retains the 'As-Is' Prevention & Protection delivery model, with these areas continuing to be carried out by non-firefighter green book staff. Under this option, the balance of savings to achieve the required efficiency target would need to be delivered through a reduction in frontline firefighter posts.

Whist this option aligns with the future vision, focussing on response and core business critical activity, streamlining support functions, together with a more coherent approach to place-based partnership working, it fails to deliver any cultural change and does not make best use of available firefighter capacity.

The continued delivery of the as-is Prevention and Protection delivery model would mean that a greater reduction in firefighter roles would be required to deliver the balance of savings, therefore increasing operational risk due to fewer frontline firefighters.

Option E (Preferred Option) – Streamline support functions, maximise P&P activity delivered by firefighters, balance of savings from firefighter roles and operational delivery

Option E adopts the same approach as option D, effectively focussing on response and core business critical activity, streamlining support functions, together with a more coherent approach to place-based partnership working.

The key difference within option E, however, is the establishment of an alternative delivery model for Prevention and Protection which would see the role of the firefighter absorb the majority of Prevention activity as well as some elements of Protection delivery.

Whilst none of the options are without risk, option E also carries the least risk in terms of operational delivery due to the lowest reduction in firefighter roles, whilst at the same time maximising the use of firefighter capacity to undertake place-based Prevention and Protection activity.

Based on the evaluation of each options ability to respond to each of the key change drivers, option E is the preferred option based on a clear alignment with the new GMFRS vision and purpose, the achievability of savings, its ability to deliver cultural change and remove silos across the organisation between uniform and support staff.

Option E also offers the lowest reduction in firefighter roles across all of the options and maximises the use of firefighter capacity.

Strategic Options Appraisal

Option	Description	Benefits (Pros)	Risks (Cons)	Vision Alignment	Cultural Change	£7.2m Cost Savings	Sustainability	Operational effectiveness	Partnership Working	Risk (org, political, change etc.)
A	As-Is (Do Nothing)	None	Unaffordable option, doesn't make best use of available firefighter capacity, diverts focus away from core fire-related activity and doesn't address any of the cultural challenges	✖	✖	✖	✖	✖	✖	✖
B	Deliver all change and associated savings from support funcions	Savings can be achieved, no direct impact upon frontline roles	Not sustainable - voids will end up being picked up by firefighters or won't get done. Worse case, organisation could fall over, risk could increase through non-compliance, no prevention activity etc.	✖	✖	✔	✖	✖	✖	✖
C	Deliver all change and associated savings from frontline firefighter and operational functions	Savings can be achieved. Potentially sustainable through vacancy management based on baseline requirements for fire cover across Greater Manchester	Doesn't align with vision or prioritise frontline activity. Significant political risk associated with public perception. Increased operational risk due to fewer frontline firefighters.	✖	✖	✔	✔	✖	✖	✖
D	Streamline non-business critical activity within support functions. Prevention & Protection retained in 'greenbook' support functions No change to Firefighter role Balance of savings to come from frontline firefighter roles	Aligns with vision. Savings can be achieved. Potentially sustainable through vacancy management based on baseline requirements for fire cover across Greater Manchester. Removal of 'non-core' activity from support functions means fewer reductions in firefighter roles.	Doesn't achieve any cultural change or make best use of available firefighter capacity. Increased operational risk due to fewer frontline firefighters.	✔	✖	✔	✔	✔	✔	✖
E	Streamline non-business critical activity within support functions. Role of firefighter absorbs the majority of Prevention activity and some Protection activity Balance of savings to come from frontline firefighter roles	Aligns with vision. Savings can be achieved. Drives cultural change. Lowest reduction in firefighter roles across all of the options. Makes best use of firefighter capacity and is therefore more sustainable in the long-term.	Need to clearly evidence firefighter capacity to take on additional Prevention & Protection activity. Organisational risk associated with gaining firefighter buy-in to revert to undertaking Prevention and Protection activity.	✔	✔	✔	✔	✔	✔	✖

Appendix XX

Activity Based Costing Exercise

1. To support the understanding of how services are provided across GMFRS, an assessment of activity, known as Activity Based Costing (ABC), was undertaken by an external supplier, Value Adding, to enable wider understanding of where costs lie across the Service, and where there may be opportunities to realise efficiencies through improving processes.

2. The ABC was particularly useful when calculating the cost of activities that straddle a number of directorates, giving insight to the service's costs in a way that formal, silo-based budgeting techniques cannot and leading to decisions about process improvement and increased efficiency that will ultimately result in changes to the service's structure.

3. Utilising the ABC model and building on the development of the new operating model the Corporate Leadership Team and workstream leads developed baseline structural options for each of the core functions, which were underpinned by independent reviews to determine the most appropriate structure moving forward.

4. In addition to reviewing the directorate structures and delivery models, there are a number of opportunities for improvement regarding governance, and processes especially where similar activities were undertaken in different parts of the Service.

5. The ABC activity identified a high proportion of non-value add activity within the Prevention & Protection function, particularly in relation to community safety and engagement activities. Consideration are being given regarding redeploying activities, currently undertaken by the Community Safety Advisors, to operational crews.

6. Current administration activities are undertaken across the Service in a number of separate functions. Processes are inconsistent and require streamlining. The formation of a true centralised administration offer is essential to drive costs and service improvement, reinforced by system support. There is an opportunity to create an internal call centre and improve processes to support Station and Watch Managers to make the 'sustaining activity' work easier.

7. A number of challenges have been identified in relation to the current training model. The delivery of the current model is split across directorates resulting in ineffective prioritisation and utilisation of assets. There is a duplication of management and support structures, but different approaches, weaknesses in systems and inconsistencies with quality assurance.   This could be improved significantly if a new deliver model with a single delivery structure and streamlined processes is implemented.

8. The Operational Assurance function currently sits in the same structure of the operational teams it assesses, potentially causing a conflict of interest. The staff feedback gathered regarding this department is largely negative. However, this should be caveated to some degree, as the primary goal of an assurance function is not to achieve popularity but deliver effectiveness and safe systems of work.

    "Ops Assurance should be supportive, not fault finding."

    "Too many people in Operational Assurance. We don't need people on the fireground with clipboards. If a Station Manager is on the fireground he should take charge of the incident, not stand there with a clipboard."

9. The ABC exercise enabled an organisational costing model to be built, and was further informed following a number of workshops held with staff to discuss and agree the activities they undertake. Representatives from each team were invited to use the ABC model to allocate their actual time to the agreed activities, which enable the production of a full organisational view of both value and non-value activities.

10. The proposed organisational structures are based on options that adopt a pragmatic approach to delivery. There is a need to focus on core business, financial efficiencies, cultural and behaviours change, whilst improving operational delivery. At the same time, it is essential that a balanced incident command structure is maintained to support resilience.

11. Considerations should be given to moving the Operational Assurance function outside the remit of the Response Directorate. This would ensure operational delivery and the audit of this area are within accountabilities of separate principal officers, which reduces the conflict of interest risk to the Service and ensure more appropriate robust governance.

12. The benefits of the Mayoral governance model provides huge opportunities for the joint transformation of public services to Greater Manchester communities, providing value for money in the delivery of public safety. The new structures should enable us to do this more effectively. (Partnerships and Collaboration)

13. Organisational assurance will develop from the existing operational assurance function and will focus on wider issues other than pure operational delivery. This will help join up performance and risk management, which will begin to embed a continuous improvement culture. This needs to be driven across GMFRS, and it is anticipated that these functions will continue to shape as the Service progresses in maturity.

14. The existing Operational Assurance team will support the target-operating model, its remit extended to support organisational assurance, with suitable training and qualifications provided. In addition, a structure and culture is being developed where assurance, efficiency and effectiveness will be driven locally.

An Activity Based Costing Study conducted for GMFRS

Presented by ValueAdding.com Ltd
October 2018

Contents

Executive Summary

This paper presents findings and recommendations emerging from the Activity Based Costing (ABC) study carried out in GMFRS between June and September 2018. It provides information, which will support management thinking and gives an evidence base for decisions that will be made.

The report shows where time and therefore money is spent in the service and allows management to question whether the profile of expenditure is as they would want it, typically prompting the questions, "why do we spend so much on one activity compared to another?" and "why do we undertake that activity at all?"

We conclude from this work that there is significant potential for the service to reduce its costs without damaging the core service that it delivers to the communities of Greater Manchester, through changing work practices, utilising available capacity in ways that are more efficient and altering its operational structure. As well as calculating savings opportunities for non-core services and back office functions, we have suggested activities in core service areas, which should be examined and potentially reorganised so that spare capacity may be redeployed.

Specifically the current fixed capacity operational model encourages stakeholders to artificially "push" demand onto GMFRS, thereby filling capacity. To be cost effective many organisations make themselves flexible so that core demand "pulls" capacity as and when required.

To support management in its thinking we have presented a range of savings potential. The extent to which these are achieved will depend on management's appetite for change along with an assessment of the ease of implementing change and any risks of doing so. In detailed instances where the calculations identify that part FTE reductions are possible (the so-called "arms and legs" effect, the way to release financial benefits is through reorganisation and restructuring.

Savings will come from the areas below or a combination of them

- Reducing back office staff
- Changing processes
- Removing the requirement to carry out certain activities
- Relocating activities to GMCA
- Making better use of operational capacity
- Redeploying uniformed staff

The ultimate level of savings targeted will depend on

- Management's appetite for change
- Acknowledgement of the ease of implementation
- Recognition of any risks
- Pressure of funding arrangements and budget constraints

For these reasons, it is not possible for this report to be prescriptive on the level of savings that can be made, nor does this report seek to identify specific roles or posts that may need to be closed as a result of a change programme. These details can only emerge once the general direction of travel is known, the future levels of collaboration with GMCA are agreed and a decision is taken on the treatment of vacancies.

However, the outputs from this work will inform management in their strategic discussions and when decisions have been taken regarding the direction of travel, the outputs from the model can be interrogated further to provide detailed answers to questions of cash and savings.

At this moment our outline estimates on identifiable savings areas are:

Opportunity	Low savings	Medium savings	High savings
Closing funded vacancies	£ -	£ 1,800,000	£ 3,600,000
Youth Engagement	£ 702,000	£ 993,000	£ 1,070,000
Community Safety and Engagement	£ 1,500,000	£ 1,700,000	£ 2,500,000
Training (non-operational)	£ 141,000	£ 600,000	£ 1,200,000
Administration	£ 250,000	£ 544,000	£ 750,000
People support	£ 150,000	£ 174,000	£ 200,000
Partnership working	£ 125,000	£ 234,000	£ 359,000
Analysis and reports	£ 75,000	£ 100,000	£ 125,000
Releasing operational capacity	£ 800,000	£ 1,600,000	£ 2,400,000

This is not necessarily a list of exclusive areas for savings; the approach taken may open up other areas for cost reduction. In addition, there are any number of permutations for these numbers, depending on how the service views the opportunity in each area.

We believe a sensible range of savings would appear to be £3m - £8m.

Whilst we have been careful to ensure that activities are not double counted, it should also be recognised that additional opportunities might arise as a result of further interrogation of the model's outputs.

Finally, when considering making changes as part of developing and implementing a new Target Operating Model the service should recognise that the construction of a new structure brings greater opportunities to achieve cashable benefits more quickly. The savings potential within a new Target Operating Model are at the top end of our range quoted above.

We anticipate that this report will raise further questions, which we may not have addressed. Where additional or more detailed information is required, the model can be interrogated further and our detailed workbook has been made available for this purpose.

An introduction to Activity Based Costing

ABC was originally devised to allow commercial sector organisations to understand the profitability of different products and customers. However, it is used by public sector organisations to help them understand the end-to-end and true costs of delivering services. To do this, it takes actual costs from the general ledger and transposes them to process costs, which cross the organisation, more in line with the view that any service user, customer, partner or stakeholder might have.

ABC models work by allocating time spent on specific, pre-agreed activities and converting that time to a financial cost using the full employment costs of all staff, usually salary, NI and pension. Because end to end service delivery often requires the involvement of more than one group of staff in an organisation, ABC is particularly useful when calculating the cost of cross-functional processes, giving insight to the organisation's costs in a way that formal, silo-based budgeting techniques cannot and leading to decisions about process improvement and increased efficiency that ultimately result in changes to the organisational structure.

Although the technique has been used for many years in areas such as the Police, where detailed records were kept and high levels of accountability for time spent and activities undertaken by uniformed staff were required, over the last twenty years and especially since funding for all public services has been tightened, ABC has been used more extensively and successfully across all aspects of organisations to assist management with organisational design by highlighting areas where efficiency and cost effectiveness could be improved.

ValueAdding.com Ltd is an acknowledged expert in this area and led the way in introducing ABC to the wider public sector, initially sponsored by DCLG to deploy the technique in local government. We have carried out numerous studies in Blue Light services, Local and Central Government, Housing Associations and the Not for Profit sector.

The GMFRS model structure

The GMFRS model was built following workshops held with staff to discuss and agree the activities they undertake. Then representatives from each team were invited to use the model to allocate their actual time to those agreed activities. The model converted the actual times entered for each activity to a percentage of overall working time and multiplied this by the full employment costs of all staff and funded vacancies drawn from iTrent in June to give activity costs.

Members of CLT were excluded. The remaining download contained 2,008 posts and a corresponding cost of £78,217,441. In September, 10 posts were deleted from the download as people had left the organisation, meaning that £77,917,764 was ultimately entered to the model. Within this, there were 306 vacant posts equivalent to 301 FTE and a cost of £11.878m*.

244 staff entered their own data with the remaining staff being associated to them in 88 different groups, in this way the activities of those who were unable to enter data were mirrored in the model by somebody doing the same role. (This was particularly useful in capturing the time spent of the large groups of fire fighters and their management)

Finally, the costs of 88 people who did not enter data were allocated to single activities describing their role.

The total cost extracted from the model was £77,358,604, a 99.28% recovery, the small reduction in output caused by some individuals not entering 100% of their time. The resulting total FTE was 1960.

All costs shown in the following sections of this report include funded vacancies, which have been associated with similar roles.

Analysis and findings

A Microsoft Excel workbook, which includes a summary of the iTrent download, accompanies this report and can be used to review and confirm our analysis work as well as to dive deeper into the results to answer questions, which may arise in the future.

Analysing ABC data for process improvement requires two principles.

1. Focus on the "mountains" of cost not the "molehills". There is a greater opportunity to realise savings when looking at large areas of cost as opposed to smaller ones.

2. Subject results to a sensitivity check, namely before making any decision consider "what if the data were 10% different – would we make the same decision?"

When we analysed the data, guidance was sought on the strategic objectives of the organisation so that we could appropriately identify the mountains of cost, which might not form part of any new Target Operating Model. Consequently, the findings presented here are those "mountains" of cost that we believe are worthy of note and discussion when framing new ways of working for the service.

Establishment costs

The total current costs may be shown distributed as follows:

Emergency Response £60,626,777	Prevention £4,185,769	Protection £4,779,605

Corporate Support £7,766,455
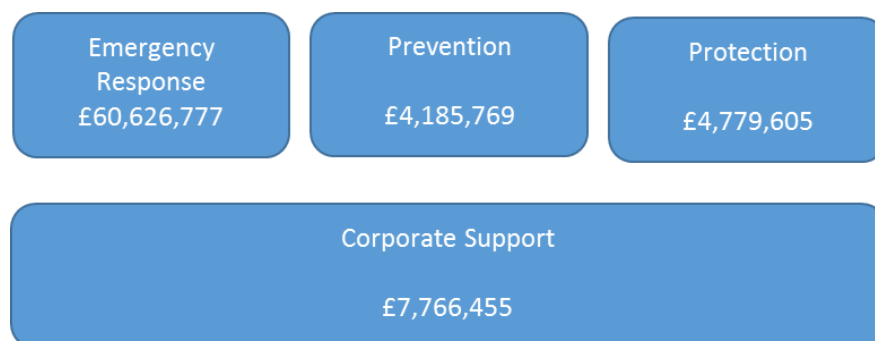
The Corporate Support area also includes the Legal & Policy, Digital and People Directorates.

Uniformed and Non-uniformed staff

The June iTrent download contained 1,979 posts excluding the Executive Management positions. 1,542 Uniformed and 437 Non-uniformed shown by Directorate below.

Directorate Establishment	Uniform	Non-Uniform	Total
Corporate Support	9.0	56.3	65.3
Digital Services	0.0	38.6	38.6
Legal & Policy	0.0	4.0	4.0
People Directorate	4.0	47.0	51.0
Emergency Response Directorate	674.0	126.0	800.0
Prevention and Protection Directorate	855.0	165.7	1020.7
Totals	**1542.0**	**437.6**	**1979.6**

301 of the 1,979 posts were shown as Vacant.*

Directorate	Total Establishment	Vacancies	Filled Posts
Corporate Support	65.3	9.0	56.3
Digital Services	38.6	5.0	33.6
Legal & Policy	4.0	1.0	3.0
People Directorate	51.0	4.6	46.4
Emergency Response Directorate	800.0	115.2	684.9
Prevention and Protection Directorate	1020.7	167.0	853.7
Totals	**1979.6**	**301.7**	**1677.9**

We understand that since June the position has altered following recruitment to some posts.

All filled and vacant posts were uploaded to the model for costing and after data entry, the model returned results for 1,960 posts. 1,538 represented by Uniformed staff and 421 Non-uniformed.

Directorate	Non U	U	Grand Total
Corporate Support	55.2	8.0	63.2
Digital Services	38.5		38.5
Emergency Response Directorate	99.7	1442.8	1542.5
Legal & Policy	4.0		4.0
People Directorate	49.1	2.0	51.1
Prevention and Protection Directorate	174.6	86.1	260.7
Grand Total	**421.2**	**1538.9**	**1960.1**

The corresponding costs for Uniformed and Non-uniformed posts per Directorate are:

Directorate	Non U	U	Grand Total
Corporate Support	£ 2,106,991	£ 180,822	£ 2,287,813
Digital Services	£ 1,516,878		£ 1,516,878
Emergency Response Directorate	£ 2,920,804	£ 58,551,341	£ 61,472,146
Legal & Policy	£ 173,405		£ 173,405
People Directorate	£ 1,827,208	£ 98,948	£ 1,926,156
Prevention and Protection Directorate	£ 5,609,107	£ 4,373,099	£ 9,982,206
Grand Total	**£ 14,154,394**	**£ 63,204,211**	**£ 77,358,604**

The model contains 41 processes, 23 of which have both Uniformed and Non-uniformed staff undertaking activities within them, demonstrating the cross-functional nature of processes within the service.

Of the other 18 processes only 5 have activities undertaken solely by Uniformed staff, 13 processes have activities undertaken solely by Non-uniformed staff.

Detailed analysis of key areas and processes of interest follows.

Emergency Response

Firefighters, Watch and Crew Managers, Officers (Borough and Station Managers)

Usually, where "spare" capacity can be identified and quantified it is possible to consider either deploying staff in alternative ways in order to maximise time spent on core activities or even reduce staff numbers. This clearly requires a full understanding of the activities undertaken when busy and when not and often necessitates the challenging of long held beliefs or practices, including any statutory requirements for stand down time.

Our original intention was to study the activities of station based uniformed staff (Firefighters, Watch and Crew Managers) by referring to diary records kept by stations and boroughs. However, the quality of the information held was insufficient to allow this. In particular the methods and language used when recording activities varied and there was some indication that in some instances the information provided represented a forward looking future view as opposed to a backwards looking past view of activity. For this reason, it was agreed to use the ABC model to capture their data, with Watch Managers being best positioned to represent the time spent by Crew Managers and Firefighters as well as their own.

The activities of the <u>Firefighters</u> show that only 20% of their cost (£7.1m) is spent on operational incidents with an equal amount (£7.1m) on stand down time (possibly legislatively controlled). Operational Training is the activity which absorbs the largest cost (£8.8m) and that combined with Physical training (£1.4m) and Maintenance of skills (£1.8m) means that training in one form or another occupies 33% of their time and absorbs £12m of cost.

The cost of Firefighters alone "doing training" represents over 15% of the whole service establishment cost and similar proportions of time are spent on this by Watch and Crew Managers.

Across the roles of Firefighter, Watch Manager and Crew Manager total activity costs include:

- Operational Training   £11.6m
- Operational incidents   £10.4m
- Stand down time   £10.1m
- Maintenance of skills   £2.9m
- Physical Training   £2.0m

This leads to questions such as:

- Is all the time spent on various forms of training necessary or is it used to fill time?
- Is the *necessary* training time outcome-focused on key borough initiatives such as road traffic collisions or high-rise activities?
- Can the time spent on stand down be used in other more productive ways?
- What could the Firefighters do more of to support the service's strategic objectives when not on operational incidents?

Clearly, there has to be some flexibility of capacity to cope with major incidents such as the moors fires and the Arena but attempting to meet hugely variable levels of demand with fixed capacity, which is designed to meet the higher levels of potential demand, is expensive. We understand that is often easier to have capacity on hand "just in case" but unless the service can examine and introduce ways in which capacity can be reduced when times are slack as well as increased when times are busy then the high and unbalanced cost profile described above will remain.

Separately, uniformed senior Officers (Borough and Station Managers) appear to have a different work profile and set of activities. The activity that occupies the majority of their time is GMFRS formal

internal meetings at 21.8% of their time and a cost of £375k. The Officers' activities do seem to be more administrative in nature leading us to ask:

- What are these meetings about and are they really necessary?
- Should the highest rank operational officers be carrying out administrative work?

Activities such as those associated with Procurement, Analysis and reporting, Budget management, Administration and GMCA (£137k in total) should be examined further to understand whether the skills of an Officer are required or whether capacity could be released by assigning these to a more central administrative support function.

In addition, we note that £283k is spent on a combination of People management and Grievances, investigations and disciplinaries. Whilst we cannot argue that these things should not be done, the question to be asked is why they take so much capacity (18%).

In terms of potential savings, the service should note that Firefighter and Watch and Crew Manager stand down time plus all forms of training and self-improvement cost a combined total of £26.6m (668 FTE). Management should investigate ways of reducing the time spent on these things. Of this, the training element is £16.5m

For every 10% reduction in total time spent on these activities £2.6m and 66 FTE will be made available.

For every 10% reduction in the total time spent on the training activities, £1.6m and 40 FTE will be made available.

Combining this thinking with a rationalisation of the duties of senior Officers, possibly with the additional support of administrative staff may release significant capacity for core services or provide an opportunity to reduce total costs.

Whether this cost and resource is released from the organisation or redeployed will be a leadership decision and we acknowledge that with the level of vacancies in the current establishment it is unlikely that the service will seek to reduce the number of uniformed staff. However, with the right approach to change management the potential exists to engage uniformed staff in additional tasks, thereby releasing costs from elsewhere in the organisation.

As the costs of uniformed staff is generally 30% higher than non-uniformed, the redeployment of the equivalent of 40 posts in uniform means that over 50 non-uniformed FTE may be displaced.

Prevention and Protection

Total Prevention and Protection costs equate to £8,965,373. Of this total, £4,185,769 is in Prevention and £4,779,605 is in Protection.

The major process costs in Prevention are:

Process	Cost
PP11 Prevention Delivery (Community Safety)	£ 1,280,458
PP6 Youth Engagement	£ 1,073,938
PP10 Community Safety Training & Development	£ 629,195
PP2 Prevention Support	£ 475,445
PP1 Prevention Delivery (Volunteers)	£ 159,275
PP5 Public Service Reform (PSR)	£ 145,105

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The major process costs in Protection are in Delivery and Support:

Process	Cost
PP3 Protection Delivery	£ 3,675,437
PP4 Protection Support	£ 665,636

In addition to the process costs above, there are other Prevention and Protection activities undertaken within the Health & Safety, Contact Centre and P&P Administration teams, which would ordinarily be invisible using silo, based accounting techniques. The total process costs for these three areas is £860,883 split into £424,691 in Prevention and £436,192 in Protection.

Selected activities (with detailed descriptions) for Prevention and Protection, where not analysed elsewhere, are shown below.

Activity	Cost	Description
PP3 Fire safety - Enforcement	£ 1,516,816	Enforcement activities following visits to properties
PP11 Safe & well delivery	£ 710,967	Includes the delivery of self generated and referred visits
Fire safety - Consultation & advice	£ 572,663	The provision of advice, approximately half the time for 11 fire safety officers
PP6 Prince's Trust delivery	£ 418,523	Includes recruitment of young people, programme delivery and meeting KPIs and outcomes
PP3 Partnership working	£ 373,146	All activities relating to developing partnership approaches across GMFRS
DIR People mgt	£ 336,251	Includes day to day line management duties, PDRs, one to ones, leave requests, welfare and absence management, team management and team recruitment
PP4 Water department activities	£ 223,759	All activities relating to the service delivery and support of all aspects of water for firefighting including hydrant duties
PP3 Action plan initiatives	£ 207,812	All themed activities related to specific Borough action plans and initiatives e.g. high rise activities in Manchester and Homelessness
PP10 Administration	£ 88,409	Support to the Operational Training function, including collation of data e.g. registers, iTrent input and maintenance, catering arrangements, resource booking and stock ordering
PP6 FireSmart	£ 86,366	Includes time spent delivering the awareness campaign, e.g. schools and home visits
PP9 Protection area administrative support	£ 78,884	Includes Building Regs, CRM and letters supporting Fire Safety Managers, Fire Safety Enforcement Officers, IOs, BSAs and Fire engineering

Youth Engagement Process

The cost of the Youth Engagement process is £1.07m occupying 33 FTE.

We understand that this may be an activity that the service looks to stop, as there are questions over whether this fits with the core activities of any fire service. In that event, only £993K is available for releasing as savings from this process because the roles of Education and Skills Assurance Officer, Community Safety Team Leader, Community Safety Manager and Community Safety Advisor carry out activities in other processes such as Partnership Working, as well as Youth Engagement.

Equally, we acknowledge that some activities within this process add value and the service may wish to retain them, for example fire specific programmes such as FireSmart and the Community Fire Cadets as well as Advice and Guidance provided to the Community. These activities cost £290k therefore if these activities are retained as well as the roles mentioned above the net cost saving by stopping the Youth Engagement process in its current form is £702k.

However, we understand that the Prince's Trust element of the Youth Engagement process brings in income to a maximum of £836k. Clearly, any cost savings generated will need to be made in the

knowledge that income will be reduced. However, although Prince's Trust courses are funded, they are paid 'on results' so the maximum payment shown above is not necessarily the amount realised.

The issue here is whether the service should contemplate these activities or focus on core *fire based* services.

Community Safety and Engagement

The costs of all activities associated with Community Safety and Engagement is £2.5m occupying 80 FTE. This includes the two processes called Community Safety Training & Development and Prevention Delivery (Community Safety) plus all other activities of Community Engagement that take place across the service.

There is a question over whether this is core service for GMFRS. The activities are unquestionably a benefit for communities but may not need to be delivered by GMFRS. Some interventions could be seen to be more in the realm of social services than fire safety.

We estimate that potential savings of £1.7m can be achieved based on reducing the need for this work and taking the following actions:

- Community Safety Advisors work and related activities being reallocated to operational crews and their management
- The elimination of the function of Fire Prevention Co-ordinators
- The retention of £125k funding for 2 senior posts for the formulation of strategy and policy, partnership development, conferences and advising CLT/managers and it is recommended they these are retained in a business support function.

Corporate Support

Training

Training takes many forms across the organisation through a complex set of processes with some being strategically important. They include driver-training delivery, designing assessment centres, leadership training delivery as well as operational training and physical training for Firefighters.

We have identified the total costs of all training activities across the whole organisation in terms of both delivery and the design and development of training packages. Combining the costs of all roles and activities associated with "Training" gives a total cost of £17.8m with 459 FTE involved.

As described above, £11.6m is for Operational Training for Firefighters, Watch and Crew Managers, meaning the rest of the organisation spends £6.2m on all activities and roles associated with "Training", either delivery, development, support or planning.

We note that in the People Directorate, much of the training is delivered by 'Partners', the most expensive resource. However, we understand that some of the training is delivered from the Combined Authority and some by external contractors. In addition, there are income streams from course fees, the apprenticeship levy and potentially for hiring facilities at the TDC and Bury TASC.

Savings in this area must therefore come from reducing the amount of training carried out combined with a reduction in training administrative costs brought about by a centralised training function or a reduction in the number of new courses offered. Our initial estimate of this potential is £141k however reducing the number of different and new training initiatives will not only reduce the costs of taking part in training but also the requirement for training partners.

A reduction in total activity of 10%, achieved by simply reducing the number of programmes will save £600k.

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Administration

Administration activities are spread across the organisation in a number of guises. In total, we have identified that "Administration" costs £2.8m across the whole organisation, which includes £1.8m in specific teams established to conduct administrative activities on a central basis.

Further analysis to understand the processes involved and opportunities for cost and efficiency improvement have been conducted with the teams specifically responsible for administration. From this, we conclude that the main opportunities for improvement occur through:

- Further centralisation of some back office administrative processes
- The formation of a front office internal call centre to handle travel bookings, venues, etc.
- Improved process of entering PER19 payroll information so it can be entered by Watch Managers
- Reduction of Area Prevention staff (CSAs) and Youth Engagement activities
- Management of the Area administration staff by operations managers

Our detailed process work suggests that a realistic level of savings here is approximately 30% of the cost, £544k. However depending on the level of centralisation and any increased involvement of GMCA, this figure could increase to £750k.

People

The costs of supporting people within the organisation are shown in five processes below totalling £1.9m of cost and occupying 51 FTE.

The processes solely contained within the People Directorate are:

- People Systems   £186k
- HR, Payroll & Pensions   £534k
- OD, Leadership & Wellbeing   £481k
- Talent Attraction & Retention   £381k
- Academy Learning & inclusivity   £313k

Within the Emergency Response directorate, there is also £94k of cost associated with the Academy.

In addition to these costs and not included above, are activities within a generic Management process which absorb a further £1.8m and occurs in all Directorates.

- Corporate Support   £96k
- Digital Services   £153k
- Emergency Response   £688k
- People   £122k
- Prevention and Protection £797k

Activities within this process include:

- People Management   £825k
- Personal development   £278k
- Time spent travelling to meetings   £191k
- Grievances, investigations and disciplinaries £179k
- Budget management   £127k
- Provision of information   £94k
- Recruitment   £84k

Further analysis to understand the processes involved and opportunities for cost and efficiency improvement have been conducted with the teams specifically responsible for People, including process mapping. The results of this work will be reported separately but the main opportunities for improvement occur through process simplification, reinforcing the need for managers to own the processes, not the People Directorate, reducing duplication and hand offs.

Our mid-estimate for savings in this area total of £174k or 4.5 FTE across the following key processes in the Directorate:

- Starters   £55k
- Occupational Health referrals   £39k
- Apprentice processing   £38k
- HR case work (investigations and cases)   £24k
- HR case work (directorate support)   £5k
- HR administration   £13k

Individual Process Costs

The table below shows the processes that absorb 80% of the total cost across GMFRS.

Process	Cost	%
ER3 Operations Firefighter	£ 36,735,844	47%
ER2 Operations WM & CM (Station based)	£ 14,887,053	19%
PP3 Protection Delivery	£ 3,675,437	5%
ER6 Operational Training	£ 2,121,468	3%
DIR Management	£ 1,858,942	2%
ER1 Operations Officer	£ 1,823,031	2%
ER9 Fleet management	£ 1,620,152	2%

Each of these processes contains a range of activities, which are shown on the following page along with the number of FTE who are occupied in each activity.

Operations Firefighter Activities	Cost	% Cost	FTE
Training Delivery	£ 8,850,454	24%	232.3
Operational incidents	£ 7,193,241	20%	188.8
Stand down time	£ 7,193,241	20%	188.8
Safe & well delivery	£ 3,598,418	10%	94.4
Maintenance of skills / learning mgt system	£ 1,797,411	5%	47.2
Checking buildings	£ 1,441,524	4%	37.8
Physical training	£ 1,441,524	4%	37.8

Operations WM & CM (Station based) Activities	Cost	% Cost	FTE
Stand down time	£ 2,972,235	20%	65.2
Operational incidents	£ 2,972,235	20%	65.2
Training delivery	£ 2,749,894	18%	60.5
Safe & well delivery	£ 1,191,270	8%	26.1
Maintenance of skills/ learning mgt system	£ 1,006,382	7%	22.0
Station checks	£ 678,997	5%	15.0
Physical training	£ 595,635	4%	13.1
Checking buildings	£ 563,740	4%	12.3

Protection Delivery Activities		Cost	% Cost	FTE
Fire safety - Enforcement	£	1,516,816	41%	31.6
Fire safety - Consultation & advice	£	572,663	16%	15.4
Partnership working	£	373,146	10%	9.6
Training design & development	£	216,659	6%	4.4
Action plan initiatives	£	207,812	6%	4.3
GMFRS formal internal meetings	£	159,206	4%	3.9

Operational Training Activities		Cost	% Cost	FTE
Corporate Trainers	£	1,322,722	62%	30.5
Training Assistants	£	144,753	7%	6.0
Operational Training Planning Performance & Staff	£	90,853	4%	2.0
Operational Training Delivery Manager	£	69,788	3%	1.0
Trauma Care and First Aid Trainer	£	57,651	3%	1.0

Management Activities		Cost	% Cost	FTE
People mgt	£	845,082	45%	19.2
Personal development	£	280,308	15%	7.5
Time spent travelling to meetings	£	197,189	10%	4.4
Grievances, investigations & disciplinaries	£	180,653	10%	3.5

Operations Officer Activities		Cost	% Cost	FTE
GMFRS formal internal meetings	£	397,646	22%	7.1
Operational incidents	£	263,260	14%	4.6
Post incident/ personal welfare	£	228,258	13%	4.0
Analysis & reporting	£	180,315	10%	3.0
Partnership working	£	164,966	9%	2.9
Action plan initiatives	£	97,663	5%	1.6
Post incident administration	£	80,367	4%	1.4
Maintenance of skills/ learning mgt system	£	71,232	4%	1.2

Fleet Management Activities		Cost	% Cost	FTE
Vehicle fleet maintenance	£	382,324	24%	11.7
Stores & logistics	£	250,972	15%	9.2
Mobile vehicle maintenance	£	144,881	9%	4.2
BA maintenance	£	131,847	8%	3.8
Administration	£	123,639	8%	4.0
Body & paint shop	£	97,720	6%	3.1

The activities that add value

ABC models assign one of three attributes to each activity to provide management with additional direction to their decision making for the future. To assign these attributes requires an understanding of who the organisation's "customers" are and what requirements they truly value. The concept of a customer within the public sector can be difficult to grasp and other organisations have resolved this by considering sections of their local communities, individuals who use or interact with the service or the general tax paying public as their customers.

A definition of each of the three attributes is given below.

Activity Attribute	Definition
Value Adding (VA)	VA activities are necessary to enable the core purpose of the organisation to be delivered. They are necessary to deliver the output of any process and they help the organisation meet the requirements of its primary customers. Within ABC, the rule of thumb for these activities is "do as much of them as possible, invest in them to do them efficiently, do not stop them".
Sustaining	Sustaining activities are those that the organisation has to do but they may not be focussed on delivering for customers and they may not be necessary to complete the output of a process. They include statutory or regulatory elements of work for example. Within ABC, the rule of thumb for these activities is "do them if you must but only at the lowest possible cost".
Non-Value Adding (NVA)	These activities are neither necessary for the organisation to complete its core purpose nor do they contribute to meeting customer requirements. The rule of thumb for these is "eliminate them by removing the reasons that cause them to be carried out in the first place"

From conversations with staff, we gained sufficient understanding of each activity to enable us to assign an attribute to each of the activities within the model. Consequently, of the £77,565,784 exported from the model we have calculated that:

- Value Adding activities constitute £25.5m or 33% of total costs
- Sustaining activities constitute £38.1m or 49% and
- Non-Value Adding activities constitute £13.8m or 18%

This cost profile, showing the largest portion of cost associated with sustaining activities is common within public sector organisations.

The opportunity for cost improvement within GMFRS comes from reducing the time spent on sustaining and non-value adding activities by critically examining not only what is done but how it is done.

Within each process, the split of VA, Sustaining and NVA cost varies, often depending on the extent to which the process is customer facing.

£12.7m or 92% of the Non-Value Adding cost lies within 9 processes:

- Operations Firefighter   £7.1m
- Operations WM & CM (Station Based)   £3.2m
- Youth Engagement   £706k
- Operations Officer (Borough and Station Manager)   £439k
- Protection Delivery   £375k
- ER Hub and Admin   £266k
- Community Safety Training & Development   £204k
- Management   £197k
- Ops Support   £187k

The theory of ABC states that by removing the activities responsible for these costs within the processes above, total costs will be reduced without damaging the delivery of the core service.

We recognise that the assignment of an attribute can be subjective and is often a contentious thing. Our assignment, with our limited knowledge of GMFRS, may not be appropriate. However, we have attempted this using our experience and following conversations with staff as well as considering the GMFRS strategic objectives.

Our mantra, which we use to help organisations through this thinking, is "you can spend your money and your time however you want but you can only spend it once". The question for GMFRS is where to apply its time and cost most effectively and appropriately.

Finally, we ask you to consider that the degree to which somebody is busy is not an indicator of the level of value they are adding. Stopping those tasks, which make people busy but add no value is a secure way of reducing cost without endangering service delivery.

Cross functional activities

Cross-functional activities are those, which appear in more than one process and are conducted by more than one team. Without an ABC study, it can be difficult to understand the extent to which activities absorb time and cost across an organisation. The largest of note are:

- Training   £1,098k   32FTE

  (Including design and development, support and planning and all training roles)

- Analysis and reporting   £640k   13.4 FTE
- GMCA activities   £370k   8.5 FTE
- Procurement   £327k   8.3 FTE
- Budget management   £260k   6.2 FTE
- Time spent travelling to meetings   £197k   4.4 FTE

These findings lead to questions such as:

- Is it necessary to spend over £1m on training per year? How much is it necessary to repeat design and development? How much support and planning is really required? Are all courses delivered absolutely necessary?
- What is the value of spending £640k on analysis and reporting, how much of this can be made simpler through standardisation and "automation" of reports. Combining this with the provision of information activity means that over £730k may be spent on reports. Are they all necessary? Is the method of producing them appropriate? What actions are taken as a result of the reports?
- Is £197k spent on travelling to meetings necessary when technology facilitates virtual attendance at meetings for many organisations?

The answers to these questions can involve a greater use of technology and often a structural reorganisation.

Partnership working

Roles and activities containing an element of Partnership Working appear in almost every team and account for £1.1m of cost and occupy 28 FTE.

This has been split further to represent Front Line (customer facing partnerships) and Strategic (back office partnerships).

- The Front Line partnership working occupies 18 FTE at a cost of £712k (62%).
- The Strategic partnership working occupies 10 FTE at a cost of £434k (38%).

The service should consider the relocation of strategic partnership working to the Combined Authority. The saving possible would not be £434k as some of the roles involved in Strategic partnership working in GMFRS are also involved in other processes and the costs associated with those roles would remain within the service. We estimate the net saving to be in the region if £125k.

Similarly, the activities associated with front line partnership working are covered by roles engaged in other processes, such as Youth Engagement. Therefore, if the Youth Engagement process is stopped as above and roles were released, the saving cannot be taken in Partnership Working as well but the overall cost of front line partnership working would reduce by £234k, to £478k.

Recommendations

Opportunities for saving

The opportunities to achieve cashable savings arise in four ways.

1. Changing the structure and operating model of the service.
2. Rationalising vacant posts.
3. Changing the processes used in back office operations.
4. Reviewing the way capacity is used in front line operations.

Clearly, there is some overlap between the four methods and care must be taken not to double count any savings. However, the organisation does now have real choices in the way that it elects to make savings.

For the overall structure, the opportunity is around improving liaison with the Combined Authority, as well as stopping doing those activities, which do not contribute to the strategic objectives or agreed "core" functions.

To rationalise vacant posts will require an acknowledgement that funded posts are not required and that the funds are not being spent elsewhere, such as on direct materials.

In the front line operations, the issue is about making better use of the available capacity. Either releasing staff where capacity is not required or redeploying them to activities that better achieve the service's strategic objectives.

In the back office operations, the opportunity is to improve the processes and consequent efficiency and releasing staff through restructuring.

New Target Operating Model

We have examined the outline proposals for a new Target Operating Model and have allocated the "As Is" costs from the ABC model to the new functions. In this way, at this time, the £77.5m would be distributed as in the table below.

Strategic Area	NVA	Sustaining	VA	Grand Total
CORE Local Service Delivery	£ 10,909,747	£ 23,481,620	£ 19,718,013	£ 54,109,379
Delivery Support	£ 859,168	£ 6,943,287	£ 1,119,450	£ 8,921,905
Combined Authority	£ 526,191	£ 4,428,920	£ 354,270	£ 5,309,381
CENTRAL Fire Safety & Investigation	£ 412,168	£ 1,007,941	£ 2,920,964	£ 4,341,073
Not Present	£ 1,038,801	£ 696,517	£ 1,393,379	£ 3,128,696
Service Improvement, Performance & Partnerships	£ 63,333	£ 819,962	£ 64,336	£ 947,632
Strategic Delivery	£ 13,709	£ 794,008		£ 807,717
Grand Total	£ 13,823,117	£ 38,172,255	£ 25,570,412	£ 77,565,784

Where the Strategic Area is "Not Present" this represents four processes, which may be considered as not core to the service, and therefore activity may be stopped completely. These are Public Service Reform, Youth Engagement, Prevention Delivery (Community Safety) and Community Safety Training & Development.

Additionally, if both sustaining and non-value adding activity costs were reduced by 10% and taking out the "Not Present" the overall service costs would reduce to £69.4m providing a saving of £8.1m.

Strategic Area	NVA	Sustaining	VA	Grand Total
CORE Local Service Delivery	£ 9,818,772	£ 21,133,458	£ 19,718,013	£ 50,670,243
Delivery Support	£ 773,251	£ 6,248,958	£ 1,119,450	£ 8,141,660
Combined Authority	£ 473,572	£ 3,986,028	£ 354,270	£ 4,813,870
CENTRAL Fire Safety & Investigation	£ 370,951	£ 907,147	£ 2,920,964	£ 4,199,062
Not Present	£ -	£ -	£ -	£ -
Service Improvement, Performance & Partnerships	£ 57,000	£ 737,966	£ 64,336	£ 859,302
Strategic Delivery	£ 12,338	£ 714,608	£ -	£ 726,946
Grand Total	£ 11,505,885	£ 33,728,164	£ 24,177,034	£ 69,411,082

In this new Target Operating Model, core local service delivery remains the largest cost element and now absorbs 73% of the total resources an increase from the 70% currently used.

Vacant posts

Closing funded vacant posts is a usual method for reducing the budget requirement and therefore declaring savings. The cost of vacancies in June was £11.8m covering 301 FTE.

Since June, this position has changed. How the remaining vacancies are handled by the service depends, to a degree, on how exactly they are treated now and whether individual directorates are currently "using" the funds not spent on vacant positions for other purposes.

Nevertheless, this is worth considering in more detail and requires a senior management policy decision to finalise treatment.

Summary strategies for savings

We estimate that, dependent on the approach taken and management's appetite for creating change in areas where there may not have been much in recent years, the service can save between £3m and £8m.

1. Immediately close all remaining funded vacancies.

This "top down" approach will reduce the budget requirement but the exact savings figure will depend on knowing exactly which vacancies are still funded and the extent to which options such as overtime are used to compensate for vacancies not being filled at present.

Simply closing vacancies is not sufficient in operational terms. This option will still require that processes are changed to make them as efficient as possible and ensure that the remaining staff can cope with the workload presented to them.

It will require that any current recruitment plans are frozen and the subsequent activity stopped.

Further, there needs to be a thorough review of other expenditure to ensure that funds for vacancies are not being used elsewhere.

Because of the complexities of the situation described, we cannot be exact about the opportunity for saving here but at 15% of total posts, the 300 vacancies are considered high. We would normally anticipate seeing a true level of 5% vacancies or 100 vacancies. Reducing the vacancies by 200 posts from 300 to 100 should be done by recruitment where appropriate (we acknowledge some of this has happened) and then closing unnecessary vacancies.

Assuming that a 200-post vacancy reduction is achieved by recruiting to half of them and closing the other, half will release £3.6m savings, we suggest this as a maximum. The minimum saving in this area is £0. The medium level £1.8m.

2. Rationalise and improve internal processes

The detailed process studies described above have identified opportunities for saving which amount to a minimum of £2.9m. These are a snapshot of some key processes and therefore this number must be considered a minimum when process improvement is considered across the organisation as a whole. Rationalising the cross-functional activities mentioned in the earlier part of this report could realise an additional £1m savings when including analysis and reporting, GMCA activities and Time spent travelling to meetings, totalling £6.2m.

3. Maximise front line capacity

Using this "bottom up" approach and as described above, the extent to which this option is followed will depend on the leadership's appetite for change.

Between £800k and £2.4m could be saved if capacity was released by reducing the time spent on all training activities in the operational areas.

4. Restructure the organisation to the New Target Operating Model

This "top down" approach reorganises the functions within the service to better fit the future strategic objectives but can only be achieved after process redesign has occurred and is normally used to resolve the issue that one process savings equates to a half person and another equates to a quarter person, for example. Only by changing the Target Operating Model and the organisational structure can these theoretical savings be achieved.

The need to create a new Target Operating Model is driven by the leadership's view of the way that the service must operate in the future to meet the needs of the communities of Greater Manchester within the funding constraints presented to it.

Taking away the need to conduct certain activities ("Not Present" in our analysis above) releases £3m and 99 FTE immediately.

Overall this option seeks to release £8.1m, the additional £5.1m coming from a further 126 FTE. Some of these savings may come from closing vacancies as opposed to releasing existing staff.

However, central to this is the role played by the Combined Authority and the willingness of GMFRS to devolve more back office activities to them. It is possible to envisage a situation where a significant proportion of these things are handled by GMCA although the policies used regarding cross charging for these activities is not known.

APPENDIX XXI - Design Principles

		Overarching Design Principles
1.	Overarching Design Principles	**Efficient and effective ways of working** • Our vision, 'a modern, flexible and resilient fire and rescue service – saving lives, protecting you, working together' should be at the forefront of all decision-making • Clear demonstration of affordability and value-for-money, ensuring the organisation is sustainable, whilst driving growth and maximising opportunities • Processes that are proportionate, meet needs and support strategic objectives • Similar activities grouped together to achieve economies of scale: delivering services once in the same way across the organisation, streamlining and stopping low value-adding activities • Exploiting the potential of digital first and self-service first, wherever possible **How we organise ourselves** • Resources focused on strategic priorities and core business, collaborating with partners • Clear integration with the Greater Manchester Combined Authority, with support services shared where appropriate • Clear, measurable accountability for each service & service level agreements where this adds value • Structures underpinned by clear governance arrangements to support simplified decision-making • Maintain staff engagement by growing our own talent and promoting succession opportunities
		Thematic Design Principles
2.	Organisational Set-Up	• A single accountable owner for each service. • Services shared across the CA where appropriate • An agile operational setup that can adapt to the changing role of GMFRS and service demand • The ability to innovate and deliver world class solutions to fire, rescue and safety related issues
3.	Partnership Working	• Working collaboratively with blue light organisations and other partner agencies to deliver a seamless service • Strong working relationships with political and service delivery partners • Integrated working with our partners at place, borough and service level • The sharing of systems, data and Information as a key driver in our decision making
4.	Leadership, People & Culture	• The skill and will to be flexible that means we can respond quickly to change • A consistent, authentic and inclusive approach to leadership that inspires a shared vision • The ability to recognise, develop and grow a diverse and talented workforce • Transformational leadership that seeks to embed a new way of working and improved culture across the organisation • A collaborative performance driven culture firmly based on the organisation's values that encourages and enables innovation • People who place the priorities of our communities at the heart of all we do • A culture of honesty and transparency that fosters positive challenge • Recognition and reward for high performance • A cost effective, productive and efficient workforce and organisation structure when compared to appropriate benchmark organisations. • People at the heart of organisation strategy, providing a working environment where people feel supported, well led and where they have the opportunity to develop and grow
5.	Processes	• Do it right, do it once • A Simplified, standardised and shared common set of processes with local variations only where value is created • Processes which are proportionate and support key business objectives
6.	Systems & Technology	• A common set of systems and applications across the organisation • Commercial off the shelf packages used wherever possible • Takes advantage of leading innovative digital technologies to optimise service delivery • Staff equipped with the skills and technologies to access information and systems to support effective decision-making
7.	Performance Management	• A simple set of KPI's to monitor performance and provide metrics to drive changes in the way we work and identify areas for improvement and innovation • Performance objectives which are aligned to strategic priorities right through the organisation. • A scorecard approach to delivery which ensures accountability at all levels across the organisation to embed the transformational leadership culture • A common, organisation wide governance structure with clear accountability for performance delivery and to enable effective decision-making
8.	Productivity & Resource Usage	• Developing processes which focus on driving improved productivity across all operational and supporting services • Ensuring investment and budgets are focused on frontline core activity • Ensuring supporting services are delivered from wherever is best placed to achieve upper quartile value for money benchmarks • Upskill our people to increase the value added and reduce non value activity from all services • Ensuring that budget holders are suitably equipped with the tools, systems, processes, training and reports to allow then to effectively manage their budgets • Hold budget holders accountable for the effective use of their resources, both financial and non-financial • Develop budgets which reflect the current needs of the Fire Service, from a zero base, once the GMFRS future operating model has been confirmed