

Lancashire Combined Fire Authority Planning Committee

Meeting to be held on 17 July 2023

Measuring Progress – 1st Pump Critical Fire and Critical Special Service Response Standards - KPI Review

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Executive Summary

Lancashire Fire and Rescue Service (LFRS) currently sets itself one of the most challenging targets for critical incident response times in the country. Whilst having a high aspirational target reflects the priority and importance of responding to incidents in a suitable time, we presently do not achieve the standards set.

This paper highlights the variance in performance reporting methodologies used across the country. Furthermore that LFRS has set one of the most rigorous set of response standards in the UK and pleasingly that we continue to perform well against those standards.

This paper proposes that the current methods used to measure the response standards should be amended to better reflect this high level of performance.

As both KPI 3.1 (First Pump – Critical Fire) and 3.2 (First Pump – Special Service Call) use the same method of measurement, both have been included within this paper to ensure the methodology remains consistent within our reporting.

Recommendation(s)

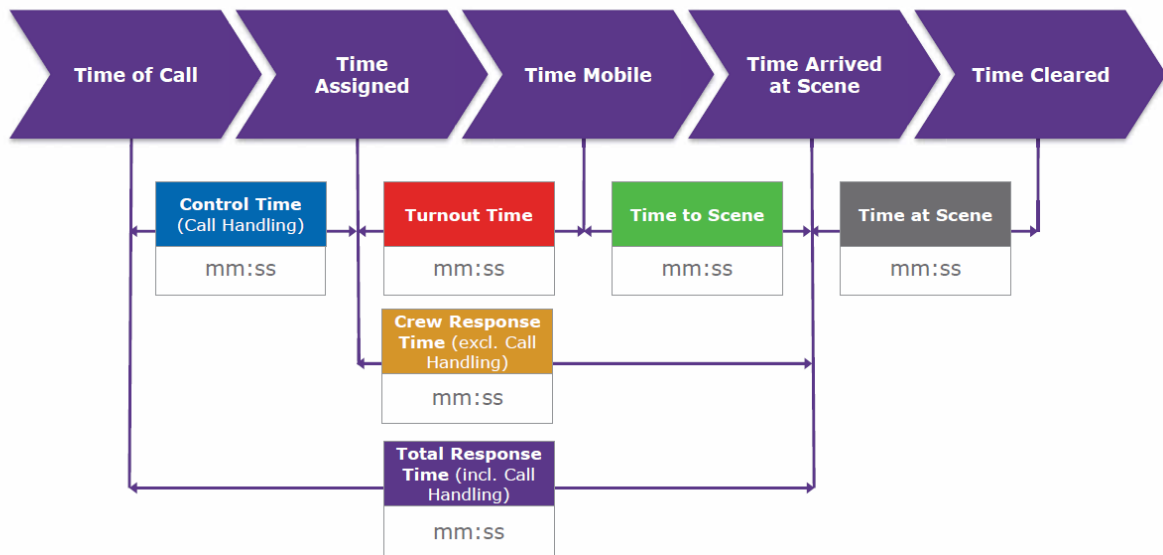
Members are asked to note the content of the paper and agree the recommendation to change the method of reporting to 'average response times'.

Background Information

UK Fire and Rescue Services set their own response standards in line with their Community Risk Management Plan and are then held to account against these standards. There are different methods of measuring the response, primarily from time of call or from time of mobilisation, though there is also the option to measure from time the appliance has booked mobile.

The two key methods are shown below as “Crew Response Time” and “Total Response Time”, both methods are used by fire services in the UK.

Call/Incident Cycle Times



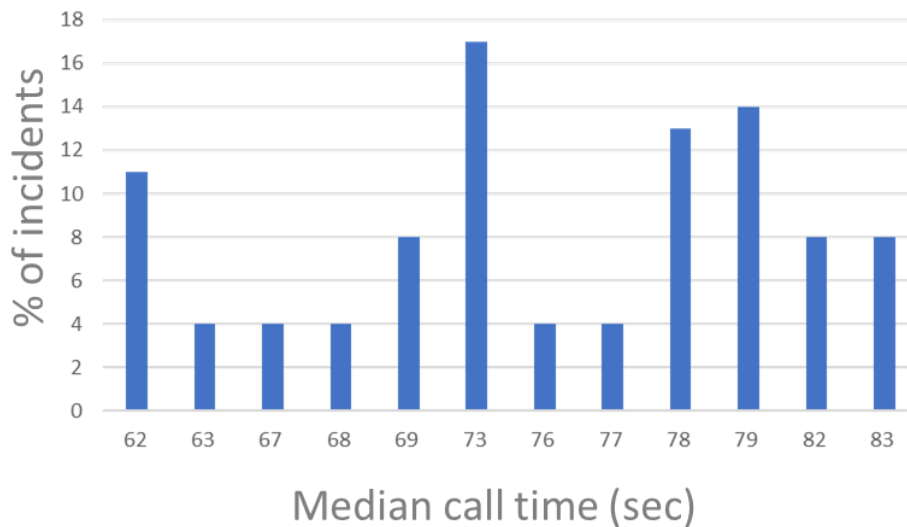
LFRS previously used the “Crew Response Time” standard which measured from the point of mobilisation, with the target response times to risks as is shown below.

In 2015/16, to present a more accurate position this was reviewed and updated to a “Total Response Time”* method of measuring and 60 seconds was added to each risk level to account for call handling time by North West Fire Control (NWFC).

RISK	Original Time (mins)	Revised to include call handling time (mins)
Low	5	6
Medium	7	8
High	9	10
V.High	11	12

*LFRS takes the “Crew Response Time” and adds the median call handling time for the month to arrive at the “Total Response Time”.

LFRS uses a median average of call handling time, the data used for this analysis showed the median call times within Lancashire for critical incidents vary between 1 minute 2 seconds and 1 minute 23 seconds.



The chart above shows the distribution of call handling times with the majority taking 73 seconds and over.

When considering that the updated response time in LFRS factored only 60 seconds for call handling time, these figures represent a tightening of the standards of between 2 to 23 seconds from 2015/16 onwards.

Comparison with other FRS

The 90% target and the reaction times set by LFRS are amongst the most challenging set by any UK FRS, particularly those within the Family Grouping. Additionally, many do not include call handling times within their response standards (appendix 1 refers).

As is shown in appendix 1, the other fire and rescue services within the “predominantly urban” category have response standards which are slower than those of Lancashire, even when call handling is not factored in to their overall response times.

National Response Standards

LFRS is currently categorised as “Predominantly Urban”, though it has a diverse demographic with both highly urbanised and remote rural areas.

Comparing Lancashire Fire and Rescue Service with other “Predominantly Urban” Services (appendix 2), it is evident that Lancashire is significantly larger geographically than the majority of the services in this category (but with a relatively low average population density / km²). Given this information, it is not surprising that when comparing average attendance times of “Predominantly Urban” services (for primary

fires – appendix 3), Lancashire is slightly slower than the national average for this category (13 secs – 2021/22).

However, LFRS is performing better than the overall national average (by 1 minute 5 seconds) and also shows an improvement since 2016, which contradicts the national trend of increased response times. This reflects the work which has gone into this field and the benefits of technological innovations that have been delivered in-Service, such as our 'pre-alerting' of fire engines.

Pleasingly, since 2016/17 we have improved average response times by 21 seconds whereas the overall family group has only improved by 3 seconds. Furthermore, it could be argued that given Lancashire is the second largest county within the family group, with a low population density per km², we are more similar to 'Significantly Rural' fire and rescue services which have a notably higher average response time of 9 minutes 58 seconds.

Method of Measurement

The two most common approaches for measuring performance are:

- a) By percentage of incidents achieved within target (e.g. Life critical incidents attended within 10 minutes in 80% of occasions);
- b) Average time to attend incidents under target (e.g. Life critical incidents attended within an average of 10 minutes).

The two metrics appear to be very similar but provide significantly different results.

Of the 44 FRS' inspected by His Majesty's Inspectorate of Constabulary and Fire & Rescue Services (HMICFRS) 57% of services use the first method and 32% of services use the second, the other 11% applied a variety of other approaches. HMICFRS made no judgement on the method used and extolled the response standards of a serviceⁱ who applied the second method.

The disadvantage of the first method is that it offers a binary pass or fail result, regardless of whether the target was missed by 1 second or 1 hour.

The second method provides for an average, is proposed to be more transparent for understanding by our communities and therefore a better overall representation of service performance.

Changes to Reporting

KPI 3.1 - Critical Fires

LFRS currently uses the first metric and aims to achieve its response standards on 90% of occasions, the table below shows the success rate (based on the current risk map) for each risk rating and the overall success rate of the first fire engine to 'Critical Fires'.

Year	Success Rate	L	M	H	VH
2015/2016	85.5%	85.1%	89.9%	88.9%	63.9%
2016/2017	85.8%	85.5%	90.2%	85.1%	67.2%
2017/2018	88.6%	86.3%	92.7%	86.2%	74.2%
2018/2019	85.3%	83.2%	92.3%	84.2%	56.9%
2019/2020	88.5%	87.9%	94.2%	87.4%	56.2%
2020/2021	88.9%	85.5%	94.1%	92.3%	71.3%
2021/2022	86.8%	83.0%	91.4%	89.2%	72.0%
2022/2023	85.7%	83.1%	91.8%	79.2%	71.4%

The flaw in this approach is that it provides no measure of the distance by which our response times are not achieved.

If the same data is measured using an 'average response time' to each risk type, our communities can clearly see how effectively we are meeting our published response standards on average:

Average Response Times / Target

Year	L (12 mins)	M (10)	H (8)	VH (6)
2015/2016	08:42	06:51	06:24	05:53
2016/2017	08:42	07:01	06:01	05:55
2017/2018	08:40	06:48	06:17	05:41
2018/2019	08:52	06:51	06:17	05:59
2019/2020	08:15	06:26	06:02	06:07
2020/2021	08:27	06:16	05:48	05:31
2021/2022	08:52	06:25	05:50	05:44
2022/2023	08:33	06:26	06:17	05:35

Using this method, a mean or median average could be applied, although only one serviceⁱⁱ explicitly uses a median average. The data above has been calculated using a mean average as this is considered the most accurate and transparent approach.

The average response standard metric gives a more accurate representation of the response provided by LFRS by reflecting the magnitude of failure or success on achieving each standard rather than a binary pass/fail result. Furthermore, Members are assured that regardless of response time 'success' or 'failure' against target, robust operational assurance and debriefing processes are embedded to ensure we have a learning and development approach to our operational response arrangements.

KPI 3.2 - Critical Special Service Response

The Critical Special Service Response target is set at 13 minutes and is not affected by risk rating.

The current method of measuring performance shows that LFRS has only once achieved the 90% target within the period of data used for this analysis (2015-2023).

The below table shows that by applying the same average response metric to critical special service incidents, the service can be seen to be performing much better than the current binary method, and again provides a more accurate reflection of service performance.

Critical Special Service Incidents - 1st Pump Response

Year	Pass rate	Mean Average Response
2015/2016	86.6%	08:53
2016/2017	86.8%	08:51
2017/2018	83.9%	09:35
2018/2019	89.8%	08:40
2019/2020	88.9%	08:35
2020/2021	89.4%	08:21
2021/2022	90.0%	08:11
2022/2023	89.6%	08:17

Recommendation – Change method of recording to Average Response Times

Performance is currently measured in a binary way, whereby the resource either achieved or failed the response standard. This measure is very specific and does not represent the data well, providing the same result if an appliance missed the standard by 1 second or by 1 hour.

This recommendation suggests a more representative method of measuring performance.

By moving to a model whereby response standards are measured by average time, this would better reflect that LFRS has resources well placed to react to the prevailing risk in any part of Lancashire. The approach is transparent and considered to be more meaningful for scrutiny purposes.

The below tables show the average Critical Fire response times to each risk category over the period 2015/2023 and for the latest year 2022/23 with the same metric applied thereafter, to Critical Special Service Incidents.

**Critical Fire Response
Standard (2015-2023)**

Risk	Standard (Mins)	Average
VH	6	05:48
H	8	06:07
M	10	06:38
L	12	08:38

**Critical Fire Response
Standard (2022/23)**

(Most recent year's data)

Risk	Standard (Mins)	Average
VH	6	05:35
H	8	06:17
M	10	06:26
L	12	08:33

**Critical Special Service Incidents - 1st Pump Response (13 minute Response
Standard)**

Year	Current Pass rate	Mean Average Response
2015/2016	86.6%	08:53
2016/2017	86.8%	08:51
2017/2018	83.9%	09:35
2018/2019	89.8%	08:40
2019/2020	88.9%	08:35
2020/2021	89.4%	08:21
2021/2022	90.0%	08:11
2022/2023	89.6%	08:17

Business risk

Medium - In establishing our response standards, we have a responsibility to ensure that those targets are both realistic and achievable and relevant to our county's risk.

Failing to meet our own standards has the potential to negatively portray the Service for what remains some of the quickest response times in the UK (outside of the metropolitan authorities).

Sustainability or Environmental Impact

No issues around sustainability or environmental impacts identified.

Equality and Diversity Implications

None.

Data Protection (GDPR)

None

HR implications

None

Financial implications

None

Local Government (Access to Information) Act 1985**List of background papers**

Paper:

Date:

Contact:

Reason for inclusion in Part 2 if appropriate: N/a

Appendix 1

Family Group Comparator

Predominantly Urban Fire Services	Notes	Response Standard	Includes Call Handling?
Hampshire		Critical-8mins in 80% Non Critical-15mins in 80% Other – 60 mins in 100%	No
Lancashire		VH-6,H-8,M-10,L-12 in 90%	Yes
Nottinghamshire	Averaged response time	8 mins (on average)	No
West Yorkshire	In very high-risk areas only	Life Critical Fire-7mins in 80% Commercial fires –8mins in 80%	Not declared
Surrey		Critical Incidents –10mins	Not Declared
Hertfordshire	Dwelling fires only	10 minutes in 90%	No
Greater London	Averaged response time	6 minutes on average 10 minutes in 90% 12 minutes in 95%	Not Declared
South Yorkshire		9-15 minutes based on a matrix	No
Avon	Averaged response time	Critical - 8mins Non-critical –12mins Other – 60mins	Not Declared
Greater Manchester		Life risk – 7mins 30sec	Not Declared
Berkshire		10 mins in 75%	Not Declared
West Midlands		High risk incidents only – Median average of 5 mins from mobilisation	No
Merseyside		Life risk – 10 mins in 90%	No
Cleveland	Averaged response time	7 minutes (on average)	Not Declared
Tyne and Wear	Pilot	High Risk – 6 mins Risk to life –8 mins in 90% Risk to life- 10 mins in 95%	No

ⁱ West Midlands FRS

ⁱⁱ West Midlands FRS

Appendix 2

Predominantly Urban Fire Services	Size km ²	Population	Avg Density/km ²
Hampshire	3,679 km ²	1,376,000	374
Lancashire	3,079 km²	1,495,000	486
Nottinghamshire	2,084 km ²	823,126	395
West Yorkshire	2,029 km ²	2,325,000	1,146
Surrey	1,663 km ²	1,190,000	716
Hertfordshire	1,643 km ²	1,195,000	727
Greater London	1,569 km ²	8,908,000	5,678
South Yorkshire	1,552 km ²	1,405,000	905
Avon	1,345 km ²	1,080,000	803
Greater Manchester	1,276 km ²	2,822,000	2,212
Berkshire	1,262 km ²	915,157	725
West Midlands	902 km ²	2,928,000	3,246
Merseyside	645 km ²	1,423,000	2,206
Cleveland	583 km ²	136,718	235
Tyne and Wear	538 km ²	1,136,000	2,112

Appendix 3

Response times to primary fires by type of FRA

Type of FRA	2021/ 22	2020/ 21	Change since 2020/21	2016/ 17	Change since 2016/17
England	8m 50s	8m 35s	+15s	8m 38s	+12s
Predominately rural	10m 45s	10m 28s	+17s	10m 17s	+28s
Significantly rural	9m 58s	9m 42s	+16s	9m 35s	+23s
Predominately urban	7m 32s	7m 20s	+12s	7m 35s	-3s
Lancashire	7m 45s	7m 42s	+3	8m 6s	-21
Metropolitan	7m 09s	6m 57s	+12s	7m 12s	-3s
Non-metropolitan	9m 53s	9m 39s	+14s	9m 36s	+17s

*Due to restrictions on travel, all services saw an improvement in reaction times in the year 2020/21, therefore a comparison between 2016/17 and 2021/22 has also been made.