

Cumbria Fire and Rescue Service

IRMP 2018-19 Action Plan – supplementary business case

Summary – To change Regular / Wholetime crewing arrangements at Kendal fire station from day crewing (12 hours) to 24 hours (12 hour day shift / 12 hour night shift), with On-call firefighters continuing to crew the second fire engine.

Business Case Objective:

This business case sets out the rationale to change the current Regular crewing arrangements at Kendal fire station from the existing 12 hour day crew model to a 24 hour model, consisting of 12 hour day shift and 12 hour night shift.

Background:

Prior to the consultation on the Integrated Risk Management Plan (IRMP) 2016-20 Year 3 (18/19) Action Plan (23rd November 2017 to 8th January 2018), a comprehensive review of service provision was conducted to ensure a robust evidence-based model of emergency cover could be used to inform a 3 to 4 year delivery plan.

During the council's strategic planning process in October 2017, a number of longer term service delivery changes were proposed to emergency fire cover arrangements, including providing a fulltime Regular crewed fire engine in Kendal. The intention was to consider that proposal in subsequent years, once changes that were proposed within the Year 3 Action Plan (2018-19) had materialised.

Following a number of years of council budget pressures Cumbria Fire and Rescue Service (CFRS) has seen significant reductions in Regular operational firefighter and officer resource and therefore the Service needs to ensure emergency cover is effectively aligned with levels of risk and demand across the County; this will ensure that resource is optimised in accordance with the IRMP and current risk profile. The number of Regular firefighters has reduced from 176 in 2006 to the current level of 114, in addition to significant reductions in operational managers:

Table: Showing reduction in full time CFRS staff (Source: CFRS)

Role	Total no. of full-time CFRS Staff		Change in number of staff	% Reduction in number of staff
	2006	2017		
Total number	292	195	-97	-33%
Chief Fire Officer	1	1	0	0%
Deputy CFO	1	0	-1	-100%
Assistant CFO	2	1	-1	-50%
Area Manager	5	3	-2	-40%
Group Manager	23	8	-15	-65%
Station Manager	22	16	-6	-27%
Watch Manager	34	25	-9	-26%
Crew Manager	28	27	-1	-4%
Firefighter	176	114	-62	-35%

In conjunction with the decreasing number of Regular firefighters, the availability of On-call firefighters is also reducing in Kendal and the surrounding station areas:

Chart: Showing day-time (08:00-18:00) availability of On-call firefighters (Source: CFRS)

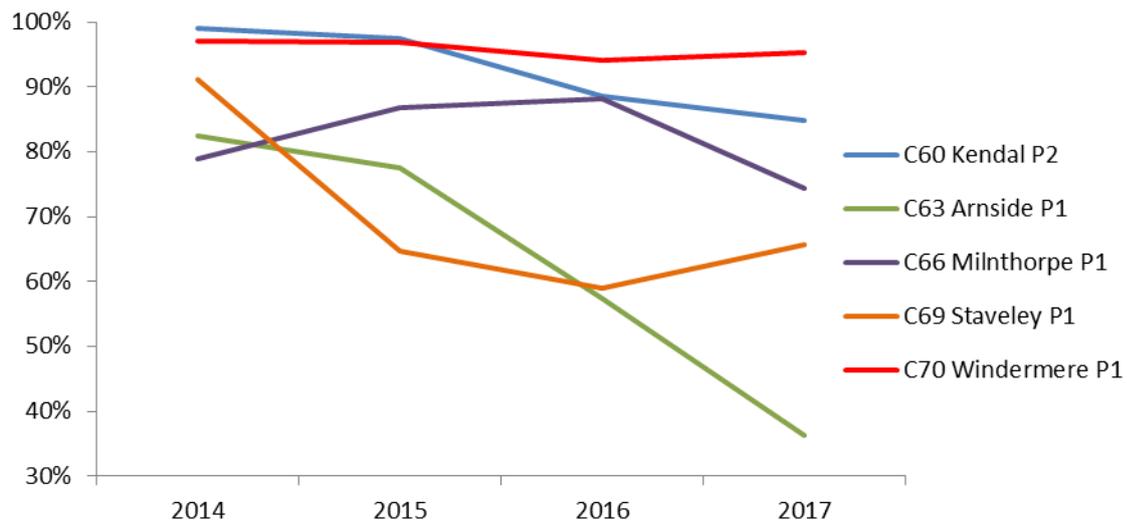


Chart: Showing night-time (18:00-08:00) availability of On-call firefighters (Source: CFRS)

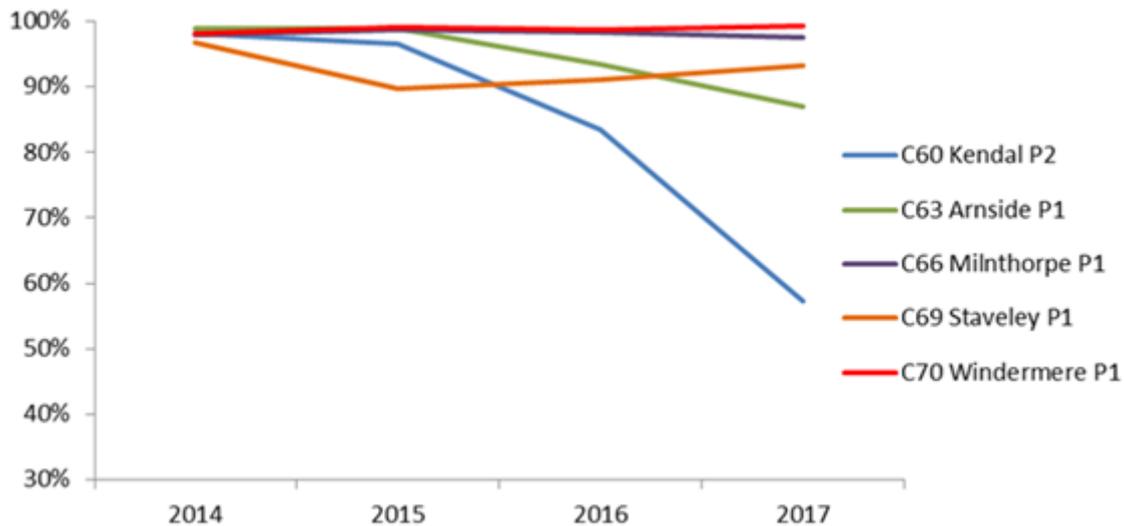
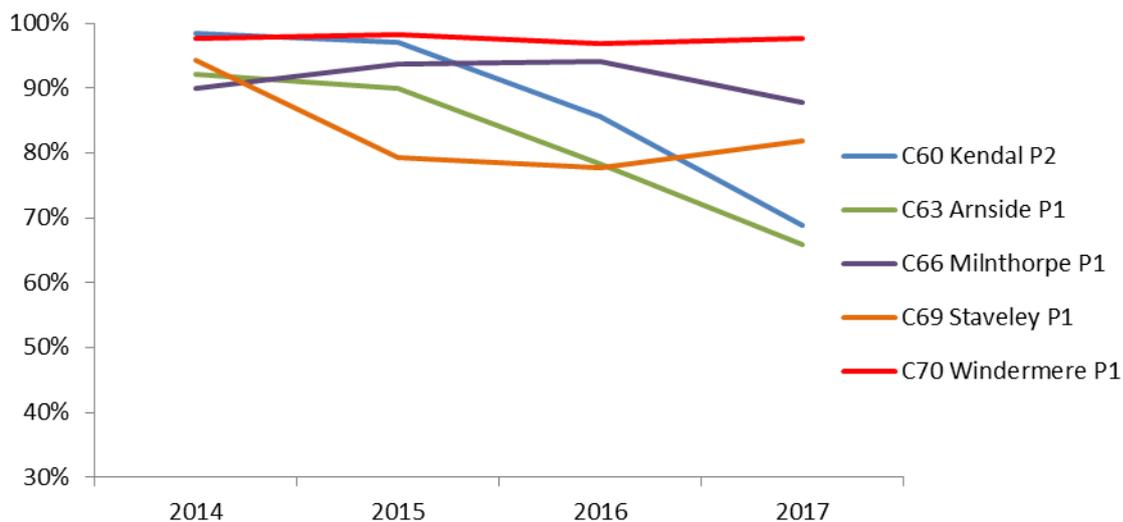


Chart: Showing total availability of On-call firefighters (Source: CFRS)



It is important to note that decreasing availability of On-call firefighters is not easily addressed through recruitment alone. An independent review of the provision of On-call services identified a key risk for CFRS in the sustainability of a number of On-call fire stations as a result of diminishing recruitment pools (which fall as low as 22 individuals within one station catchment area). As a result, alternative methods of providing resource are being developed across the Service, including innovative methods of working such as flexible crewing arrangements, Multi-Service Officer support, reduced crewing of fire engines for certain incident types and virtual stations (combining the resources at 2 fire stations to provide 1 viable fire engine).

Alongside the reducing level of resource across the County, consideration must also be given to the changing nature and level of risk and demand. This is continually evolving, with many areas of fire risk reducing but increasing levels of risk for other

incidents, such as Road Traffic Collisions (RTCs) and floods. Whilst prioritising life risk, Service profiling needs to take into account the provision of specialist resources and training to ensure a wide range of risks are best mitigated.

Proposed changes and rationale:

The revised working arrangement would see an enhanced distribution of Regular firefighter night cover across the south of the County by supplementing the established 12 hour day crew based at Kendal fire station with a Regular 12 hour night crew. This change would result in a more strategic alignment of Regular firefighters across south Cumbria. In 2006 the Kendal crew type was changed from Regular crewing to a 12 hour day crew, resulting in the station reducing from 32 Regular firefighters (4 watches of 8 firefighters) to a total of 10 Regular firefighters (2 watches of 5 firefighters). The proposed changes will increase the Kendal Regular firefighter establishment to 20, to cover both day and night shifts (4 watches of 5 firefighters, with a minimum crewing level of 4 firefighters per shift i.e. day and night).

This change would allow CFRS to *guarantee* the availability of one fire engine in Kendal with the second fire engine crewed by existing On-call firefighters. Despite significant investment in recruitment campaigns it is becoming increasingly more challenging to maintain appropriate On-call firefighter numbers at On-call fire stations with 2 fire engines, like Kendal. When functioning at optimum capacity Kendal fire station had 21 On-call firefighters but due to the challenges outlined, is now operating with a current crew level of 14. With such a reduced establishment the fire station is now unable to maintain the availability of both fire engines, particularly at night when the Regular firefighters finish their duty and the On-call crew is then required to crew both fire engines.

The current and proposed crewing types presented as part of the final 2016-20 Year 3 (18/19) IRMP Action Plan are shown in the table below.

Table: Current and proposed crewing types (Top 9 stations by demand)

Incidents within Station Area 2014-2017 (Top 9 stations by demand)						
Station Area	Total				Current Front Line Resource	New Front Line Resource
	14/15	15/16	16/17	3 Year Average		
Carlisle West	436	465	410	437	1 Regular	1 Regular
Carlisle East	362	394	415	390	1 Regular	1 Regular
Barrow	489	472	499	487	1 Regular / 1 On-Call (Walney)	1 Regular / 2 On-Call (Walney & Barrow)
Workington	393	376	302	357	1 Regular / 1 On-Call	1 Regular / 1 On-Call
Kendal	330	392	300	341	1 Day Crew (12hrs) / 1 On-Call	1 Regular / 1 On-Call
Whitehaven	349	330	287	322	1 Regular / 1 On-Call	1 Regular / 1 On-Call
Penrith	236	217	221	225	1 Day Crew (8hrs) / 1 On-Call	1 Day Crew (8hrs) / 1 On-Call
Maryport	122	180	127	143	2 On-Call	2 On-Call
Ulverston	142	142	129	138	1 Regular / 1 On-Call	1 Day Crew (12hrs) / 1 On-Call

The map below shows the proposed geographical distribution of crewing types across the County and the spread of the Regular (whole-time), Day-crewed and On-call fire stations, highlighting the strategic position of Kendal fire station for cover across the south of the County.

Map: Proposed crewing types across Cumbria as detailed in the Year 3 Action Plan



Evaluation of a range of evidence suggests that increased resource at Kendal fire station would best meet the current risk profile across the south of the County. Kendal fire station has higher levels of demand and risk when compared to most other fire stations within CFRS, alongside a geographically strategic position to ensure optimal County-wide cover which would also enhance the support provided to neighbouring stations.

A summary of the key evidence supporting the increased resource at Kendal fire station is:

1. Optimisation of CFRS response standards
2. Higher levels of demand within Kendal fire station area
3. Higher levels of risk within Kendal fire station area
4. Increase in support to neighbouring fire stations, aligning with the recent On-call strategic review

5. Potential to deliver some existing headquarters work via the new night shift.
6. Potential for increase in High Volume Pump (HVP) support
7. Potential for increase in Type B Boat support for flood / water rescue incidents

More comprehensive detail for each of these key evidence areas is provided below:

1. Optimisation of Response Standards

An external consultancy firm¹ was engaged to analyse incident data for Cumbria to understand the optimal crewing profile across fire stations in order to minimise response times to incidents. This analysis was based on 5 years of data and approximately 30,000 incidents. The criteria applied to the modelling included:

- Optimal distribution of fire engines, keeping the current breakdown of duty systems
- Optimise on minimising average attendance times to Primary Building Fires and all other incidents (with equal importance on both i.e. a weighting of 50:50)

Following analysis and feedback from the external consultancy firm it was identified that in order to optimise response times the crewing models outlined in table below would be the most suitable within the existing resource provision:

Table: Optimisation of response times based on crewing type (Source: ORH)

Station Area	Current Deployment	Optimal Deployment
Barrow	1 Regular	1 Regular / 1 On-Call
Kendal	1 Day Crew (12hrs) / 1 On-Call	1 Regular / 1 On-Call
Penrith	1 Day Crew (8hrs) / 1 On-Call	1 Day Crew (12hrs) / 1 On-Call
Ulverston	1 Regular / 1 On-Call	1 Day Crew (8hrs) / 1 On-Call
Whitehaven	1 Regular / 1 On-Call	1 Regular

As detailed, the modelling profiles Kendal fire station as a Regular fire station to support and improve response times.

2. Higher levels of demand within Kendal

Two standard measures of demand for stations are:

- a) Number of incidents attended by fire engines from a fire station
- b) Number of incidents that occur within a 'nominal' fire station area

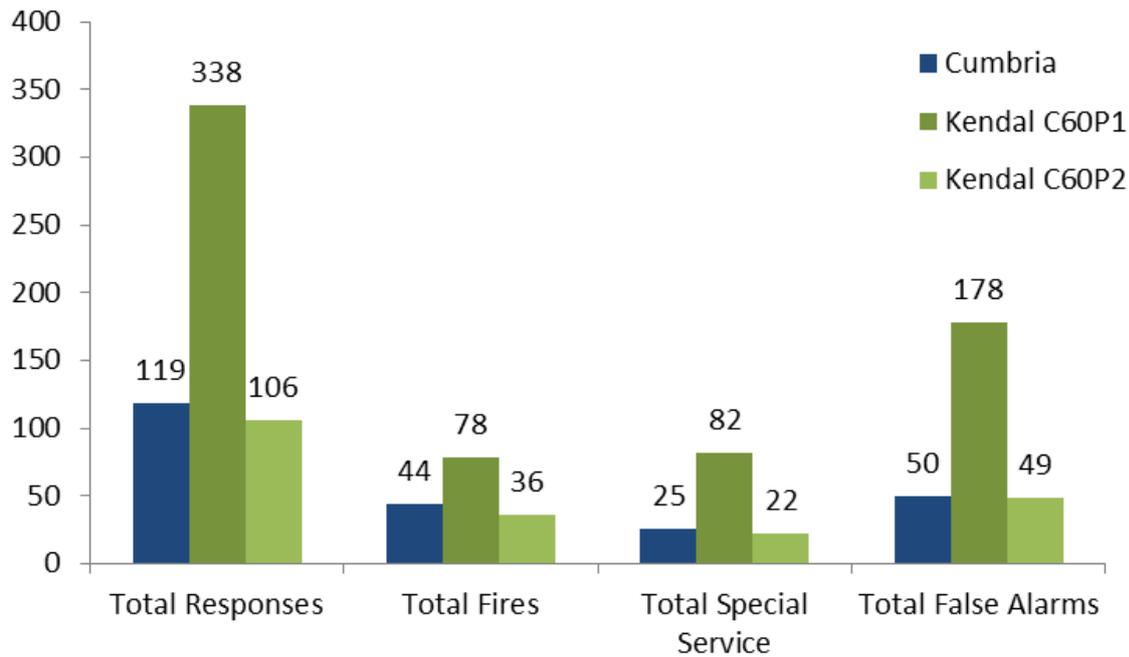
The level of demand for Kendal fire station compared to an average fire station in Cumbria is detailed for both these measures below.

¹ ORH Ltd

a) Number of incidents attended by fire engines from Kendal fire station

The chart below shows the significantly higher number of incidents attended by the two fire engines (C60P1 & C60P2) at Kendal compared to the average number of incidents for a fire engine within Cumbria:

Chart: Level of demand by incident type (source: ORH)²



The table below shows the level of demand for Kendal fire engines. The Day-crewed fire engine, which responds as an On-call fire engine at night, attends 0.93 incidents per day which is in line with demand on other Regular fire engines, with the second on-call fire engine responding to 0.29 incidents.

² 2-Year Sample October 2014 to September 2016

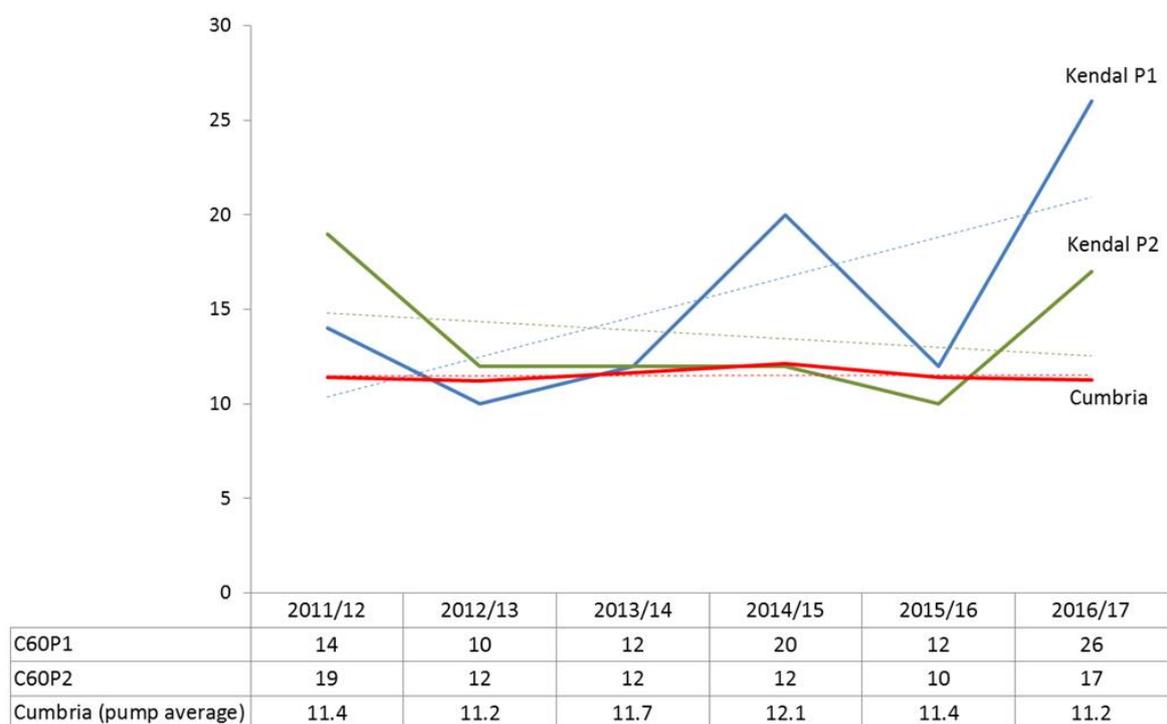
Table: Average number of incidents attended per day by station (source: ORH)³

Station	Appliance	Crew Type	2 year avg	Station	Appliance	Crew Type	2 year avg
Carlisle West	C21P1	Wholetime	1.49	Brampton	C23P1	On-Call	0.18
Carlisle East	C20P1	Wholetime	1.38	Longtown	C25P1	On-Call	0.16
Barrow	C40P1	Wholetime	1.23	Whitehaven	C02P2	On-Call	0.16
Workington	C01P1	Wholetime	1.11	Workington	C01P2	On-Call	0.16
Whitehaven	C02P1	Wholetime	1.00	Frizington	C06P1	On-Call	0.14
Kendal	C60P1	Day-Crewed	0.93	Sedbergh	C67P1	On-Call	0.13
Penrith	C27P1	Day-Crewed	0.71	Millom	C46P1	On-Call	0.13
Ulverston	C47P1	Wholetime	0.62	Shap	C68P1	On-Call	0.13
Maryport	C08P1	On-Call	0.40	Kirkby Stephen	C65P1	On-Call	0.12
Walney	C48P1	On-Call	0.34	Appleby	C62P1	On-Call	0.11
Windermere	C70P1	On-Call	0.29	Staveley	C69P1	On-Call	0.11
Kendal	C60P2	On-Call	0.29	Broughton	C42P1	On-Call	0.10
Milnthorpe	C66P1	On-Call	0.28	Lazonby	C24P1	On-Call	0.10
Aspatria	C03P1	On-Call	0.26	Kirkby Lonsdale	C64P1	On-Call	0.09
Cockermouth	C04P1	On-Call	0.26	Bootle	C41P1	On-Call	0.08
Penrith	C27P2	On-Call	0.24	Seascale	C09P1	On-Call	0.07
Keswick	C07P1	On-Call	0.23	Coniston	C43P1	On-Call	0.07
Ambleside	C61P1	On-Call	0.22	Arnside	C63P1	On-Call	0.06
Egremont	C05P1	On-Call	0.20	Silloth	C10P1	On-Call	0.05
Wigton	C11P1	On-Call	0.19	Alston	C22P1	On-Call	0.04
Grange	C45P1	On-Call	0.18	Patterdale	C26P1	On-Call	0.04
Ulverston	C47P2	On-Call	0.18	Maryport	C08P2	On-Call	0.03

The number of dwelling fires attended by the fire engines from Kendal, between 2011/12 and 2016/17, are shown in the chart below. Looking at these longer term trends, Kendal fire engines attend a higher number of dwelling fires compared to the average fire engine within Cumbria.

³ 2-Year Sample October 2014 to September 2016

Table: Number of dwelling fires attended by fire engine (source: CFRS)

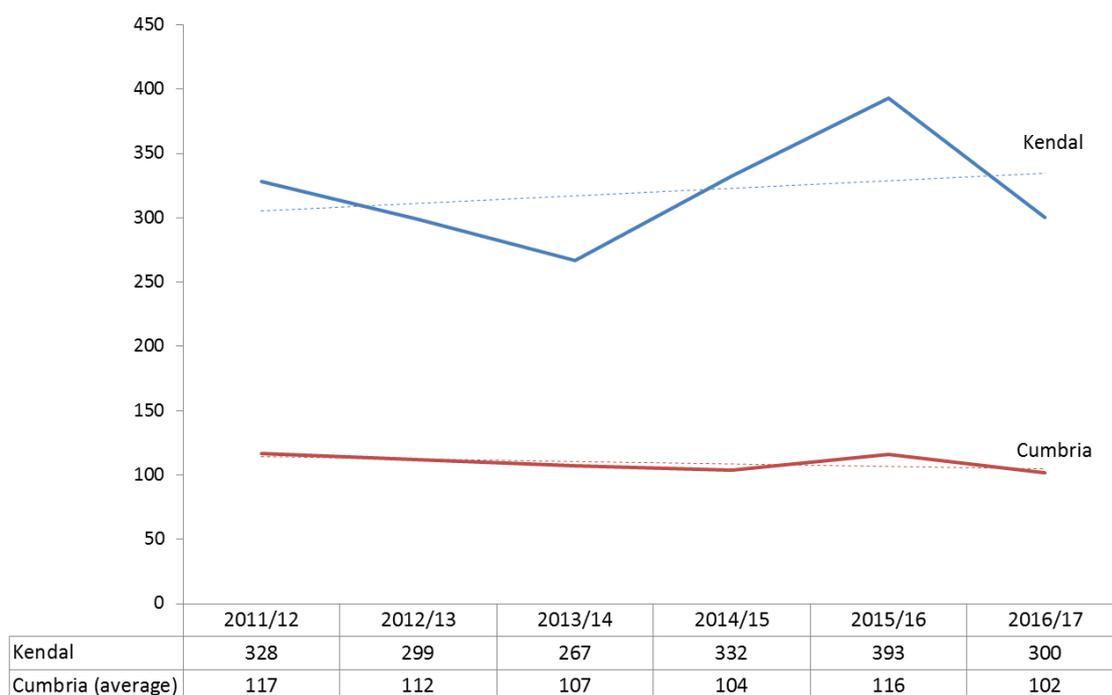


b) Number of incidents that occur within a ‘nominal’ station area

The demand on fire stations is also evaluated by measuring the number of incidents that occur within ‘nominal’ area surrounding the fire station. The charts below show the number of incidents in Kendal fire station area compared to an average fire station area within Cumbria.

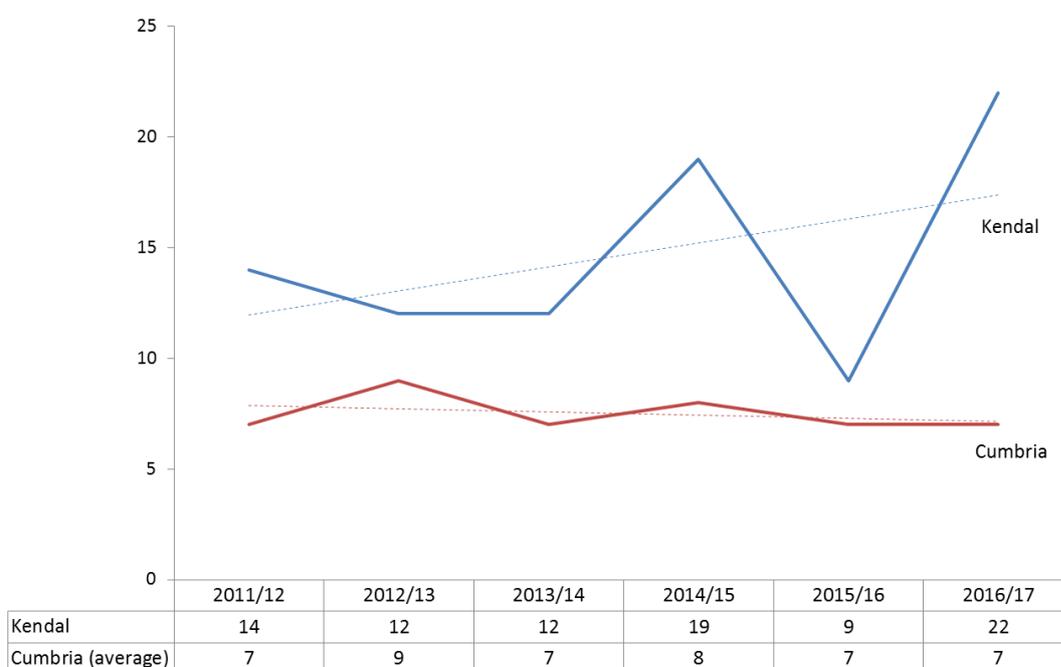
Looking at the longer term trends, Kendal fire station area has a higher level of incidents compared to the average fire station within Cumbria.

Table: Number of incidents within fire station area (source: CFRS)



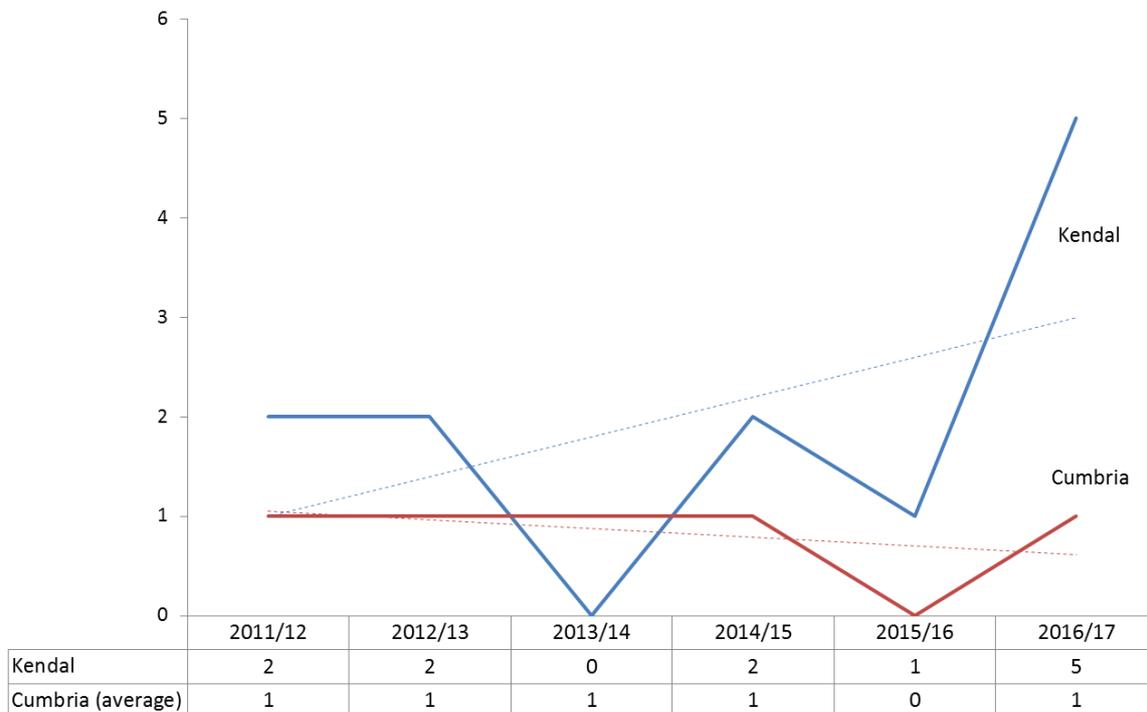
When looking specifically at higher risk incidents, namely dwelling fires, Kendal fire station area shows a significantly higher number of incidents than the average fire station area within Cumbria, and also has an increasing rate of dwelling fires compared to a decreasing rate across Cumbria as a County.

Table: Number of dwelling fires attended by fire station (source: CFRS)



Following further analysis it has been identified that the number of injuries in fires, Kendal fire station area shows higher levels than the average fire station area within Cumbria, and shows an increasing trend, though this is largely due to a high level of injuries in 16/17.

Table: Number of injuries in fires attended by fire station (source: CFRS)



3. Higher levels of risk within Kendal fire station area

Aligned with the higher levels of demand for Kendal fire station, it also has higher levels of broader risk compared to neighbouring fire stations. These higher levels of risk include:

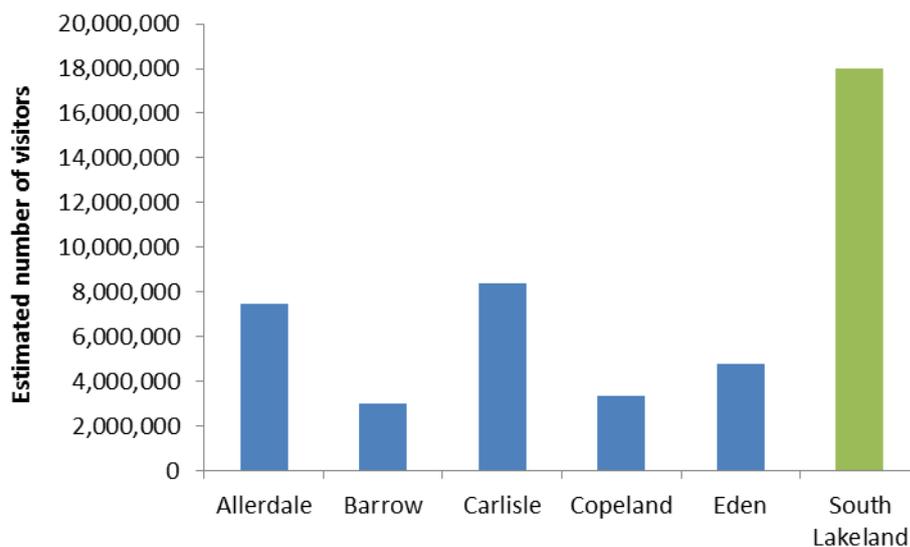
- a) Higher levels of risk due to higher levels of tourism
- b) Higher levels of risk due to higher levels of Road Traffic Collisions (RTCs)
- c) Higher levels of risk due to ageing population (South Lakeland communities have a higher percentage of over 65 year olds (32%) compared to other Districts within the County)

These three key aspects of the risk profile for Kendal fire station are described in more detail below:

a) Higher levels of tourism

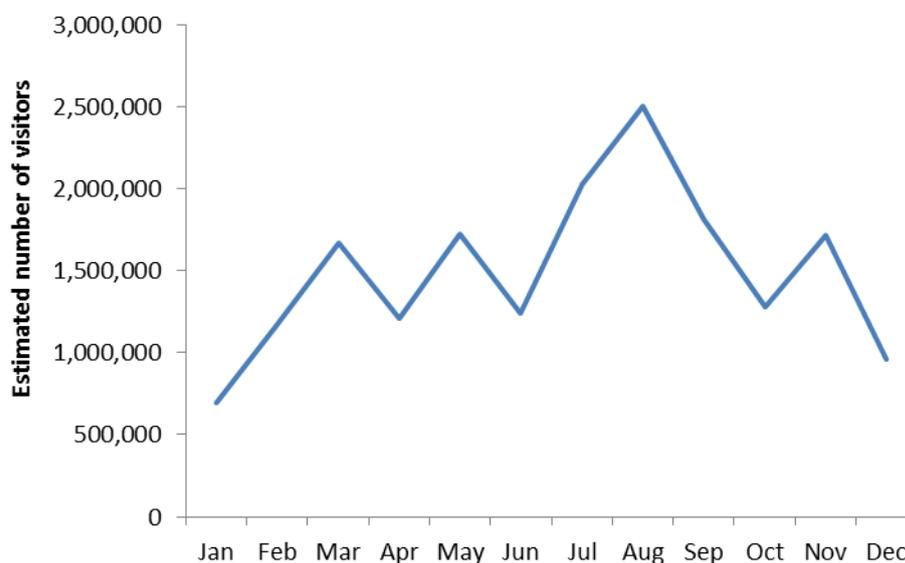
South Lakeland has significantly higher levels of tourism than any other district in Cumbria, with 40% of all visitors to Cumbria visiting South Lakeland.

Chart: Estimated number of visitors⁴ CONFIDENTIAL DATA



The summer months, provide a peak time for visitors to Cumbria. As an example, there are over 2.5 million visitors throughout the month of August to the South Lakeland area, significantly increasing the residential population of 100,000 people. It should be noted that approximately 20% of these visitors stay overnight (exact figures are not available), thereby significantly increasing sleeping risk in the area.

Chart: Number of visitors by month to South Lakeland² CONFIDENTIAL DATA



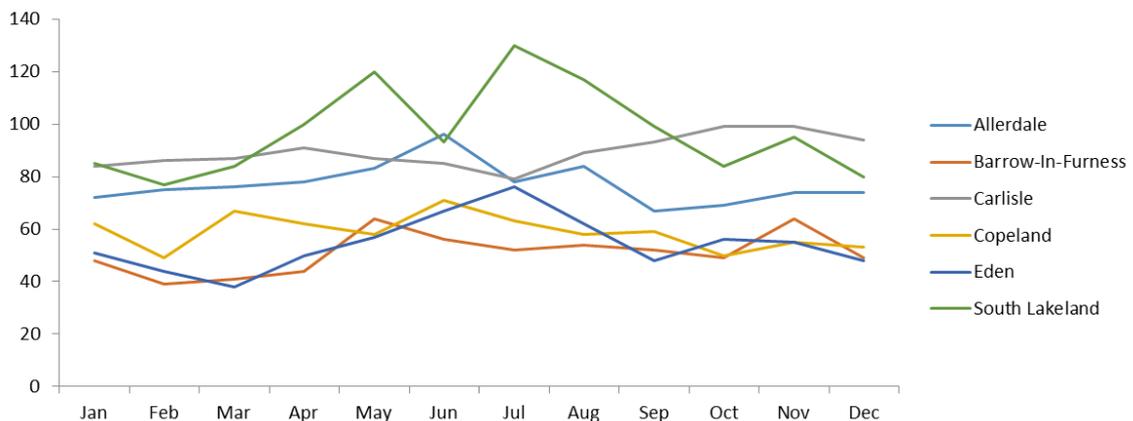
⁴ Source: Cumbria Tourism / STEAM model CONFIDENTIAL DATA

b) Number of Road Traffic Collisions (RTCs)

RTC's comprise approximately 7% of all incidents attended by CFRS across Cumbria. This rises to 9% of all incidents in South Lakeland, and equated to 70 incidents attended in South Lakeland in 2016/17, of which Kendal fire engines attended 23%.

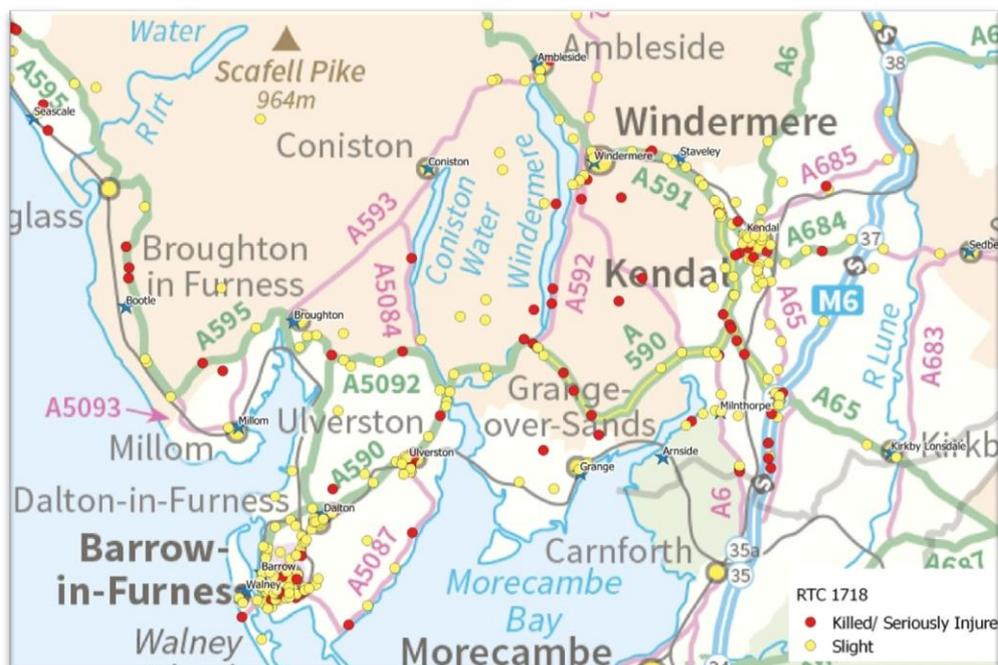
The number of RTCs is relatively higher in South Lakeland than other districts:

Chart: Number of RTCs by Month – 2015/2016 and 2016/2017 (Source: Cumbria Constabulary)



The map below of KSI (Killed / Seriously Injured) and 'slight' RTCs across South Lakeland shows the distribution of incidents, with a high level of incidents centred around the Kendal area:

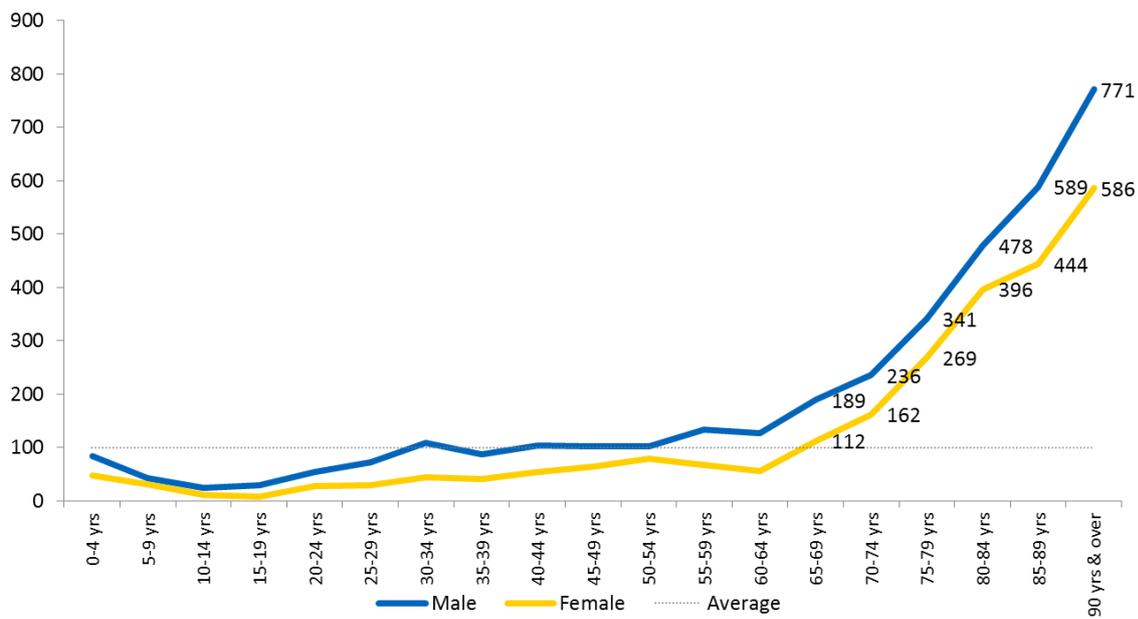
Map: Geographical distribution of RTCs – April 2017 to January 2018 (Source: Cumbria Constabulary)



c) Higher levels of risk due to ageing population

One of the most vulnerable groups at risk of fire are those aged 65 years and older. The chart below shows the increasing risk of fire fatality for different age groups, with the indexed score highlighting that a male aged over 90 years is nearly 8 times more likely to die in a fire than a male aged 40 years. The risk can be seen exponentially increasing from 65 years and above.

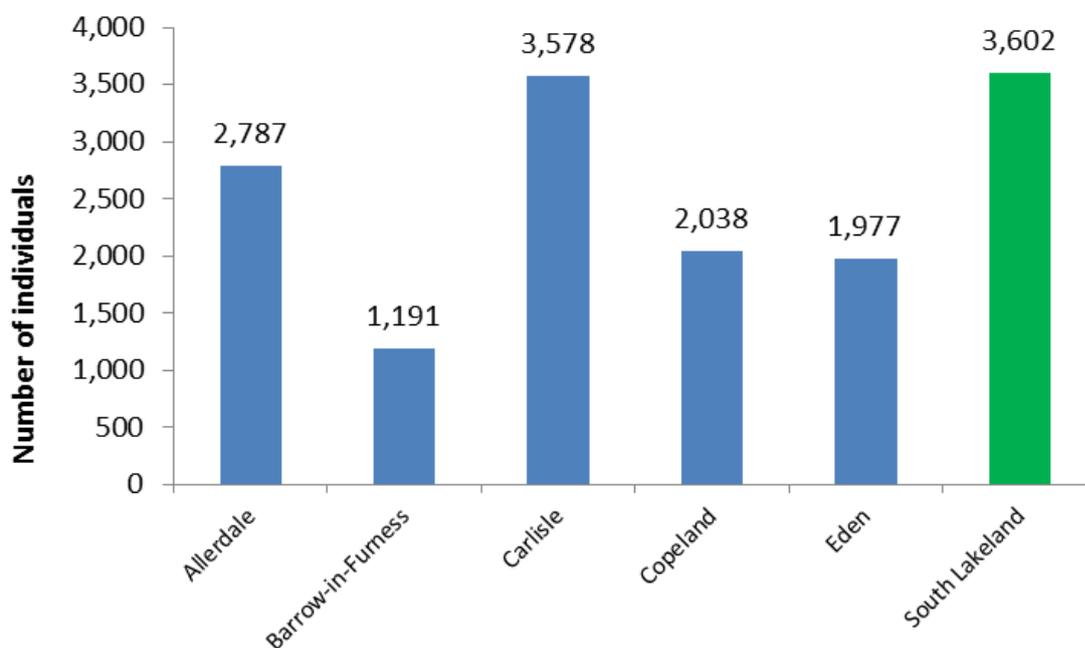
Chart: Index score by age / gender – risk of fire fatality (Office for National Statistics 2009)⁵



The population of Cumbria aged 65 years and over is projected to increase from 24% of the total population in 2017 to 27% in 2025. This is an increase of over 15,000 individuals. The majority of this growth, increasing from 24% to 32% of its current population, occurs in South Lakeland. This is a projected increase of over 3,500 individuals aged 65 years and over.

⁵ This data shows a weighted risk score based on data for ‘Accidental exposure to fire or flame – External causes of morbidity and mortality’. The line at 100 is the average risk score.

Graph: Increase in population of 65 years + between 2017 and 2025 (Source: ONS Nomis April 2017)



4. Increase in support to neighbouring fire stations, aligning with the On-call Strategic Review

As highlighted earlier within this business case, the level of availability for On-call firefighters has been decreasing over the past 4 years. The table below further highlights fire stations with low levels of availability across South Lakeland.

Table: Showing the fire engines with low availability for South Lakeland fire stations 2017 (Source: CFRS)⁶

Station	Fire Engine	Mon - Fri (08:00 - 18:00)	Mon - Thu (18:00 - 08:00)	Weekend (Fri 18:00 - Mon 08:00)	Total
Arnside	C63P1	28%	86%	78%	66%
Kendal (on-call)	C60P2	90%	69%	51%	69%
Milnthorpe	C66P1	71%	99%	91%	88%
Staveley	C69P1	67%	96%	82%	82%

The decreasing levels of availability are being addressed as part of a wider Service reform agenda as detailed in the IRMP 2016-20 Year 3 (18/19) Action Plan, which includes a proposed On-call Strategic Review. This details a range of innovative ways of working to ensure that the Service has flexible and sustainable ways of increasing availability for On-call fire stations in order to meet demand.

⁶ Gartan CFRS Availability Report 01/01/2017 08:00 to 01/01/2018 08:00 Inclusive

The introduction of a 24 hour crewing model at Kendal fire station supports the On-call Strategic Review, by providing additional capacity to support neighbouring On-call fire stations through a *guaranteed* resource and aims to ensure that service capacity most effectively and efficiently meets risk and demand.

5. Deliver some headquarters functions through the new Kendal night shift

The Service is looking for new and innovative ways of working that are more efficient and effective. The Penrith 'Rapid Day-crewing' model already has firefighters undertaking functional roles, alongside their operational role, which clearly demonstrates both efficiency and effectiveness. This is an area that can be further developed at Kendal fire station with the adoption of a 24 hour crewing model. The introduction of a night shift would generate additional capacity and productivity from firefighters working more productively during night shifts, when operational demand is low. The change would enable the Service to remove 2 posts from the technical services department, with the work being delivered by Kendal firefighters when on their night shift.

The additional capacity at Kendal could also further support ongoing work across other functional departments such as Fire Protection which has seen a significant increase in data and other returns required following the tragic Grenfell incident in 2017.

Once the introduction of this new and improved way of working has been monitored and endorsed as a successful concept, it can then be further developed and expanded across other Regular fire stations, thereby utilising the time available when crews are at work to support the Service, the broader Council and our communities. This would also ensure CFRS are maximising the effectiveness and output from staff across the whole service in supporting workloads, projects and plans.

6. Potential for increase in High Volume Pump (HVP) support

The national resilience HVP Unit and associated equipment is based at Kendal fire station and has been provided as part of the Civil Contingencies Capabilities Programme to be used in the following circumstances:

- (a) Natural flooding
- (b) Deliberate flooding
- (c) Supply of water for firefighting and bulk media.

There are 3 main types of deployment, which include local, cross border and national whereby the types of incidents are often protracted. The introduction of a 24 hour crewing model at Kendal fire station would provide the potential for additional capacity and availability of firefighters to support the deployment of the HVP, and provide capacity for reliefs whilst maintaining fire engine availability within the South Lakeland area.

7. Potential for increase in ‘Type B’ (Powered Boat and Advanced Water Rescue) Team support for flood / water rescue incidents

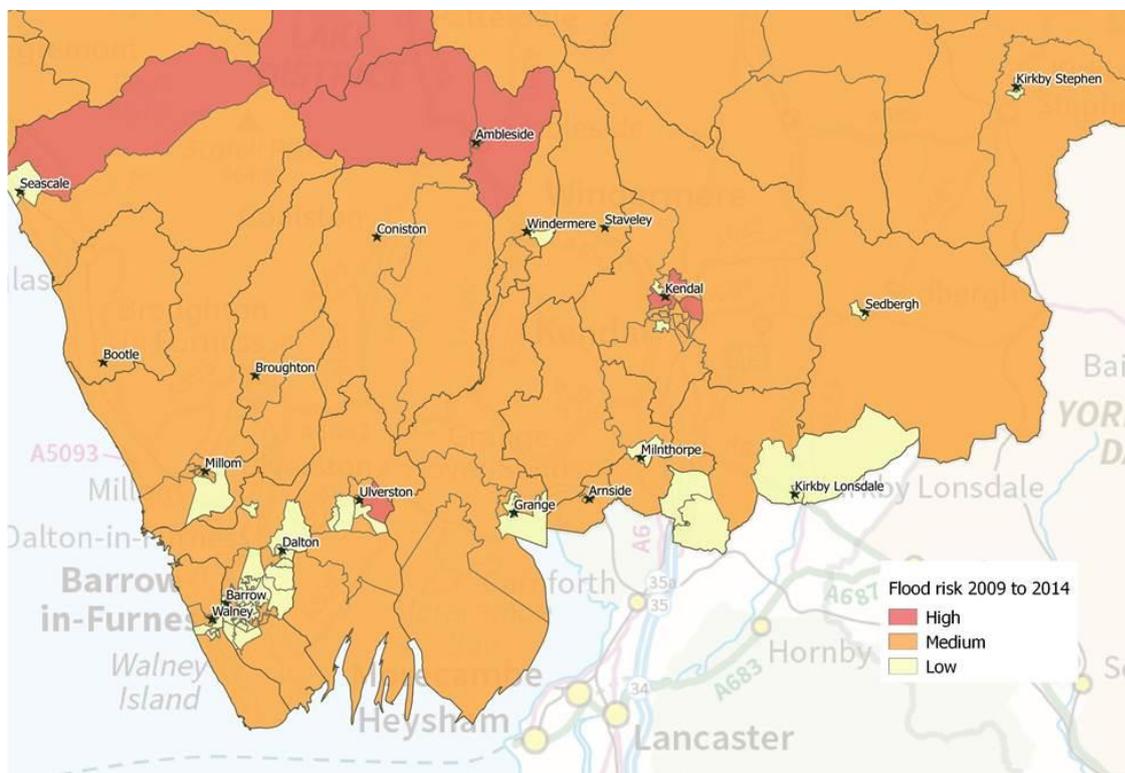
As part of the Government’s National Civil Contingencies and Capabilities Programme and more specifically the National Resilience Capability for wide area flooding events, CFRS host one Type B Boat team on the national register for deployment at any time to incidents throughout the UK.

The Service has two trailer based Type B Boats, one based at Kendal fire station and one based at Carlisle East fire station.

The Type B Boat teams and / or equipment are used across Cumbria for wide area flooding incidents and protracted search and rescue emergencies on Cumbria’s huge watercourse network.

The map below shows where the high, medium and low level of risk to flooding within the south of Cumbria. The Kendal fire station based Type B Boat is ideally positioned to support flood related incidents in South Lakeland as well as other areas within Cumbria and out of County and could be crewed more effectively with a Regular resource at Kendal fire station.

Map: Showing high, medium and low levels of risk to flooding within South Lakeland 2009-2014 (Source: CFRS)⁷



⁷ CFRS Flood Risk Mapping Data; CFRS – A review of risk modelling and response

Recommendations:

Recommendation 1: To provide an enhanced strategic fire cover model across South Cumbria it is recommended to bring forward the introduction of Regular night crewing arrangements at Kendal fire station. This would result in the current duty system and working arrangements at Kendal being augmented by the provision of additional Regular firefighters to cover the 12 hour night shift.

Recommendation 2: To maintain the second fire engine at Kendal fire station crewed by existing On-call firefighters.

Recommendation 3: To introduce additional support and productivity in relation to the headquarters departments, initially within the technical services department. To explore additional opportunities to expand this in support of the Fire Protection department.

Recommendation 4: To deliver these changes in conjunction with changes identified elsewhere within the IRMP 2016-20 Year 3 (18/19) Action Plan and strategically manage all transitions in line with the council's management of change policy.

Steve Healey

Chief Fire Officer

February 2018