



## **IRMP 21-25 Risk Review; Defining Risk.**

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### **Introduction.**

#### **Defining the concept of risk from an SFRS perspective.**

SFRS combines absolute, relative and comparative risk. The likelihood and impact of the fire is then assessed. The management of mitigating the two aspects of risk can be done independently. The IRMP process identifies and assesses all foreseeable fire and rescue related risks that could affect the community, including those of a cross-border, multi-authority and/or national nature. Combining national and local resilience risk registers with local intelligence we are able to formulate a risk picture.

As such, the IRMP combines financial and transformation plans along with service delivery of prevention protection and response. This is managed and re-assessed via the annual Service Plan for Shropshire Fire and Rescue Service.

As part of the fire alliance with HWFRS we have also agreed a standardised assessment format to ensure that the IRMP risk methodology is the same. This will help us to benchmark our service delivery standards and the impact they have on risk. This will deliver a more coordinated approach, where through prevention protection and response activities we can identify and adopt successful risk reduction measures.

## **The Alliance IRMP methodology incorporates assessing;**

- population and demographics
- economy
- response
- transport infrastructure
- industry
- tourism and heritage
- environment
- technology
- organisation (i.e. the FRS)
- national and regional
- stakeholder plans

The IRMP identifies where the key fire risks are likely to be using classifications of vulnerable groups, accidental fire data and the Index of Multiple Deprivation mapped across the Lower-layer Super Output Areas (LSOAs) that make up the Service area. The LSOA have been divided into three classifications; Urban, Town and Fringe, Rural. These classifications are the foundation of the Response Standard.

### **Community Risk**

The risk of fire is not equitable. Key factors increase the vulnerability to fire. Some of these are basic such as age, however other social factors including deprivation, fuel poverty, mental health and age- related conditions all influence the likelihood of a fire occurring. We refer to this combination of risk as “composite risk.” All the Fire Station areas have designated areas of composite risk that have an agreed action plan for prevention.

The Response Strategy and our response standard, targets community risk. The “big data” of LSOA classifications enables us to designate and target; Rural 20-minute, Town and Fringe 15-minute and Urban 10-minute response standards. This is based on likelihood and impact such as fire spread from room of origin.

We use the LSOA classifications to support the targeting of composite risk. The population density blended with deprivation and fire data allows us to identify a generic high medium and low risk profile. This assessment enables us to utilise our resources effectively and efficiently, especially our urban fire fighters who have the 24/7 capacity for service delivery. This process is weighted towards likelihood rather than impact and tends to be the areas of greatest population density.

The On-Call stations are split into High Medium and Low risk which is based on the likelihood of a fire rather than the impact. This tends to mean the market town areas with greater population density are more resourced as the risk/likelihood is greater than the rural areas. However, this is dynamic and constantly reviewed through incident data. To enhance efficiency and effectiveness in On-Call LSOA areas, prevention work targets individual risk with precision targeting carried out by lone working On-Call firefighters.

This assessment of community risk is only a small proportion of the story. Shropshire is a contrast of sparsity and density, wealth and deprivation, agriculture and tourism, isolation and independence.

To bundle up all these aspects into a simple classification such as low medium and high, attach it to a geographic area is too simplistic and not how we holistically assess risk.

## **Individual Risk**

We also consider the individual risk as a separate risk to the more generic community risk. Our primary approach to individual risk is the use of “little data.” Adult Social Care and other partner data allows us to target individuals who are extremely vulnerable. This is true precision prevention. The volume or output of safety visits is not the priority, the outcome is key. The visit is targeted with maximum precision, an example being data sharing agreements forged via Safe and Well, allow us to identify vulnerability by targeting those receiving care packages.

Gaining access to the troubled families program allows us to support younger risk which is often more prevalent in urban areas. By combining response planning with prevention, we also prioritise those living alone, 75+ and residing 15 minutes + from a fire station. This targets the associated risks of sparsity including the social and geographic challenge of isolation. This precision targeting moves prevention resources away from population density and the urban areas where generic risk and fire service resources are more prevalent.

We use Exeter data to target age, living alone and mapping tools for travel distance. This targets the individual risk rather than a more generic community or geographic risk area.

## **Flat Risk Profile**

We target our resources in PPR to deliver a flat risk profile. The relationship between density, sparsity is key. We recognise that the more densely populated areas the likelihood, frequency, volume of fires is greater. To address this, we carry out more prevention initiatives in the urban areas, we have an attendance standard of 10 minutes for an optimum crew of 5, this standard ensures a greater weight of fire-fighting attack is delivered. On occasions a crew of 4 may be the first attendance, this is likely to be supported rapidly by additional resources. This response acknowledges that the risk of fire spread in conurbations is greater and therefore a greater speed and weight of attack is appropriate.

If you contrast this with a rural area where we have an On-Call response with potentially 8 or 9 fire fighters on a single pump arriving to a 20-minute standard. We recognise the likelihood is significantly less however the impact of such fires is more significant with reduced survivability rates and a greater level of probable damage based on the response standard. We empower the On-Call to use greater crew sizes

as additional resources will almost certainly take a longer time to arrive than in the urban fires. This is one aspect of balancing absolute comparative and relative risk.

With this in mind it seems illogical to call these rural areas Low Risk when in all probability the impact of a fire in such an area will be greater than a more urban fire. Our own fire data shows that fire deaths and serious injuries occur in rural and town and fringe areas. These casualties and incidents are not dominated by the larger denser population areas.

Flat risk profiling levels the risk of death and serious injury from fire in urban and rural areas. SFRS is aligned to this flat risk model and the IRMP will allocate the resources of PPR accordingly.

We acknowledge that living in a rural area has a high impact risk whilst fire data suggests the likelihood of such a fire is lower than in urban areas. To this extent we use a blend of comparative and relative risk. We have moved away from calling our response standard low medium and high risk for all the reason above. We identify that people, buildings, processes and communities that are low medium and high risk will all be found in Urban, Town and Fringe and Rural areas. Therefore, we identify and target service delivery at the Flat risk profile. Prees Heath is a good example as the area is rural with low fire incidents, however a small row of houses called Lower Heath is an area of deprivation and exhibits the associated problems of urban deprivation. Prevention activities target this estate, Crews have risk awareness of the estate, however the response standard remains the same for the rural LSOA criteria. The likelihood, impact and weight of attack are managed separately.

We also recognise that likelihood and impact can be managed independently. This is evident in our response standard, our weight of fire-fighting attack, the targeting of prevention and protection resources and our development of data sharing agreements to exclusively target vulnerability.

### **Firefighter Risk /Heritage /Economic Risk.**

The risks posed to FF from buildings and related processes are primarily assessed and managed via the RMS. These risks are managed and mitigated through operating procedures, training programs/courses. The risk to fire fighters is incorporated into Health and Safety Management and focuses on the practices and processes of FF. This is supported by NOG, JOL and localised learning and debriefing.

RMS is a web-based application that allows us to digitally collect, manage and make available operational risk information about buildings and sites in Shropshire. It facilitates a risk assessment that classifies the level of operational risk posed by each building or site, based on data that is inputted. This classification and the interactive access to operational risk information, that the system provides, allows us to effectively manage these risks operationally in line with PORIS guidance.

## **Building / Business Risk/ Financial and Economic risk.**

Financial and social impact associated with the loss of a business to the community is factored into protection planning. The impact of a commercial or heritage fire especially in a rural setting could significantly damage the economy and sustainability of the Village. This, however, is not a major factor as there is limited information currently available for the true social cost of fire. Community risk is easier to rationalise, which is why we may consider schools to be a higher risk for example. The key reason behind this emphasis is that the Fire Safety Order deals with life risk.

The risk is defined by CFRMIS which designates levels of risk based on a selection of criteria. Predominantly the FSEC model.

Relative risk is calculated by the following being measured against building groups A-D and it covers FSEC codes A-T.

- Compliance level
- History, UWFS, Fires, Arson
- Building features and the link to fire spread
- Fire loading
- Firefighting access water etc
- Occupancy, numbers and mobility.
- Building size
- Detection and warning
- Sprinklers and smoke control

## **Environmental Risk**

This is identified through local and national risk registers plus partnership working with the EA. Such risk is managed through LRF, EA and internal risk management systems RMS and CFRMIS.

## **Risk Priorities and Weighting.**

This weighting remains agile as the process is a constantly evolving one. The focus is life risk, saving saveable life and protecting property and the environment. This is set against FF safety and ensuring our policy and practices provide the maximum safety for our crews.

The weighting will recognise the importance of business, heritage and economic risk but acknowledges this mix or balance will change from location to location.

## **The Strengths of this Process.**

Flexibility to respond and protect through prevention two very different counties. Mixing population density and sparsity. Ensuring service delivery is equitable between LSOA based on the variety or mix of risk. Managing likelihood and impact independently. This process recognises the opportunities of firefighter capacity in Urban areas and provides the necessary flex and innovation in On-Call areas.

## **Challenges and limitations of this Process.**

The bespoke nature of how we address risk can lead to the perception that some areas are “missing out.” The traditional focus on population and density is well known and relatively unchallenged. To use a flat risk model requires an element of re-educating. The impact of a fire in a rural area however infrequent cannot simply be low risk. Resourcing to risk needs to ensure all aspects of the risk are resourced in a proportionate way.

## **A National Risk Definition.**

This can be very helpful, however for all the reasons stated in this document the Service must have the agility to use a blend of criteria to identify the actual risks in a certain area or scenario. The definitions will provide a national standardisation and a consistency that should ensure Services are accountable for how they identify, mitigate and respond to the risk. Shropshire Fire and Rescue define risk as being ‘a combination of the likelihood and consequences of a hazardous event’.

## **Risk Summary.**

Risk is defined in the 21-25 IRMP as being ‘a combination of the likelihood and consequences of a hazardous event’. This process reviews risk to the Community, Individual, Environment, Business and Financial plus Firefighters and Partners. The process is holistic with mitigation methodology a combination of criteria. At the heart of risk management is the understanding that likelihood and impact can be managed separately. The use of terminology such as high risk applied to a geographical location is inaccurate and at best very generic. The weighting of what influences the risk level in an area, community or indeed for an individual will always remain agile.

We do not limit or tie ourselves in to a restrictive scoring system that prevents us from identifying new trends and responding accordingly.

Our incident data suggests that our fire risks are moving away from urban areas and rippling outwards into more rural margins. As a self-aware organisation we recognise the apparent anomaly in continuing to allocate greater resources in urban areas, versus less populated town and fringe locations. However, it is precisely this urban resource (in the form of 24/7 Wholetime fire cover) that drives down risk and results in lower incident numbers. This has the effect of making rural areas appear to be at greater risk, when in fact the overall risk is becoming flatter.

The flat risk concept is applied across the LSOA of Urban Town and Fringe and Rural. The use of the LSOA and the availability of deprivation mapping provides a basic foundation that reflects the more traditional high medium low risk often associated with population density. Such risk is met by the weight and speed of attack that reflects this risk as set out in our response standard. This is resourcing to risk in the most agile way for a county that has variable population density and deprivation but is predominantly sparse.