Gloucestershire Fire and Rescue Service Community Risk Profiles 2020-2021

GFRS CRMP	
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Foreword

As the Chief Fire Officer for Gloucestershire Fire and Rescue Service, I am pleased to introduce you to our Community Risk Profile (CRP) for Gloucestershire. The Fire and Rescue National Framework for England 2018 outlines that every fire and rescue authority must provide an assessment of all foreseeable fire and rescue related risk that could affect the area of the authority.

To ensure we meet the needs of Gloucestershire and our local communities, it is essential we make sure that we have the right people, with the right equipment, in the right place and at the right time. By utilising accurate data and business intelligence (from both internal and external sources), GFRS will be able to determine the risk levels and prioritise that risk accordingly to prevent and mitigate the potential harm to our communities.

By having a methodology that is built on professional judgement and robust risk analysis ensures that effective and efficient decisions are made when assessing the hazards and informing the plans to mitigate those hazards.

Mark Preece
Interim Chief Fire Officer
Gloucestershire Fire and Rescue Service

Introduction

The CRP is a comprehensive and forward-looking assessment of the risks in our community that will both affect, and shape the delivery of our Service over the coming years. The CRP informs our Community Risk Management Plan (CRMP). The CRMP is a statutory requirement that outlines how Gloucestershire Fire and Rescue Service (GFRS) will tackle and mitigate the risks that our communities face.

The document is split into three sections, Response, Protection and Prevention. Each section will provide a detailed analysis of risk across Gloucestershire. The CRP utilises internal and external data and gathers information from a wide range of sources, including information from our partners.

The information in each of the three sections has their own risk matrix, each designed to ensure that we can target our resources effectively, and that our local plans are bespoke to meet local needs.

The reporting period for the assessment of the risk scenarios within the community risk profile spans over a three-year period from 1 April 2017 to 31 March 2020. However, this is a living document and will be updated periodically.

Sources of Information

We access data from a range of sources to support our analysis and profiling.

Source	Description
National Risk Register (NRR)	The NRR is an assessment of the key risks that have the potential to cause disruption in the UK.
Community Risk Register (CRR)	The CRR provides information on emergencies that could occur, and provides an assessment of how likely they are to happen and the impacts if they do.
Census	The census in the UK is a count of all people and households. The latest census in the UK was held on 27 March 2011.
Incident Recording System (IRS)	The IRS is an electronic system for recording data at incidents. The system is operated by the Home Office and all fire services have a requirement to gather incident data.
Exeter Data	The Exeter data set is provided by NHS England and contains a list of people aged 65 and over and registered with a GP.
Partner Agencies	Consultation and working practices are shared between partner agencies that are linked in some way to our local risks. Examples of partner agencies

	are Gloucestershire Constabulary, South West Ambulance Foundation Trust, Trading Standards
Cadcorp	Cadcorp SIS is a desktop geographic information system (GIS) used for spatial data analysis. Cadcorp Web Map Layers is a web-based GIS used to display spatial data.
Indices of Multiple Deprivation (IMD)	Indices of multiple deprivation (IMD) are widely-used datasets within the UK to classify the relative deprivation (essentially a measure of poverty) of small areas. Multiple components of deprivation are weighted with different strengths and compiled into a single score of deprivation
Community Fire Risk Management Information System (CFRMIS)	The Community Fire Risk Management Information System (CFRMIS) is an electronic information system used to store and manage business fire safety and community safety data.
Site Specific Risk Information (SSRI)	This is information that we gain during visits to high-risk premises, and which is then made available to crews when dealing with incidents.
Mosaic	Mosaic is a consumer segmentation model from Experian which segments the population into groups and types that helps you to understand an individual's likely behaviour.
Historic England	GIS spatial data for Listed Buildings, part of the National Heritage List for England. Listed buildings are represented by a single point in the centre of the building footprint.

In addition to the above sources of information, we utilise analysis and research conducted by partners and local authorities. These included:

Demography	➢ Current population of Gloucestershire (mid-2020) - https://inform.gloucestershire.gov.uk/media/2108954/mid-2020-population-estimates-final.pdf ➢ Population change - https://inform.gloucestershire.gov.uk/media/2109291/population-change-in-gloucestershire-2010-20.pdf ➢ Population projections - https://inform.gloucestershire.gov.uk/media/2099800/overview-population-projections-for-gloucestershire-2018-2043.pdf

Environment	➢ https://inform.gloucestershire.gov.uk/media/2089770/environment-overview.pdf
Economy	➢ gfirst LEP Gloucestershire Five Foundations of Productivity Evidence Report gloucestershire_five-foundations-of-productivity_evidence-report_2019-updated.pdf (gfirstlep.com) ➢ Covid19 and Economic Intelligence August 2021 (Public Pack)Economic Dashboard Sept 2021 Agenda Supplement for Gloucestershire Economic Growth Joint Committee, 15/09/2021 10:00
Transport	➢ Gloucestershire Local Transport 2020-2041 Gloucestershire LTP (2020-2041) - Gloucestershire County Council

Historic Demand

Since 2009, Fire and Rescue services have been recording operational data via the National Incident Recording System (IRS). Recording operational data centrally has enabled the government, (originally the Department for Communities and Local Government and now the Home Office), a greater insight and analysis at a national level. Each year, the Home Office releases the 'Fire and rescue incident statistics for England '. This publication focuses on incidents and fires attended by fire and rescue services and fire-related fatalities and casualties from those fires.

When measuring the changes in the number of incidents since 2009/10 with 2019/20, there has been a 9% reduction in total incidents in Gloucestershire. The number of fires in Gloucestershire has reduced by 26% in the same period. Although fire incidents have decreased, the Service has seen a surge in demand for special service incidents, increasing by 23% since 2009/10.

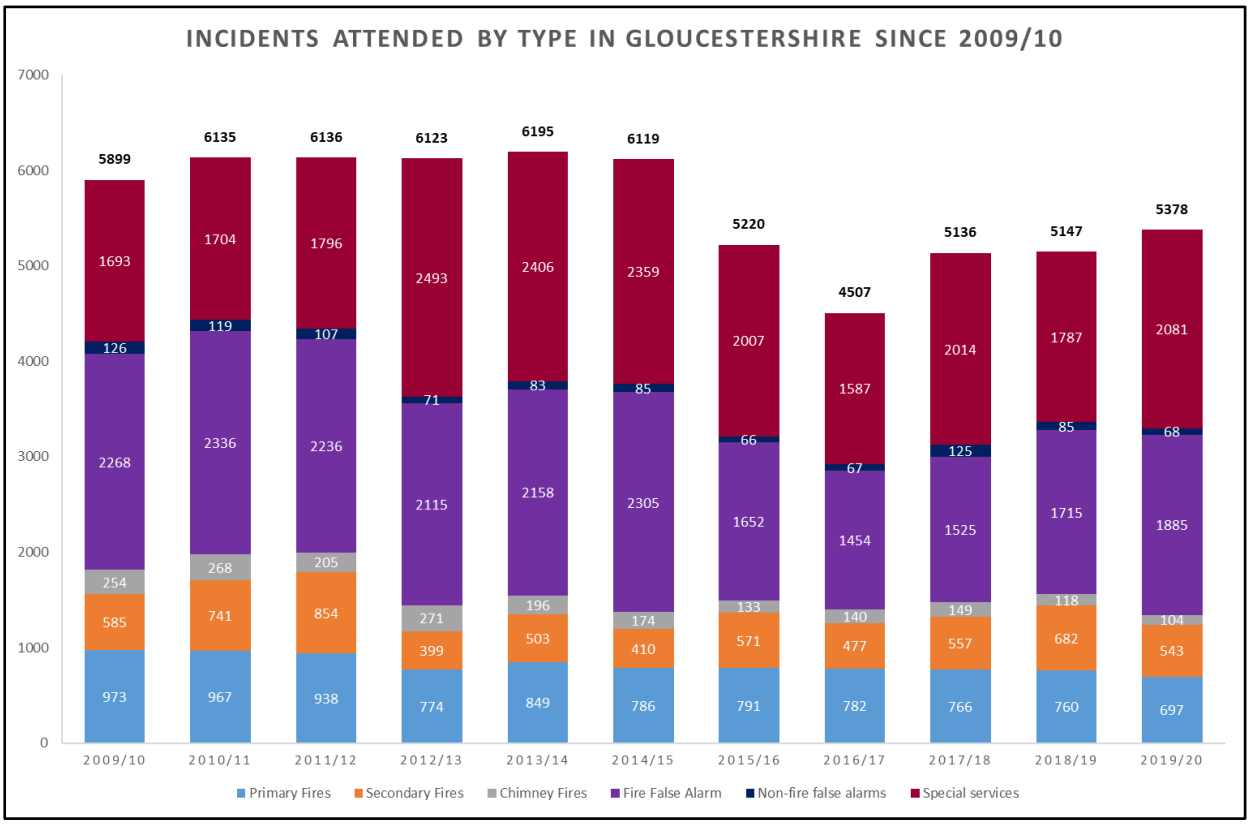


Figure 1: Incidents attended by type in Gloucestershire since 2009/10

In the 12 months to the 31st March 2020, the Service attended 8.4 incidents per 1,000 population. This was below the England rate of 9.9 incidents per 1,000 population. Figure 2 is a breakdown of incidents in Gloucestershire compared to the national rate for 2019/20.

Incident type	Gloucestershire (Per 1,000 Pop)	England (Per 1,000 Pop)
Primary Fires	1.09	1.22
Secondary Fires	0.85	1.46
Chimney Fires	0.16	0.06
False Alarms	2.96	4.12
Non-Fire False Alarms	0.11	0.13
Special Services	3.27	2.93

Figure 2: Gloucestershire Incident rate compared to England Incident rate 2019/20

Temporal Analysis

Between 2017/18 and 2019/20, the busiest month of the year was July. The quietest month for this period was January. 62 percent of all incidents occurred between the times of 1100 hours and 2300 hours (Figure 4). During the week, the total number of incidents would rise at a weekend, with Sunday seeing the biggest peak and Friday seeing the lowest number of total incidents (Figure 5).

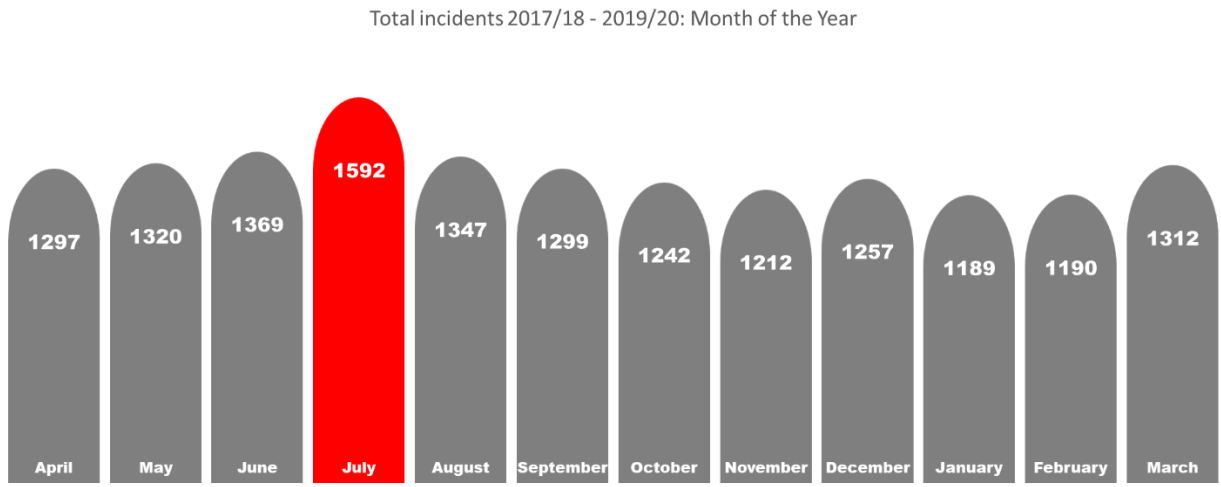


Figure 3: Total Incidents 2017/18 - 2019/20 by Month of the year

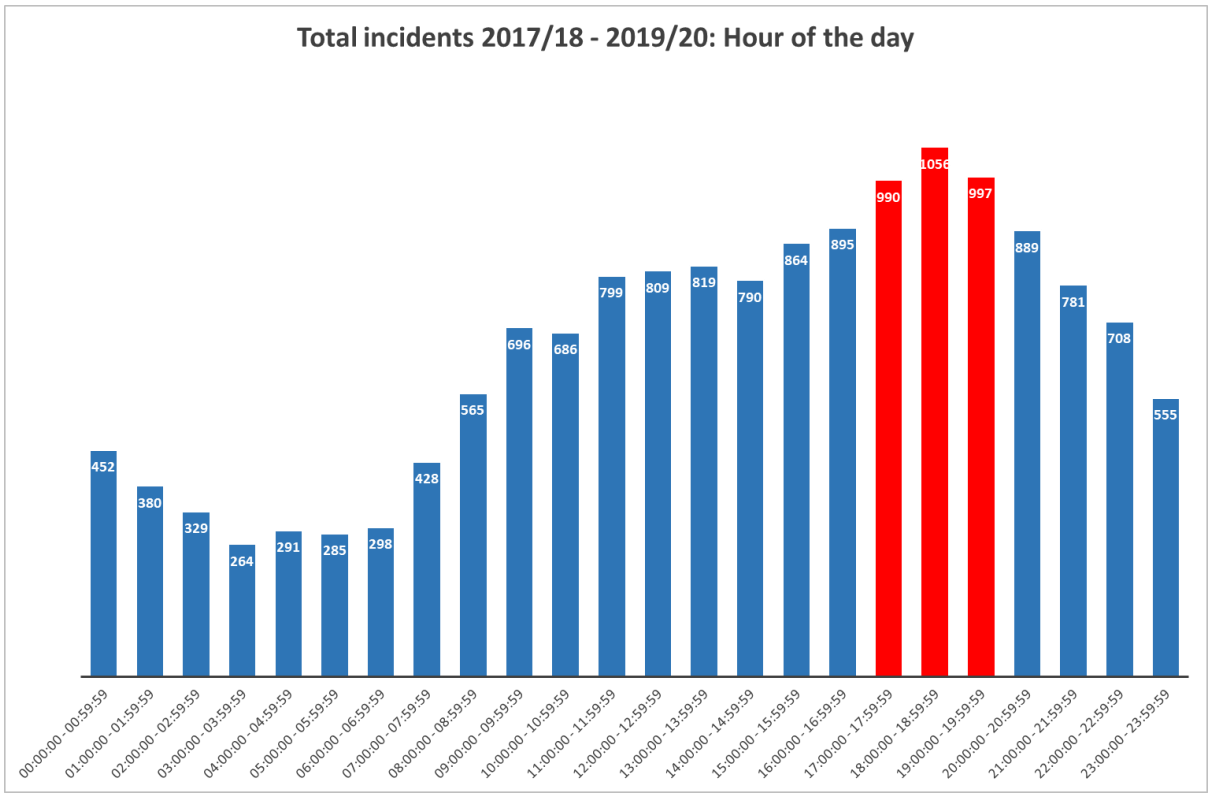


Figure 4: Total Incidents 2017/18 - 2019/20 by hour of the day

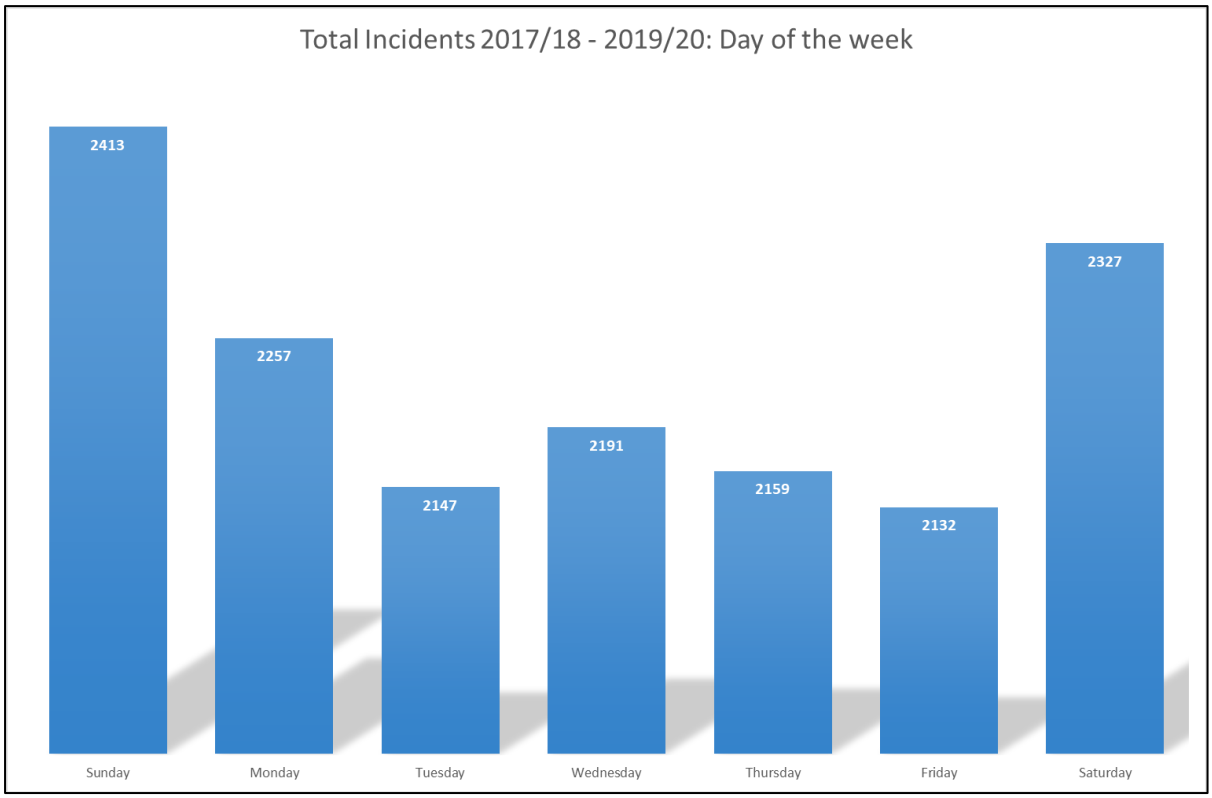


Figure 5: Total Incidents 2017/18 - 2019/20 by day of the week

National Risks

National Risk Register of Civil Emergencies 2017

The National Risk Register (NRR) of Civil Emergencies is produced by the Government using historical and scientific data, as well as the professional judgements of experts to analyse the risks to the UK as a whole.

The NRR provides an assessment of the likelihood and potential impact of a range of different civil emergency risks (to include natural and accidental occurring hazards and malicious threats) that may directly affect the UK over the next five years.

The risks identified by the National Risk Register of Civil Emergencies are:

Natural Hazards	Diseases	Major accidents	Societal risks	Malicious attacks
Flooding	Human diseases	Widespread electricity failure	Industrial action	Malicious attacks
Severe weather	Animal diseases	System failure	Public disorder	Attacks on crowded places
Space weather		Transport accidents		Attacks on transport systems
Volcanic eruptions		Industrial and urban accidents		Attacks on infrastructure
Poor air quality				Cyber attacks
Earthquakes				Chemical, biological, radiological and nuclear attacks
Wildfires				

Table 1: National Risk Register Table

LRF Community Risk Register

Gloucestershire Fire and Rescue Service is an active member of the Gloucestershire Local Resilience Forum (GLRF). This multi-agency partnership provides a structure to help agencies plan and prepare for major incidents and emergencies that may have a significant impact on the community. The LRF assists partners to meet their statutory duties under the Civil Contingencies Act 2004 (Contingency Planning) Regulations 2005 and accompanying statutory guidance entitled “Preparing for Emergencies. It is made up of Category 1, 2 and non-category responders.

To ensure that residents are informed of the risks and emergencies that could occur within Gloucestershire, the GLRF produces a Community Risk Register (CRR).

As part of the risk assessment process, the GLRF considers the likelihood and impact of a range of hazards occurring. The risk assessments are quite generic and are based on guidance provided annually by the Cabinet Office. They deliberately do not highlight individual areas of concern due to potential security issues.

The CRR has been created for two reasons:

Firstly, to re-assure the people and communities of Gloucestershire that an assessment of potential hazards has been made or considered.

Secondly, to satisfy the requirements outlined in the Civil Contingencies Act 2004 and its associated statutory guidance (Emergency Preparedness).

The inclusion of the hazard or the particular scenario does not mean that the LRF believes the risk will happen, or that if it were to do so that it would be at that scale.

The risk scenarios are rather reasonable worse case assumptions upon which our risk assessments are based. It’s a case of plan for the worst, hope for the best!

Information regarding some of the biggest risks facing Gloucestershire, such as Pandemic Flu and Flooding can be found on the local resilience forum webpage.

Risk Assessment Response

Methodology

This risk profile follows a risk assessment methodology developed by GFRS. The risk assessment scoring carried out within this process is based on a reasonable worst case scenario and is kept consistent by the use of scoring matrices.

The risk management process takes in to account the 'likelihood' and potential 'consequences' of the identified possible 'hazardous events' to produce an overall risk score for each event. Data and professional judgment are used to risk score the hazardous events as per the process set out over the following pages.

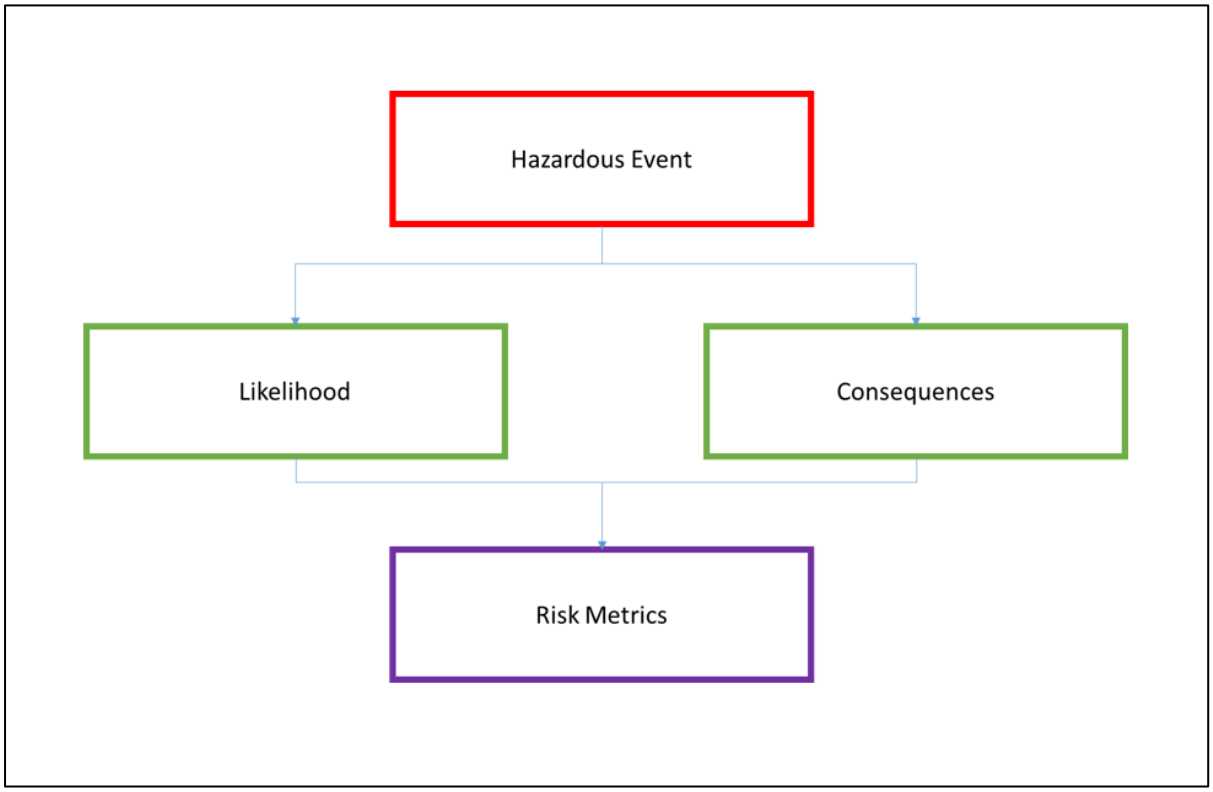


Figure 6: Risk Assessment Metric

Hazard Identification

This document will firstly identify a number of incident types that have the potential to cause harm to the people, environment and economy within the communities GFRS serve.

Risk Analysis

Consequences calculation

The consequences for each of the identified potential hazardous event are split into several sub categories, all of which are scored 0-5 utilising a scoring matrix to ensure consistency. These scores are entered in to a risk calculator which uses an algorithm to calculate an overall risk score for the consequence. The sub categories that are considered in the calculation are as follows:

- Human Welfare including:
  - Fatalities - this reflects the number of people killed at an incident.
  - Casualties - this covers those requiring medical intervention resulting from an incident and mental health casualties.
  - Evacuation and shelter
- Behavioural - Public perception and anxiety
- Economic - this includes property damage, heritage loss and business disruption.
- Disruption to essential services - this includes transport, utilities, finance, communications and emergency services.
- Environmental - this includes all types of pollution to the environment.

Consequences Matrix

Score		Fatalities	Casualties	Evacuation and shelter	Public perception	Economic	Disruption to essential services	Environmental
0		N/A	N/A	N/A	N/A	N/A	N/A	N/A
1		1	1-10	1-25	Local minor	<£100K	<1 Hour	Local Short term
2		2-5	11-50	25-100	Local limited	£101-£500K	2-5 Hours	Local Medium term
3		6-20	51-250	100-500	Local moderate	£501K - £1M	6-12 Hours	Local Long term
4		21-100	251-1000	500-10000	Regional	£1 - £5M	13-24 Hours	Regional/city Medium term
5		>100	>1000	>1000	National	>£5M	>24 Hours	Regional/city Long term

Figure 7: Consequences Matrix

Likelihood calculation

The likelihood of a hazardous event is scored 1-5, using a matrix to maintain consistency. Three years of incident data is used to ascertain the number of incidents per year. This gives a good indication of where on the scale the respective hazardous event scores, however, there may not be sufficient data for the confidence level to be high enough to use this metric alone. Therefore, the matrix also includes plausibility metrics that are used to calculate the likelihood score. This mixture of historical analysis and professional judgment is used to estimate the approximate likelihood of an event occurring.

Likelihood Matrix

Number of incidents per year	Score
<1	Plausibility of incident to be assessed using professional judgment. If an incident is likely a score of 1 will be given. If it is not a score of 0 will be given
1	1
2-11	2
12-51	3
51-300	4
301+	5

Figure 8: Likelihood Matrix

Overall Risk Matrix

The overall consequence and likelihood scores are next plotted on to a risk matrix which in turn gives an overall risk score for each respective hazardous event. Below is an example and descriptors for each overall score.

Incident Type						
Consequence	Catastrophic					
	Significant					
	Moderate					
	Limited					
	Minor					
		Low	Medium Low	Medium	Medium High	High
Likelihood						
Likelihood		TBC		Overall	**TBC**	
Consequence		TBC				

Figure 9: Risk assessment example

Exceptionally HIGH (Dark Red) have a high likelihood of occurrence and a high consequence. These incidents are a priority for GFRS and resources will be made available to combat the threat.
VERY HIGH (Red) may have a high to medium likelihood of occurrence, but their potential consequences are such that they will be treated as a main priority by GFRS and resources made available to combat the threat.
HIGH (Amber) during the strategic planning process, careful consideration should be given to reducing or eliminating these risks.
MEDIUM (Yellow) should be monitored to ensure appropriate measures are in place to enable an effective response.
LOW (Green) should be managed using normal planning and response arrangements, and appropriate levels of resources are maintained.

Risk Assessment Summary

Reference Number	Incident Type	Risk Score
1	Dwelling Fire	Very High
2	Flooding	Very High
3	Non Residential Fire	Very High
4	RTC - Small vehicle	Very High
5	Hazardous Materials incident	High
6	Other residential premises Fire	High
7	Medical Incidents	High
8	Woodland/Forest Fire	High
9	Rescue or evacuation from water	High
10	Rescue/release - From height	High
11	Animal incidents	Medium
12	RTC - Large vehicle	Medium
13	Outdoor equipment and machinery Fire	Medium
14	Rescue/release - Confined space/below ground	Medium
15	Rescue/release - Trapped in or under machinery or other object	Medium
16	Major public events incident	Medium
17	Derelict Building	Medium
18	Train incident - Passenger	Medium
19	Marauding Terrorist Attack	Medium
20	Aircraft incident - passenger	Medium
21	Aircraft incident - Light	Medium
22	Effecting entry	Medium
23	Heritage Home Fire	Medium
24	Lift release	Medium
25	Outdoor structures Fire	Medium
26	Small vehicle Fire	Medium
27	Train incident - Freight	Medium
28	Tree scrub and hedges Fire	Medium
29	Vegetation and scrub land Fire	Medium
30	Chimney Fire	Medium
31	Large vehicle Fire	Low
32	Nurseries/market gardens Fire	Low
33	Rescue/release - From mud	Low
34	Rescue/release - Trapped in collapsed structure	Low
35	Spills and Leaks - non RTC	Low
36	Standing/Stacked/Baled crop Fire	Low
37	Boat incident - Barge	Low
38	Boat incident - Small	Low
39	Aircraft incident - Freight	Exceptionally low
40	Aircraft incident - Military	Exceptionally low
41	Fire or Explosion at an Onshore Fuel Pipeline	Exceptionally low
42	Malicious cyber incident on telecommunication	Exceptionally low

Table 2:Risk Assessment Summary - Response 2020

NB. Every identified risk that has an overall score of 'medium' or above has been profiled in detail below

Dwelling Fires

Dwelling fires are fires in properties that are a place of residence i.e. places occupied by households such as houses and flats, excluding hotels/hostels and residential institutions. Dwellings also includes non-permanent structures used solely as a dwelling, such as houseboats and caravans.

GFRS identifies dwelling fires as having significant consequences, with the potential for injuries to be fatal. Between 1 April 2015 and 31 March 2020, GFRS had an average of 1.8 fatalities in dwelling fires per year, with zero recorded for the period of the 1 April 2019 to 31 March 2020. In 2008, the Department for Communities and Local Government carried out a report about The Economic Cost of Fire. In the report, it states that the estimated cost of a fire death is £1.65 million and a serious injury is estimated to cost around £185,000. The report also states that the average consequential cost to a property fire in the southwest region was £3,220. As this report was based on 2008 figures, the current costs are likely to be significantly higher than those stated in the report.

In the three years to the 31 March 2020, GFRS attended an average of 304 dwelling fires, with the period of 1 March 2019 to 31 April 2020 being our lowest recorded year for dwelling fires, with 295 in total. This equates to a rate of 0.5 dwelling fires per 1,000 population in Gloucestershire and is the same as the England rate. **How GFRS has managed to reduce dwelling fires is documented in the Prevention section.**

Even though there has been a reduction in dwelling fires, they still account for 42% of all primary fires demand in Gloucestershire. It is therefore imperative that GFRS has the right resources in the right locations at the right times.

During the last 3 years (1 April 2017 – 31 March 2020), over half of all dwelling fires in Gloucestershire occurred between 12:00 and 20:00, with the busiest period being between 17:00 and 19:00.

Nationally, the Home Office measure average response times to dwelling fires. A response time is a combination of the call handling time, the crew turnout time and the drive time.

In the year to the 31 March 2019, GFRS had an average response time of 9 minutes and 27 seconds to dwelling fires. This is a 16-second improvement compared to 2016/17. However, when compared to 10 years ago (1 April 2008 – 31 March 2009), this is an increase of 62 seconds.

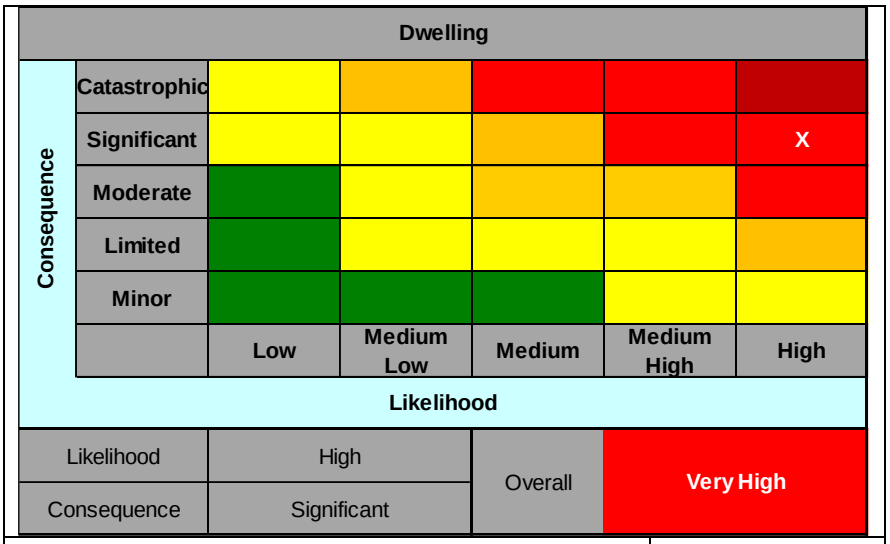
Based on the DEFRA rural/urban classification, GFRS is deemed as significantly rural. The average response time to dwelling fires for significantly rural fire and rescue services is 8 minutes and 52 seconds.

The two biggest contributions to this are the crew turnout time, 38 seconds longer than the significantly rural FRS average and the drive time being 16 seconds longer than the significantly rural FRS average.

Emerging themes and threats

- The busiest period for dwelling fires is between 17:00 and 19:00; this is during the time that the majority of people are leaving work. Owing to this, there is the potential for traffic to impact on our on-call staff being able to respond to the station and the drive time of our appliances en-route to incidents. This could change with more people working from home following the Covid-19 pandemic.
- As a predominately on-call Service, the recruitment and retention of our on-call staff could be affecting our turnout times.
- More than half of dwelling fire incidents occur between 12:00 and 20:00; this is during the same period that we are at our busiest for all incidents.
- With more people working from home, this could potentially lead to more dwelling fires in the future.
- Between 1 April 2015 and 31 March 2020, 95 wholetime firefighters have retired and 195 on-call firefighters have left GFRS. This has seen approximately, 45% of all wholetime firefighters having less than 5 years' service. With the decline in dwelling fires, we may see an impacts on staff's exposure and subsequent exposure in dealing with these types of incidents.

Risk Assessment



2017-2018	303
2018-2019	314
2019-2020	295
Three year total	912
Three year average	304

Figure 10: Risk Assessment Dwelling Fire

Flooding

Flooding can be characterised into three distinct definitions;

• Coastal (where high tides and storm surges combine to cause the sea to flood inland)

• Rivers and streams, known as 'fluvial flooding' (where waterways overflow their banks into surrounding areas)

• Surface water (where rainfall overwhelms drainage systems)

Flooding within Gloucestershire

The Government categorise the three main methods of mapping into localised and regional flooding.

- River (Fluvial) flooding
- Surface water (Pluvial) flooding
- Reservoir flooding

GFRS are well aware of the devastating effects flooding has on the Counties people, communities, businesses and infrastructure. The unprecedented flooding in Gloucestershire in 2007 and the more recent, but less severe flooding in 2012 and 2013 has shown the extent flooding damage can have.

Consequences of flooding can include the following:

• Fatalities and casualties (physical and psychological)

• Evacuation and shelter (sometimes long-term) of residents and employees

• Widespread damage to property and Infrastructure

• Disruption to essential services, particularly transport and energy

• Environmental damage or contamination (particularly by sewage)

The reasons behind instances of fluvial flooding are both complicated and often localised. Changes in local precipitation levels do not necessarily equate to increases in the intensity, extent and harmfulness of flooding.

Factors that can affect the severity of flooding can include the level of land management, investment in flood defences, population dynamics, as well as other physical processes.

Gloucestershire hosts amongst other water courses the River Severn, which at 220 miles in length is the UK's longest river. As such, the County finds itself having to adapt to the ever present risk of river and surface water flooding.

Different organisations are responsible for managing drainage and flood risk from different sources:

- The Environmental Agency retains responsibility for managing flooding from the Severn Estuary and main rivers.
- Water and Sewage companies are responsible for managing flooding from the sewer network
- Highway Authorities are responsible for providing and managing highway drainage and roadside ditches, and must ensure that road projects do not increase flood risk.

Gloucestershire Local Flood Risk Management Strategy (LFRMS)

Under the Flood and Water Management Act 2010, Gloucestershire County Council (GCC) has responsibilities for:

- Investigating and reporting flooding incidents
- Managing flood risk from surface water, groundwater and ordinary watercourses
- Producing a local risk management strategy
- Consenting works on ordinary water courses
- Enforcing works to maintain the flow on ordinary water courses.

Responsibilities for flood risk management

Mapping

Central Government and GCC use mapping to help support their planning decisions and future flood defence initiatives.

The map below shows examples of areas identified as at risk from flooding by river water.

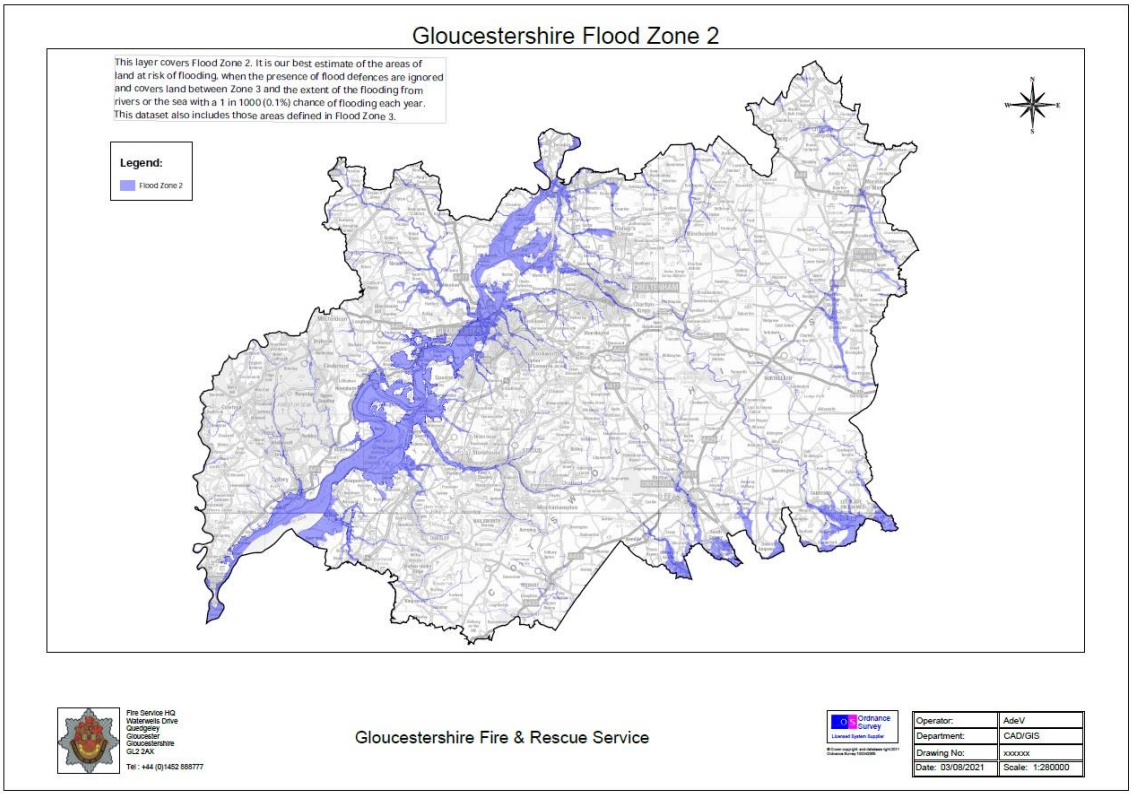


Figure 11: Gloucestershire Flood Zone 2

Collaboration

As described throughout this risk profile, the responsibility for flooding sits with multiple agencies and government departments who provide a joint approach to flood management within the County.

GFRS contribute to the flood prevention agenda by working closely with partner agencies in providing advice. Pre-planning alongside our Local Risk Forum partners, ensures that GFRS maintain a robust capability when flooding occurs within the County.

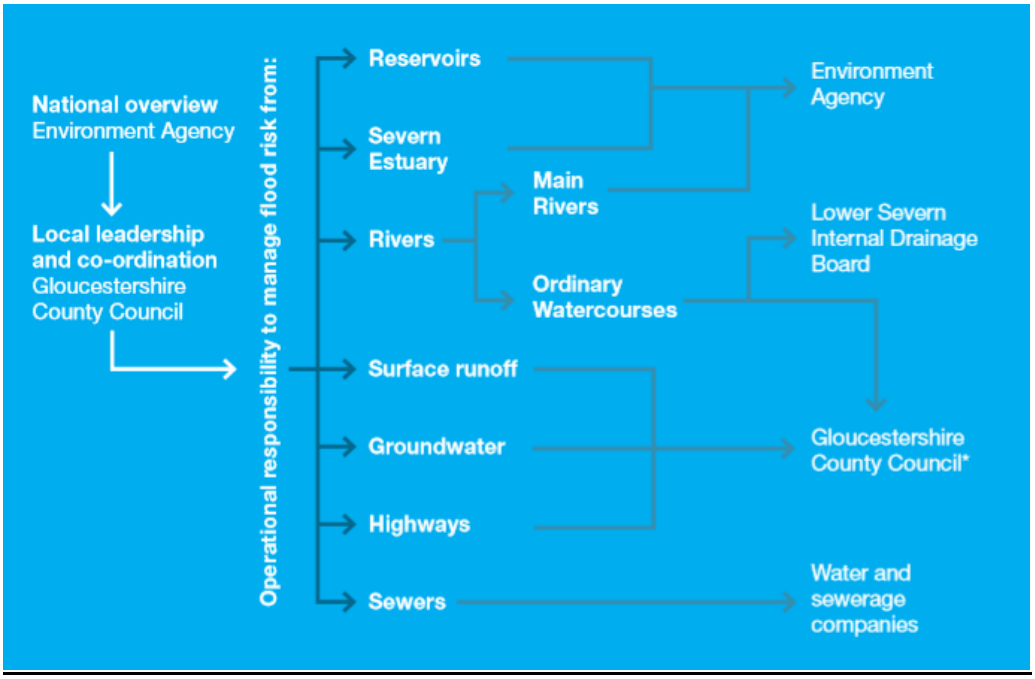


Figure 12: Operational Responsibility – Flood risk

Response to flooding

Although there is currently no statutory duty for GFRS to respond to flooding incidents, we know from experience that these incidents are likely to occur in our area and the risk is therefore reasonably foreseeable.

The Service is equipped with a series of rescue capable assets to support water related operations.

- Swift Water Rescue Teams
- Inflatable and rigid Boat Teams
- Inflatable rafts
- High Volume Pumping equipment

In addition to these specialist resources, GFRS work closely with third sector partners to maximise its operational capacity.

Furthermore every fire appliance within the County is both equipped and trained to provide rescue and pumping actions in the event of flooding

Emerging themes and threats

Studies have shown that there is an anticipated increased risk of flooding along the Severn Estuary in the coming decades. The map depicts (Figure…) the potential area of Gloucester that could be submerged by 2050. With such risks increasing through the effects of climate

change and increasing sea levels, flooding will become an ever present threat to the communities of Gloucestershire in the years ahead.

Flood related Incidents

In the three years to 31 March 2020, GFRS attended 344 flooding incidents. The majority of these flooding incidents attended by the service are to make the incident safe by isolating water supplies or the electrics (65%). Only 9% of the incidents in the three years to 31 March 2020 did the service have a requirement to pump water from flooded or potential flooded properties. The rest of our attendances involved either providing advice, standing by or evacuation of people.

In addition, these incidents would have been attended and resolved by a single fire appliances, which have are equipped with the appropriate pumping capabilities to deal with localised flooding due to increases in surface water levels.

Gloucestershire through its geographical nature suffers periodically from fluvial flooding and surface water flooding on a localised scale and on rare occasions a wide area scale. Surface water flooding is particularly difficult to forecast with accuracy and can happen at very short notice.

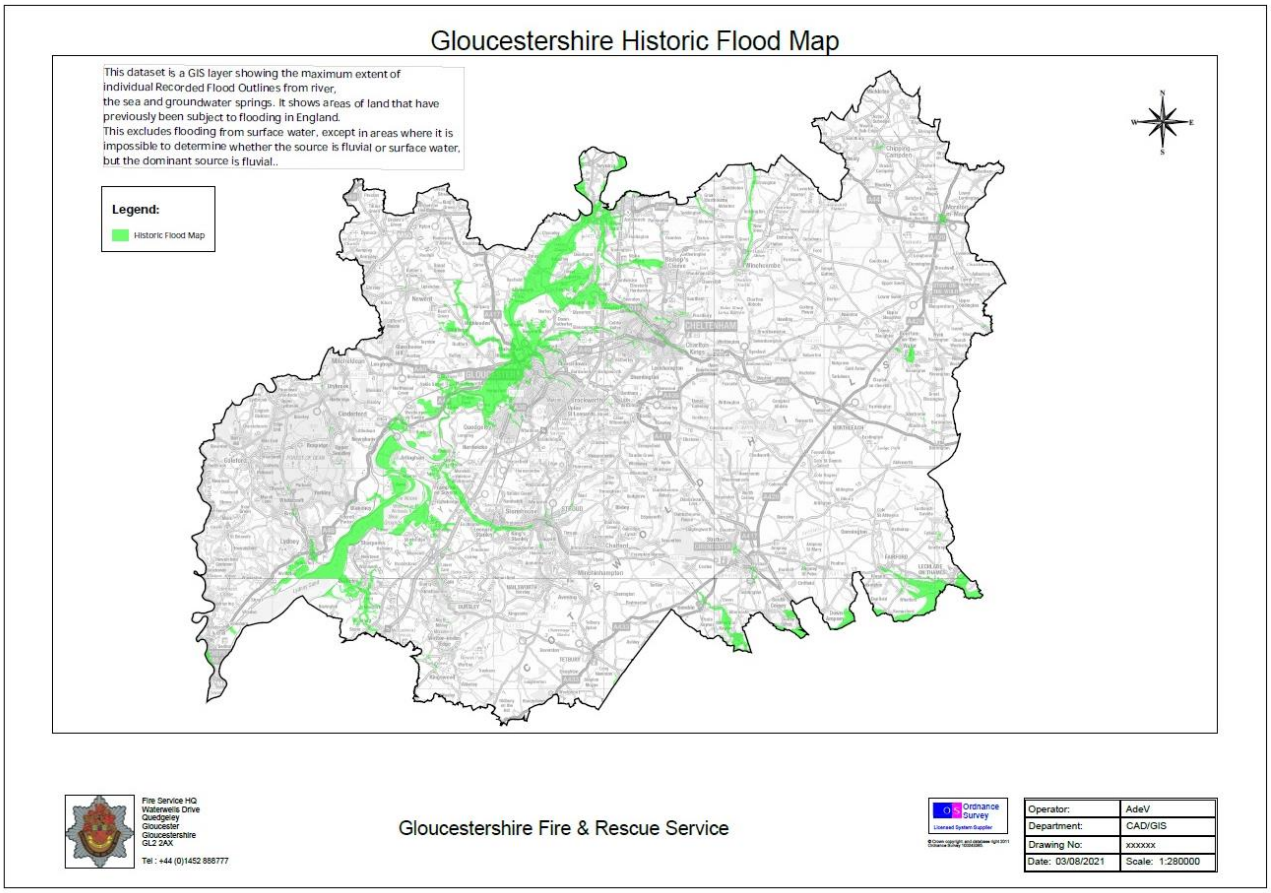


Figure 13: Historical Flooding

Further Information:

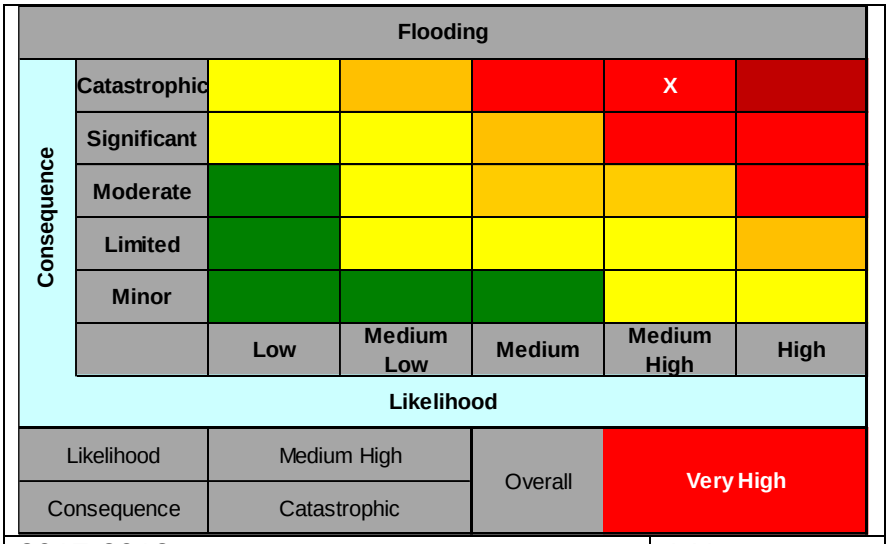
24-hour Flood line:

- Telephone: 0345 988 1188
- Type talk: 0345 602 6340 *(for the hard of hearing)*

https://check-for-flooding.service.gov.uk

https://flood-warning-information.service.gov.uk/warnings

Risk Assessment



2017-2018	141
2018-2019	91
2019-2020	112
Three year total	344
Three year average	114.6

Figure 14: Risk Assessment Flooding

Non-residential Premises

Non-residential premise fires occur in buildings that can include shops, factories, wholesalers and agricultural buildings. However these premises do not include any aspect of accommodation or sleeping facility. Such premises that include hospitals and care homes are recorded as 'other residential premises'.

Risk Based Inspection Programme

The service has a risk based inspection programme, with non-residential fires falling under the Regulatory Reform Order 2005. Further details regarding non-residential fires and legislation will be identified in our protection risk profile.

Tactical Plans

In addition to the inspection programme covered above, the oversight provided by the Fire Safety Team allows for high risk premises to be identified through inspection outcomes or the development of national trends. As such identified properties can be further selected for tactical planning considerations. We have positive relationships with our business communities and as such we find that businesses are happy to allow us to have access and egress details including key holder information and other details that assist in us in providing an efficient service.

Risk Profile

These type of premises are identified as having a greater risk profile during the day in terms of life risk, whereas experience has shown that fires actually occur in these buildings during out of hour's periods. We expect a greater prevalence of developed fires occurring.

Typically these premises are associated with a low loss of life. However, the effects of these fires, especially in the developed phases results in serious consequences to the local community in terms of the potential loss of jobs, the cost of rebuilding if that is in fact agreed on and the financial issues related to both these aspects.

Our incident data shows us that GFRS does not have a problem with evacuating people from this type of premises. However, as mentioned earlier we have experienced issues in terms of dealing with fully developed fires, especially when occurring outside of opening hours.

The other interesting issue to highlight is the fact that factories and their contents are well known to us. However, there is a different pattern seen in the rural areas, where we have less knowledge and understanding in what is being stored and in what quantities.

Assessed Risk

The likelihood in relation to the impact resulting from a fire occurring in a non-residential property is rated as very high.

However, this should be taken into context, so that the risks and hazards involved can be appreciated, in real terms.

If a fire breaks out during working hours, these premises are governed by safety standards which ensures they have fire plans in place, which includes evacuation, fire marshalling and reporting the incident to the fire service.

Due to a number of reasons, large fires can have serious consequence once they have developed and as such, the risk score indicates the financial and other strategic outcomes of losing such premises. These could include large loss of jobs, closing down of businesses and the possible use of public money to repair such buildings.

Emerging themes and threats

GFRS have identified the need for additional business fire safety provision within the County and have prioritised the expansion of the services prevention team.

This is designed to have a significant effect on fires occurring in this type of premise. However it is too early to see tangible results from this initiative.

In addition the Business Safety team will be providing operational teams across the service with additional skills to carry out awareness visits within their respective communities. Allowing for identified premises to be visited on multiple occasions, thus enhancing familiarisation opportunities, pre-planning considerations and imparting further fire safety advice. All of which leads to both safer communities and safer firefighters alike.

In terms of Emerging themes and threats, the Coronavirus has shown potential changes in staffing models for businesses moving forwards. There is a high likelihood that the end of the pandemic will see employers provide flexible working environments for their staff members. This could reduce the number of people using office spaces and may lead to a number of buildings becoming vacant. With empty premises comes the potential risk of an increase in fire related incidents within non-residential properties.

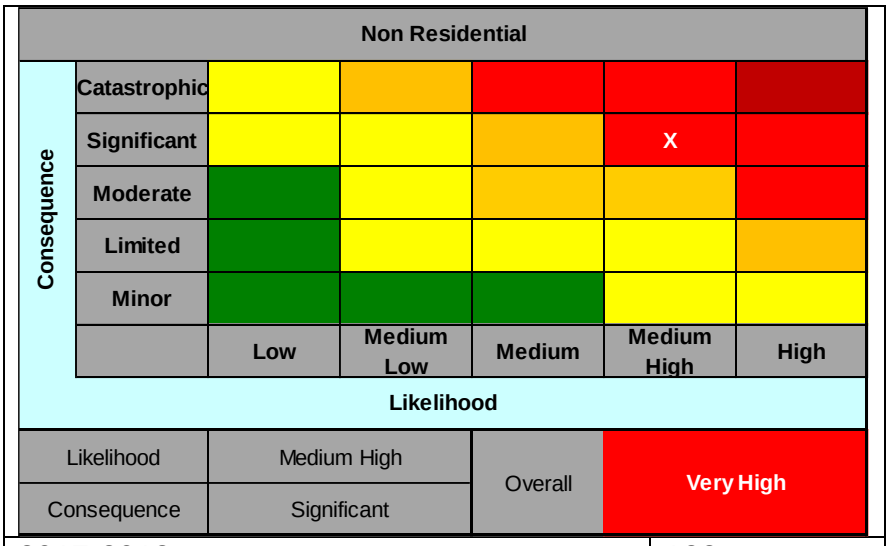
Operational Response

Due to the factors already highlighted, fires involving non-residential premises can lead to incidents that result in high demands in terms of resources.

In addition to prevention activities, GFRS also have an enhanced educational program. Entitled ‘Safer Firefighter’, this platform provides concentrated learning in identified areas of high risk. As such programs involving high rise premises, multi appliance exercises and cross border scenarios are planned and executed at regular intervals. All of which is supported through the development and implementation of a dedicated Incident Command Suite, situated at Cirencester.

Such programmes allow GFRS to act with agility and purpose, when local, regional or national themes are identified and action is required to meet the new risk.

Risk Assessment



2017-2018	122
2018-2019	138
2019-2020	117
Three year total	377
Three year average	125.6

Figure 15: Risk Assessment Non Residential Fires

Road Traffic Collisions (RTC's) – Small Vehicles

Gloucestershire provides arterial routes for vehicles travelling throughout the South West of England, as well as providing access to the South of Wales. The County itself is split by the **M5 Motorway**, which joins the midlands with the South West of England. Locally this also provides key routes between Gloucester, Cheltenham, Tewkesbury and Stroud. The **A38** runs parallel to the **M5** and prior to its opening used to form the main 'holiday route' from the midlands through to Somerset, Devon and Cornwall. The **A48** provides the major route from Gloucester to the South of Wales, whilst the **M50**, connects the County to Herefordshire and the route to Newport and the **M4** corridor. The **A40** is the primary route from Cheltenham to Oxfordshire, whilst the **A417** links Gloucestershire with Swindon and the **M4 Motorway**.

Gloucestershire has a high number of rural roads, which exist within every district, but predominantly within the Forest of Dean (FOD), Stroud and the Cotswolds. There are also key tourist locations within the County that experience seasonal increases in traffic.

Incidents involving RTC's

Car occupants are the most likely to be killed in an RTC, followed by pedestrians, motorcyclists and cyclists. Children under the age of 15 are most likely to be involved in RTC's as pedestrians. In the 3 years to 31 March 2020, GFRS attended 663 small vehicle RTC incidents. Of these, 181 required an extrication, 539 people were injured and 31 fatalities. The data during this period tells us that, although there has been a slight drop in injuries and death, the actual number of RTC's has risen by around 32%.

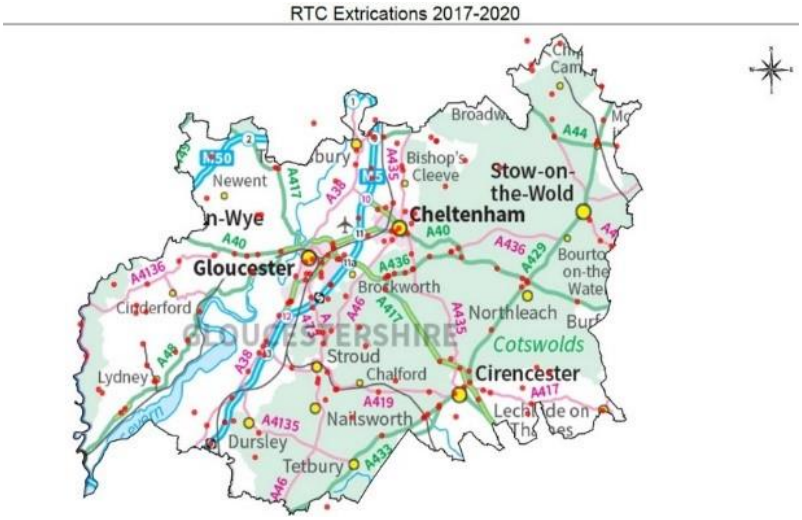


Figure 16: RTC Extrication 2017-2020

Figure 16 shows the relationship between RTCs attended by GFRS and the associated incident location. As expected the majority of RTCs are located on identified major arterial transport routes.

Major Improvement Projects in the future

There are two major improvements planned for the M5 that will allow traffic to flow more freely across the County.

A short section of the A417 between Gloucester and Swindon is the only section of highway on the west route from Wiltshire to the north of England that is reduced to a single carriageway. The proposed 'missing link' scheme will upgrade this route by installing a dual carriageway.

GFRS Prevention and Response

Section 8.2a of the Fire & Rescue Services Act 2004 places a statutory duty on all Fire and Rescue Services to make provision for rescuing people in the event of road traffic collision in its area and protecting people from serious harm, to the extent that it considers it reasonable to do so.

GFRS works closely with the Police and Crime Commissioner (PCC) and the National Fire Chiefs Council (NFCC) to support preventative and educational road safety initiatives throughout the year.

All front line appliances within GFRS carry specialist equipment to ensure the resolution of RTC incidents. Our firefighters are trained and skilled to deal with extrications and medical interventions.

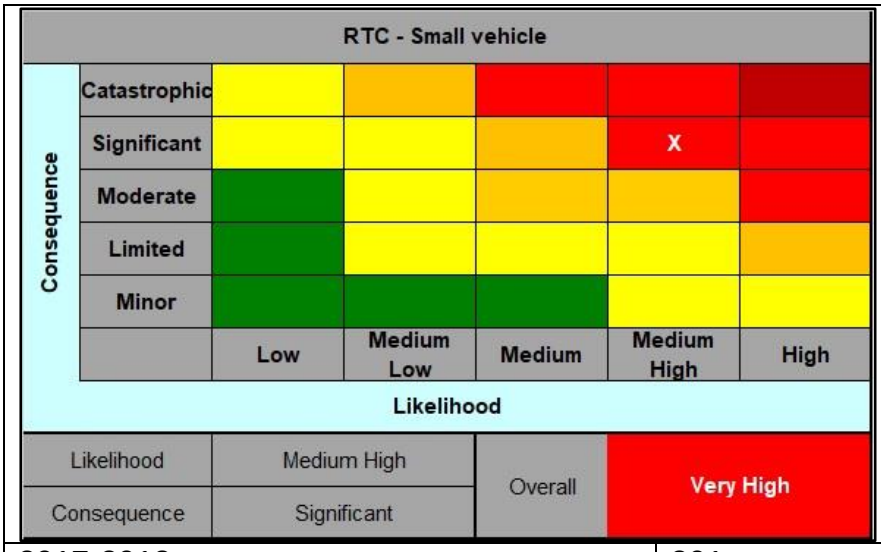
Emerging themes and threats

Highways England states the cost to the economy from a two-hour delay on a busy stretch of motorway following a two-lane closure is £135,360. It is estimated to cost £1,488,960 for a three-lane closure lasting up to four hours.

Risk to Firefighters working on live carriageways there is a need to ensure we have appropriate collaboration and exercising between all emergency services working on the carriageway, along with joint protocols and procedures where possible.

Change to vehicle technology – SRS / e-Call / Hybyid / electric we must ensure we develop or staff to deal with new vehicle technology, along with providing the most appropriate equipment and Personal protective Equipment (PPE) to bring any incidents to a successful outcome.

Risk Assessment



2017-2018	201
2018-2019	197
2019-2020	265
Three year total	663
Three year average	221

Figure 17: Risk Assessment RTC Small Vehicles

Hazmat Incidents

GFRS has a legal duty to protect lives, property and the environment from the damaging effects of hazardous materials, including Chemical, Biological, Radiological, Nuclear and Explosive (CBRN (E)) materials.

There are several risks classified under the Control of Major Accidents and Hazards (COMAH) regulations within Gloucestershire and a road network that is used to transport dangerous goods through the County.

Upper tier COMAH sites must produce an emergency plan to mitigate on site accidents and provide information to the public who live or work within the area. These are known as **'public information zones'**.

Public information zones state the onsite hazards, the risks to people and the risks to the environment. They also contain information on the actions to take in the event of an accident.

Pre-Planning

The Health and Safety Executive (HSE) state that the Control of Major Accident Hazards (COMAH) Regulations 2015 have been established to:

'*Take all necessary measures to prevent major accidents involving dangerous substances and to limit the consequences to people and the environment of any major accidents which do occur*'

GFRS proactively work with partner agencies to record and systematically check designated sites within the County. The site familiarisation encompasses every aspect of operational response, including station based responders, fire control, business fire safety and specialist response officers.

Response

GFRS provides all operational Incident Commanders with additional Hazardous Materials training. In addition there are a cadre of Flexi Duty Managers that are skilled to an enhanced level that can provide specialist advice at incidents. These managers also have access to specialist gas detection equipment to ensure firefighter safety at incidents.

Internally, GFRS have a dedicated Environmental protection Unit, which is supported by the EA to provide support to incidents that may present potential hazards to the surrounding environment.

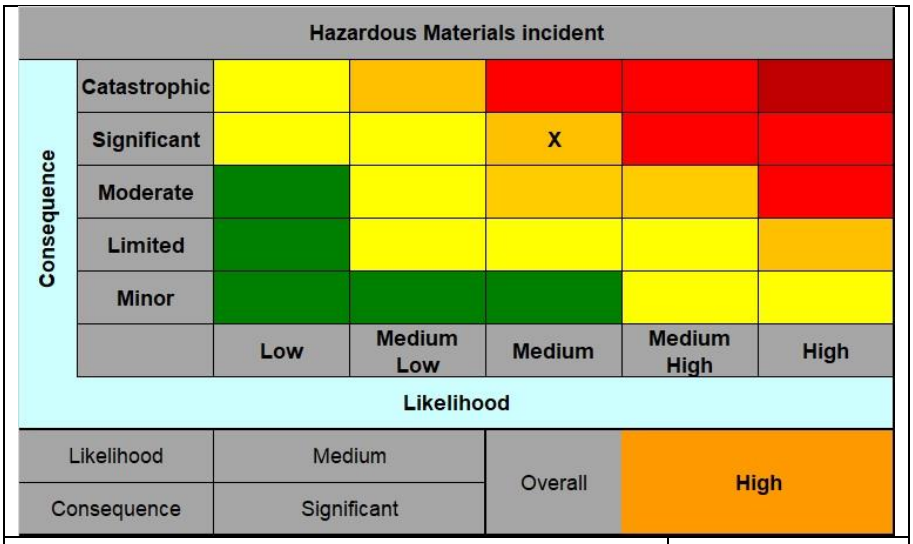
GFRS can request national assets, under the National Co-ordination and Advisory Framework (NCAF),that are designed to provide specialist functions at operational incidents. An example of this is Hazardous material Detection, Identification and Monitoring.

GFRS also work with partner agencies and Government departments such as National Chemical Emergency Centre (NCEC), Met Office and Public Health England to resolve operational incidents.

Emerging themes and threats

With several high profile locations in the County such as the racecourse and GCHQ, we are reminded of the need to prepare for new and emerging themes and threats and in particular a deliberate attack using chemical, biological, radiological, nuclear, or explosive methodologies. Although it should be emphasised that such deliberate targeting is deemed highly unlikely. GFRS will remain vigilant in its pre-planning, provision of trained staff and how it using collaboration to maximise its ability to project its effect when dealing with incidents involving hazardous materials.

Risk Assessment



2017-2018	19
2018-2019	21
2019-2020	19
Three year total	59
Three year average	19.6

Figure 18: Risk Assessment Hazardous Materials

Other Residential Premises

Other Residential premises include those buildings that are referred to as non-domestic properties. Such premises includes hostels for homeless people, hotels and B&Bs, nursing/care homes, student halls of residence, children's homes, towing caravans on site and other holiday residence (cottage or flat etc).

Owing to a number of factors, such as linked alarm systems, 24-hour waking duties and fire safety legislation, fires in these types of premises are considered relatively low compared to those in domestic dwellings.

Regulatory Reform (Fire Safety) Order 2005 (FSO)

The majority of these premises are covered by the FSO. Where the fire authority acts as the enforcing agency for this legislation. Therefore GFRS have a statutory obligation to reduce the risks of fire related death, serious injury and property related loss.

GFRS carry out a schedule of visits that encompass these property types, ensuring both that they comply with legislation as well as using the opportunity to educate premises and staff in fire safety matters. For further details, visit the Protection Risk Profile.

Risk Profile

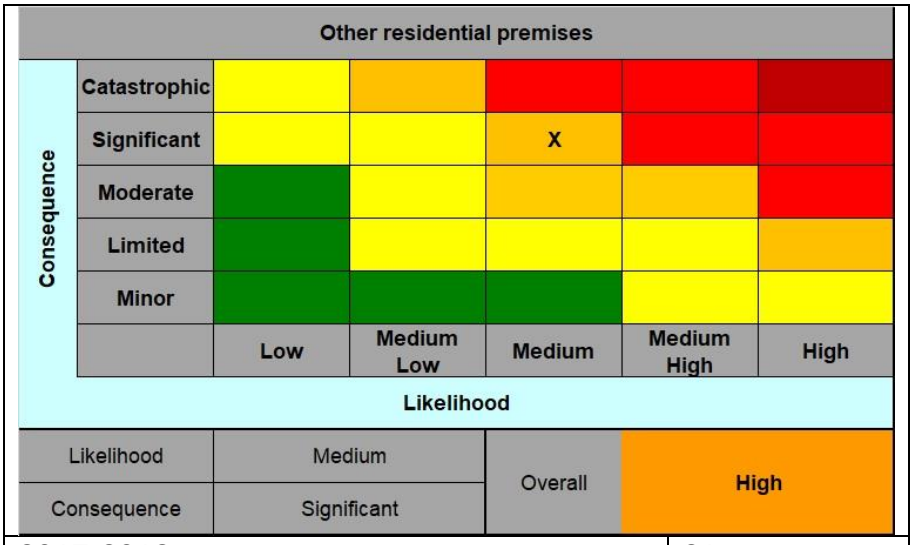
These premises have a higher rate of fire related injuries and fatalities. Reasons for this include the mobility of older residents and the use of alcohol in the younger generation.

Home Office data shows that between April 2009 and March 2017, any fires that occur, are usually contained within the room of origin. Associated data indicates that purpose built flats have a 7% incidence of fire spread outside of the room of origin. Whilst converted premises does not rise beyond 14%, both of which can be described as relatively low levels of fire spread.

Emerging themes and threats

These may include nationwide issues that are identified, through inspections or incidents such as the problem surrounding the use of cladding on buildings as determined through the horrific fire seen at Grenfell Tower. Other issues may evolve through changes in legislation or the introduction of new building techniques. The rise in the number of safety audits rose in line with the number of incidents during 2018/19 and can be seen as a direct result of GFRS carrying out post-fire audits across the County.

Risk Assessment



2017-2018	21
2018-2019	23
2019-2020	15
Three year total	59
Three year average	19.6

Figure 19:Risk Assessment Other Residential Premises Fires

Medical Incidents

Gloucestershire Fire and Rescue Service carry out a wide range of medical~~,~~ interventions in terms of its operational response profile. Therefore for ease of presentation, this profile will highlight the three key areas the service works within.

- Co-Responding
- Cardiac Care
- Other Medical Incidents

Nationally attendances to Co-responding and first responder incidents have been on the decline. The data illustrates clearly how beneficial this service is to our surrounding communities~~,~~ especially in terms of how rural the County of Gloucestershire is.

Response

Gloucestershire Fire and Rescues ability to respond to a diverse range of medical based incidents~~,~~ is an example of the collaborative working practices that it incorporates at the heart of its key business model.

Working alongside South West Ambulance Service Trust (SWAST) and other stakeholders allows GFRS the opportunity to add value in terms of a holistic approach to protecting the members of the County's diverse communities.

Co-responding and Cardiac Care allows firefighters to be mobilised to the scene of a medical incident, when an ambulance may be further away. The two responses are differentiated in terms of their individual response models.

As well as cardiac care and co-responding, GFRS train their operational teams to provide medical interventions when SWAST resources are not on scene or in direct support of ambulance colleagues when required. This training is called Casualty Care for Fire and Rescue Services (CCFRS). It is delivered by qualified front line paramedics and is aligned to the skills for justice awards scheme.

To support GFRS personnel, every front line appliance is equipped with a cardiac care and medical trauma bag.

Emerging themes and threats

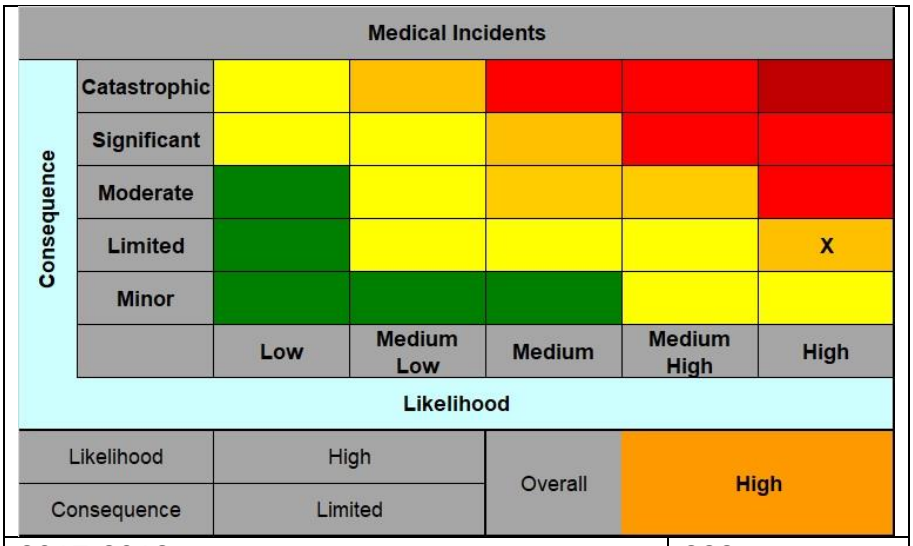
Gloucestershire's requested medical support to incidents is managed through its memorandum of understanding and collaborative working relationship with SWAST. Therefore, purely by the nature of resource management, the demands placed on GFRS resources will fluctuate in accordance with demand versus SWAST available resources.

One of the positive advances that has come with the recent Covid-19 pandemic is the increased partnership working between Fire and Ambulance sectors. This has seen a period where Fire have directly supported the Ambulance service with crewing their resources with emergency response trained drivers.

Due to their high frequency and commonality amongst fire and rescue related activities, medical incidents have been deemed as high risk. As such GFRS will continue to provide the

appropriate levels of training, whilst building our working relationship with partner organisations to improve our effect in this area.

Risk Assessment



2017-2018	833
2018-2019	542
2019-2020	490
Three year total	1865
Three year average	621.6

Figure 20: Risk Assessment Medical Incidents

Woodland and Forest Fires

Gloucestershire's largest area of forestry is the Forest of Dean (FOD) covering 42 square miles of mixed woodland. It is one of the surviving ancient woodlands in England and has been used in films and documentaries.

The FOD is a natural draw for tourism and leisure related activities, including hiking, running, cycling and picnicking.

Key Areas

The Forestry Commission designate natural environments of interest into the following criteria:

- Site of Special Scientific Interest (SSSI's)
- National Parks
- Special protection Areas (SPA's)
- Special Areas of Conservation (SAC's)

Woodland fires are defined as those taking place within woodland as shown on the National Research Forest Inventory (NFI) map. This is produced directly through fire statistics reported by individual fire and rescue services.

Prevention

GFRS work closely with the Forestry Commission and the National Fire Chiefs Council to support fire safety initiatives. These are usually programmed through a calendar of events that identify the most likely months of an incident occurring being between March and September.

Response

During the last 3 years up to the 31st March 2020 GFRS have attended 11 incidents involving woodland and forests.

Due to catastrophic impact a woodland fire can have in terms of environmental damage, financial and health consequences. GFRS have established three, two appliance stations throughout the FOD to meet any initial demand posed by the report of a woodland fire. In addition, one of these stations support the services 4x4 wildfire vehicle, which can proceed through areas inaccessible to normal fire appliances.

Emerging themes and threats

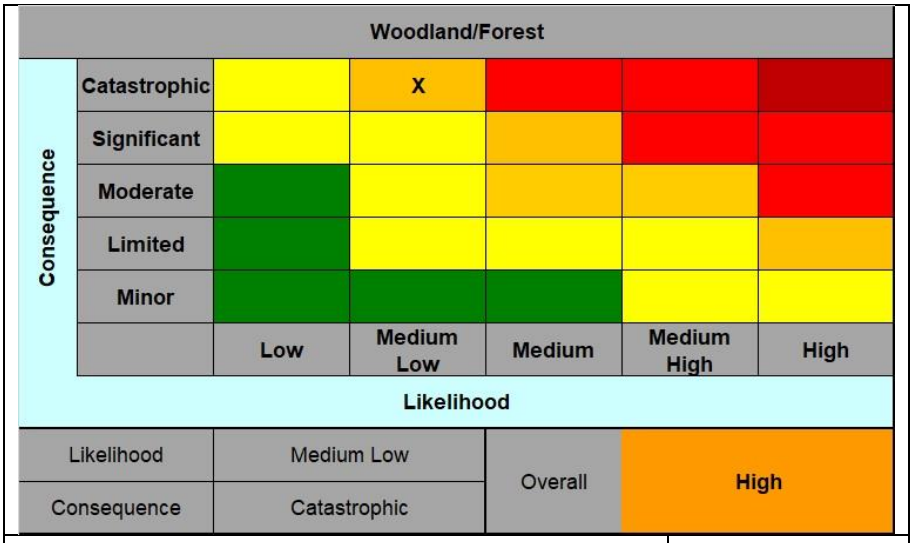
Between 2009 -2017, the Forestry Commission England state that woodland fires and those on arable land accounted for more 'primary' wildfires incidents than any other land cover type.

The increase in wildfire number and area burnt in 2010, 2011 and 2012 all correlate with droughts of the same period as well as heat wave alerts. In these cases woodland areas were significantly less affected with between 1-5% land burnt and 11-15% of incidents attended.

Hot, dry and windy conditions are ideal conditions for forest or woodland fires to start, especially when these conditions also witness an influx of human activity into the FOD.

Although GFRS have attended a relatively low number of woodland based fires, there remains a high level of risk involved through the risk of fire spread, combined with the level of resources required to meet any developed fire and the need to ensure staff have the right skills to manage wild fires .

Risk Assessment



2017-2018	2
2018-2019	6
2019-2020	3
Three year total	11
Three year average	3.6

Figure 21: Risk Assessment Woodland/Forest Fires

Evacuation and Rescue from Water

As well as being a predominatelyrural County, Gloucestershire also has a significant number and type of water related risks within its borders. The major feature is the Severn River and its associated estuary. As the UK's longest river, it transits through Gloucestershire on its last leg, before flowing into the Bristol Channel.

In addition in the South of the County, Gloucestershire shares with bordering County some of the largest expanse of open water in Europe. With a swath of previous open cast quarries, now being repurposed as water-based leisure facilities, including for fishing, water sports and as nature reserves.

The risks imposed by these water features include:

- Submersion
- Entanglement
- Cold water shock
- Hypothermia
- Contamination
- Drowning

The environment surrounding the water or liquid may increase the risk of accidental entry. The factors that may affect this include:

- Underfoot conditions
- Stability of the surrounding area
- Gradient
- Lack of guarding or barriers
- Weather conditions
- Visibility

Prevention

GFRS support water related safety initiatives on a regular basis. Locations that contain a concentrated area of people, are routinely identified and targeted for safety campaigns. As a Service, we follow the RNLI's **'Be water Aware'** water safety advice, as well as guidance provided by National Fire Chiefs Council.

Response

GFRS have a robust response to water related incidents, strategically locating related assets at appropriate locations. This response modelling includes:

- **Swift Water Rescue**
- **Boat crews**
- **Wadding teams**

In addition, all front line appliances are trained to level 1 water rescue response standards and carry the appropriate level of PPE and equipment to support water borne rescues.

GFRS work alongside key stakeholders to project its response, when carrying out water related rescues. These include assisting the Police with reports of missing persons, working alongside and supporting Severn Area Rescue Association (SARA) with premises and joint training experiences.

Common rescues carried out include:

- Animals trapped in water
- Persons trapped by raising water levels
- Persons trapped in vehicles
- Persons accidently water courses

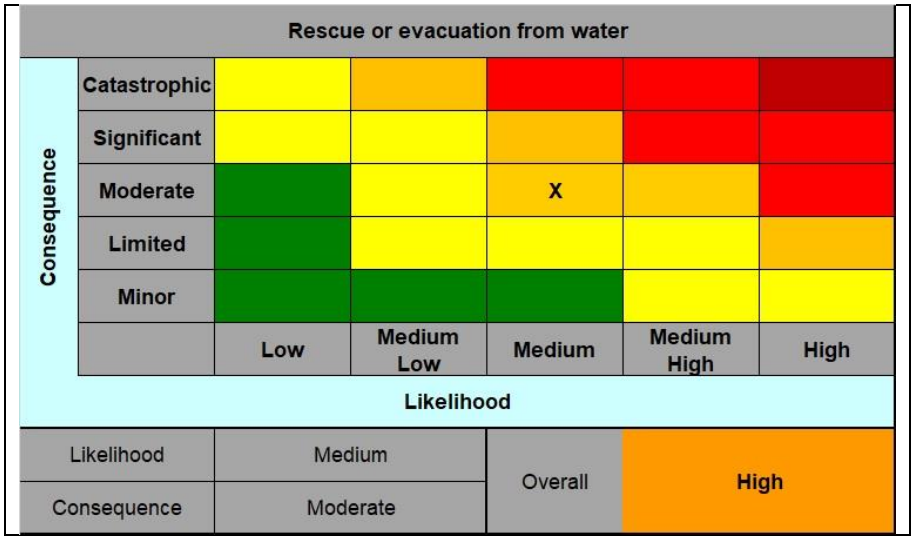
GFRS continues to prepare for water rescue incidents on a daily basis and provides an emergency response 24 hours a day.

Emerging themes and threats

Being near water is perceived as a low risk activity and water related activities as high risk. However, according to National Water Safety Forum incident database, 50% of people who drown did not intend to enter the water.

People are often associated with entering a water course in order to save another person or to come to the assistance of an animal in distress. With increasing increase in water related activities, people spending more time outside due to the pandemic and the increase in dog ownership, we can envisage that water related incidents are likely to increase in the future. Especially when we take into account the volume of water found within the County and the vast range of water features that can be found.

Risk Assessment



2017-2018	13
2018-2019	8
2019-2020	55
Three year total	76
Three year average	25.3

Figure 22: Risk Assessment Rescue or Evacuation from Water

Rescue/release – From height

Rescue from height includes the release of persons physically trapped and/or unable to free themselves at height. This includes any person at any location in an elevated position.

Nationally, Fire and Rescue Services respond to a wide range of incidents at height involving a variety of different environments. In the natural environment incidents occur on steep ground, trees, rock and cliff faces, excavations, sink holes, mines and caves. Unfortunately when suicide attempts occur, these may often involve an element of height.

In addition, firefighters may have to work at height in a wide range of other situations and incident types. This necessitates all of our firefighters being able to work safely at height.

Our Risks

Working at height is common place in a number of industries, from construction to window cleaning. The Health and Safety Executive (HSE) figures for workplace deaths show that working at height remains the single largest cause of workplace death across the UK, accounting for 26% of all workplace deaths in the year to the 31 March 2020.

In our local context, GFRS covers a wide rural area across the county as well as a built environment. To the west this includes the mixed terrain of steep ground and cliff faces in the ancient woodlands of the Forest of Dean located along the Wye Valley. This area contains cave systems and mines, both used and disused. Due to the geographical features, the area is popular for outdoor recreation activities involving height, such as climbing, abseiling, scrambling, walking, caving and orienteering.

Our control measures

Persons trapped or in need of rescue from height are at great risk. Falls from height often result in high consequence, life changing injuries.

When attending incidents involving height, GFRS use a hierarchy of control measures, which means that the safest technique of performing the rescue is utilised. This ensures the safest method of rescue for the casualty whilst protecting our own staff when working at height.

GFRS have aerial ladder platform appliances used to perform rescues from height, these are based at Cheltenham East and Gloucester North. These vehicles provide a high reach capability and a safe platform from which our firefighters conduct at height rescue operations. The vehicles are versatile and are predominantly used where the rescue location has a good means of access in urban areas. These vehicles are also used during firefighting operations.

When the aerial ladder platforms are unable to access the incident location, GFRS have specialist teams that are trained in rope rescue to secure and rescue people from

height. Gloucestershire Fire and Rescue provide two levels of specialist working at height teams.

Level 3 Specialist Rope Rescue teams – These teams provide a high level of specialist rope rescue techniques for incidents involving extreme height, complex rescue or where stretcher rescues are required.

- Level 2 Safe Working at Height teams – These teams have the capability to rope work to secure a casualty thus preventing further injury.
- All 31 of our fire appliances are equipped with ladders and basic safe working at height equipment. All of our firefighters are trained in techniques to carry out rescues using them. This is classed as Level 1 Safe Working at Height.

  The higher level of supervision required at rescues from height is provided by Flexi Duty Officers. These officers support the specialist rope rescue teams with their additional command and control training and experience.

Emerging themes and threats

In the three years to 31 March 2020, GFRS have attended 52 incidents involving rescue or release of persons from height. There has been a marked reduction during the 12 months to 31 March 2020, with a 46% reduction compared to the previous two years rate.

Gloucestershire and specifically the Forest of Dean remains a popular area for outdoor recreation activity involving height. Of the 52 incidents, 69% of them involving the need for specialist rope rescue took place in the Forest of Dean district.

The county continues to develop commercially particularly in Cheltenham and Tewkesbury. Rescues from height involving construction related incidents will be monitored to identify any emerging trends.

The frequency of specialist rope rescue incidents is low but the hazards are still present in the county. This means our specialist rope rescue teams need to maintain a high level of training and gain experience through scenarios to remain competent for this rescue type.

Key demand information

In the UK, Fire and Rescue Services attend 1266 incidents involving rescue from height each year, a 422 average. The figure remains relatively constant and does not replicate the same reduction experienced within GFRS in the 12 months to 31 March 2020.

Gloucestershire incidents involving rescue from height can be broken down further into rescues using ladders from fire engines, aerial ladder platforms and specialist rope rescue. Of the 52 incidents, 13 (25%) were attended and dealt with by specialist rope rescue teams, 7 (13%) involved the aerial ladder platforms and 24 (46%) used ladders**.**

Key incident information: April 2017 – March 2020

Rescues from height have taken place at a wide variety of incidents. The most significant in Gloucestershire are:

- 12 incidents were from cliffs, quarries, trees.
- 12 from a single occupancy house
- 2 from scaffolding.

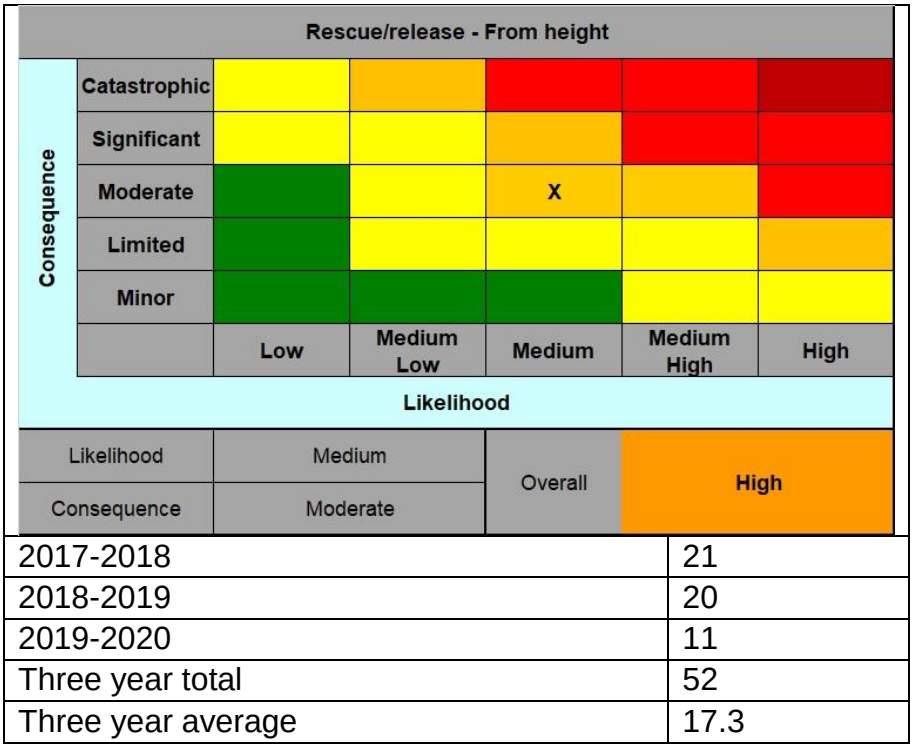
Casualty's details show that 56 rescues were performed from height.

- 37 were rescued without injury
- 18 people with injuries were rescued
- Unfortunately, one fatal person was rescued from height.

Incident locations

- 80% of rescues using an ALP took place in the Cheltenham or Gloucester districts.

Risk assessment



2017-2018	21
2018-2019	20
2019-2020	11
Three year total	52
Three year average	17.3

Figure 23: Risk Assessment Rescue/Release from Height

Animal Rescues

Gloucestershire is a rural County with acres of wide open countryside utilised for farming, education, recreation and sporting events. The County has an internationally

renowned agricultural college, as well as many examples of excellent horse trainers and cattle breeders. It also has various animal sanctuaries, boarding facilities and wildlife parks.

With such a ranging demographic of animals Gloucestershire Fire and Rescue Service have identified the potential risks involved and provided specific animal rescue equipment, associated training and skills to deal with the myriad of incidents we have, and could potentially attend.

Response

Every front line firefighter is trained to Animal Rescue (AR) level 1. This is an awareness level that allows teams to carry out safe systems of work, until enhanced teams are in attendance. Every appliance within the County also carries a dedicated oxygen delivery unit designed for smaller animals.

Dedicated large animal rescue equipment and associated personal protective equipment (PPE) is carried on our Special Incident Support Unit (SISU). We have specialist crews that are also trained to a higher level (AR 2) which allows them to use the equipment on the SISU and be fully involved in rescues and incidents of this nature with all animal sizes. From the SISU's central location it provides 24 hour a day effective cover and access to all areas of the County.

There are also five AR 3 operators who have a higher level of training and understanding of animal's behaviour, anatomy, vets actions and responsibilities at this type of incident. They also provide the training to the other animal rescue practitioners across the service.

GFRS has developed relationships with centres of excellence to ensure there AR operatives have the best possible training exposure. In this way Hartpury College has been a huge influence, since the service redeveloped its response to animal rescues over the past decade.

Incidents

In the three years to 31 March 2020 GFRS have attended 215 incidents involving animals including large equine and bovine breeds. These incidents can often be extremely challenging and incorporate resources from many stations including boats and water rescue specialists, Rope Rescue Teams and heavy lifting equipment. Currently realistic training and venue options are limited to provide necessary experience with live animals.

Hazards

Animal rescues primarily involve the rescue or evacuation of animals, however it should be considered that the owner or well-intended member of the public may have also become injured in the incident.

Additional hazards and examples of incidents attended include;

- Entangled animal – fencing, machinery
- Animal in water, on ice or on unstable ground
- Animal in transit
- Animals at height or depth
- Animal trapped in structures

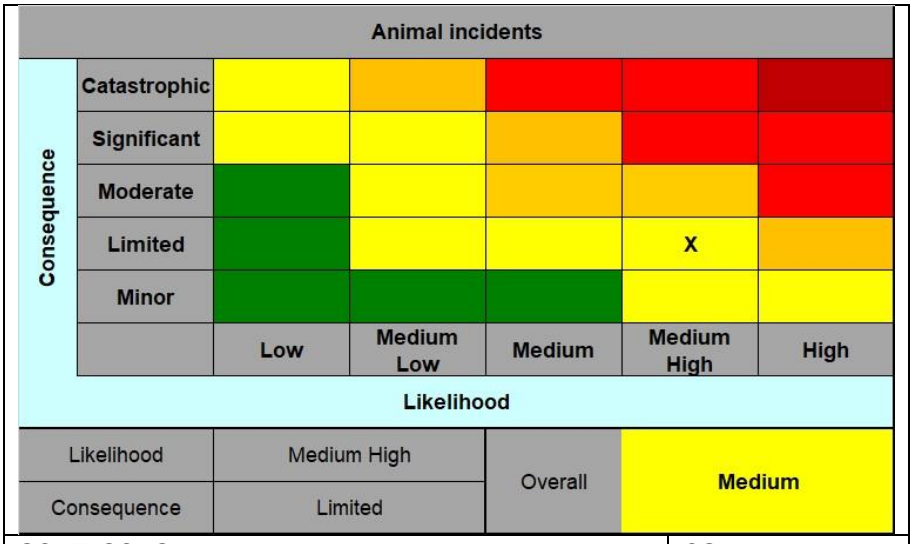
In all animal related incidents the size, breed and emotional condition of the animal will be assessed prior to planning any rescue plan.

GFRS regularly attend animal related incidents, which commonly include either horses or cattle.

Emerging themes and threats

Although we can categorise animal rescues into certain types as seen above, every incident attended raises its own issues, risk and hazards. It is important for the service, to review all incidents attended to ensure we learn and share lessons, identify areas for improvement as well as maintaining a high level of capability in this area of response.

Risk Assessment



2017-2018	63
2018-2019	71
2019-2020	81
Three year total	215
Three year average	71.6

Figure 24: Risk Assessment Animal Incidents

Large Vehicle Road Traffic Collisions

Nationally RTC's are the most frequently attended non-fire related incident attended by the fire service and this also true for GFRS. As previously discussed Gloucestershire sponsors a vital network of roads which allows traffic to move through the South West of England, Wales and routes through the North West.

Large vehicles in this profile will be regarded as Light Goods Vehicles (LGV) and Public Service Vehicles (PSV).

Hazards

The size requirements of heavy vehicles and associated weight in terms of carriage, contribute to the use of high strength, low alloy (HSLA) steels and heavy gauge materials in their construction.

- Weight and construction of vehicle components with the potential to cause injuries due to manual handling issues
- Sectional thickness or cross-sectional area
- Construction materials
- Reinforcement
- Access
- Tool or equipment damage
- Working at height
- Vehicle systems (including 24 volt systems)
- Sleeper compartment locations and other voids

Response

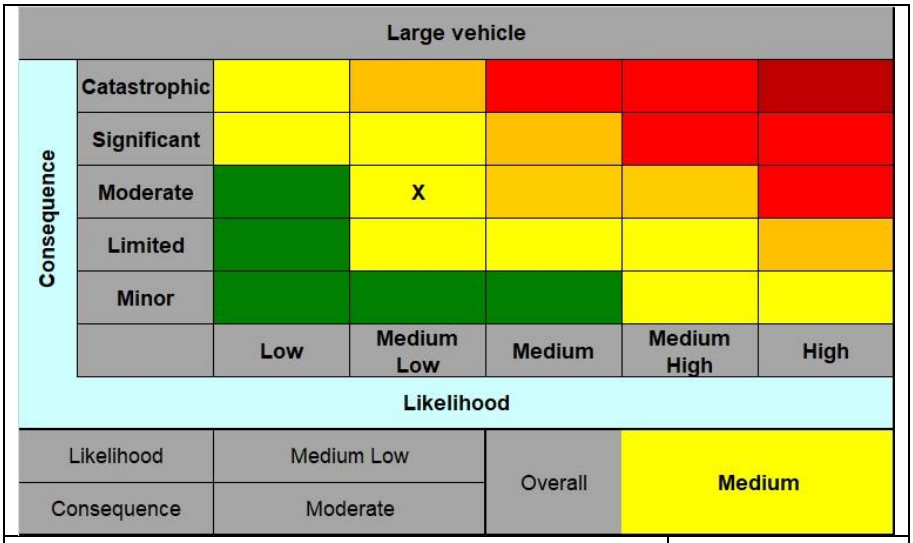
RTC's involving LGV', HGV's and PSV's present significant challenges to attending crews. The size and height difference of these vehicles has a direct effect on any manual handling and the use of tools , whilst working on mobile platforms and responding to demanding extrications.

Every front line appliance is equipped with state of the art battery powered tools to assist in gaining access, egress and working in difficult environments. GFRS provides an enhanced response to these types of incidents through the deployment of their Special Incident Support Unit (SISU). This is equipped with enhanced heavy cutting, lifting and access platforms to meet the demands of such incidents.

Emerging themes and threats

Rescues involving LGV's and PSV's are thankfully few and far between. However, this poses its own problems, necessitating the need for realistic replacement training and practical application. With the advancements in vehicle technology, it is imperative that GFRS remains up to date with these developments. In order to successfully meet the needs of any future incidents, whilst maintaining the health and safety of the general public and the firefighters that attend these operations.

Risk Assessment



2017-2018	8
2018-2019	11
2019-2020	13
Three year total	32
Three year average	10.6

Figure 25: Risk Assessment RTC Large Vehicle

Outdoor Equipment and Machinery Fires

As a County, Gloucestershire can be considered as significantly rural in nature. As such, we experience higher likelihoods of associated rural fires. These include outdoor equipment and machinery, examples of which include:

- Agricultural vehicles and machinery
- Roadside furniture including box/telephone boxes
- Recreational spaces and parks

Outdoor fires involving equipment or machinery are classed as primary fires. In that they potentially harm people or cause financial damage to property.

Location

Due to their related locations, fires involving outdoor machinery or equipment can be very difficult to pinpoint. In addition to reduced infrastructure, results in appliances being delayed in reaching the incident due to navigational or access issues. Through experience, GFRS have found that agricultural workers often have a good understanding of their location, which enables them to talk fire appliances onto an incident. In addition Fire Control employ a system called Enhanced Information Service for Emergency Calls (EISEC). This enables Fire Control to pinpoint a caller's location through the GPS signal from their mobile phone.

Fire Spread

In addition to potential issues with locating rural based fires, fire spread can often be an associated risk. As with all fire calls, the caller may be held on the phone in order to exchange information on changing conditions and for Fire Control to provide advice on issues including the safety of the individual themselves.

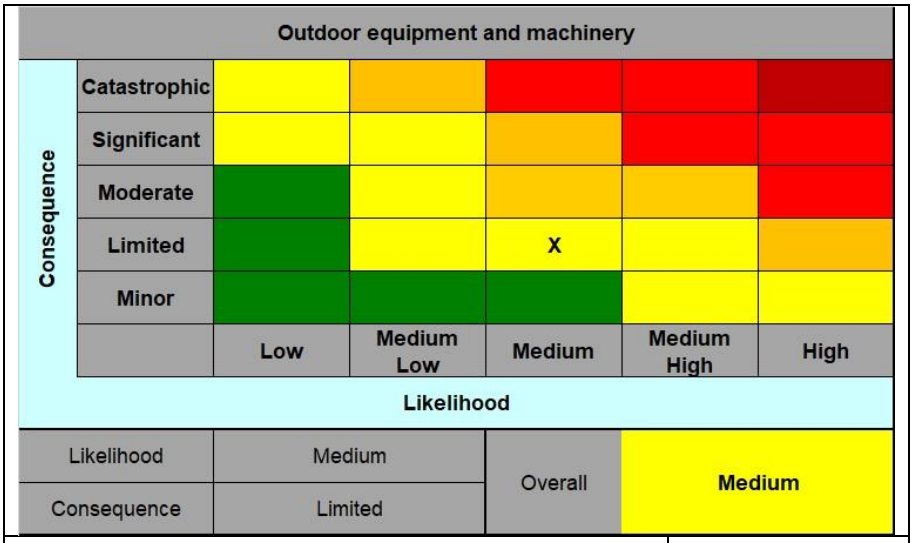
Accidental or Malicious Fires

Fire maintain a comprehensive record of every incident, which includes a fire investigation assessment on each fire. Information includes evidence to support the cause of the fire. Whether that was accidental, possibly due to the result of arson or categorised as arson due to the weight of evidence discovered.

Emerging themes and threats

It is difficult to predict changes in this area, as the outdoors is such a dynamic space. There are reductions in some forms of road furniture, such as telephone boxes and increases in security measures incorporated into the rural landscape. Both examples would point to possible reductions in arson related incidents. However, outdoor machinery and equipment is also subject to a degree of privately run maintenance schedules. As such, the incidence of accidental fires in this area, may be a constant factor in the mid to long term.

Risk Assessment



2017-2018	17
2018-2019	23
2019-2020	20
Three year total	60
Three year average	20

Figure 26: Risk Assessment Outdoor Equipment and Machinery

Rescue/Release from Confined Spaces below Ground

A confined space is a place which is substantially enclosed, and where serious injury can occur from hazardous substances or conditions within the space or nearby (e.g. lack of oxygen). Fatal accidents occur during work in confined spaces when people have entered, for example to make a repair, to retrieve something or to deal with a blockage without realising that the space contained a dangerous atmosphere. Some accidents claim more than one person's life when would-be rescuers who are not properly trained or do not have proper rescue equipment also die. Deaths in confined spaces on farms have included members of the public and children.

The main risks include:

- loss of consciousness from poisonous gases or lack of oxygen
- asphyxiation by free-flowing solids
- drowning in an increasing level of liquid
- serious injury by fire or explosion
- loss of consciousness from an increase in body temperature

Confined spaces and below ground working can be found at a wide range of locations and in the following National incident types:

Fires	**Silo/Grain**	**Slurry/silage**
Silage clamp	**Sewer**	**Cave/Mines**
Quarries	**Trench/pit**	**Pipelines**
Building Collapse	**Animal Rescue**	**Machinery**
Boats/Ships	**Lifts**	**Storm Drains**

Response

GFRS have the following arrangements in place to deal with confined space/below ground incidents. These present a combination of fire capabilities and collaborative partnerships, which has seen GFRS develop mutual aid agreements between bordering FRS and other rescue organisations.

- To assist with difficult access to confined spaces, GFRS have Specialist Rope Rescue teams with Level 3 Safe working at height (SWAH) capabilities.
- Our front line appliances have a mixture of Level 1 and 2 SWAH capabilities. To provide 'first strike' access.
- Every fire appliance carries ladders, Safe Working at Height PPE and breathing apparatus.

- Gas monitors are available through Flexi Duty Officers (FDO's).
- Urban Search and Rescue (USAR) teams and associated tactical advisors are located in surrounding Fire and Rescue Service's and are available on request for emergencies involving the collapse of a building or other structure.
- GFRS are able to mobilise the Gloucestershire Cave Rescue Group (GCRG) using the SAR call system.

GFRS have attended eight confined space and below ground incidents in the last three years (2017-2020). These have included:

- Rescues from trenches/excavations, with USAR assistance required on one occasion.
- Rescues from embankments below ground level.
- Rescue from a dry dock.
- Rescues from restricted space inside properties.

Emerging themes and threats

The range of incident types associated with rescues from confined space/below ground are wide ranging. The main areas of risk in Gloucestershire include:

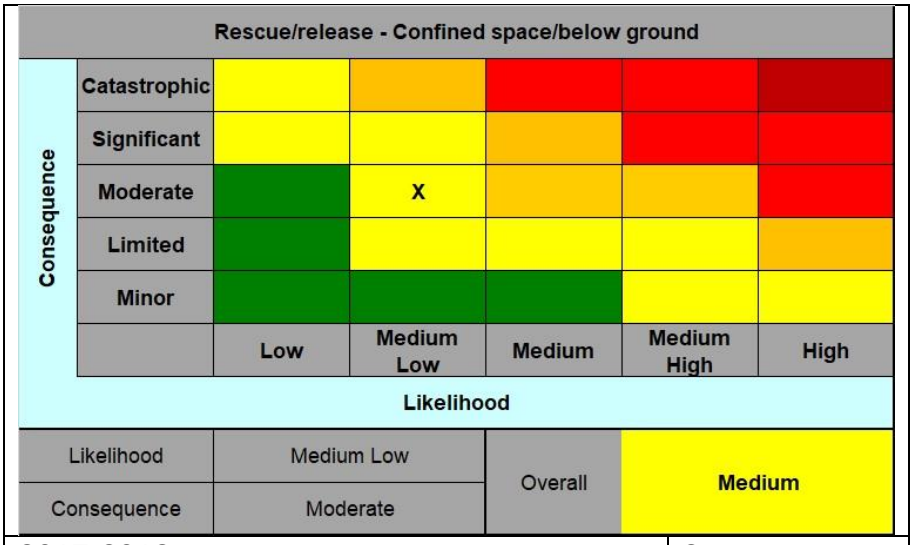
- Farm workers, who often work alone as well as members of the public who enter agricultural spaces.
- Trench collapses in construction. Those at risk include site workers and children entering these areas outside of operating hours.
- Caving is a growing sport and the Forest of Dean has a number of systems, one being the 10th longest cave in the UK. Sites are used by youth and adventure groups as well as the caving community.
- The Forest of Dean contains both open and disused 'free mines'.
- Manufacturing areas often contain confined spaces that require the appropriate safe systems in place when any work is taking place within them.
- Gloucestershire has a number of long rail tunnels including Sapperton, Kemble, Newnham, Chipping Campden and the Severn Cable Tunnel.
- Cotswold stone and gravel quarries in the east of the county.

Due to the wide range of activities and associated hazards with this type of incident, there remains a constant risk of individuals getting into difficulties when working remotely and in isolation, organisations not adhering to regulation in terms of health and safety precautions and would be rescuers, attempting to assist with little or no understanding or equipment.

Taking all these considerations into account, rescues from confined spaces or below ground will remain a moderate risk to all those involved. Any incident will likely require the attendance of more than one emergency service and will result in follow up investigations that may incur closures or limitations on organisations, where the Health and Safety Executive (HSE) become involved.

GFRS need to maintain a level of appropriate skills, equipment and working partnerships in order to meet ongoing and future incidents of this type.

Risk Assessment



2017-2018	3
2018-2019	3
2019-2020	2
Three year total	8
Three year average	2.6

Figure 27: Risk Assessment Rescue/Release - Confined Space/Below Ground

Trapped in or under Machinery or other Objects

Extrications from machinery or removing casualties trapped under objects can present a range of hazards and associated risks for attending emergency teams and the individual(s) trapped.

Machinery incidents may involve or create working environments where there is minimal headroom and space to manoeuvre. Any available space maybe further restricted by the use of fire service equipment or other items of machinery.

Types of Incident

- Machinery Spaces
- Lifts and escalators
- Cable entanglement

Hazards

As in all incidents it is vital to establish control measures as soon as practicable when dealing with these types of rescues. Entrapments may take prolonged periods to resolve, therefore establishing the required safe systems of work, as well as consideration made to ensure the appropriate resources are in attendance, will go a long way towards a successful conclusion to any incident.

- Unstable surfaces/environments
- Power supplies (230v/415v)
- Unprotected vertical ladders
- Increased noise, heat and lack of lighting
- Hydraulics and Lubricants
- Suspension/ Crush syndromes

Response

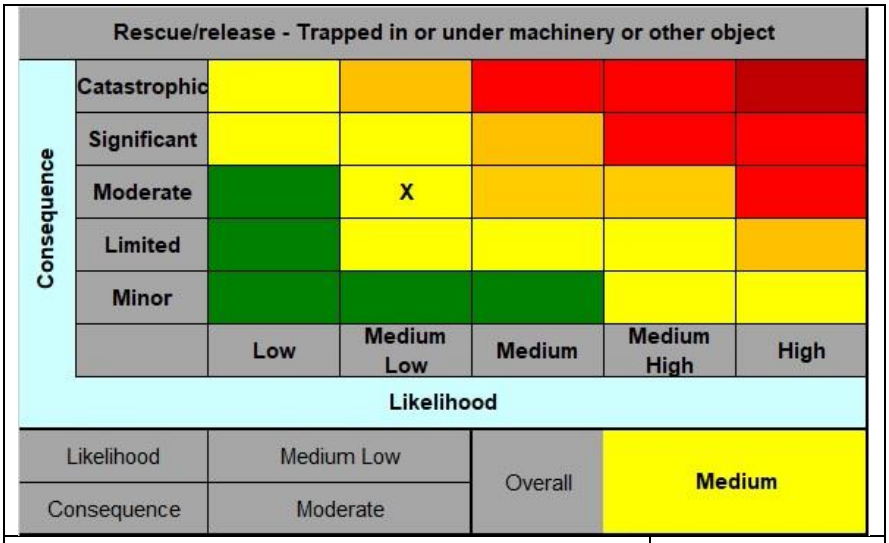
GFRS equip their personnel with the required skills, tools and PPE to safety resolve incidents involving individual(s) trapped in or under machinery. These include electrical safety gloves, trauma packs, and hydraulic powered and hand tools. Incident Commanders are aware of the importance and methods of requesting onsite engineers and other specialist advice.

In the three years to 31 March 2020 GFRS have attended 17 incidents involving persons trapped in or under objects. There were no deaths recorded and the injuries recorded were minor.

Emerging themes and threats

It is very difficult to replicate the conditions the firefighters are confronted with in these types of incident. ~~Therefore~~ Training and familiarisation visits to local industries are vital components to reducing risks and maximizing operational effectiveness.

Risk Assessment



2017-2018	7
2018-2019	5
2019-2020	5
Three year total	17
Three year average	5.6

Figure 28: Risk Assessment Rescue/Release - Trapped in or Under Machinery or Other Object

Major Public Events Incident

As a largely rural County Gloucestershire has a number of public events each year that exponentially increase the local population during the time the event is being held.

For the purposes of this risk profile we will focus on the large scale events that attract the largest numbers and present the greatest risks.

Events such as the Cheltenham Races, the Rugby and football fixtures in Gloucester, Cheltenham and Nailsworth occur at regular intervals throughout the year. Whilst the International Air Tattoo (RIAT) and the respective fayres of both Newent and Tetbury are held annually.

Event	Attendance
RIAT	**160,000**
Cheltenham Races	**67,500**
Gloucester RC	**16,115**
Newent Onion Fayre	**15,000**
Cheltenham Town FC	**7,000**
Tetbury woolsack races	**5,000**
Forest Green Rovers FC	**4,000**

Table 3: Event Attendance figures

Each event has its own level of risk assessment based precautions in place. With only the RIAT and Cheltenham Races Gold Cup having an enhanced presence from the emergency services.

Due to the size and scale of these two events, the emergency services establish a tactical position of readiness at each event. With the associated annual risk plan put into place and coordinating instructions provided through collaborative working between blue light and voluntary sector responders.

Both RIAT and Cheltenham Races have command and control structures in place, as well as front line appliances. Which are positioned to assist the facilities already in place through the events risk assessment process.

In terms of the smaller events, these dates are promulgated to the nearest responding Community Fire Stations, to increase levels of awareness and allow for some pre-event planning.

Safety Considerations

These major events occur during both day and evening and throughout the calendar year. This can create some challenges for responding emergency services. In addition the locations involved include rural towns, sports stadiums and a large military airfield. All these complexities are counted by familiarisation visits by local fire crews, routine risk assessments and enhanced posture where deemed appropriate.

Emerging themes and threats

With the emergence of the Covid pandemic, events that incur large compacted crowds may for the short to mid-term be cancelled or vastly restructured to accommodate new social distancing guidelines. However, with the advent of related vaccines these events are highly likely to return to a similar level of attendance within the next two years. Ultimately the highest impact from an accident is anticipated to centre on RIAT.

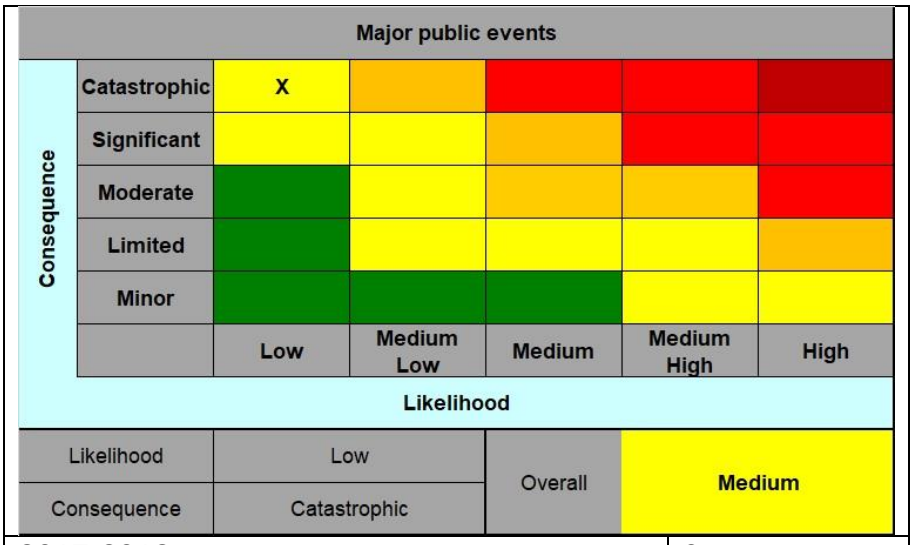
However, it has to be considered that all these events are potential targets of aggression from a third party.

Major public events - Key demand information

These large scale gatherings have the potential to have significant impacts on local infrastructure, resources and the emergency services. As such they require consideration when assessing potential risks throughout the County.

During the previous three years there has been no incidents of any significance at any of the major events held within Gloucestershire. However, there remains a need to maintain appropriate levels of resources, including in the cases of the Cheltenham Gold Cup and RIAT, Fire and Rescue resources on the scene of the event.

Risk Assessment



2017-2018	0
2018-2019	0
2019-2020	0

Three year total	0
Three year average	0

Figure 29:Risk Assessment Major Public Events

Derelict Building Fires

Derelict building encompasses everything from domestic, industrial, historic and religious buildings. These can be found in urban and rural locations and therefore can be found throughout the County of Gloucestershire, invariably these are not always known to fire and rescue services. Initial information may be vague, however normal operating procedures, such as 360⁰ scene assessments, will assist in the identification of such premises.

Safety Considerations

Buildings that are unoccupied, derelict or awaiting demolition may be well secured to prevent trespassing or unauthorised habitation. This may however lead to FRS facing restricted access and egress and confronted with the following security measures:

- Timber boarding
- Metal security screens
- Bricks and block work

Due to their very nature derelict buildings can attract the following issues:

- Children
- Rough sleepers
- Tampered utilities
- Malicious traps
- Stairs, doors and floors damaged or removed
- Damage to electrical cabling

Thus, these properties can present complex operational incidents which may include rescuing individuals from height, supporting medical incidents and committing personnel into buildings due to possible life risk.

In the three years to 31 March 2020 the Service have attended 62 derelict building fires, with 85% of fires in derelict non-residential properties.

Emerging themes and threats

The advent of social media has resulted in trends forming around certain activities. In terms of derelict buildings which naturally attract young people. GFRS have seen increases in anti-social behaviour in the form of deliberate fire setting. When these fires are located within derelict properties, it increases the possibility of entering dangerous buildings due to possible life risk.

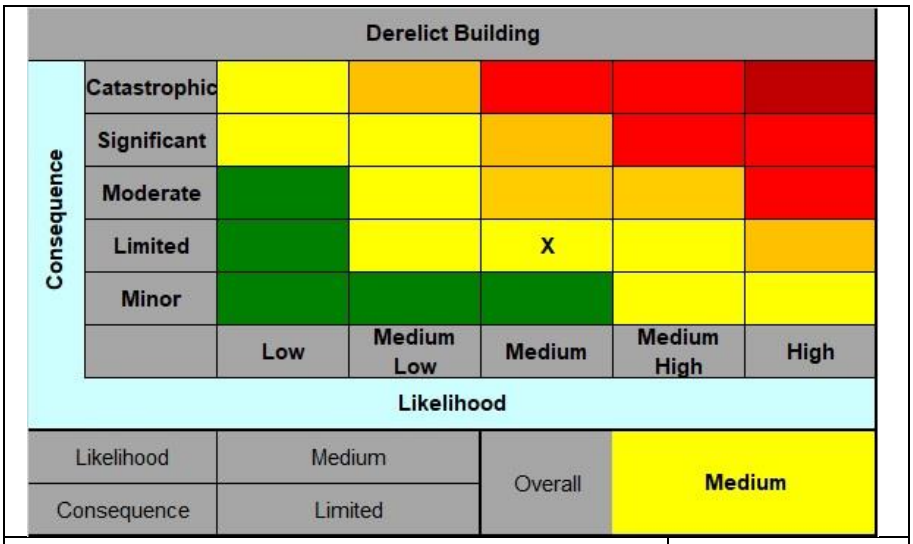
Deliberate Fire Setting

Deliberate fire setting incidents are where the source of the ignition is believed to be malicious or deliberate. The incidents include both primary and secondary fires but are mostly comprised of secondary fires.

GFRS have a dedicated Firesetters Team which operates within its Youth Education Team. It works successfully with identified young people interested in starting deliberate fires. The service provides additional awareness training to front line staff

front staff, through ACES workshops and is looking at trauma informed training to meet the needs of older firesetters. In addition GFRS have established partnership working practices, with associated stakeholders in order to target identified areas and buildings of concern. Utilising multiple internal departments including Prevention, Community safety and Operational Response. The service provides a joined up approach, working in close co-ordination with the Police to provide a community focused response to these issues.

Risk Assessment



2017-2018	17
2018-2019	20
2019-2020	25
Three year total	62
Three year average	20.6

Figure 30: Risk Assessment Derelict Building Fires

Train Incident – Passenger

Incidents on the railway can pose significant risks and potential danger to the community. There is also a risk of environmental contamination of the surrounding area, requiring extensive remediation, recovery and restoration.

Rail Network

There are nine railway stations within Gloucestershire, linking the County with the South of Wales, the South West and West Midlands. Gloucester and Cheltenham are the primary stations, both of which are on the mainline to London Paddington and other primary cities.

As well as the network rail services the County also home to the Gloucestershire Warwickshire Steam Railway. Which is a heritage railway that operates steam and heritage diesel trains between Cheltenham Racecourse, Broadway, Toddington and Winchcombe.

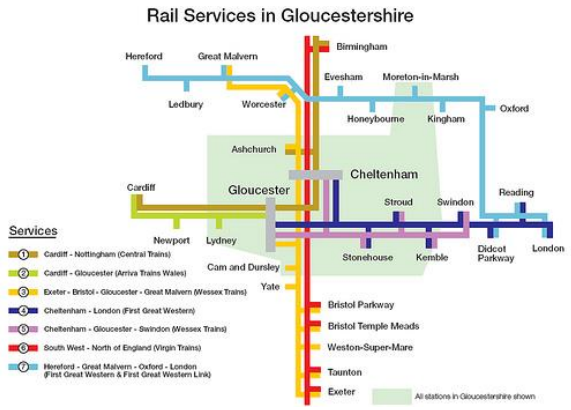


Figure 31

Hazards

Although railway fires and accidents that require the attendance of the Fire and Rescue Service are rare, incidents have occurred in train stations and on the lines of the rail network.

- Collision of trains with objects
- Derailment
- Collision of trains with road vehicles
- Persons hit by trains
- Slip, trips and falls
- Entrapment
- Fire/Explosion
- Flood
- Electricity
- Structural failures

Response

Over the previous three years, GFRS have been mobilised to one passenger train incident and 2 freight train incidents. Although such incidents can have significant consequences, fortunately, the number of incidents we attend on Gloucestershire railways is low. However should an incident occur at one of the stations or at any point along the line, there is the potential for a significant impact not just on the surrounding communities, but also on the wider economics of the County, through the loss of revenue, disruption to services and remedial actions.

GFRS have established their response resourcing at strategic locations throughout the County. Each frontline firefighter is trained to a high standard to understand the risks and hazards associated with railway incidents. Fire Control have established guidance notes that is available to support attending crews. Such incidents usually incur multi-agency responses; as such GFRS officers are well practiced in the Joint Emergency Services Interoperability Principles (JESIP).

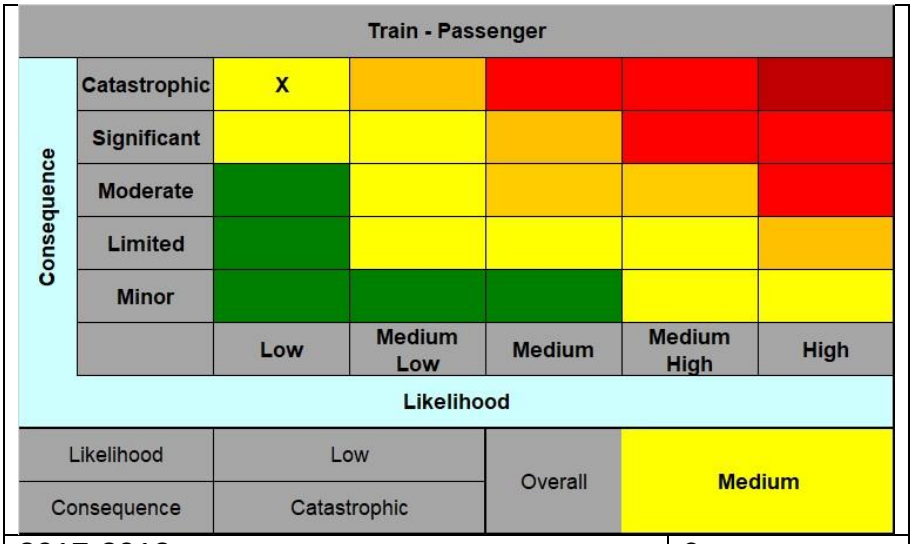
Emerging themes and threats

There have been no major passenger rail incidents on the whole of the UK's rail network, since 2007. However, there have been multiple incidents involving individuals that have caused major disruption, resulting in trains having to be stopped or cancelled.

Although the evidence supports the likelihood of an incident occurring, as low, if an incident was to happen the results could be catastrophic in terms of its effects on passengers, the local community, transport links and the surrounding environment.

Therefore, GFRS will consider this incident type moving forwards and will regularly review its response in dealing with the risks and hazards involved in rail related incidents.

Risk Assessment



2017-2018	0
2018-2019	0
2019-2020	1

Three year total	1
Three year average	0.3

Figure 32: Risk Assessment Train Passenger

Marauding Terrorist Incident

The UK faces a serious and sustained threat from terrorism, including from international and domestic groups. As such the UK threat level is currently 'severe' and has been for a prolonged period of time.

Marauding terrorist attacks (MTA) are fast moving, violent incidents where assailants move through a location aiming to find and kill or injure as many people as possible

Response

Nationally it is agreed that all three emergency services should maintain a response to terrorist related incidents. However within Fire it is also acknowledged that, on occasion, it will be necessary to utilise specially trained teams with enhanced levels of Personal Protective Equipment (PPE), such as ballistic protection to operate safety and effectively at these scenes.

GFRS maintain a number of these specialist teams, who in turn carry out regular training serials in isolation as well with other emergency and military responders. This allows Gloucestershire to meet its statutory duties under the following legislation:

- Fire Services Act 2004
- The Civil Contingencies Act 2004
- National Framework for the Fire and Rescue Service in England 2018.

This combined legislation states that:

"Fire and rescue services must be able to respond to the threat of terrorism and be ready to respond to incidents within their areas and across England. Fire and Rescue Services should also be interoperable to provide operational support across the UK to terrorist events as required."

As well as maintaining specialist response teams, GFRS also have trained a cohort of duty officers who are accomplished at delivering interoperability skills to such multi agency response events. Such incidents are under pinned by the Joint Emergency Services Interoperability Principles (JESIP) to ensure a shared situational awareness and combined working strategies are maintained throughout multi agency focused incidents.

Emerging themes and threats

Recent years have seen an increase in lone wolf attacks both in the UK as well as globally. In addition, there has been an increasing trend towards the use of vehicles to use as a weapon in its own account. With vehicles being driven purposefully at crowds of people. Besides vehicle borne attacks, the current threat level includes the following attack methodologies

- Bladed weapons
- The use of fire as a weapon
- Improvised explosive devices (IEDs) in both vehicle and person borne guises.

- Firearms

Risk Assessment

GFRS work alongside national bodies and partner agencies to continuously assess and counter the risks implied by the threat level at any one time.

Therefore, we use the following considerations when pre-planning and preparing for possible terrorist related incidents:

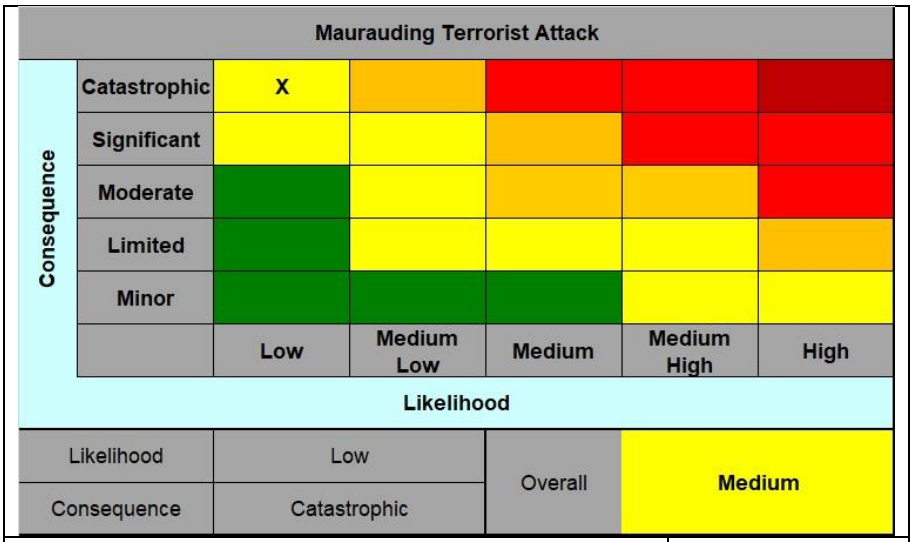
- **ROBUST** – prepared for the worst
- **PROPORTIONATE** – informed by risk
- **FLEXIBLE** – will work or can be easily adapted to work in a wide range of circumstances
- **SCALABLE** – can cope with small, medium and large incidents
- I**NTEROPERABLE** – response organisations working effectively together
- **EFFECTIVE/TIMELY** – the right activities, when needed
- **REALISTIC** – it can be achieved

Although the likelihood of such an incident occurring within Gloucestershire is calculated at being low, any such incident occurring could result in a catastrophic impact on a national as well as a local level.

For more information go to:

https://www.gov.uk/government/publications/marauding-terrorist-attacks

Risk Assessment



2017-2018	0
2018-2019	0
2019-2020	0
Three year total	0
Three year average	0

Figure 33: Risk Assessment Marauding Terrorist Attack

Aircraft Incidents

Gloucestershire has one commercial airport, however, it has many smaller airfields that cater for flying lessons, tourism or catering for sports such as gliding and paragliding. Gloucestershire is also popular with hot air ballooning.

Incidents involving passenger aircraft

Gloucestershire Airport is situated at Staverton, between the two large urban centres of Gloucester and Cheltenham. It caters for package holidays to Jersey and the Isle of Man, as well as charter flights and flight training.

At its height in 2009 it carried over 20,000 passengers, however that has dropped significantly to 1,464 in 2017. However in the same year it still recorded over 81,000 aircraft movements. This dwindling carriage of passengers is indicative of a reduction in commercial passenger flights in and out of Gloucestershire Airport. This in its self reduces the likelihood of an incident occurring.

Gloucestershire Airport manages a wide variety of jet, propeller and rotary aircraft. The largest of which is the Dornier 228, a 19 seater airliner that transits between destinations. However the vast majority of aircraft accommodate 6 passengers or fewer less.

In its peak in the late 1980's the airport saw approx. 102,000 air movements. However since this time it now averages around 82,000 movements, with the maximum annual allowance set at 95,000, including those of emergency uses. In addition Gloucestershire Airport comes under the Civil Aviation Authority (CAA). As such under CAP 168 Licensing of Aerodromes, one of the key aspects of Gloucestershire Airport operating hours is that its independent airport fire service is available during those times. This increases the provision of specialist Fire and Rescue systems in the vicinity of passenger aircraft movements in addition to local authority resources.

Opening Hours:

Summer/Winter: Mon-Fri 0830-1930

Summer: Sat-Sun 0900-1930

Winter: Sat-Sun 0900-1800

This pattern has been maintained over the last 35 years. With the majority of flights accepted outside of these hours, taking place within 2 hours of normal opening or closing times.

For more information on Gloucestershire Airport see: www.gloucestershireairport.co.uk

Flight Schools

With the reduction in chartered passenger flights, one of the main areas of flight movements remains the airports flying schools. There are currently 6 fixed wing and 6 helicopter training providers.

Besides the increased number of inexperienced pilots in the area, this results in a large number of small aircraft being stored at the airport on a permanent basis.

Safety Considerations

Gloucestershire Airport adheres to CAA guidelines and is rated as a Cat A3 airport. This indicates what aircraft it can receive and what local hazards may be present. It also ensures that it has restrictions on its opening hours, number of flight movements and size of aircraft accepted. (Note airports are categorized 1-10 in the UK).

In addition it has its own airport fire service which is rated up to Cat 6. This means that it has a minimum of two aircraft firefighting appliances and associated minimum water and extinguishing agents.

Future Expansion Plans

In 2020 it was announced that £15m would be invested into Gloucestershire Airport, resulting in one runway closing and the remaining two being refurbished. This will bring in a new business park into the immediate area.

Emerging themes and threats

Even with the loss of its regular commercial airline, Gloucestershire Airport remains a busy local air hub. It maintains a high level of air movements, which is reflected in its categorisation and Aircraft Rescue and Firefighting (ARFF) code. It has a total of 12 flying schools and is also widely used for refuelling purposes. With its recent investment being announced, Gloucestershire Airport is highly likely to become even busier in future years.

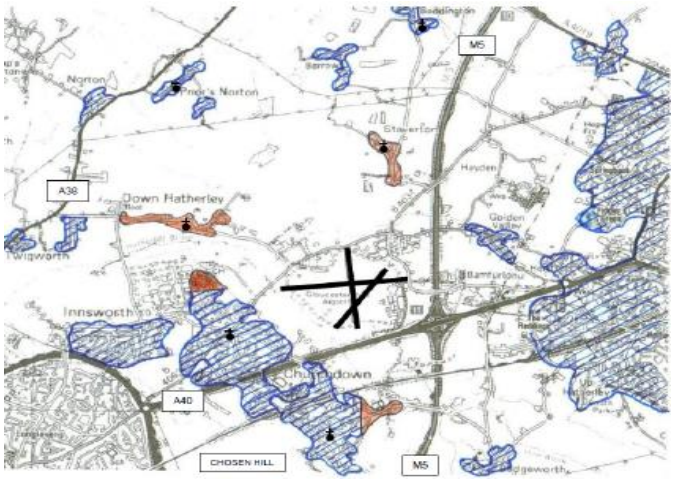


Figure 34: Gloucestershire Airport Safety Zones

Safety Zones around Gloucestershire Airport

Hatched Blue: ***Residential area to be avoided***

Solid Red: ***Specific areas to be avoided during departure.***

The refurbishment of the runways should reduce the risk of incidents involving aircraft landing or taking off.

There is an increased risk from inexperienced pilots. However, this risk is reduced as they will be accompanied for the majority of their training

With the increased building between Gloucester and Cheltenham, in particular the Churchdown area the impact of an incident if it occurs distal to the airfield is increased.

Gloucestershire Airport has its own Fire and Rescue service and this is locally supported by the Local Authority service, which has four? Three? stations within 5 minutes of the airport.

Cotswold Airport

Situated on the Gloucestershire/Wiltshire Border near to Cirencester, Cotswold Airport presents a different risk as it receives large commercial aircraft for salvage purposes. Although large passenger aircraft fly in, it should be remembered that these do so with reduced crew and fuel levels due to the purpose of the flight.

In addition the airport mostly caters for flying training and individuals flying smaller private aircraft.

Opening Hours:

Tues – Sat 0900-1700

As a Category 2 airport, the on-site fire response has a reduced firefighting capability with only one dedicated aircraft fire appliance, with reduced water and extinguishing agents required.

Emerging themes and threats

Due to the drop in air travel, during the Covid pandemic, Cotswold Airport has now become a storage area for commercial passenger aircraft. This maybe a temporary consideration, dependent on the future of travel industry. This increases the number of large aircraft flying into the airport and the number of aircraft parked on the site. Although this presents a potential increase in the likelihood and severity of a fire and air related incident near the airport, there have been no incidents to date. As the airport is situated on the border of Gloucestershire and Wiltshire there would be dual attendance for all serious incidents at this site; this could present interoperability issues.

Risk assessment

In terms of both Gloucestershire and Cotswold Airports the calculated consequences of an incident occurring, be it an aircraft crash, forced landing or fire involving an aircraft is deemed high, however, the likelihood of such incidents occurring remain low. This is evidenced by the number of incidents that have occurred between the two airports involving passenger aircraft over the last four years – which is one. This is supported nationally with air travel remaining the safest mode of transport.

Incidents involving light aircraft

In addition to Gloucestershire Airport and Cotswold Airport, ..there are many other airfields within the County have grass laid runways and support mostly biplanes and gliders.

Incidents involving smaller aircraft and associated sports orientated airborne craft, such as gliders, paragliders etc. are more likely to be involved in incidents away from designated airfields. As such, these become very difficult to pre-plan for in terms of possible incident locations.

Control Measures

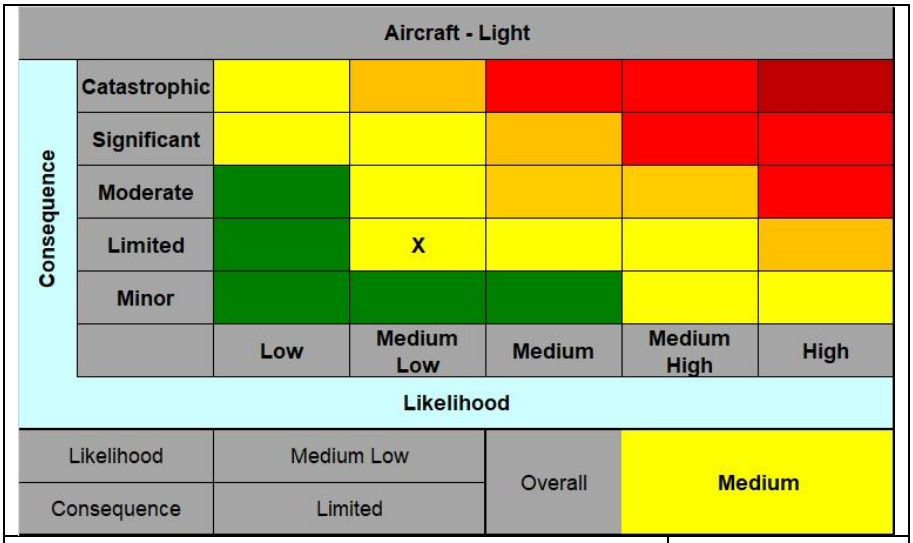
Of the 2,200 airfields in the UK, only 138 are regulated by the CAA. Both Gloucestershire and Cotswold Airport come under this regulation. As such the additional risk involving the movement of large and passenger carrying aircraft is mitigated to some extent by the on-site presence of regulated Fire and Rescue resources. In addition these sites are regularly visited by Gloucestershire Fire and Rescue Service (GFRS) for the familiarisation of crews.

GFRS have appliances that can assist in any on-site or off site incident. With the services Specialist Incident Support Unit stationed within 3 miles of Gloucestershire Airport. Wiltshire Fire and Rescue Service have additional specialist appliances to assist with a dual attendance at Cotswold Airport.

Light aircraft present less of a hazard, however these are harder to control and mitigate for. Light aircraft as discussed previously can be anything from a hang glider upwards and as such are difficult to regulate or anticipate in terms of response.

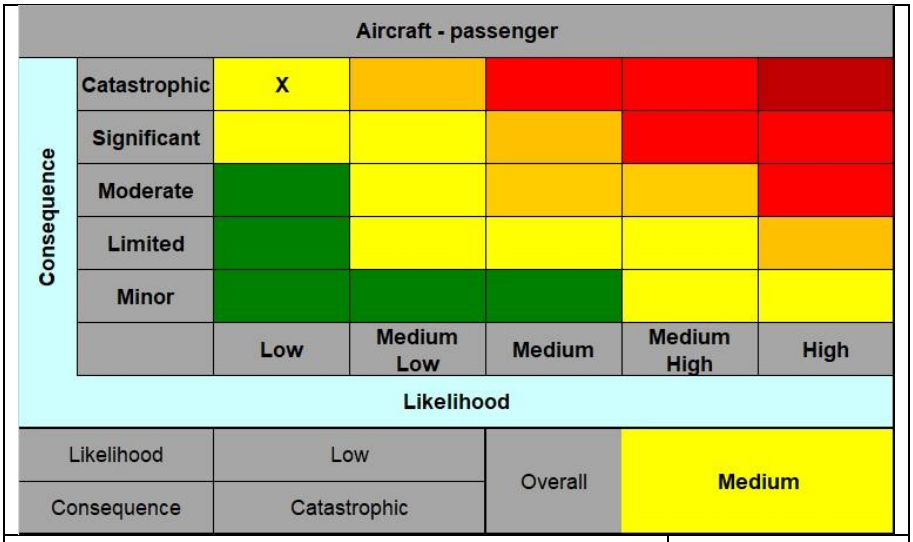
The evidence however does support the fact that these incidents have occurred in the vicinity of Gloucestershire Airport and as such are provisioned for AFARP.

Risk Assessment



2017-2018	1
2018-2019	1
2019-2020	5
Three year total	7
Three year average	2.3

Figure 35: Risk Assessment Aircraft - Light



2017-2018	1
2018-2019	0
2019-2020	0
Three year total	1
Three year average	0.3

Figure 36: Risk Assessment Aircraft - Passenger

Effecting Entry

Effecting entry into a property is a power held by the Fire and Rescue Service under the Fire Services Act 2004.

In order to enact such powers the responding fire service has to ensure that it meets the parameters as laid down in legislation. Under Section 45/46 of the Act, Fire can effect entry into a premise if they work within the following sections:

Section 45: Obtaining information and investigating fires

Section 46: Supplementary Powers

Within Gloucestershire we undertake two distinctive forms of Effecting Entry into premises. The first is covered by the legislation laid out above and works as part of the role of an attending fire officer. The second incidents are through a collaborative agreement between the Police, Ambulance and Fire. Whereupon if the ambulance service have the justified rationale, they can request the attendance of Fire to gain entry into a premise. This partnership agreement is referred to as 'Concerns for Safety'**.**

Concerns for Safety

Crews are informed of the incident type upon mobilisation and will co-locate with ambulance at the address. Fire Control will communicate with Ambulance and Police to seek further information on the address. The aim is to minimise any damage to the property. In order to achieve this crews are trained to use a hierarchy in terms of their points of entry.

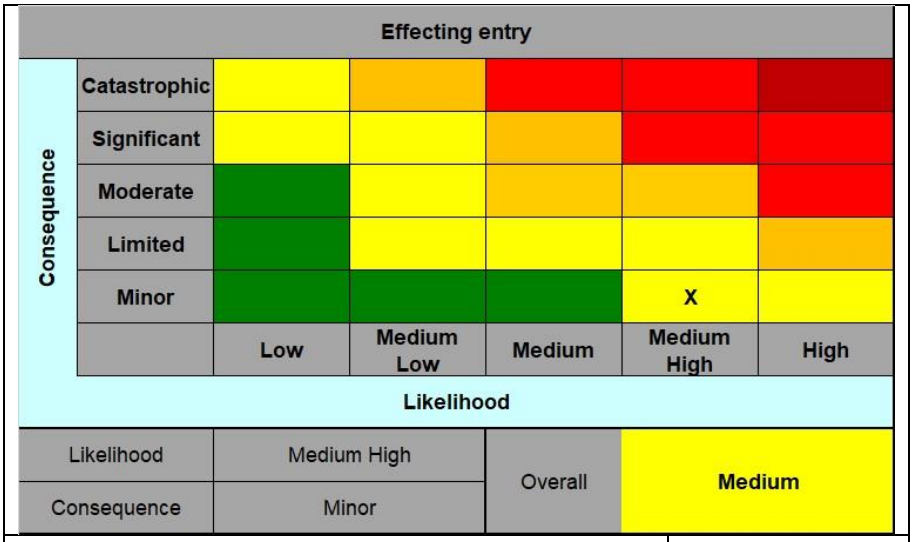
If any damage is caused during a forced entry into a property, Police have the overall responsibility to ensure the premise is made secure.

Emerging themes and threats

Although a method of forced entry is required at times by Fire, these actions should be routinely reviewed, in order to maintain best practice and incorporate new techniques where applicable in order to maintain the health and safety of attending personnel and to ensure that potential damage caused is kept to a minimum.

As the role of a firefighter and the Fire and Rescue Service changes and adapts to current community needs, there is a responsibility to ensure staff have the equipment and skills to deal with all new types of activities.

Risk Assessment



2017-2018	145
2018-2019	140
2019-2020	156
Three year total	441
Three year average	147

Figure 37: Risk Assessment Effecting Entry

Heritage Home Fires

Gloucestershire is an historical County, which also contains one of the largest areas of Area of Outstanding Natural Beauty (AONB) in England. In combination this has resulted in Gloucestershire having a large number of historical and properties of special interest within its boundaries.

Heritage properties are defined as 'buildings of outstanding historic or architectural interest'. Such properties are likely to be a listed building (grade 1 or 2* or A as appropriate).

Grade I buildings are of exceptional interest, only 2.5% of listed buildings are Grade I.

Grade II* buildings are particularly important buildings of more than special interest, 5.8% of listed buildings are Grade II*

Grade II buildings are of special interest with 97.7% of all listed buildings are in this class.

There are an estimated 350,000listed building throughout the UK. Within Gloucestershire there are nearly a 1,000 Graded buildings, made up of 262 Grade I and 714 Graded II*.

GFRS have identified 47 historic premises that have a fire audit or fire inspection carried out on it; this can be in the form of a Fire Safety Audit, a Desk Top Audit or an SSRI or a combination of all of these.

Notable examples of Heritage buildings within Gloucestershire include:

- Gloucester Cathedral
- Tewkesbury Abbey
- Badminton House
- Sudeley Castle
- Highgrove House

The destruction of any historic building represents a loss which is usually impossible to replace. The significance of such unique losses should not be underestimated. Many are of national importance and in some cases key to producing revenue for the County as well as the communities and local businesses that surround them.

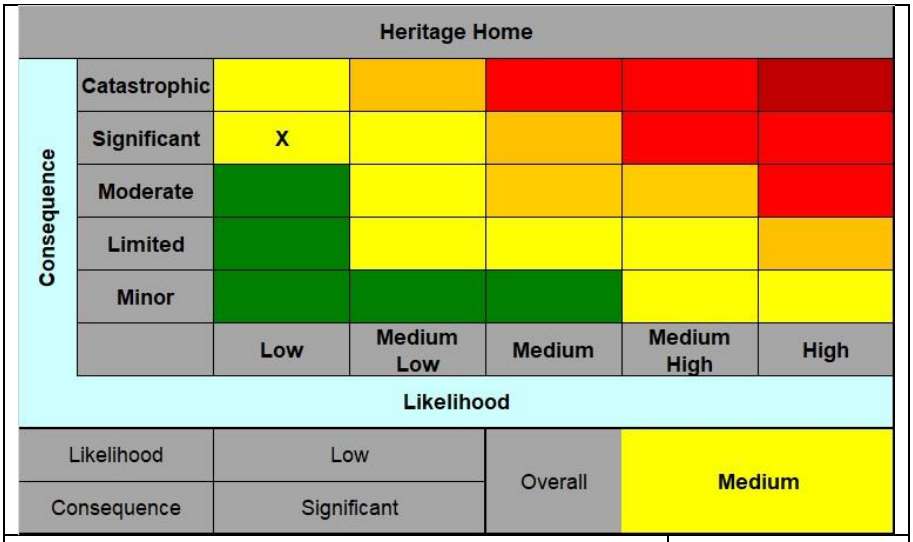
Due to their age, construction and location they can also inherently pose as additional hazards to attending FRS. Pre-planning with stakeholders is key to good outcomes in cases of fires. With this in mind GFRS have identified buildings of significant interest and have established tactical plans as well as salvage plans in case of fire.

Emerging themes and threats

There are currently 94 historic places listed on the buildings at risk register. Some of these are already in an obvious state of dereliction, however there are other properties

that could pose an increased risk to members of the community entering them, so subsequent members of the emergency services carrying out fire or rescue related activities.? To counter this GFRS has a programme of familiarisation visits to these buildings to ensure the findings of tactical and related salvage plans can be reinforced amongst operational teams.

Risk Assessment



2017-2018	0
2018-2019	1
2019-2020	0
Three year total	1
Three year average	0.3

Figure 38: Risk Assessment Heritage Home

Lift Rescues

For managed housing over two floors or more, to ensure the housing is suitable for all occupants, including people with restricted mobility, a vertical lift should be provided. In addition if there are more than 30 individual units above the ground floor, then two lifts should be considered (BS8300). .

Types of passenger lift

The installation of passenger lifts will include consideration in terms of the type chosen. Lifts can be used for people, firefighting, logistics and evacuation purposes.

British standard EN81-73: Behaviour of lifts in the event of fire. Requires lifts to be connected to the fire alarm and in the event of a fire, the lift will travel to the ground floor, where the doors will remain open and no further calls will be taken.

In addition there can be temporary lifts found in relation to construction sites and domestic lifts allowing access between floors, for individuals with mobility limitations. These are both subject to a different standard than those used in multi occupancy building and may present additional hazards and risks.

Hazards

These can include:

- Access issues to machinery spaces
- Power systems
- Hydraulics and lubricants
- Shafts
- Manual handling

Response

If a person is trapped in machinery, the initial focus and actions will centre on isolating any power sources and ensuring the area is safe for all those working within it. Fortunately the nature of lift associated rescues, is that individuals usually find themselves trapped, when the lift suffers a fault between levels, or results in the doors becoming inoperable. It is highly unusual for any machinery entrapment to be involved in these incidents.

In the three years to 31 March 2020 Gloucestershire Fire and Rescue Service attended 168 calls for assistance to persons trapped in broken down lifts. None of the people trapped in lifts were injured, but some distress was caused to people being trapped within such a small space.

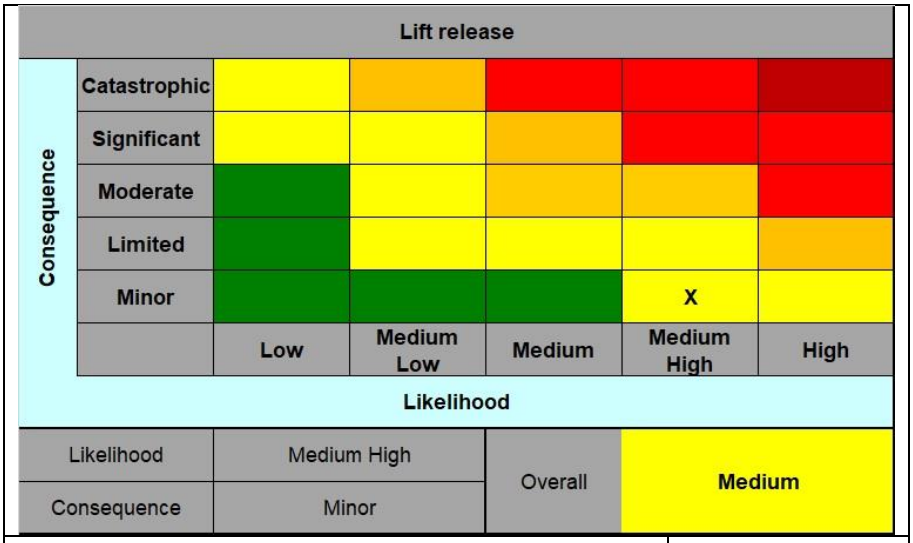
Emerging themes and threats

Advances in technology has resulted in the potential for passenger lifts to be able to move both horizontally as well as vertically and requiring less dependence on

hydraulic machinery. Although this sounds futuristic, companies are making good progress in both areas.

More pertinent to Gloucestershire will be the ageing of its current lifts, especially those managed in private residential properties. However, GFRS continues to identify repeat offenders and the Prevention team will be notified if issues persist with lift entrapments.

Risk Assessment



2017-2018	64
2018-2019	49
2019-2020	55
Three year total	168
Three year average	56

Figure 39: Risk Assessment Lift Release

Outdoor Structure Fires

Across Gloucestershire we have many outdoor structures and can be broken down into different groups consisting of the following;

- Refuse at a rubbish tip, common external bin storage areas, small and large refuse or rubbish containers, recycling containers (e.g. wheelie bins), skips, post boxes, telephone boxes and Kiosks.
- Tunnels, subways, bridges, railway goods, shelters, camping tents and marquees, roadside furniture, park benches, fences, railings, outdoor storage (e.g. small cupboards and sheds), recycling collection points and bottle banks.

Whilst these fires are small they can often provide unseen dangers and give off toxic and nauseous fumes due to the nature of the products and the variety of contents. All our fire stations and crews attend these type of incidents regularly.

During the summer months camping and outdoor activities are more common and can increase the risk and number of this type of incident.

Generally the solid structures; bridges, tunnels and roadside furniture are not affected but can cause their own issues if a fire is involved due to access and what is using the tunnel or bridge., Tthese are bigger picture considerations that must be borne in mind and will affect attending crews' actions.

In the three years to 31 March 2020, GFRS have attended 485 incidents involving this type of outdoor structure.

Many small structures now have a different function where once was a telephone box to make calls many now house defibrillators for local use in case of a medical emergency so fires affecting them have a much wider impact on communities.

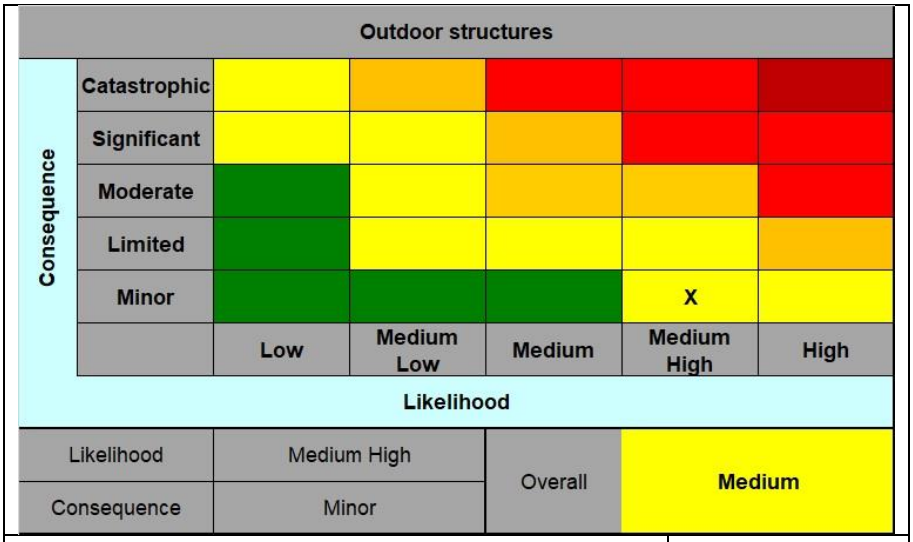
Emerging themes and threats

Not having suitable Firefighting media and vehicles to access the incidents with sufficient mapping and location technology to identify the exact location and appropriate access.

Environmental impact from use of specialist firefighting media and water runoff.

Fly tipping is increasing with different types of rubbish and refuse discarded in random locations around the County. The Service must ensure it works with local authorities to educate and prevent such behaviours.

Risk Assessment



2017-2018	139
2018-2019	174
2019-2020	172
Three year total	485
Three year average	161.6

Figure 40: Risk Assessment Outdoor Structure Fires

Small Car Fires

There are over 18,000 vehicle fires in the UK every year. Fires imitating in small vehicles are commonly attributed to poor maintenance or deliberate acts of arson. Often located on live highways, residential roads, deliberate acts are also found in more remote locations, which can pose access issues for responding appliances.

Data Collection

As in all incident types the Home Office has appointed the Fire and Rescue Service (FRS) with the responsibility of gathering and quality assuring the data related to specific incident types.

In terms of fires involving small vehicles, FRS collect information that includes:

- Location/including type of land
- Date/time of day/weather conditions
- Whether the vehicle was reported missing/abandoned.
- Results of fire investigation
- Type of vehicle/make/model

Response

Fire Control will determine the initial response to a small vehicle fire, calculated from information received at the time of call. Commonly one fire appliance is allocated, unless the vehicle is situated proximal to other vehicles or buildings. Fire spread is often rapid when associated with vehicles and such an appropriate attendance of resources is important.

GFRS front line appliances are well equipped to deal with such incidents, having a number of extinguishing medias including water, dry powder and foam to extinguish any primary or secondary fire.

Collaborative working is a key aspect of vehicles involved in fire on highways. Such incidents often require the support of Police and the Highways department in order to establish cordons, close carriageways and implement traffic calming solutions.

Related Hazards

Car fire and small vehicle fires can include a wide range of hazards for attending fire crews and members of the public can include:

Live Highways – rapid fire growth can lead to evasive driving manoeuvers, prevailing smoke can obscure carriageways and may lead to multiple vehicle becoming involved in the primary fire or secondary collisions.

Fire Spread – when cars are parked next to other ignition sources such a buildings, other vehicles or other structures. The fire development can lead to rapid incident escalation, increasing the risk to people, property and responding resources.

Health and Environment – The toxins released during a vehicle fire can be hugely damaging to both life and the local environment.

Emerging themes and threats

By 2030, the sale of all petrol and diesel fuel vehicles for new vehicles will be banned in the UK. The implementation of this policy has already had an impact on the UK car sales market. Environmentally friendly cars and vans now on the increase with 54% of new vehicles sold in 2020 being hybrid or battery derived providing excellent fuel returns and ecological sense. When involved in fires these vehicles are often very difficult to extinguish requiring specialist agents such as foam and powder which in turn present their own dangers to emergency responders, passengers and can impact the environment.

Alternative fuel Vehicles

The term 'alternative fuel vehicles (AFV) refers to vehicles powered by fuels other than petrol or diesel. Where the use of two or more fuel sources is referred to as hybrid vehicles, but can also be referred to as electric and hybrid vehicles (E&HV's).

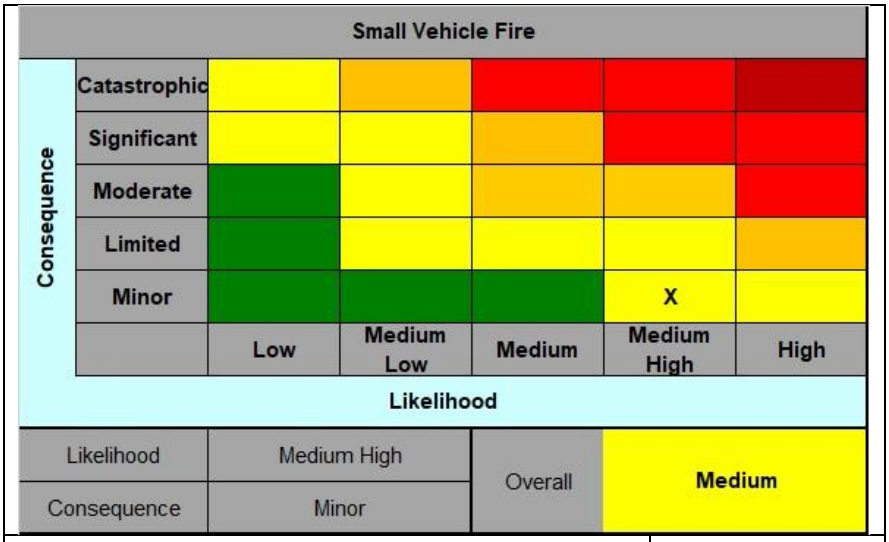
AFV's can be powered by:

- High voltage calls (batteries)
- Compressed natural gas (CNG)
- Liquid natural gas (LNG)
- Biofuels
- Hydrogen fuel cells
- High voltage systems

Electric charging systems at home and work are now attaching vehicles to buildings working at high voltages and amps potentially adding additional risks.

To safely extinguish vehicle fires advanced warning and details of components, safety systems and fuel types would be a huge advantage to identify potential hazards before committing resources.

Risk Assessment



2017-2018	208
2018-2019	160
2019-2020	174
Three year total	542
Three year average	180.6

Figure 41: Risk Assessment Small Vehicle Fires

Train Incidents – Freight

The hazards of attending rail-related incidents maybe amplified by the complexity of the rail infrastructure. In addition freight trains are often crewed by low levels of staff and there their rapid movement through the rail system, can lead to incidents occurring both inside the boundaries of urbanised areas as well as through remote stretches of the surrounding countryside.

Hazards

In order to deal with rail incidents, Fire and Rescue Services may have to access, bypass or deal with:

- Complex rail layouts or junctions
- Rail vehicles rapidly moving from one track to another
- Bidirectional rail vehicle movements
- Level crossings
- Railway bridges and tunnels

In addition, concerning freight trains there is an increased risk to the surrounding communities and environment from the cargo being transported by rail. Often the use of rail freight allows for the movement of large quantities of goods and as such any incident involving freight may present real issues to oncoming responders and the surrounding environment.

Response

Similar to all types of railway incidents, information gathering and assessment is a key component of working towards a safe and successful conclusion to the response part of the incident.

To meet this need both GFRS Fire Control and its operational elements are trained and equipped to meet the demands of such incidents. Lessons are gathered and communicated through the service from the outcomes of Joint Operational learning. A think tank that provides policy and operational direction through lessons identified and learnt from previous major incidents or of significant note.

GFRS conducts a range of pre-planning activities working in unison with Local Resilience Forums, to produce Site-Specific Risk Information (SSRI) and emergency response plans.

Emerging themes and threats

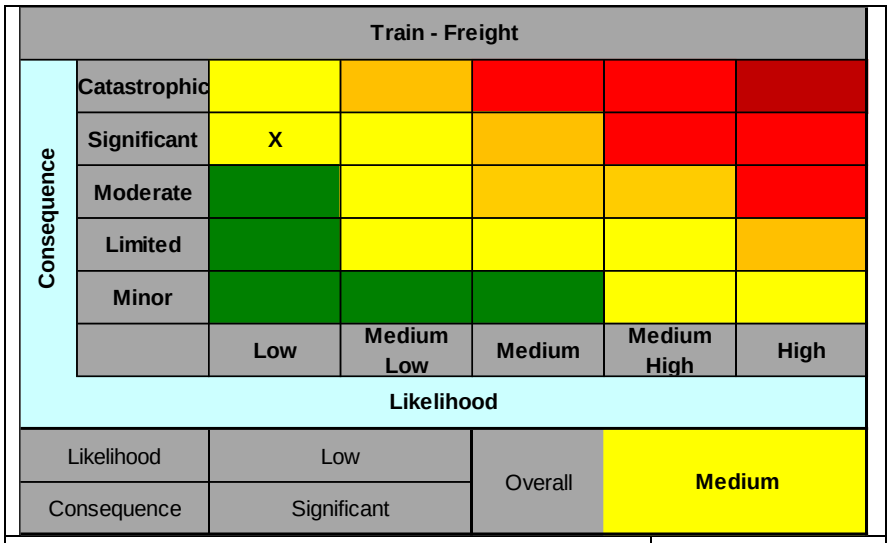
The Rail Accident Investigation Branch have identified the following trends and commonalities in their findings into rail accidents. All of the below issues have directly resulted in a derailment:

- Structural failure
- Human error
- Rolling stock failure

- Earthwork failure

Although assessed as highly unlikely, rail incidents involving the carriage of freight could have a high likelihood of resulting in significant impacts to those involved and the surrounding environment.

Risk Assessment



2017-2018	0
2018-2019	0
2019-2020	0
Three year total	0
Three year average	0

Figure 42: Risk Assessment Train - Freight

Tree, Scrub and Hedge Fires

Woodland is defined as more than 20% of an area covered in tree canopies (branches). Tree scrub includes single trees (single trees not in gardens), all other conifer and broadleaved trees including non-mature trees, restocked and natural regeneration sites, veteran trees, trees in hedgerows, single trees in rural parkland. Hedges come in various sizes and shapes and used as a fence or boundary formed by closely growing bushes or shrubs often incorporating other trees, plants and flowers.

Response

These type of incidents can create a high demand on resources, particularly during the months of April, May, June, July and August. They tend to occur in the evening between the hours of 17:00 and 21:00 hrs. These incidents are usually associated with misadventure or arson.

Often located in remote or difficult to access areas, isolated tree, hedge, or scrub fires can be a nuisance. However an appropriate response is required and provided by GFRS to ensure that fire spread is limited and to safeguard members of the public who would otherwise intervene on our behalf.

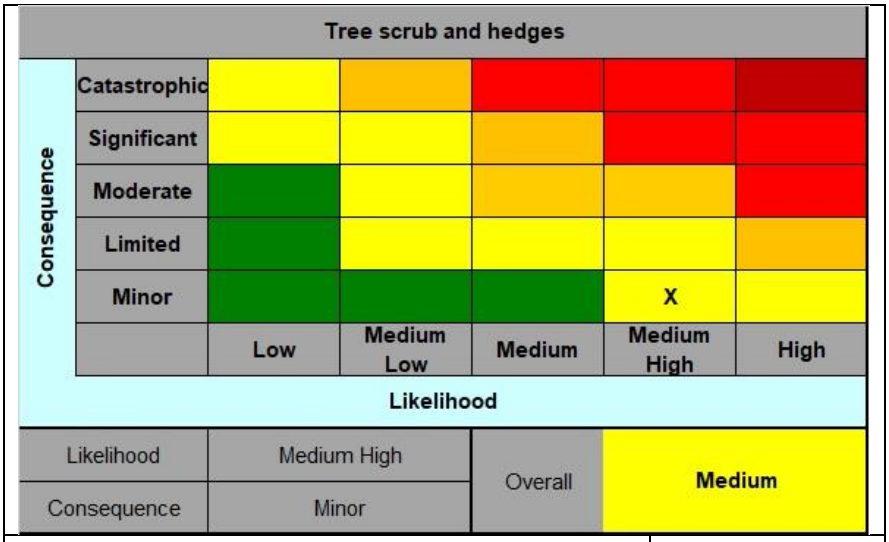
The remoteness of these incidents often make them difficult to locate and even more difficult to access. Routinely crews have to leave their fire appliance to approach the fire on foot. With the limited ability to transport water by hand, crews are often delayed at these tree, scrub or hedge fires for prolonged periods,.whereby they commence water relays on foot, deploy large amounts of hose to reach the scene or carry out cut away techniques at the source of the fire, to eliminate the chance of the vegetation reigniting.

Emerging themes and threats

These types of incidents are common in the evenings, at weekends and especially around school term times. Often locations are reused or an area becomes the scene of repeated fires due to the activities taking place at that site, such as picnics, camping or evening social events.

Education as well as the use of incident locating mapping are the two key areas GFRS are investigating to tackle this issue. With dryer summers and interchangeable weather patterns, the chance of rapid fire spread through the ignition of trees, scrubs or hedges is a real risk within our communities.

Risk Assessment



2017-2018	86
2018-2019	106
2019-2020	68
Three year total	260
Three year average	86.6

Figure 43: Risk Assessment Tree Scrub and Hedges

Vegetation and Scrub Land

Scrubland are areas of mixed grassland, heaths, moors, bogs with a high percentage of naturally regenerating trees. Vegetation includes trees, grasses and other species that can be found on railway banks, trackside, roadsides, banks, roundabouts, tow paths, banksides and surrounding areas.

Response

Nationally there have been a number of high profile wildfire incidents that have originated on low laying scrub or heath land. GFRS have previously supported some of these incidents, with the deployment of specialist rural resources, personnel and welfare support.

These incidents provide evidence that dry, parched vegetation do not require much in the way of an ignition source to result in a prolonged and environmentally disastrous rural fire taking place. It also demonstrates the difficulty faced by responding fire and rescue services, in terms of remote locations, restrictions in access, lack of adequate water sources and the resources required to bring a major fire involving vegetation and scrub under control

Between April 2017 and March 2020 there were 382 calls to vegetation and scrubland with 37% of the fires being identified as deliberate acts.

Emerging themes and threats

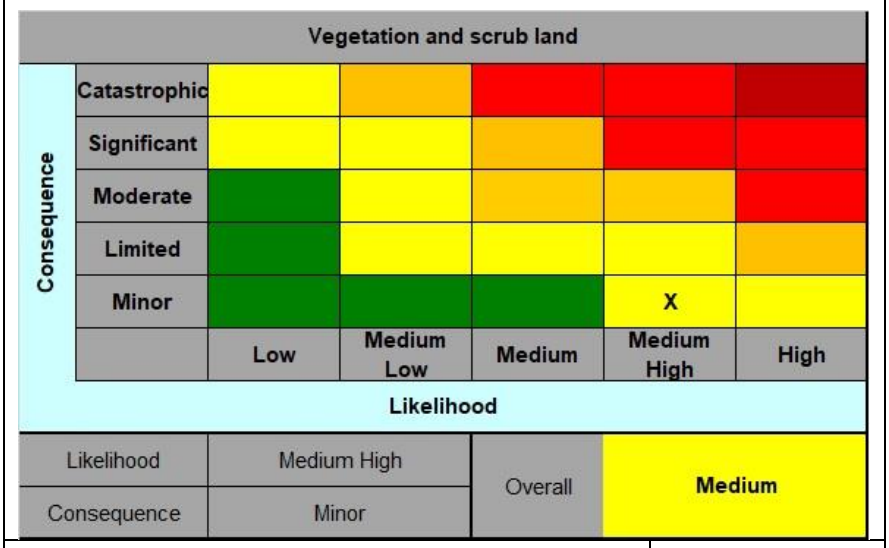
With interchangeable weather conditions being a normal part of life in the UK, drier summer months and wetter winters have seen their own unique themes developing. With large swathes of parched and tinder dry scrub and agricultural land, has come an increased incidence of associated major fires; especially in the more remote areas, where small fires can develop undetected for prolonged periods of time, or reduced access results in delayed response times and the establishment of appropriate resources.

GFRS work hard to identify locations of reported fires and allocate the required level of resources to tackle and subdue any rural based fire, before it gets the chance to spread and cause significantly more damage.

We routinely work alongside other countryside organisations to provide fire safety advice for rural areas as well as working alongside national calendar campaigns produced through the National Fire Chiefs Council (NFCC).

Although usually small in size and minor in there damage to the local environment, fires involving vegetation and scrub land can have a significant impact, when allowed to develop and spread uncontrolled. Therefore the risk posed has been quantified as Medium.

Risk Assessment



2017-2018	97
2018-2019	162
2019-2020	123
Three year total	382
Three year average	127.3

Figure 44: Risk Assessment Vegetation and Scrub Land

Chimney Fires

Are defined as fires in (non-industrial) buildings where the flame is contained within the chimney structure. This type of fire is usually a seasonal event, with increases experienced during the colder months.

Chimney fires can be simple to resolve, however dependant of property construction and severity of fire, they can also require multiple resources.

In the three years to 31 March 2020 the Service have attended 371 chimney fires, with 85% of these incidents occurring between November and May and over half (54%) of the incidents are in the months of Jan, Feb and March.

Safety Considerations

Chimney fires can present complex issues for attending crews. These can include:

- Falling masonry
- Exploding chimney pots
- Fire and smoke spread
- Working at heights
- Working within roof voids

Thatched roof fires

Premises with thatched roofs are at particular risk from chimney fires, through fire spread and the risk associated with burning embers.

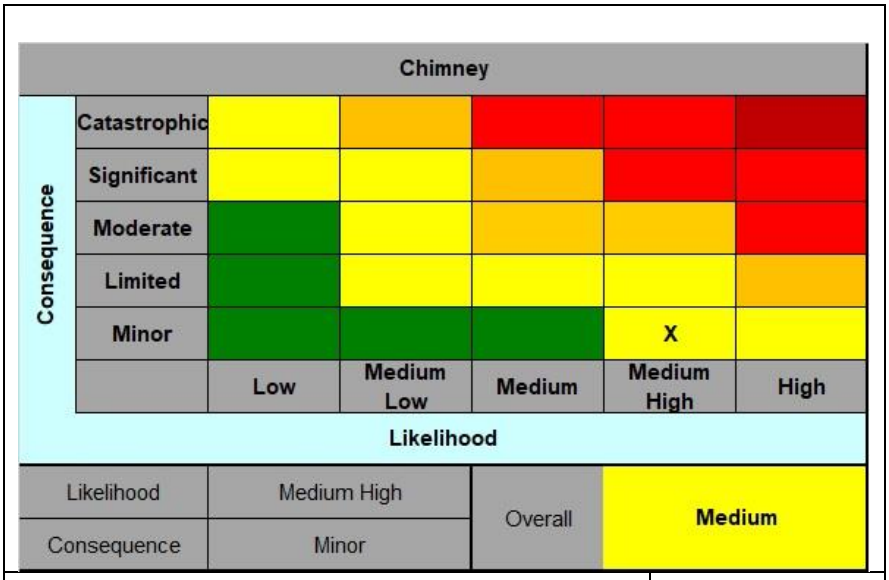
Emerging themes and threats

Due to a number of reasons log burners and open fires have increased in popularity in recent years. As a predominantly rural County, travel times to remote or difficult to locate properties can result in extended attendance times.

GFRS service delivery and prevention teams work alongside the organisations communications team to promote chimney safety messages when community safety visits are undertaken and directly support seasonal safety campaigns as promulgated by the National Fire Chiefs Council.

In addition the Government's clean air strategy and direction provided through its Clean Air Act, will provide support to Fire and Rescue services in their delivery of safety messaging.

Risk Assessment



2017-2018	149
2018-2019	118
2019-2020	104
Three year total	371
Three year average	123.6

Figure 45: Risk Assessment Chimney Fires

Risk Assessment Prevention

Introduction

The purpose of this report is to provide Gloucestershire Fire and Rescue Service with a comprehensive understanding of the demographics and societal factors within Gloucestershire connected to a wide range of risks. The information will enable managers to identify local need, plan targeted prevention activities and evaluate what works, across differing levels of risk and vulnerability in the County; targeting not only fire risks but health and social risks that can significantly reduce quality of life. This approach will ensure the Service can place people with the right skills and values in the right places with sufficient capacity and resources when planning prevention activity. The report also explores threats and opportunities likely to affect the service over the next few years.

The information contained in this report is drawn from both local and national data and recognises the importance of the following principles:

- Collaborative engagement with partners from across statutory and third sector organisations.
- Collaborative development with communities, working “alongside” and “with” to build safer communities and recognise existing strengths.
- Using data to identify individuals and households who are at the greatest risk of a fire in the home.
- Working with partners to identify and engage with people likely to take part in arson or deliberate fire setting
- Working closely with other public facing organisations to share data and intelligence.
- Maximising the effectiveness of every contact between the Service and local people and using FRS staffs’ skills and knowledge to signpost and alleviate pressure on other service providers.
- Ensuring FRS staff are appropriately trained to understand and support the complex needs of vulnerable children, or adults with care and support needs.

Scope

This report provides an analysis of data regarding the risk from fire and other emergencies in the context of the population and environment of Gloucestershire. The scope will include an assessment of the community risks such as fires, road traffic collisions and accidents across Gloucestershire and the impact that these have on people and places. This information provides the evidence of need for a broad range of prevention activity. The analysis of risk factors and demographics within this document enable the Service to plan appropriate intervention as early and as effectively as possible. Further work is required to evaluate existing local and national

interventions to ensure the Service can begin to focus on activity to mitigate risk and reduce demand for crisis services.

Whilst identifying key areas of risk throughout the County, this report will not provide a comprehensive picture of every initiative and interaction implemented within the service to tackle our various risk profiles. That will form part of an evolving Prevention Framework which will begin to build the data around place-based and social risks in Gloucestershire and develop a catalogue of interventions, and their resource requirements, that work to reduce fire and other risks. The Prevention Framework will direct and support local prevention plans, which are developed around areas of specific risk, within Station areas and support the work of community safety partnerships. This will ensure that there is a clear purpose and desired outcome for all prevention activity across the Service, to maximise impact and ensure that what we do has a benefit to the community.

Demographics

Although most people in Gloucestershire enjoy a high standard of living and the levels of health and wellbeing are above average for England, many residents still experience deprivation and isolation. The Gloucestershire Council Strategy 2019-2022 seeks to address these issues by working in close partnership to deliver services that make a difference for local people. The issues of deprivation and isolation increase risk of fire related injury and other challenges and this is no different for Gloucestershire Fire & Rescue Service. The disparity between the most deprived and least deprived areas in Gloucestershire presents a challenge in delivering prevention activity, set against a backdrop of an ageing population and significant rurality.

Population Analysis and Segmentation within Gloucestershire

Current Population

The population of Gloucestershire was estimated to be 637,070 in mid-2019. This was a rise of 46,590 people since 2009 and approximately 3,512 people since 2018. This represents the equivalent to a growth of 7.9% in population from 2009 which is higher than the rate of growth in the South West (7.6%) and 0.6% from 2018.

The district of Gloucester has the largest population in the county, closely followed by Stroud and Cheltenham. However, the following tables showing the age structure in the districts illustrate that although there is some variation in the proportion of the working age population, the increasing number of people aged 65 and over is evidence of an ageing population in all individual districts except Tewkesbury.

Age Band	Number of people 2018	Gloucestershire %	South West %	England and Wales %
0-19	142,506	22.4	21.9	23.5
20-64	357,054	56.0	55.8	57.9
65 and over	137,510	21.6	22.3	18.5

Table 4: Age Structure of the Gloucestershire Population, mod 2019

Table 2, shows that although the proportion of children and young people aged 0-19 (22.4%) was higher than for the South West it was lower than the rate for England and Wales (23.5%). This impacts on the prevention activity required to mitigate the risk of unintentional injury for this age group to reduce potential life changing injuries, absence from education and the societal cost of A&E attendance for children.

The proportion of working age population, those aged 20-64, is almost 2 percentage points lower than the rate for England and Wales and has declined from the previous year. The fire data for working age population will be covered later in this report but the spatial distribution of this age group is not evenly spread across the County and is growing in areas of new development, such as in Tewkesbury.

The over 65 age group represents over a fifth of the Gloucestershire population and although lower than the rate for the South West, it is 3 percentage points higher than the rate for England and Wales.

Current Population Trends

The rate of growth of population in Gloucestershire is higher than for England and Wales but the picture is not changing uniformly across the county. This will impact how resources are allocated and distributed to mitigate risk. Table 3 shows that the rate of population growth is highest in Tewkesbury, with a slow rate of growth in Cheltenham.

	Number of persons	Percentage change 2009 to 2019
Cheltenham	116,306	2.1%
Cotswold	89,862	8.6%
Forest of Dean	86,791	5.9%
Gloucester	129,128	8.2%
Stroud	119,964	7.3%
Tewkesbury	95,019	18.0%
Gloucestershire	**637,070**	**7.9%**

Table 5: Population Change in Gloucestershire and the Districts, 2009 to 2019

Tewkesbury Borough is estimated to have experienced a 2.6% growth in population in the past year, a trend largely caused by internal migration to new housing developments. In contrast, Cheltenham and Gloucester have seen changes of -0.7% and -0.1% respectively in the period 2018-2019.

During the period 2009-2019, it has been the growth of the 65+ population which has driven Gloucestershire's overall growth rate. Gloucestershire has a slower increase than England and Wales in the 0-9 age group and a slower increase in the number of working age people aged 20-64. Although the trend in Tewkesbury and Gloucester showed faster growth in the working age growth compared to the England and Wales figure, overall between 2009 and 2019, the proportion of the Gloucestershire population aged 65+ continued to increase whilst the percentage of the population aged 0-19 and 20-64 decreased.

Ageing Population Trends

As a result of increase in median age, Gloucestershire is considered to have an ageing population. The median age is 44.5 years in 2019 compared with 44.3 in 2018 and 39.9 in 2001. Projections suggest this trend will continue, with the number of people aged 65+ projected to rise at a faster pace than nationally in the next 25 years, with an average increase of 2,800 people in that age group per year. Cotswold District is projected to have the greatest increase in the older population in Gloucestershire, rising by 65.1%.

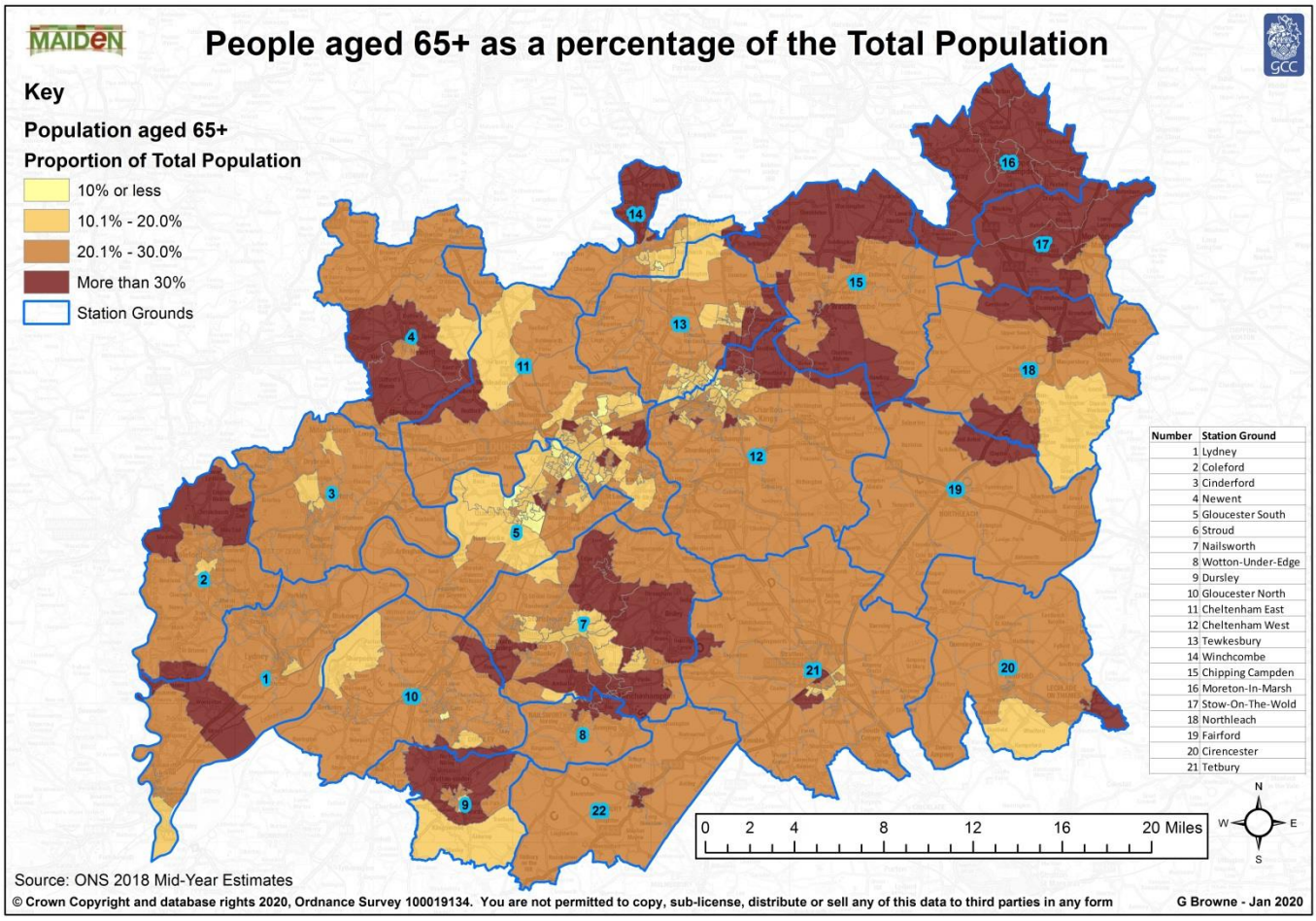


Figure 46: People Aged 65+ as a Percentage of the Total Population, 2018 mid.

Older People and Prevalence of Needs

The ageing population will have a bearing on the risk of fire related injury or fatality and the future demand for social care. This will affect the demand for safeguarding and for prevention activity. Although prevention activity seeks to recognise and build on the strengths of an individual and the assets within the community which act as protective factors, it is known that the personal wellbeing of people is significantly affected by ill health. It is forecast that in 2020, about 28,000 people aged 65+ in private households in Gloucestershire have a long term illness or disability that limits their day-to-day activities a lot. People who report bad or very bad health are much less likely to express having very high levels of life satisfaction, worthwhileness and happiness which are the indicators of personal strengths. The number of older people with common health conditions such as cardiovascular disease, dementia or diabetes is projected to increase between 2020 and 2030 which may reduce the likelihood of personal strengths which act as protective factors. The biggest rate of increase is for those with severe hearing loss (42%) and dementia (35%). Further analysis of the impact of these changes will be covered in the section on risk factors.

However, it is worth noting that in 2019-2020 fire related fatalities were highest among older people (65+) with the likelihood increasing for those aged 80+. In England, 46% of all fire related fatalities were 65 years old or over compared with 21% of non-fatal casualties.

Gloucestershire Data

In the three years to 31 March 2020, GFRS have attended 912 dwelling fire, 695 road traffic collision incidents and 1,782 secondary fires.

Dwelling Fires (1 April 2017 and 31 March 2020)

Of the 912 dwelling fires, only 9% of them had an injury or fatality. Of those 9% of incidents there was 91 injuries and 5 fatalities. 58% of all injuries were due to mobility circumstances; with 24%, being over 65 years old and 55% were female. During this period, most incidents involving injuries occurred between 12:00 and 23:00, accounting for 68%. Of the five fatalities, all were over 50 years old, with three of the five fatalities being male.

Of the 912 dwelling fires the majority were occupied by either a lone person over a pensionable age (23%), a lone person under pensionable age (21%) and couples with dependant child/ren (14%).

89% of all the dwelling fires had an alarm system present and 60.6% of all dwelling fires started in the kitchen. Cooking appliances were the largest ignition for dwelling fire, accounting for 50% of these fires.

94% were accidental fires or not known and 6% deliberate.

Risk Assessment Methodology

To effectively and efficiently target resources to reduce and mitigate risk, the Service needs to identify where, when and for whom the risk from fire and other emergencies is most pressing. These have been defined as follows:

Contextual/Spatial Risk: the environmental, socio-economic and demographic factors that increase the risk of fire or other emergencies by locality which can be assessed using LSOA level data and incident statistics.

Temporal Risk: identifying the day, time of the day or the season during which people of different ages experience most risk from fire or other emergencies.

Individual Risk: identifying the personal, human factors or care and support needs that can place individuals at higher risk of injury or death from fire or other emergencies.

Contextual/Spatial Risk Profile.

Identifying spatial risk is an efficient way of targeting resources at district and ward level to reduce community risks. Understanding the levels of deprivation such as in relation to housing or crime enables the Service to provide a universal service such as community events with advice and support where the risk might be low but closer

partnership working to deliver effective intervention where the assessed risk is higher. The spatial risk can be accurately assessed using Lower Super Output Areas (LSOA) data combined with GFRS data.

The predominant risks in GFRS have been identified via the review of historic data and are:

- Dwelling fires and the associated risk of casualties;
- Economic loss from fires in other buildings.

We geographically assign these incidents to the LSOA in which they occur in order to be able to calculate area specific risk. LSOAs each contain approximately the same number of households and have been selected as a suitable level of geography as they also contain a sufficient number of incidents to allow for robust analysis and risk grading. Within these areas we can identify pockets of 'at risk' communities, and subsequently target resources. Furthermore, this level of geography is also compatible with IMD.

During this stage we assess the frequency of incidents and their magnitude in terms of the number of resulting casualties. Because the frequency of these incidents varies from one LSOA area to another, approaching it in this way allows our prevention and protection activity to be better targeted.

We utilise a standard approach, including a degree of sensitivity analysis, to calculate the risk in each LSOA.

Figure 3 illustrates the way in which the approach combines the data inputs.

Figure 3: Combination of Data Inputs to Calculate Risk

Figure 47: Prevention Risk Calculation

Assigning Risk Categories

Once the data inputs have been combined, the total risk score for each LSOA is then banded into one of four categories using a statistical approach of standard deviation. These risk categories inform the priority in which response, prevention and protection resources will be allocated. There are four risk categories, as depicted in table 6.

Figure 4: LSOA Risk Bandings

LSOA Risk Bandings Risk Score	Risk Grading
59+	Risk Category 1
48 - 58	Risk Category 2
21 - 39	Risk Category 3
20 and Below	Risk Category 4

Table 6: LSOA Risk Bandings

Risk Mapping

As well as producing risk categories, this information can be used to produce a geographical risk map by Lower Super Output Area (LSOA); an illustration of such a map is given in figure 5 below.

Emerging themes and threats

Based on the current data findings, GFRS has identified the need to incorporate more detailed local data to develop the evidence informed assessment of risk. There is a requirement to identify what is the cause and what is correlation. The Service then needs to identify how it uses ‘causes’ and ‘correlation’ to determine a risk methodology.

Detailed Analysis of Home Office IRS Data

Fire-related fatalities, non-fatal casualties, rescues and evacuations

Key results

• There were **243 fire-related fatalities** in 2019/20; this year's figure is the lowest number in the annual series (from 1981/82).

• **82 per cent (199)** of fire-related fatalities were in **dwelling fires** in 2019/20.

- **74 per cent (5,133)** of non-fatal casualties were in dwelling fires in2019/20. This is a similar proportion to previous years: 73 per cent in 2018/19, 78 percent five years previously in 2014/15 and 77 per cent ten years previously in2009/10.

• For every million people in England, there were **4.3 fire-related fatalities** in 2019/20.

- **46 per cent** of all fire-related fatalities in England (105 fatalities) were **65 years old and over** in 2019/20
- The fatality rate was highest among older people: **8.4** people per million for those **aged 65 to 79** years old and **16.9 for those aged 80 years and over**.
- The fatality rates for age bands within **54 years and younger** were all **below 5** fatalities per million population.

• **Men have a greater likelihood of dying in a fire than women**. The overall fatality rate per million population for males in 2019/20 was 5.5 while the rate for females was 3.1 per million.

- For men aged 65 to 79 the fatality rate was 10.6 per million while the equivalent rate for women was 6.4 per million.
- For those aged 80 and over, the rate for men was 22.6 per million and for women was 13.1 per million.

• The most common cause of death for fire-related fatalities in 2019/20 (where the cause of death was known) was '**overcome by gas or smoke**', given in 30 per cent (73) of fire-related fatalities.

• In 2019/20, there were **2,998 rescues from primary fires**. This was virtually unchanged compared with 2018/19 (2,987) and a decrease of six per cent from five years ago in 2014/15 (3,184).

• In 2019/20, there were **5,172 primary fires that involved an evacuation**. This was a decrease of eight per cent compared with 2018/19 (5,650) and a decrease of 25 per cent from five years ago in 2014/15 (6,867).

Causes of dwelling fires and fire-related fatalities

Key results

• **Cooking appliances** were the largest ignition category for accidental dwelling fires in 2019/20, accounting for **48 per cent of these fires** and 49 per cent of non-fatal casualties but only accounted for 14 per cent of the fire-related fatalities.

• **Smokers' materials** were the source of ignition in **seven per cent of accidental dwelling fires** and nine per cent of accidental dwelling fire non-fatal casualties but were the largest ignition category for fire-related fatalities in accidental dwelling fires, accounting for 23 per cent in 2019/20.

• Of the 25,555 accidental dwelling fires in 2019/20, **34 per cent were caused by "misuse of equipment or appliances"**, no change from 2018/19. The second largest cause category was "faulty appliances and leads" which caused 15 per cent of all accidental dwelling fires.

South West Fatal Fire Themes

A review of accidental fatal fires in the South West of England for the period 2013-2017, revealed very similar findings to the national data. The study revealed that a combination of risk factors contributed to increased vulnerability to fire related fatality. These are the areas on which we would need to focus prevention activity for reducing the risk of fatal fires.

- Poor mental health
- Poor housekeeping
- Alcohol
- Smoking
- Drugs
- Limited mobility
- Living alone
- Age

In common with the national picture, those people in the over 80 age group are the most likely to die in a fire and men are more likely to die in a fire than women. Targeting

alcohol misuse and improving mobility could offset the risk from living alone, which is less open to external change.

Smokers materials were the ignition source identified in 26 deaths during this period, so although not the main ignition source for accidental dwelling fires in the South West, they are most connected to fatal fires, causing 29% of fatal fires in the South West between 2013 and 2017.

Risk Based Targeting of Prevention Activities

We intend to engage with Gloucestershire's communities, particularly those considered to be at an increased risk of serious injury or death in a fire.

To ensure we maximise the opportunity to reduce the risk from fire we will focus on reaching people that the risk methodology identifies as the highest risk. We will refine this focus by finding a way to reach and support those people who are potentially at greater risk of fire as a result further contributory factors, such as those identified in the South West Fire Deaths report.

These risk factors are shown to be closely connected to fire related fatality but we cannot tackle these issues alone so we will work with other agencies to mitigate this risk by signposting to support services, community groups and activities that can support and protect people who may be some of the most vulnerable in our society

We will also seek to reduce the risk from deliberate fires, accidental dwelling fires and other emergencies which result in unintentional injury, trauma and financial loss. We will do this through prevention education both at SkillZONE and in the community, open days, partnership events and media campaigns to inform our communities about ways to keep themselves and their families safe.

Children and Young People

Unintentional injuries are one of the leading causes of mortality and morbidity in children, with a social and financial cost to families and local services. Many of these injuries can be anticipated and avoided so reducing the risk from harm and improving safety remains a Public Health England priority. In addition, the research on adverse childhood experience has led to focused action across Gloucestershire to identify children at risk of long term health impact from trauma and intervene to overcome it.

Gloucestershire Fire & Rescue Service delivers prevention education at SkillZONE Life Skills centre to reduce unintentional injury from age 4 to 18. Pre-school children are taught fire safety messages in early year's settings as part of the PHE priority to reduce child mortality. PHE data had shown an improving trend in reducing hospital admissions caused by both unintentional and deliberate injuries in children but this has levelled to show no significant change in the past year although the child mortality rate for age 1-17 years is better than the rate for England and better than the rate for the South West region.

Compared with England ▪▪▪ Better 95% | Similar | Worse 95% | Not compared

Recent trends: – Could not be calculated | No significant change | Increasing & getting worse | Increasing & getting better | Decreasing & getting worse | Decreasing & getting better | Increasing | Decreasing

Recent trends: – Could not be calculated | No significant change | Increasing & getting worse | Increasing & getting better | Decreasing & getting worse | Decreasing & getting better

Hospital admissions caused by unintentional and deliberate injuries in children (aged 0-14 years)

2019/20

Crude rate - per 10,000

Area	Recent Trend	Count	Value	95% Lower CI	95% Upper CI
England	↓	92,926	91.2	90.6	91.8
South West region	↓	8,990	96.4	94.4	98.4
Dorset	→	650	116.7	107.9	126.0
Bournemouth, Christchurch and Poole	→	740	115.4	107.5	124.3
Bath and North East Somerset	→	330	108.5	97.7	121.5
Somerset	↓	965	103.9	97.7	110.9
Plymouth	↓	465	103.2	94.2	113.2
Bristol	→	830	102.0	95.2	109.2
Devon	→	1,245	101.1	95.4	106.7
North Somerset	→	355	96.7	86.9	107.3
Torbay	→	205	95.4	82.4	108.9
South Gloucestershire	→	465	92.2	83.6	100.5
Gloucestershire	→	935	86.6	81.1	92.3
Wiltshire	→	750	84.5	78.8	91.0
Cornwall	↓	730	79.9*	74.3	86.1
Swindon	→	320	74.3	66.6	83.2

Compared with England ▪▪▪ Better 95% | Similar | Worse 95% | Not compared

Recent trends: – Could not be calculated | No significant change | Increasing & getting worse | Increasing & getting better | Decreasing & getting worse | Decreasing & getting better | Increasing | Decreasing

Recent trends: – Could not be calculated | No significant change | Increasing & getting worse | Increasing & getting better | Decreasing & getting worse | Decreasing & getting better

Child mortality rate (1-17 years)

New data 2017 - 19

Directly standardised rate - per 100,000

Area	Recent Trend	Count	Value	95% Lower CI	95% Upper CI
England	–	3,627	10.8	10.4	11.2
South West region	–	276	8.9	7.9	10.0
Wiltshire	–	33	11.1	7.6	15.5
Bristol	–	28	10.6	7.0	15.4
Dorset	–	20	10.2	6.2	15.8
Devon	–	40	9.7	6.9	13.2
Swindon	–	12	9.5	4.9	16.6
Bournemouth, Christchurch and Poole	–	19	9.3	5.6	14.5
Somerset	–	28	8.9	5.9	12.9
Cornwall	–	27	8.8*	5.8	12.9
South Gloucestershire	–	14	8.5	4.6	14.3
Plymouth	–	12	8.1	4.2	14.2
Gloucestershire	–	21	5.7	3.5	8.7
Bath and North East Somerset	–	7	*	-	-
Isles of Scilly	–	-	*	-	-
North Somerset	–	7	*	-	-

Risk Factors and Existing Mitigations

The risk factors are often set out as shown in the bullet list above but this may lead to a narrow focus rather than identifying what the hazard means for a Fire & Rescue Service.

Therefore, the risk, impact and mitigation plans have been amalgamated in the following table to offer a clearer picture of what intrinsic and external factors place people in our community at risk of injury and the steps we can take to reduce or eliminate that risk.

Risk	Possible Causes from National and Regional Data Analysis	Contributory Risk Factor	Impact	Existing Mitigations
Risk of a fire starting in the home	Cooking Smoking materials near furnishings Faulty electrical items Unsafe use of equipment Open fires Poor housekeeping	Age Living alone Dementia Alcohol Misuse Drug addiction Smoking Deprivation Hoarding Distraction Houses converted to flats HMO	Risk of accidental dwelling fire Risk of fire related injury or fatality Risk of damage and financial loss Risk of trauma	Safe and Well Visit Dementia pack Linked smoke alarm Telecare Fire retardant bedding and rugs Engage with care providers Signpost to Change Grow Live and other support services Referral to Adult Social Care Referral to Mental Health and CBT support services Family fire prevention advice and education Community engagement

Unable to hear smoke alarm	Incorrect placement of alarms Insufficient smoke alarms Alarms not working	Deaf/Hard of hearing Age Alcohol misuse Drug Addiction	Delay in escape from fire Delay in calling emergency services High risk of fire-related injury or fatality	Complex Needs Officer Visit Fit additional smoke alarms in accordance with NFCC guidance Replace faulty alarms Engage with Gloucestershire Deaf Association Use GDA alarm Telecare support Deliver Prevention Education at SkillZONE
Unable to respond to activated alarm	Lack of awareness or understanding of alarm Poor mobility Unconscious Hoarding	Age Dementia, Physical or Learning Disability Drug addiction Alcohol misuse Poor mobility Poor mental health	High risk of fire-related injury or fatality Delay in evacuating premises Potential delay in calling emergency services	Complex Needs Officer Visit Additional Safe and Well follow-up visit Linked alarm Telecare Dementia support Signposting to support services such as Change, Grow, Live Refer to Active Gloucestershire or Ageing Well exercise classes Prevention Education for children & Early Years Fire Safety education Referral to health and social care as required.

Risk of unintentional injury in the home or community	Lack of awareness of hazard Risk taking behaviour Offending behaviour	Age Lack of supervision Distraction Peer pressure	Trauma A&E admission Missed schooling Missed work ACES	Prevention education at SkillZONE Early Years fire safety education Community engagement Youth Diversion activity Partnership work with VCS and Police

Risk Assessment Protection

Introduction

The Business Fire Safety (BFS) department in conjunction with Gloucestershire Fire and Rescue Service's Business Planning and Transformation Team, have undertaken a comprehensive review of the risk profile across Gloucestershire.

This BFS Risk Profile sets out the most likely commercial premises to have an incident utilising operational incident data analysis collected over the last 3 years. The BFS team have contributed to the risk profile by combining the Incident data with our in house Community Fire Risk Management Information System (CFRMIS). The information contained within this risk profile is dynamic, and through ongoing analysis GFRS understands that continued evaluation and review of the data is needed to ensure that those premises most likely to have an incident could change, but we are confident that at the date of publication the 18 premises types listed within this document pose the highest risk to Gloucestershire at this time.

The information within the BFS risk profile, assists GFRS to populate its annual risk based re-inspection programme, and focuses on premises within Gloucestershire that pose the highest risk. The rolling programme is managed using CFRMIS. CFRMIS uses the nationally agreed NFCC Fire Safety Audit Form (FSA), within its algorithm. When completed the audit form automatically generates a score using the set scoring matrices which determines what the outcome and Risk Level will be for a particular premises group and forward plans the date for a re-inspection.

The Relative Life Risk Score (RLRS) that is generated by the FSA form is then compared to the RLRS Risk level Matrix which determines the Risk Level for that particular premises. Qualified Fire Safety Inspectors then carry out routine audits to these premises and formal or informal action will be taken, depending on the audit outcomes.

Premises that present the highest risk will be audited and visited most frequently. Premises considered to be lower risk will be audited primarily in response to complaints, following incidents or on a sample basis, to confirm their lower risk classification and to assure that the Responsible Person is complying with their statutory duty and requirements under fire safety legislation.

National overview

Gloucestershire Fire and Rescue Service link to National information through the National Fire Chiefs Council (NFCC) Protection Policy and Reform Unit (PPRU). They provide the link between FRSs and Government by representing the collective views and expert technical advice of FRSs.

The overarching objectives and purpose of the PPRU is to:

- Promote a consistent and co-ordinated approach to fire safety regulation

- Support and promote the swift remediation of buildings
- Support the Government reform agenda
- Provide NFCC capacity to deal with new and emerging demands

The PPRU exists to provide the tools, guidance and support to FRS's for protection activities whilst promoting best practice and influencing and advising Government. GFRS will use the PPRU to be the first port of call for national issues as it offers support and technical expertise.

National reports such as "*The Grenfell Tower Inquiry: Phase 1 Report Overview*" and the "*Dame Judith Hackitt review*" on Building Safety are all taken into account when developing the strategy for Building Fire Safety within Gloucestershire.

These National reports and the recently published "Competence *Framework for Fire Regulators*" developed by the NFCC introduces the Standard that all Service should aspire to achieve, one that GFRS have embedded within their Business Fire Safety Policy.

The revised Competency Framework will help to support GFRS as an Enforcing Authority in this time of change. We are aware that reforms are likely to include significant amendments to the regulatory framework following the Grenfell Tower tragedy in June 2017 and subsequent publication of the Independent Review of Building Regulations and Fire Safety - Building a Safer Future.

As a Service with Fire Safety Regulators we will have a key part to play in this new regulatory landscape. The revised Competency Framework assists us as an Enforcing Authority to demonstrating how we assure the competence of our fire safety staff and show our commitment to their ongoing development by creating a competent and professional service. In turn this will increase consistency of regulation/audits and greater reassurance of the professionalism of Fire Safety staff.

National Threats

One of the main barriers in classifying risk from the FRS experience is being able to gather consistent, current data about buildings and their occupiers. There are a number of gazetteers that can be interrogated to find out building information but they often do not contain all of the data that would be required in order to compare building risk. Gloucestershire currently need to update and interrogate their own data to establish if this is a local risk as highlighted on the National NFCC guidance.

Methodology

This risk profile follows a risk assessment methodology developed by GFRS. The risk assessment scoring carried out within this process is based on a rank scoring and is kept consistent by the use of scoring matrices.

The risk management process takes in to account three factors. These are rate of incidents by premises type, rate of casualties by premises type and rate of enforcement activity by premises type.

Protection Risk Analysis

The analysis and risk scoring is completed based on the types of premises identified by the Home Office for Fire Safety audits.

Rate of incidents by premises type calculation

The rate of incidents by premises type is calculated using the total number of premises for each premises type and dividing it by the total number of incidents over a three-year period (1 April 2017 – 31 March 2020).

Rate of casualties by premises type calculation

The rate of casualties by premises type is calculated using the total score for casualties for each premises type based on the casualties matrix and dividing it by the total number of incidents over a three-year period (1 April 2017 – 31 March 2020). Scores are weighted depending on the impact score assigned to them. Scores 100-300 remain unweighted.

Casualties Matrix

Casualty Outcome	Score	Weighted
Precautionary checks	100	1
First Aid at scene	200	1
Hospital slight	300	1
Hospital Major	400	2
Death	500	3

Table 7: Protection Casualties Matrix

Rate of enforcement activity by premises type calculation

The rate of enforcement activity by premises type is calculated using the total score for enforcement activity for each premises type based on the enforcement activity matrix and dividing it by the total number of fire safety audits over a four-year period (1 April 2016 – 31 March 2020). Scores are weighted depending on the impact score assigned to them. Scores 100-300 remain unweighted.

Enforcement Activity Matrix

Enforcement Activity	Score	Weighted
Number of informal notifications	100	1
Number of alteration notices served under Article 29	200	1
Number of enforcement notices served under Article 30	300	1
Number of prohibition notices served under Article 31	400	2
Number of prosecutions for offences under Article 32	500	3

Table 8: Enforcement Activity Matrix

Overall Risk Score

The rank score from each factor is added together to give an overall rank score for each premises type. The higher the rank score, the higher the risk.

Risk profile summary

	Type of premises	Total premises in Gloucestershire	Overall Rank Score
1	Houses converted to flats	169	46
2	Purpose built flats 1-3 storeys	581	45
3	Licensed premises	1347	43
4	Care homes	412	34
5	Shops	5190	32
6	HMOs	261	31
7	Public buildings	62	30
8	Offices	3659	29
9	Factories or warehouses	3463	29
10	Schools	416	21
11	Other sleeping accommodation	1590	19
12	Further education	91	19
13	Hotels	663	17
14	Hospital	90	17
15	Other	1104	14
16	Other premises open to public	2424	13
17	Hostels	56	10
18	Purpose built flats 4 storeys +	1042	10

Table 9: Risk Summary - Protection

Houses converted to flats

Using the data analysis and methodology developed by the Business, Planning and Transformation team, GFRS have graded each premises type to give an overall score against potential risk. ***Houses converted into flats*** has an overall risk score of 46 which is the highest category for Gloucestershire.

In the three years to 31 March 2020, GFRS have attended 57 incidents of this category against a total known number of 169 premises taken from our internal CFRMIS system, from the 57 incidents, we also recorded 6 casualties having precautionary checks by Ambulance, 1 having first aid on scene and a further 5 taken to hospital, and this therefore shows why this category of risk is so high.

These types of buildings are covered by a differing amount of legislation, the BFS Team inspect and audit converted flats using the Regulatory Fire Safety Order 2005 and this only covers the communal areas, this therefore requires collaboration with our District Councils and Housing teams to ensure that the areas we are not responsible for (Dwellings) are all in line with the legislation that they oversee such as the Housing Act.

Internal collaboration with the Prevention department to assist with “Safe and Well” checks to those vulnerable groups within these types of properties.

Emerging themes and threats

The Service at this time is not confident that all premises of this category are known. There is no current process to ensure that all these types of premises are shared with the Service at the point of construction and/or change of use.

Within the February 2020 NFCC document ‘Fire Safety: Risk Prioritisation in Existing Buildings – A Call for Evidence’ there are a number of areas that highlight the issues within high-rise and other buildings. It stated:

In today’s uncertain economic climate, it is possible that businesses may invest less into meeting fire safety standards which will result in the decline of standards - putting both employees and firefighters at risk. *This could be the same for all?*

“For existing buildings, one of the greatest challenges is the availability of accurate records about how buildings have been constructed, and what they are made of, as identified by Dame Judith Hackitt in the Independent Review of Building Regulations and Fire Safety. This applies not only in respect of what was planned to be built, but how actual construction may have changed during build, for instance with particular products being substituted during builds or refurbishments. NFCC would note that there are likely to be a range of ways buildings could be prioritised in theory, but some of these will rely on the availability of some information where there are still significant barriers to gathering it.”

Purpose built flats - all up to and above 10 floor.

Using the data analysis and methodology developed by the Business, Planning and Transformation team, GFRS have graded each premises type to give an overall score against potential risk. ***Purpose built flats 1-3 storeys*** has an overall highest risk score of 45 which is the second highest category in Gloucestershire. Within the 21 building types all flats are highlighted therefore this section combines the work and analysis that GFRS are doing in regards to Purpose Built Flats.

In the three years to 31 March 2020, GFRS have attended 110 incidents at all flats up to and above 10 floors against a total known number of 1,623 flats of varying sizes. We also recorded 8 casualties having precautionary checks by Ambulance, 9 having first aid on scene and a further 7 taken to hospital with minor issues, and 1 with major issues recorded plus 3 fatalities. This information when added to the methodology used lifts these types of premises to the second most at risk premises.

These types of buildings are covered by a differing amount of legislation, the BFS Team inspect and audit converted flats using the Regulatory Fire Safety Order 2005 and this only covers the communal areas, this therefore requires collaboration with our District Councils and Housing teams to ensure that the areas we are not responsible for (Dwellings) are all in line with the legislation that they oversee such as the Housing Act.

Internal collaboration with the Prevention department to assist with “Safe and Well” checks to those vulnerable groups within these types of properties

In the summer of 2020 the Government commenced a National Project with all Fire and Rescue Services, which is named “Building Risk Review” (BRR). Gloucestershire Fire and Rescue were ask (as all Services) to undertake a review of all its high-rise premises and in doing so this filtered out to all blocks of flats. The initial phase was to check for any external cladding following the 2017 Grenfell incident, the findings in Gloucestershire were that no building had this type of covering. The project has now evolved to audit/inspect all flats to assure knowledge and understanding of their layout and if complex or different to the norm, then develop a tactical plan to assist the initial attack if involved with fire.

Emerging themes and threats

The CFRIMIS System that is used to collate all building information for Gloucestershire Fire and Rescue Service is only as good as the information entered therefore the ongoing work with local district council housing departments to ascertain their known numbers of flats and building of this type will be cross referenced with CFRMIS data to ensure that all lists match and that no building is missed by either Service.

New changes within the Fire Safety bill gives us the authority and power to enforce areas within the communal areas that before we did not have any jurisdiction IE front doors. This change could impact the capacity and resources within this area

The NFCC also state:

The occupancy of a premises can have an effect on the risk within. The risk of similar building layouts can be greatly increased depending upon the use and the ability of occupants to evacuate safely. Factors that can influence the risk include:

- Persons with restricted mobility – In general needs blocks of flats, it is possible for there to be occupants present who are unable to evacuate the building by themselves. The presence of such persons will increase the risk to life in these premises due to their need for assistance to evacuate in the event of a fire

- Young Persons – premises with large numbers of young persons may be more reliant upon a managed evacuation.

- Persons with cognitive disabilities – premises with this occupancy are also largely reliant upon staff assisting with the evacuation.

The safety of occupants in these premises is highly reliant upon management intervention and assistance. However, it is the experience of GFRS that the Fire Risk Assessments (FRA) for these premises rarely refer to the suitability of the evacuation strategy or the ability of the staff present to implement the strategy

Licenced Premises

Using the data analysis and methodology developed by the Business, Planning and Transformation team, GFRS have graded each premises type to give an overall score against potential risk. ***Licenced Premises*** has an overall risk score of 43 which is the third highest category in Gloucestershire.

In the three years to 31 March 2020, GFRS have attended 36 incidents of this category against a total known number of 1347 premises. We also recorded 3 casualties having first aid on scene and a further 2 taken to hospital with minor issues and 1 with major issues recorded. This information when added to the methodology used lifts these types of premises to the third most at risk premises.

These types of buildings are covered by a differing amount of legislation, the BFS Team inspect and audit converted flats using the Regulatory Fire Safety Order 2005 and the Licencing act 2003, Environmental Health act for kitchens.

Licenced premises are not captured within the “Higher Risk” definition that GFRS use to determine premises that require regular audits. The Business Fire Safety Policy eight bullet points to ascertain categories Higher Risk Premises. The risk profile algorithm that was used to determine the top risks in this document, uses the number

of audits/visits against and the number of incidents in line with any casualties to determine data to support property risk, therefore this area historically has had low audits/visits and was not within our scope to undertake routine visits. Until 2021 we would only audit/visit licenced premises following a fire and/or through the community raising a concern. With this latest information the Business Fire Safety Team will increase their audits and visits to these premises and assure the residents of Gloucestershire that we making these premises as safe as possible through the required legislation.

We can start to look at the possibility of using Licencing teams, local police and Local Authorities to assist with identifying risk during joint enforcement visits targeting an area of problem premises.

Emerging themes and threats

National and Regional businesses that combine take away food and alcohol are a known area of concern. In our risk based inspection programme we will start to incorporate these licenced premises within our audit process to ensure that when the risk profile is undertaken in the future there will be a substantial number of audits against this type of premises.

Buildings where there are large populations or dense crowds (Pubs and Restaurants) – buildings such as these licensed premises, theatres, sports grounds and public assembly buildings can present an increased risk to occupants due to large numbers of persons with a lack of familiarity with escape routes, possibly effects of alcohol usage and increased potential for falls and crush injuries.

Care Homes

Using the data analysis and methodology developed by the Business, Planning and Transformation team, GFRS have graded each premises type to give an overall score against potential risk. ***Care Homes*** has an overall highest risk score of 34 which is the fourth highest category in Gloucestershire. Within the 412 care homes, GFRS have attended 23 incidents between the period of 1 April 2017 and 31 March 2020, with 2 casualties receiving precautionary checks.

Care Homes are covered by a differing amount of legislation, the BFS Team inspect and audit using the Regulatory Fire Safety Order 2005, using the HM Government guidance for residential care premises. As well as our areas of legislation there are a number of areas through the Care Act 2014 and the Care Homes regulations 2001. This along with the Care Qualities Commission (CQC) who inspect the Care Homes as the independent regulator for Social Care in England. We work with the CQC in Care Home areas when requested and share our information to establish a collaborative approach to the safety of residents within these types of premises.

Emerging themes and threats

In 2020 through to 2021, the attendance and inspection of Care homes has been restricted due to the National approach to COVID 19. This has the potential for issues going unseen and not being reported. In replacement to the full audit of these premises a robust Desk Top Audit (Telephone inspection) has been undertaken at all Care Home across Gloucestershire which has assisted the BFS team to keep in touch and advise on any Fire related concerns. Until a full inspection takes place after the restrictions are lifted we will be unable to ascertain if this change in approach has been sufficient to keep on top of Care Home safety during the pandemic.

These types of premises are a high risk due to the fact that they contains some of the most vulnerable residents who are at the greatest risk of death is for those in the room in which the fire started.? The most significant influences on fire risk are the 'people factors', such as age, physical disability and cognitive difficulties.

Within GFRS we will approach these premises with the recommendations that we are conducting a 'person centred fire risk assessment' for residents to identify those at higher risk and look at the potential for extra fire detection, watermist and sprinkler systems that may assist to reduce the risk of death/ harm where a higher risk is identified.

Shops

Using the data analysis and methodology developed by the Business, Planning and Transformation team, GFRS have graded each premises type to give an overall score against potential risk ***shops*** has an overall highest risk score of 32 which is the fifth highest category in Gloucestershire. Within the 5190 known shops across Gloucestershire. GFRS have attended 70 incidents between the period of 1 April 2017 and 31 March 2020.

Also, in the four years to 31 March 2020, GFRS took enforcement action against 193 of this type of premises. This equates to 3% of the total amount of shops, which is a low number but is a high number of incidents for GFRS.

The relevant legislation that the BFS Team inspect and audit using the Regulatory Fire Safety Order 2005, using the HM Government guidance for Offices and Shops.

Working closely with the Environment Agency we can utilise information which is held about poor management in and site risk accordance with the Environmental Permitting Regulations. We can also use the Food rating index and cross reference food ratings of less than 5 which may indicate that it is likely that compliance with fire safety law could be below required standards.

Emerging themes and threats

A Review of fire incidents using national fire statistics will inform research of where fires occur. This can identify post-fire trends, for example, ducting fires in restaurants, shops and takeaways, which may affect residential accommodation above due to compartmentation and means of escape issues.

The issue with large shopping centres is that people fall into two differing groups, customers are not aware of the building layout and/or exits, and the staff, employees only know their individual areas and not the shared escape routes and evacuation plans.

An area that needs to be considered by Fire safety and operational crews would be the pre-planning to gain an understanding of larger shops and shopping centres, in terms of the building, its contents and potential large population at peak times. This work will assist with dealing with and understanding the complex nature of a fire at one of these locations.

These premises can pose significant issues with regard to the lack of knowledge of crews attending a fire at a building that has undergone significant changes, shop to flats for example, and may be unsuitable for that new use in terms of fire safety provisions, means of escape, access and water supplies. Common hazards may include:

- Security features
- Electrical equipment
- Presence of people
- Design, layout, fixtures and fittings (including temporary retail outlets or promotional displays)
- Lifts
- Escalators and moving walkways
- On-site vehicles
- Large quantities of combustible products, waste and packaging materials
- Presence of hazardous substances
- Kitchens (industrial or commercial)
- Temperature-controlled storage

Houses of Multiple Occupation (HMOs)

Using the data analysis and methodology developed by the Business, Planning and Transformation team, GFRS have graded each premises type to give an overall score against potential risk houses of multiple occupation has an overall highest risk score of 31 which is the sixth highest category in Gloucestershire.

Within the 261 known premises across Gloucestershire, GFRS attended 16 incidents between the period of 1 April 2017 and 31 March 2020. Within these 16 incidents we saw 1 casualty taken to hospital with major injuries and 1 receive precautionary checks at the scene.

Emerging themes and threats

GFRS would like to see consideration given to the vulnerability of building occupants rather than the building itself. Historically this type of premises accommodates some at risk groups that are classed as vulnerable within our communities.

Therefore the landlords and those that manage fire safety in buildings of this kind need good practical measures to prevent fires caused by the fire hazards commonly found in houses of multiple occupation. We need to assure that the detail about potential hazards such as cooking, smoking, arson, electrical hazards, mobility scooters and housekeeping are a focus for the management teams of the premises.

We must also consider the behaviours and habits of residents, such as hoarding and smoking, and liaison with external agencies to enforce in partnership on all areas of risk to the premises and its residents.

Public Buildings

Using the data analysis and methodology developed by the Business, Planning and Transformation team, GFRS have graded each premises type to give an overall score against potential risk Public Buildings has an overall highest risk score of 30 which is the seventh highest category in Gloucestershire. In the three years to 31 March 2020, GFRS have only attended 2 incidents at these premises but there was 1 injury and hospitalisation, therefore this criteria highlights this as a risk premises.

Public Buildings are covered by a differing amount of legislation., The BFS Team inspect and audit using the Regulatory Fire Safety Order 2005, using the HM Government guidance for Public Buildings.

Emerging themes and threats

Public Buildings where there is the potential for large populations or dense crowds – buildings such as theatres, sports grounds and **public assembly buildings** can present an increased risk to occupants due to large numbers of persons with a lack of familiarity with escape routes, possibly effects of alcohol usage and increased potential for falls and crush injuries.

We understand that there may be little understanding amongst managers of public buildings about what a suitable and sufficient evacuation plan should look like for

premises utilising different evacuation strategies. Therefore GFRS will start to work closely with managers to give advice and direction to ensure the safety of our community whilst visiting these types of premises.

Are we also assured that our operational crews are aware of the layout and potential large numbers of visitors and staff that these buildings can accommodate? Work between Operational Intelligence and crews through a robust SSRI process will start to reduce this risk within Gloucestershire.

Offices

Using the data analysis and methodology developed by the Business, Planning and Transformation team, GFRS have graded each premises type to give an overall score against potential risk offices has an overall highest risk score of 29 which is the eight highest category in Gloucestershire.

Within the 3659 known premises across Gloucestershire, GFRS attended 13 incidents between the period of 1 April 2017 and 31 March 2020. Within these 13 incidents we saw 1 casualty taken to hospital. In the same timeframe GFRS enforced 72 times against this type of premises, therefore highlighting that although not may audits there have been a number of issues within this type of premises.

Offices are covered by a differing amount of legislation. The BFS Team inspect and audit using the Regulatory Fire Safety Order 2005, using the HM Government guidance for offices and shops.

Emerging themes and threats

More and more Office premises are being converted into flats or sleeping accommodation, this therefore changes the use of the building and can be a significant factor affecting its risk. A common issue is where the use of the building has changed from that which it was originally intended. The introduction of sleeping risk into a building is becoming more common and increases the risk significantly.

Are we confident that we know and are prepared for offices that range from those used by a very small company to buildings with thousands of office workers? Some offices have very strict security, for example, financial companies and government offices. Office buildings may be sublet to a number of tenants, making it difficult to gather information about the number of employees on site or about what is stored on the premises.

While some companies are very observant about keeping fire exits clear, testing electrical equipment and so on, others may not take these precautions. Fire

loading may be unexpectedly high in some office buildings, for example, large volumes of paperwork and IT equipment may be stored.
Common hazards may include:

- Electrical equipment
- Storage of products and paperwork
- Design, layout, fixtures and fittings
- Lifts
- Escalators and moving walkways
- Security features

Factories and Warehouses

Using the data analysis and methodology developed by the Business, Planning and Transformation team, GFRS have graded each premises type to give an overall score against potential risk Factories and Warehouses has an overall highest risk score of 29 which is the ninth highest category in Gloucestershire. Within the 3463 known premises across Gloucestershire, GFRS attended 58 incidents between the period of 1 April 2017 and 31 March 2020. Within these 58 incidents we saw 6 casualties undergo first aid precautionary checks, 1 received first aid on scene and a further 5 taken to hospital.

Factories and Warehouses are covered by a differing amount of legislation., The BFS Team inspect and audit using the Regulatory Fire Safety Order 2005, using the HM Government guidance for warehouses and factories. Depending on the process that each premises undertakes there will be further guidance and considerations to comply with within these premises, COMAH and or other storage regulations.

Gloucestershire considers factories and warehouses outside of 14 minutes from any Fire Station an increase risk, due to the travel time and processes that a factory may use. In 2020-21 the BFS Team established a list of 703 factories in this category and has begun to audit all these premises using the NFCC Audit process., Once the audit has been completed, CFRMIS will use the score to determine the risk factors and potentially move these from High to Medium or low risks.

Emerging themes and threats:

Buildings that include a high degree of complexity and/or a fire engineered approach to design often incorporate fire safety features that require knowledge, understanding, maintenance and testing to ensure that the design performs as required. Therefore GFRS will classify these buildings as having a higher risk due to the possibility that risk can be increased should there be a failure in either systems maintenance or premises management.

As within the Atherstone on Stour report it is often found, during fire safety audits that fire safety provisions installed at the build stage have been removed or become

unserviceable later in the life of the building. Therefore these areas need to be considered within any future visits to these complex factories and warehouses.

Also large warehouse buildings can be usually situated adjacent to major transport infrastructure where fire and smoke can cause large-scale disruption to the local area.

Fire engineered buildings can also include features such as large compartment sizes, atria, increased travel distances, increased hose laying distances which can pose increased difficulty for firefighters should they have to rescue building occupants. Construction method such as modern methods of construction have contributed significantly to several serious fires nationally in recent years. Examples of such methods that increase risk are:

- Cladding systems;
- Timber frames;
- Use of green walls;
- Use of composite materials on balconies;
- Installation of Photo Voltaic Cells; and

With regard to existing buildings, many of these construction methods may be hidden and therefore difficult to assess during any form of fire safety risk assessment or audit. As such, the risk prioritisation process must ensure that any such modern methods are clearly highlighted, and their associated risk quantified.

Schools & Further Education

Using the data analysis and methodology developed by the Business, Planning and Transformation team, GFRS have graded each premises type to give an overall score against potential risk Schools has an overall high risk score of 21 which is the tenth highest category in Gloucestershire.

In the three years to 31 March 2020, GFRS have attended 9 incidents at these premises of which we have 416. We have also given 1 informal enforcement notice, therefore this raises Schools within our risk category.

Further Education premises also comes high on the risk profile at No.12; therefore of the 91 Further Education premises we attended 14 incidents between the period of 1 April 2017 and 31 March 2020. The outcome and risk for these premises mirror those set out below for both schools and further education buildings.

Ofsted are the overarching legal entity for Schools in lines of legislation, with the BFS Team inspect and audit using the Regulatory Fire Safety Order 2005, using the HM Government guidance for Education Premises.

Emerging themes and threats

We are aware that we often encounter older buildings when discussing schools as a premises type, that may not be subject to the same scrutiny as they would be today during the design process, or converted buildings that do not have adequate access or water supplies for Fire Service use. We find that these issues may not been considered within the Fire Risk Assessment.

Other features that may increase the risk of a school building, such as building features like the number of floors, the number of staircases, or the presence of sprinklers can usually only be found by visiting a premises. NFCC believe that one of the main focuses of activity focussing on risk prioritisation is the creation of nationally available data that can be accessed by enforcing authorities for use in analysing risk in their area. Without a consistent standard it is difficult for consistent application of risk prioritisation to occur.

We are also aware that arson in these types of premises is a factor on a National scale, something that currently Gloucestershire does not see. That said we are aware that students and young adults are known to set fires and this will combine with Prevention work to establish any concerns or emerging trends within arson data on a month to month basis.

Other Sleeping Accommodation

Using the data analysis and methodology developed by the Business, Planning and Transformation team, GFRS have graded each premises type to give an overall score against potential risk for other sleeping accommodation has an overall high risk score of 19 which is the eleventh highest category in Gloucestershire.

Within Gloucestershire we have 1590 of this type of premises., These are premises such as, boarding schools, prisons, sheltered housing, student halls of residence and military barracks. In the four years to 31 March 2020, we have inspected 539 times.

The BFS Team inspect and audit using the Regulatory Fire Safety Order 2005, using the HM Government guidance for sleeping accommodation.

Emerging themes and threats

The National trend currently is for holiday lets and/or converted premises to Air B&B type accommodation. GFRS are aware that as a tourist destination there are a number of these premises unknown across the county. It will be our pan to sample through their booking websites a number of these premises to engage with owners and occupiers to establish the fire safety culture within these types of premises.

These premises can pose significant issues with regard to the lack of knowledge of crews attending a fire at a building that has undergone significant changes and may be unsuitable for that new use in terms of fire safety provisions, means of escape, access and water supplies.

Hotels

Using the data analysis and methodology developed by the Business, Planning and Transformation team, GFRS have graded each premises type to give an overall score against potential risk Hotels has an overall high risk score of 17 which is the thirteenth highest category in Gloucestershire.

Within Gloucestershire, we have 663 hotels and no recorded incidents in the three years to 31 March 2020. However, in the four years to 31 March 2020, we have inspected 312 of these premises with 17 receiving an informal action. Due to the nature that these premises have a sleeping risk we class the risk to residents who are unfamiliar with the building layout as a risk within Gloucestershire.

The BFS Team inspect and audit using the Regulatory Fire Safety Order 2005, using the HM Government guidance for sleeping accommodation.

Emerging themes and threats

The safety of occupants in these premises is highly reliant upon management intervention and assistance and the quality of the Fire Risk Assessment. However, it is the experience of GFRS that the Fire Risk Assessments (FRA) for these premises rarely refer to the suitability of the evacuation strategy or the ability of the staff present to implement the strategy. Many risk assessments state that the FRS will carry out evacuation of occupants and for this reason staff are to evacuate themselves and leave occupants in place., GFRS Fire Safety staff will challenge any such advice found within Hotel FRA's.

Although evacuation plans within hotels predominately are a full evacuation, there may be some who intend to evacuate horizontally to a place of safety as an interim. It is also known that Automatic False Alarm actuation? within Hotels is high and GFRS will continue to work with hotels if there are regular occurrences of this type.

Common issues within hotel staff can be language barriers, poor training and fire safety awareness. Tthe most common concern within these types of building is the lack of understanding of staff to assist residents to a place of safety, and the need at all times to keep escape routes, stairs and high volume corridors clear without the need to wedge open doors and compromise smoke and fire spread.

Hospitals

Using the data analysis and methodology developed by the Business, Planning and Transformation team, GFRS have graded each premises type to give an overall score against potential risk Hospitals has an overall high risk score of 17 which is the fourteenth highest category in Gloucestershire.

Within Gloucestershire we have 90 premises that come under this classification., In the four years to 31 March 2020, we have not audited these premises due to their high standards of Fire Safety, but we have attended 13 incidents in the three years to 31 March 2020, which has added this category to the profile at no.14.

The BFS Team inspect and audit using the Regulatory Fire Safety Order 2005, using the HM Government guidance for Healthcare premises.

Emerging themes and threats

The threats within a hospital are around the mobility and ability of staff and patients to evacuate unaided, therefore crew awareness and training at local sites should be considered on a regular basis to establish links and processes on how and where to evacuate patients safely.

Local awareness of hospital buildings may include features such as large compartment sizes, atria, increased travel distances, increased hose laying distances which can pose increased difficulty for firefighters should they have to rescue building occupants. Knowledge of dry and wet riser access on the initial phase can reduce the impact at later stages, therefore work with the Operational Intelligence team to develop plans and training for these buildings is key to the potential impact of a fire within a hospital in Gloucestershire.

Other Premises open to the Public

This area has a wide premises criteria, mainly due to the way that information is recorded on the Incident Recording System (IRS). The premises type incorporates, multi storey car parks, museums, football/rugby stadiums, cricket pavilions, tennis clubs, leisure centres, churches and other places of worship, libraries and transport hubs such as airports and train stations.

Due to the size of this premises base, GFRS recognise 2424 within this category. We have only attended 16 incidents between the period of 1 April 2017 and 31 March 2020., We have also audited 85 times and forwarded 2 informal enforcement notices in the four years to 31 March 2020. Although only a small number of audits we have completed enforcements so therefore this area of business is a small risk within our profile work. The overall score for this type of premises is 16

Emerging Risks

On any given day, a sports ground or stadium can be filled with hundreds or thousands of people, sat sitting or stood standing together in close proximity. While this undoubtedly makes for a fantastic atmosphere, there are also inherent risks involved when there are large numbers of people in a confined space, and ensuring the safety of those within a sports ground or stadium is the responsibility of the owner or property manager. Our role is to ensure that operational staff as well as Fire Safety Inspectors

are familiar with our sites to assist and develop good strategies for evacuation on the day of an event.

Sufficient fire protection for sports grounds includes many of the same features that should be included in other premises, like shopping centres, office blocks and schools as highlighted earlier in this profile. One element which is particularly important is safe evacuation routes – with thousands of people in the same place, getting everybody out safely requires carefully thought-out, well-lit and clearly signposted evacuation routes – this can be a literal lifesaver and something that should be treated as priority where fire safety measures are concerned.

When we have a large event for example “Cheltenham Festival” all Fire safety staff and on duty operational crews are involved in the pre-planning and local Safety Awareness Group (SAG). This forms part of the role of Business Fire Safety within GFRS for all large events. The auditing and recognising of hazards associated with premises open to the public, will need to be highlighted to all agencies incorporating the building regulations, fire service audit, SSRI and tactical planning to ensure safer firefighters. The internal layout of the stadium, particular one consisting of many adjoining structures, may be complex and may contain high fire loads.

Access to non-public areas may be restricted and this may hinder search and rescue operations. A stadium may also be designed to give limited access between certain areas e.g. to keep supporters of opposing sports teams apart.

“Other” is a capture-all for those not classified within our categories., Within this data it refers to barns, farm out-buildings, docks and ferry terminals. This category contains 1104 premises types of which we have attended 46 incidents between the period of 1 April 2017 and 31 March 2020. We have only completed 4 audits at these premises with no enforcements in the 4 years to 31 March 2020. Due to this low number of issues the overall score is only 15 in comparison to other areas this is a low level of risk to GFRS.

The BFS Team inspect and audit using the Regulatory Fire Safety Order 2005.

Emerging themes and threats

As this area contains Docks, within Gloucestershire we have a large COMAH storage area contained within our dockland, therefore following the explosion in late 2020 in Beirut docks and also a smaller but still dangerous explosion in Avonmouth, this is a concern and the COMAH site has been added to the Service Site Specific Risk Intelligence (SSRI) criteria to establish a better understanding for Fire safety and operational crews.

Hostels

Within Gloucestershire we have 56 hostels and of these premises types we have undertaken 18 visits with only 1 informal enforcement given in the four years to 31 March 2020. This therefore comes out very low as a risk premises within Gloucestershire.

The BFS Team inspect and audit hostels using the Regulatory Fire Safety Order 2005, using the HM Government guidance for sleeping accommodation.

Emerging themes and threats

The safety of occupants in these premises is highly reliant upon management intervention and assistance and the quality of the Fire Risk Assessment.

Although evacuation plans within hostels predominately are a full evacuation, there may be some who intend to evacuate horizontally to a place of safety as an interim. It is also known that Automatic False Alarm actuation within hostels may be high and GFRS will continue to work with hostels if there are regular occurrences of this type.

Common issues within hostels are that staff are limited and in some cases are volunteers., This may mean poor training and fire safety awareness. , The most common concern within these type of building is the lack of understanding of staff to assist residents to a place of safety, and the need at all times to keep escape routes, stairs and high volume corridors clear without the need to wedge open doors and compromise smoke and fire spread.