Community Risk Profile

2018/19 - 2020/21

County Durham and Darlington
Fire and Rescue Service

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Foreword

The Fire and Rescue National Framework for England outlines that every fire and rescue authority must assess all foreseeable fire and rescue-related risks that could affect their communities. Risks are prevalent at local, regional and national levels and span a wide range of consequences for the people who live, work and visit County Durham and Darlington. It is vital, therefore, that we have in place a methodology for assessing the potential of these risks to cause harm to our communities and use this information effectively to prevent and mitigate them.

As a fire and rescue service (FRS), we have had to change the way we work in order to respond to the significant funding cuts we have had to endure throughout this period of austerity. It is important that we continue to be flexible in the way we deliver our services to the communities; understanding risk and responding to the challenges we face is at the heart of this flexibility. Where necessary, we will adjust our existing provision or build new capacity to ensure we have the right resources in place to provide the best possible services to our communities. As we strive to become more efficient and effective, we will examine opportunities for effective collaboration and partnership working, as some of the risks to our communities are complex and require mitigating action from a range of key stakeholders.

Although the future will undoubtedly be challenging, we are committed to the delivery of a professional, innovative and effective FRS, as we work towards our vision of the "safest people and safest places".

Councillor John Robinson
Chair, Combined Fire Authority (CFA)

Stuart Errington
Chief Fire Officer (CFO)

Introduction

To make sure we have the right resources in the right places at the right time to protect our communities, we have carried out a comprehensive risk assessment, which this document presents.

This document forms part of our community risk identification process to inform the Integrated Risk Management Plan (IRMP). The IRMP is a statutory requirement for all FRSs and is about improving public safety, reducing the number of emergency incidents, and saving lives.

This means targeting our resources so that we can prevent incidents from happening, while also making sure our resources are in the right location to best protect people.

All FRSs have a duty to identify and assess the full range of foreseeable fire and rescue-related risks their areas face; whether they are local, cross-border, multi-authority and/or national in nature.

Our Service uses internal and external data and gathers information from a wide range of sources, including community and health statistics, so that we can protect people by responding effectively.

This is a process carried out by every FRS in the country to ensure that local plans are bespoke to meet local needs. Our IRMP considers the domestic, commercial, economic, environmental and heritage risks of County Durham and Darlington.

CDDFRS also considered the findings of a recent research paper written on its behalf looking at 'A critical evaluation of the methodology employed by the UK FRS to analyse risk in their local communities' when identifying and assessing risks locally.

This document outlines 20 identified risks to the safety of the communities across County Durham and Darlington.

A risk matrix has been used to assess the risks, resulting in each one being given a rating. The rating will then be used when determining the actions needed to mitigate these risks.

To effectively grade the 20 risks, the demand (actual statistical data over the previous three-year period) and national threat level and risk (level of consequence should it happen), as well as a high level of local knowledge and professional judgement, have been applied.

The environment in which we work is forever changing, including new risks within our communities. It is our job to ensure that we continually assess this changing landscape and keep the communities of County Durham and Darlington safe through our assessment of risk and prioritising our resources to those risks.

Part of our ongoing work in finding and dealing with the greatest risks to the communities of County Durham and Darlington is work with partner agencies at all levels of the organisation, to ensure the sharing of best practice and information to make sure forward planning remains a cyclical process. Links to the individual partners connected to each risk identified can be found within the appropriate sections of this document.

Further information on partnership meetings CDDFRS attend, the full research paper and our IRMP can be found at:

www.ddfire.gov.uk/service-plans

About our area

We look after the areas of County Durham and Darlington, which cover approximately 939 square miles with a population of 630,009, and protect 285,135 households and around 18,628 business premises.

The vast area we cover is classified by DEFRA as being predominantly rural, although there is still approximately 91% of our community living in urban areas. It is worth highlighting, however, that although only 9% live in rural places, these locations cover a significant geographical proportion of our Service area. For more information, see appendix A.

Our Service is split into five districts, all with their own unique challenges and risks that will influence our prevention, protection and response activities locally. These districts are Durham, Darlington, Easington, Derwentside, and Wear and Tees.

Tourism is vital for the economy. Durham Cathedral, Beamish Museum, the North Pennines, Emirates Riverside (formerly Emirates Durham International Cricket Ground) and other key attractions attract hundreds of thousands of visitors annually.

Over the last 25 years, traditional industries such as coal mining and steel manufacturing have disappeared and been replaced by high-tech factories and modern business parks. Although this is the case, County Durham and Darlington are still seen as areas with significant economic challenges. As a result, County Durham has access to several sources of European investment to support sustainable business development and improve job opportunities and social inclusivity, while tackling economic, environmental and social challenges in rural areas. However, future decisions on such investment will be linked to any impacts of Brexit. It is also hoped that both areas will see an increase of over 4,200 jobs in order to support several thousand new enterprises.

This potential growth in small and medium sized businesses will also lead to an increased level of risk from fire and will therefore influence the number, level and type of fire safety inspections carried out by our crews and central business fire safety team.

While employment levels are increasing in the area, we do lag behind regional and national averages. Young people identified having a range of jobs and opportunities as being important to help to retain them in the area in the future. Youth unemployment (18-24 years old) is higher than in other age groups in County Durham, which is a national trend. Household income levels lag behind the rest of the country and have not kept pace with national trends, indicating that there are too many low-wage jobs in our local economy.

We have an ageing population, with one in five people who are aged 65 and over, and this is projected to increase to one quarter by 2039. Residents highlight that the challenge of providing facilities and services for older people will increase, in terms of not only adult care services, but also leisure and cultural opportunities to overcome social isolation and maintain good health and wellbeing.

County Durham ranks poorly in comparison with the rest of the country across a range of health indicators, such as life expectancy, healthy life expectancy and mortality rates associated with long-term conditions. This is partly a legacy of our history of heavy industry, but also lifestyle choices. It has also been recognised locally that encouraging people to adopt healthier lifestyles in order to save money on health and social care services in later life is vital. The area we cover, although regarded as a predominantly rural area, varies in character from remote and sparsely populated areas in the west, to the former coalfield communities in the centre and the east, where villages tend to accommodate thousands rather than hundreds. Around 90% of the population lives east of the A68 road in approximately half of the Service area.

Deprivation

Both County Durham and Darlington have lower super output areas (LSOAs) that are ranked within the top 100 most deprived areas out of 326 single and lower tier local authorities in England. Count Durham is ranked 75th and has been recognised as being the most deprived local authority in the North East for both income and employment, while Darlington is ranked 97th overall.

42.2% of the population within County Durham are living in areas ranked in the top 30% most deprived nationally, with 37.1% of Darlington's population living in areas within the top 30% most deprived nationally.

In County Durham and Darlington, there are very few areas where the average person earns more than £30,000 per year. This contributes to the higher levels of deprivation.

Since the welfare reforms were introduced nationally, there has been a significant increase in demand for welfare-related services locally. It is difficult to distinguish between changes resulting from the reforms and the continuing impact of wider economic trends associated with the recovery from the recession, both of which affect the income, wealth and poverty of residents within County Durham and Darlington.

In terms of fuel poverty, it is estimated that 13.3% of households in County Durham alone are experiencing some form of fuel poverty. This coincides with being ranked 29th out of 152 authorities nationally when looking at the highest proportion of households experiencing fuel poverty.

On the whole, the complexity and levels of deprivation across County Durham and Darlington are a huge factor in the level of demand placed upon CDDFRS, especially in relation to deliberate primary and secondary fires. For more information, see appendix B.

Age, gender and ethnicity

The mid 2017 population estimates show that there were 630,009 people living in the County Durham and Darlington area. There were 320,803 females and 309,206 males, of which 128,163 (20%) are aged 65 or over and as a result, at greater risk of having a fire within the home. See table below for more information.

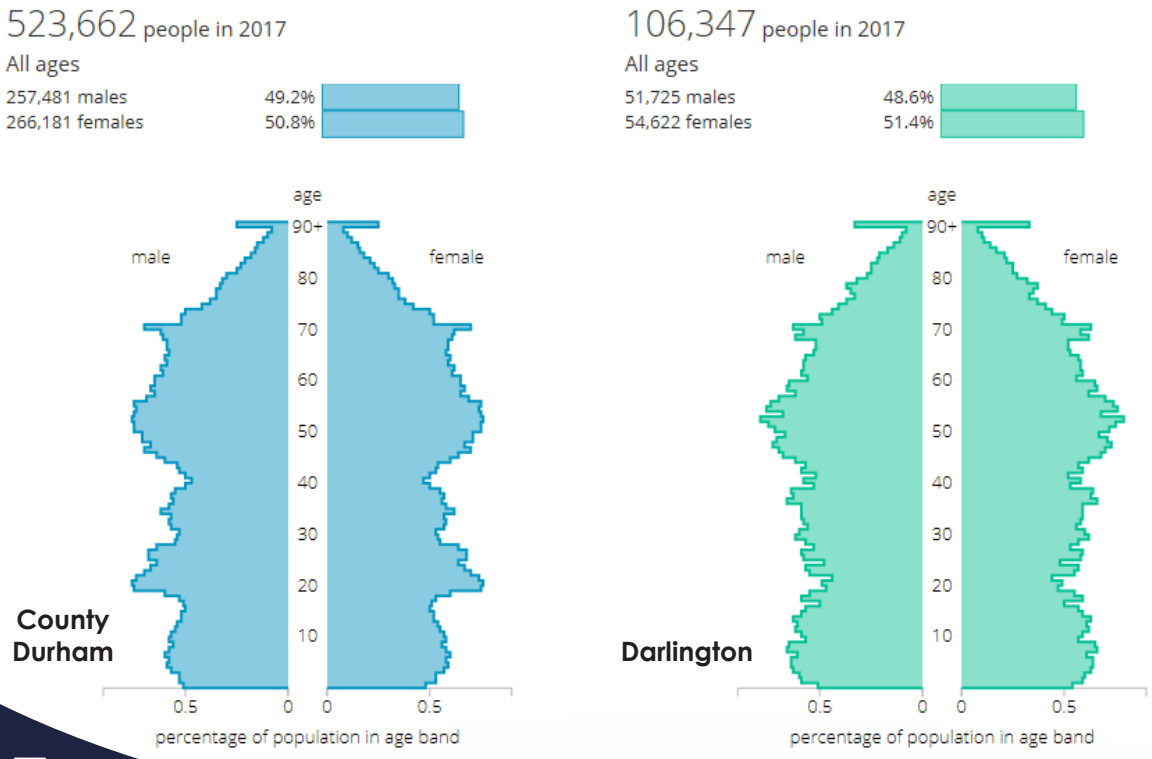


Figure 1

It is also expected that by 2026, County Durham will have increased its population by approx. 15,568 and Darlington by 185, which will undeniably have a knock-on effect on the local economy and in particular, the number of new homes required.

County Durham and Darlington are also below the national average when it comes to the ethnicity breakdown.

It is estimated that 98% of the population within our area are classified as White British or White Other, whilst the remaining 2% are classed as Black and Ethnic Minority (BAME).

* DCC Statistical Profile 2017

* Population estimates for the UK, England and Wales, Scotland and Northern Ireland: mid-2017

For more information, see appendix C.

Health and wellbeing

The health and wellbeing of the people in County Durham and Darlington has improved significantly over recent years, but still remains worse than the national average. Health inequalities remain persistent and pervasive, with levels of deprivation being significantly higher and life expectancy lower than the national average. The population of County Durham and Darlington is shaped by not only lifestyle and behavioural factors, but also a wide variety of social, economic and environmental factors (such as poverty, housing, ethnicity, place of residence, education and the environment in which people live). All of these factors also heighten the risk of individuals being more susceptible to requiring assistance from the emergency services, whether that is due to having a fire within the home, criminal activity or admission into hospital.

Many people in County Durham and Darlington engage in unhealthy behaviours when compared to the rest of England, directly linked to the social, economic and environmental factors already mentioned. The rate of smoking-related deaths is worse than the national average, with over 1,100 deaths per year, and remains the leading cause of preventable death. The number of alcohol-related harm hospital stays is in excess of 4,000. In terms of all admissions into hospital caused by unintentional and deliberate injuries, the annual numbers

are also significantly higher than the rest of the country. Falls are the leading cause of this, especially with regard to the older members of our communities, with the impacts of a hospitalisation following a fall being considerable, not only for the person and their family, but also in terms of the wider economic costs.

Poor mental health is a significant burden of illness to residents, with over 42,000 people registered with depression in County Durham alone. There is also the concern of many of the older generation experiencing both isolation and poverty, as well as in excess of 5,000 people reported as living with some form of dementia. In 2017, the estimated dementia diagnosis rate in Darlington among people aged 65 and over was 79.5%, higher than the rate for the rest of the region, which was 75.6%, and England, which was 67.9%.

Health and wellbeing continued...

Social isolation and loneliness is a significant and growing public health challenge for County Durham and Darlington's population. It affects many people living within these communities and has a significant negative effect on health and wellbeing. CDDFRS recognises that social isolation or loneliness can affect any person, living in any part of our community. CDDFRS is one of a wide range of organisations working towards trying to improve the health and wellbeing of residents in these areas, as well as ensuring they remain safe within their own homes.

CDDFRS has witnessed fist-hand how poor-quality housing across County Durham and Darlington is a risk to health and increases the risk of residents having fires within their homes. Poor-quality housing also exacerbates a range of underlying health conditions, from falls and poor mental health to hoarding and excessive alcohol and substance misuse. Cold, damp housing across our area also has a direct impact on increased winter hospital admissions and excess winter deaths. Residents living in housing identified as being in poor condition, cold, overcrowded or unsuitable by CDDFRS staff during Safe and Wellbeing Visits (SWVs) are referred on to the relevant partner agencies to ensure residents receive the essential support they may need.

Many of the health and lifestyle factors mentioned above are linked to common factors present during accidental dwelling fires and more importantly, fire fatalities that CDDFRS attends. The table below outlines these common factors and how we address the issues through asking key lifestyle questions and making onward referrals to partners during the 18,000 SWVs carried out each year.

Common factors present during accidental dwelling fatalities	**Key Lifestyle areas covered during SWVs**
Mental health and wellbeing	Dementia, loneliness and isolation, fuel poverty
Smoking	Smoking cessation
Alcohol use	Alcohol
Living alone	Loneliness and isolation
Limited mobility	Slips, trips and falls
Poor housekeeping	Hoarding, loneliness and isolation

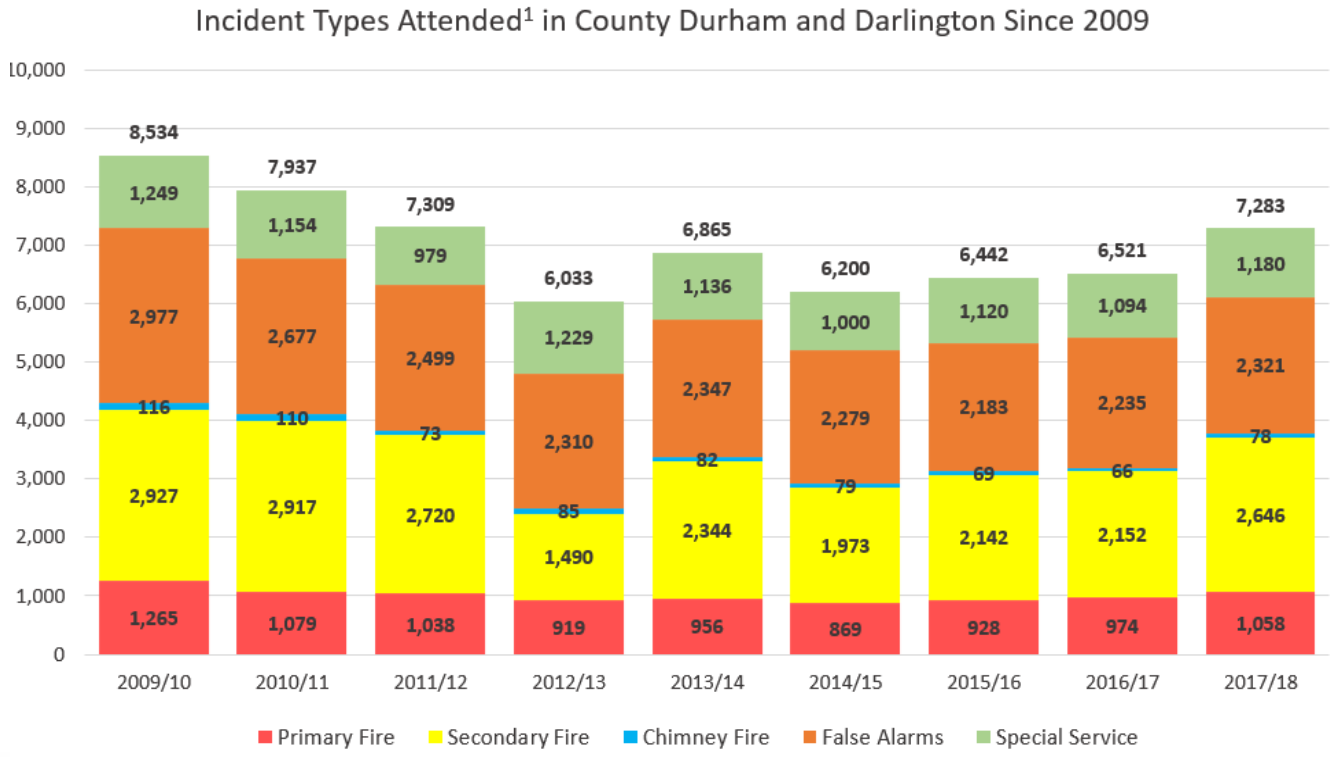
Figure 2

**County Durham Health Profile 2015 summary Source: Public Health England *Health inequalities in Darlington 2017*

Historical demand

The national incident recording system (IRS) was introduced by the Department for Communities and Local Government (DCLG) in 2009, with the requirement that all FRSs record operational data using a standardised data collection mechanism. This has allowed unprecedented insight and analysis to be carried out at a national level, as well as presenting FRSs with the ability to greatly enhance data-led decision making.

During the nine years in which IRS has been in operation, incident levels within CDDFRS have reduced by 15%, which equates to approximately 1,200 incidents. This reduction in activity is evident across all incident types, with false alarms reducing by 22%, fires by 12% and special services by 6%. Primary fires, which are the most significant type of fire, have reduced by 16% within the same timeframe.



[1]Excluding emergency medical response (EMR) incidents

Figure 3

Risk and demand

When exploring the relationship between demand and risk and how this links into our IRMP, CDDFRS looks not only at the operational response element of the services we provide, but also the risks that are present across our communities. In order to address the risks and reduce the demand, CDDFRS takes an approach whereby the frontline firefighters deliver the vast majority of prevention and protection activity alongside their response duties.

Due to the level of rurality to the West of the Service area, travel times are more challenging when responding to incidents, which increases the level of risk to their communities. The travel times to some of these areas from the next nearest station are over 30 minutes, and in winter can be significantly longer. Some of the stations within these rural locations provide cover for the Ambulance Service through Emergency Medical Response (EMR), as well as conducting prevention activity that increases productivity and provides greater value for money. If demand was the only aspect we looked at, CDDFRS would not locate fire stations in towns with low levels of traditional demand, but from a risk perspective, we believe a single pump On-Call station (with the additional activity) does provide a value-for-money approach to risk management.

The level and type of demand we are experiencing differs depending on the geography of the area. There is a distinct correlation between an increase in demand and social deprivation. The increases in demand are in the areas that have the highest levels of deprivation and are arguably those areas that have been hit the most in terms of other policy changes through austerity. A corresponding decrease in the activities of other agencies compounds this issue.

In Easington, which has a significant deprivation issue and high levels of crime with fire being used as a weapon of choice, there has been an increase in deliberate primary fires of 127% over the last four years, with vehicle fires alone increasing by 68% during this time period. Despite a vast amount of partnership work in this area to address the issues, it has led to a significant increase in not only risk, but also demand.

When future strategic plans are being built to address the issues faced by CDDFRS, focus will be firmly based on both the level of demand faced and ever-developing risks present within the communities the Service serves.

Injuries and fatalities

The introduction of IRS has allowed FRSs to record additional granularity and data on victims at operational incidents. Within the last nine years, injuries at fires have reduced by 25%, with the number of people receiving first aid and precautionary checks reducing by 35%. Last year, there were 72 injuries resulting from fire, with 38% requiring a hospital visit. Last year also saw zero fatalities in fires, the first year this has happened since IRS was introduced.

A large rise in the recording of victims from special service incidents has been witnessed over the previous nine years. Recordings of injuries have risen by 43%, with fatalities rising by 60%. While many of these have occurred in RTCs, many of them have been recorded as a result of providing support or assistance to other agencies, mainly in affecting entry to domestic premises.

The additional granularity and data recorded on victims as a result of the introduction of IRS has enabled greater analysis and insight to be obtained. This has led to the introduction of more tailored and targeted campaigns and initiatives through data-led decision making. SWVs now place additional focus on kitchen safety as 54% of accidental house fires started in the kitchen last year, in addition to emphasis being placed on people tackling fires themselves. Our data shows that a large proportion of fire injuries occur as a result of this. New developments in reporting technology have also provided greater insight into victims of RTCs. Data from the police, who attend most RTCs, is now widely available and accessible to the relevant teams, as well as analysis and insight reports provided by the Tyne and Wear Road Traffic and Accident Data Unit.

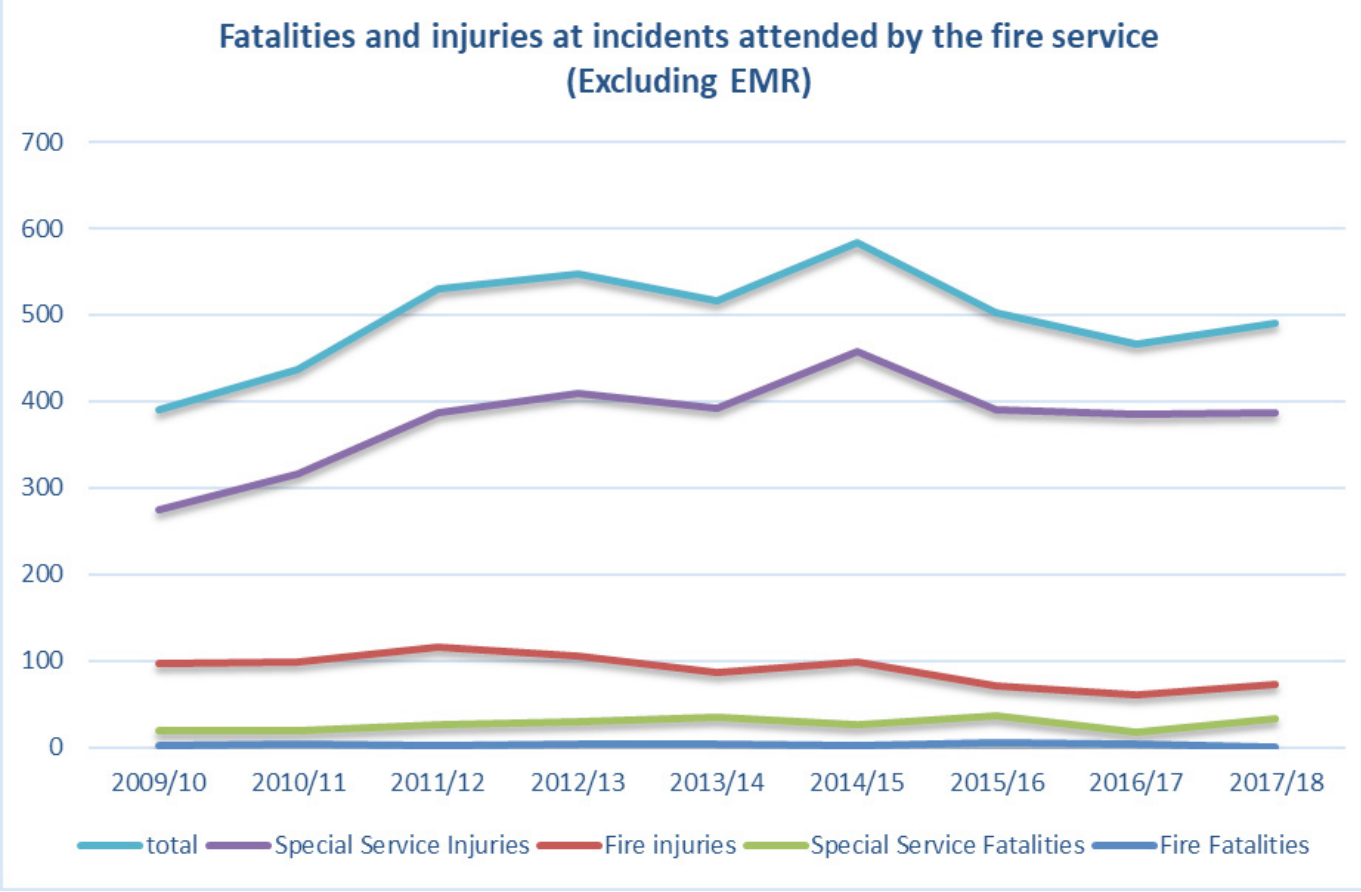


Figure 4
All injuries and fatalities attended by CDDFRS
(Source: IRS)

Firefighter safety

Operational firefighters regularly work in some of the most dangerous and mentally challenging environments in order to save life and protect property and the environment from harm. On occasions, this inevitably means they will be exposed to dynamic and changeable conditions when trying to save life and mitigate other emergencies. This, added to the fact that the public expect firefighters to put themselves at risk to protect others from harm, leads to a heightened risk to not only their safety, but also the impact upon their mental wellbeing at operational incidents.

Any incident has the potential to develop at speed and in an unforeseen manner; therefore, firefighter safety and mental wellbeing must be at the forefront of everything we do. There are several pieces of legislation that must be adhered to in terms of keeping firefighters safe from harm, with the main one being the Health and Safety at Work Act 1974.

Within CDDFRS, the safety and mental wellbeing of firefighters is paramount, and therefore stringent measures are taken to ensure any potential risk of harm is mitigated. Should there be an unforeseeable occasion on which a firefighter requires support, robust support mechanisms and measures are in place to enable crews and officers to report, record and investigate the event.

False alarms

In the last three years, false alarms have accounted for 28% of all of the emergency calls responded to by CDDFRS. Of these calls, around half were due to apparatus and the other half were calls made with good intentions. On average, the Service responds to less than 90 malicious 999 calls each year. While false alarms do not increase risk to the public, they do require an unnecessary response from the fire service and our vehicles usually respond. All the time we are attending false alarms, appliances are unavailable for real emergencies and prevention activities.

Forward look

Looking forward, both Durham County Council (DCC) and Darlington Borough Council (DBC) are planning a significant number of changes that will inadvertently create heightened demand for CDDFRS resources, in addition to posing a greater level of risk to the community.

This includes the potential for over 305 hectares of new land to be developed for business and industry, as well as the protection of more than 1,500 hectares of existing business and industrial land to prevent any other use in County Durham. There are also plans to build 6,272 new homes across County Durham, part of which will include a requirement that 10% of all homes in developments be designed for the older population, who are subsequently at greater risk of having a fire within the home. Meanwhile, in Darlington, there are plans to undertake an options appraisal for the development of additional council housing stock.

In addition to the development of businesses, industry and new homes, there are plans to develop new infrastructure, including relief roads to the north and west of Durham City and the new Horden Railway Station, all of which have the potential to increase the risk levels posed by RTCs and incidents involving rail. Both types of incidents are covered within this document.

National and local risks

The National Risk Register (NRR) of Civil Emergencies 2017 edition provides an updated government assessment of the likelihood and potential impact of a range of different civil emergency risks (including naturally and accidentally occurring hazards and malicious threats) that may directly affect the UK over the next five years. Each of the risks identified is categorised depending on its nature. In addition to providing information on how the UK government and local responders manage these emergencies, the NRR signposts advice and guidance on what members of the public can do to prepare for such events.

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				

Further information on specific risks can be found via the following link:

www.gov.uk/government/publications/national-risk-register-of-civil-emergencies-2017-edition

National and local risks continued...

The Community Risk Register (CRR) for County Durham and Darlington produced by the Local Resilience Forum (LRF) provides information on emergencies that may occur within our own community. This process involves looking at a range of data as well as incidents that have occurred, local knowledge and expert guidance. The risks identified by the County Durham and Darlington Risk Register are:

- Pandemic influenza
- Flooding
- Adverse weather
- Emerging infectious diseases
- Fuel shortage
- Widespread, long-duration electricity network failure
- Animal disease
- Building collapse

When CDDFRS specifically focused risks and available resources are considered, cross-border mobilisation is considered, whereby if an incident or event occurs that requires cross-border support arrangements to be established under section 13/16 of the Fire and Rescue Services Act 2004, a request for support will be passed between local FRS control rooms. Where there may be a need for national resilience assets to be deployed due to the scale and type of incidents to augment those already available to the affected FRS, the National Resilience Fire Control (NRFC) are contacted.

CDDFRS currently has section 13/16 arrangements in place with its neighbouring services/brigades, which include Tyne & Wear FRS, Cleveland Fire Brigade, North Yorkshire FRS, Cumbria FRS and Northumberland FRS.

As part of the CDDFRS 'Community Risk Identification Process' (see image below), both the NRR and CRR have been considered when identifying which risks will be assessed within the Community Risk Profile. The 20 risks chosen are those identified, using local knowledge and professional judgement, to be the most relevant to CDDFRS.

Further information can be found via the following link: www.durham.police.uk/Information-and-advice/Documents/38697%20County%20and%20Darlington%20Risk%20Register%20April%202017%20version%201.0.pdf

CDDFRS 'Community Risk Identification Process'

District profiles

The 20 identified risks set out within this document are analysed by the District Management Teams to assist them when developing their own 'Local Risk Profiles', which will set out incident statistics and high-risk areas/premises pertinent to their own district/station areas.

As part of the overall risk assessment process within CDDFRS, the five district teams must set their own priorities within their individual local risk profile to ensure they meet the needs of their local community, as this may differ depending on geography and demographic of the population. The map below shows the makeup of districts and locations of individual stations within them.

District profiles continued...

When developing the district profiles, central teams such as business fire safety, community safety and fire investigators offer vital support in order to find patterns and trends to assist in the development of action plans aimed at reducing the number of reoccurrences through prevention and protection activities.

Further information on the individual district profiles can be found via the following link:
www.ddfire.gov.uk/service-plans

Risk assessment methodology

This document will outline the findings of a risk assessment process applied to 20 identified risks for CDDFRS and feed in to the development of our IRMP and other relevant strategic documents. The assessment of the risks identified will remain a continuous process, with this document being reviewed on an annual basis.

Identifying hazards

The first stage of our risk assessment methodology is to identify incidents that can cause harm to the people, environment and economy within the communities that CDDFRS serves. The various data sources and tools used include the following:

National Risk Register (NRR)	The NRR is an assessment of the key risks that have the potential to cause disruption in the UK.
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.
Mosaic	Geodemographic segmentation data from Experian that classifies UK households into different geodemographic groups.
Exeter data set	The Exeter data set is provided by NHS England and contains a list of people aged 65 and over and registered with a GP.
Incident Recording System (IRS)	The incident recording system (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.
Partner agencies	Consultation and working practices are shared between partner agencies that are linked in some way to our local risks.
Cadcorp SIS and Web Map Layers	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.

Identifying hazards continued...

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.
CPOMS	This is the software application used for recording and monitoring adult/child protection, including any safeguarding concerns.
Local Resilience Forum (LRF) 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.
CDDFRS Local Risk Profile (LRP)	The LRP identifies those risks that are perceived, using local knowledge and professional judgement, to be the most relevant to CDDFRS.
Site Specific/ Operational Risk Information	This relates to information we gain during visits to high-risk premises, and which is then made available to crews when dealing with incidents.

We then identify who or what is at risk of harm from the incidents. Once the incidents and anyone at harm have been identified, the community risk profile will be used to decide how CDDFRS addresses the issues identified, depending upon the overall risk rating.

Likelihood (demand):

Our likelihood assumptions are based on incidents attended over the previous three-year period and national threat levels.

High – average of at least once a day	365 or more
Medium high – occurs at least once a week but less than once a day	52 – 364
Medium – occurs at least once a month but less than once a week	12 – 51
Medium low – occurs at least once a year but less than once a month	1 – 11
Low – occurs less than once a year	Less than 1

Consequences (Risk):

The consequences taken into consideration alongside professional judgement will include:

Loss of life - this reflects the number of people killed at an incident.

Injury – this covers those requiring medical intervention resulting from an incident.

Economic impact – this includes property damage, heritage loss and business disruption.

Environmental damage – this includes all types of pollution to the environment.

Social disruption – this includes transport, utilities, finance and communications.

Psychological impact – this includes public outrage and anxiety.

Impact on wellbeing of firefighters – this covers operational incidents.

Wider impact – this refers to national and international impact.

The Fire and Rescue National Framework for England states that authorities are to "identify and assess the full range of foreseeable fire and rescue-related risks their areas are faced with". Therefore, the potential consequences listed above play a part in the assessment of risk, as will a high level of local knowledge and professional judgement to come to a definitive score. The methodology used to calculate future risk is based on:

The average number of incidents attended over the previous three years.

X

(multiplied)

The risk of future incidents occurring through a combination of the listed consequences and a data-led approach with a high level of local knowledge and professional judgement.

Risk assessment matrix

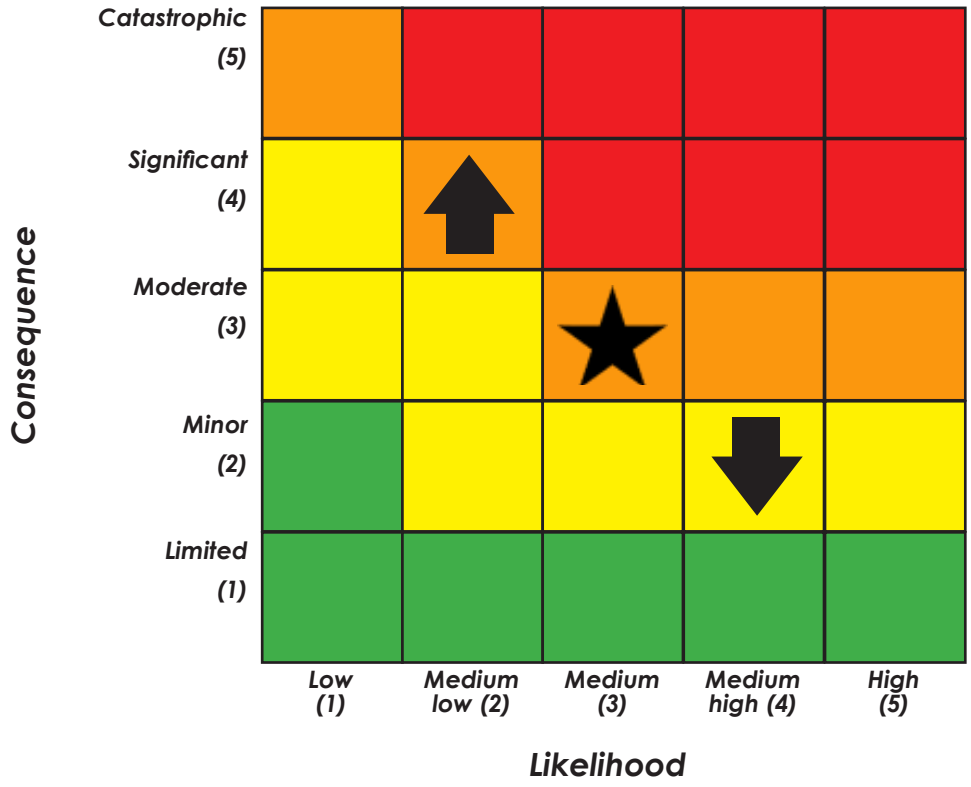
The risk assessment matrix utilised within this document is based on a reasonable worst-case scenario, with an assessment of a possible upper and lower range. This demonstrates alternative indicators of the risk levels that have been considered during the risk assessment process. The matrix below illustrates the use of ranges, with the reasonable worst case in the centre, the "upper range" being a more impactful but less likely scenario and the "lower range" being a less impactful, but more likely one.

KEY:

Upper range

Reasonable worst case

Lower range



The overall level of risk used within the risk assessment matrix fits into one of the following categories:

VERY HIGH (Red) may have a high to medium-low likelihood of occurrence, but their potential consequences are such that they will be treated as a main priority by CDDFRS and resources made available to combat the threat.

HIGH (Amber) during the strategic planning process, careful consideration should be giv-en 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.


FIRE&RESCUE
NK57 EXR

Executive risk assessment summary

Final risk rating

Risk Number	Risk Type	Overall Risk Rating
1	Dwelling fires	Very High
2	Other residential premises	Very High
3	Non-residential premises	Very High
4	Flooding	Very High
5	Road traffic collisions (RTCs)	Very High
6	Hazardous materials	Very High
7	Industrial	Very High
8	Malicious attacks/ terrorist incidents	Very High
9	Air	Very High
10	Water (excluding flooding)	High
11	Height	High
12	Rail	High
13	Wildfires	High
14	Building collapse	High
15	Secondary fires	High
16	Primary fires (other than buildings)	High
17	Waste disposal site fires	Medium
18	Major public events	Medium
19	Heritage risks	Medium
20	Animals	Medium

Likelihood versus Consequences score for individual risks

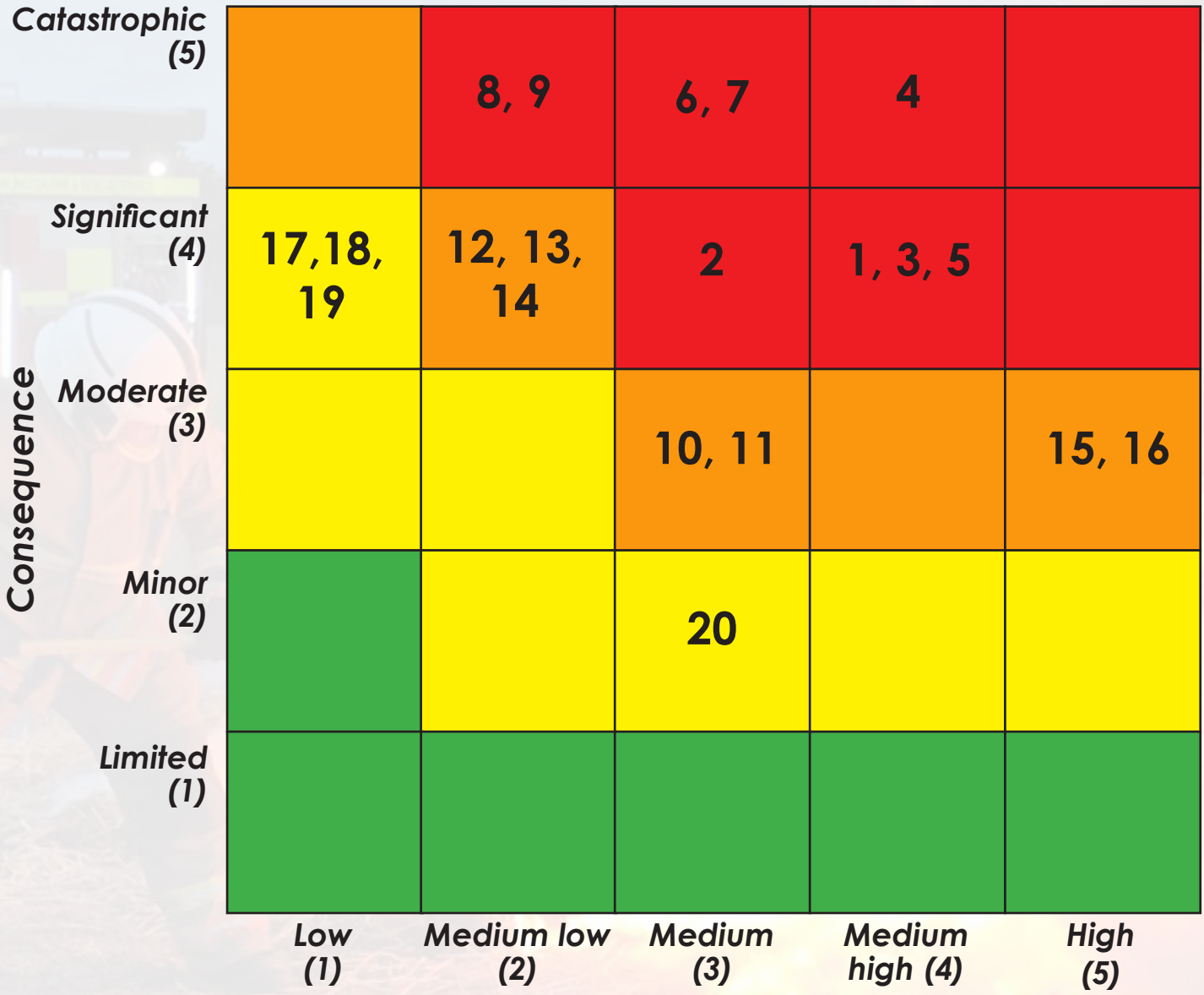


Figure 5

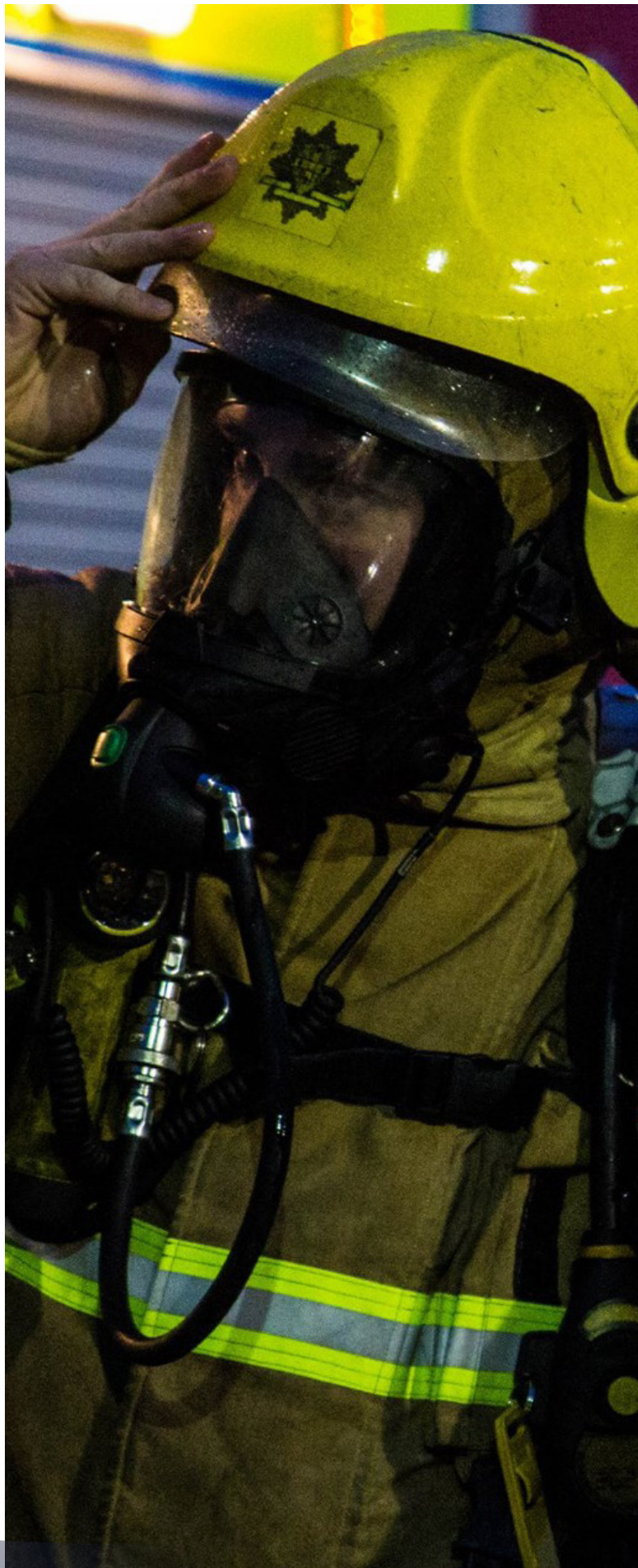
1. Dwelling fires

Dwelling fires are those occurring in buildings that are normally occupied – typically houses, flats and bungalows. This type of fire may be started accidentally or deliberately, although the likelihood is that both will require the same level of resource to be available, depending upon the nature and scale of the incident.

Fires of this nature can also result in both physical and mental harm and the injuries sustained could be fatal. As well as the human costs associated with dwelling fires, there is a significant economic burden associated with property damage and funding the emergency response to incidents. The Economic Cost of Fire Report published by DCLG in 2008 placed an economic cost of a fire fatality at £1.6 million and a serious injury at £185,241. The average consequential cost of a property fire was £2,634. Taking into account inflation over the last 10 years, the current costs are likely to be significantly higher than these figures.

The methodology to identify those areas with a higher risk of accidental dwelling fires (ADFs) was refined by CDDFRS in 2007, when the Service moved away from using the Fire Service Emergency Cover (FSEC) toolkit. This change was made following the occurrence of several ADF fatalities within a short period of time and the re-evaluation of the tools used at the time to identify high-risk areas.

This methodology has been further updated in 2018, which involved moving risk analysis from ward level to the use of Lower Layer Super Output Areas (LSOAs), as well as identifying individual dwellings that may be subject to greater risk of fire. The 'Dwelling Fire Risk Analysis Pyramid' below shows the hierarchical process that CDDFRS has adopted to identify risk and focus resources appropriately.



Dwelling fire risk identification pyramid

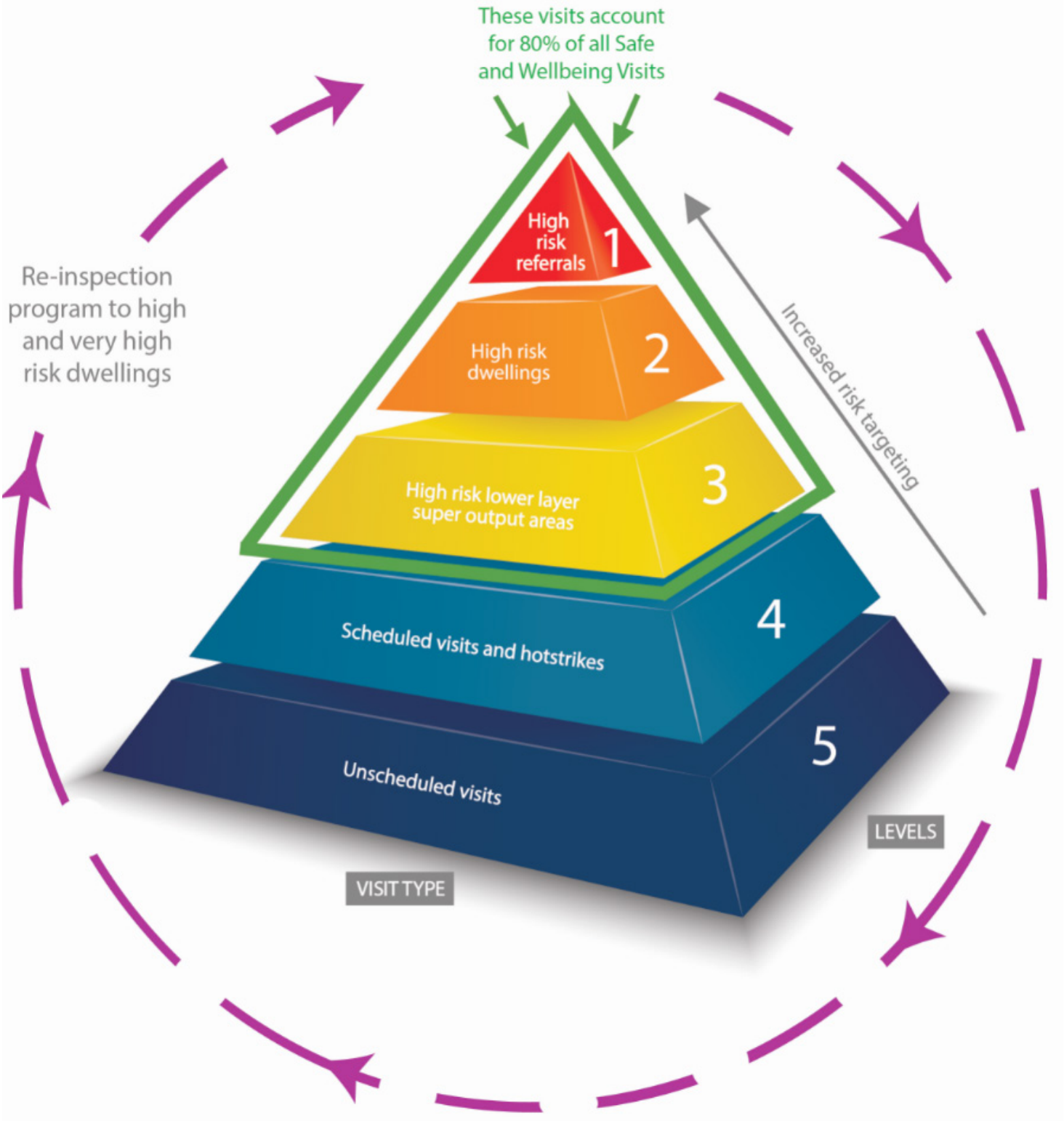


Figure 6

Understanding the risk methodology levels

Level 5

Unscheduled visits may occur when operational crews carrying out scheduled visits in a neighbourhood decide to visit additional properties. This could be because they are aware that the property has never been visited by the FRS or was last visited several years ago.

Level 4

Scheduled visits are created when members of the public contact the FRS in order to receive a Safe and Wellbeing Visit (SWV). This may be as a result of events in the community whereby people provide their contact details, or where people have seen some of the many campaigns that run across the year. This may also include people requesting visits for family or friends with their consent, where they feel there could be factors elevating the risk of fire, or following a dwelling fire whereby crews would carry out a 'hotstrike' of visits in the local surrounding area.

Level 3 – High Risk LSOAs

CDDFRS introduced this revised targeting methodology in 2018, which has allowed the more precise targeting of risk by moving from ward level to LSOAs. This level incorporates targeting resources at the geographical areas at greatest risk of fire. The areas are evaluated in terms of risk by combining data from past incident activity and other demographic data such as deprivation and lone households, all of which are again associated with an elevated level of risk of fire.

Level 2 – High Risk Dwellings

This methodology involves profiling each dwelling within County Durham and Darlington against a number of datasets associated with elevated risk. These datasets consist of service-specific data such as incident and response-time data, as well as the Exeter data set provided by NHS England. Experian lifestyle data is also used to profile the demographics of those at greatest risk. The profiled data is used to target dwellings and the occupiers subject to the greatest risk of fire.

Level 1

High Risk Referrals are referrals and safeguarding concerns identified by our operational crews and Community Risk Officers (CROs), as well as direct referrals from partner agencies, many of whom work with the most vulnerable members of the community. This includes frontline services that have access to people's homes such as social services, community nurses, care workers, charities and other health organisations.

Reinspection Programme

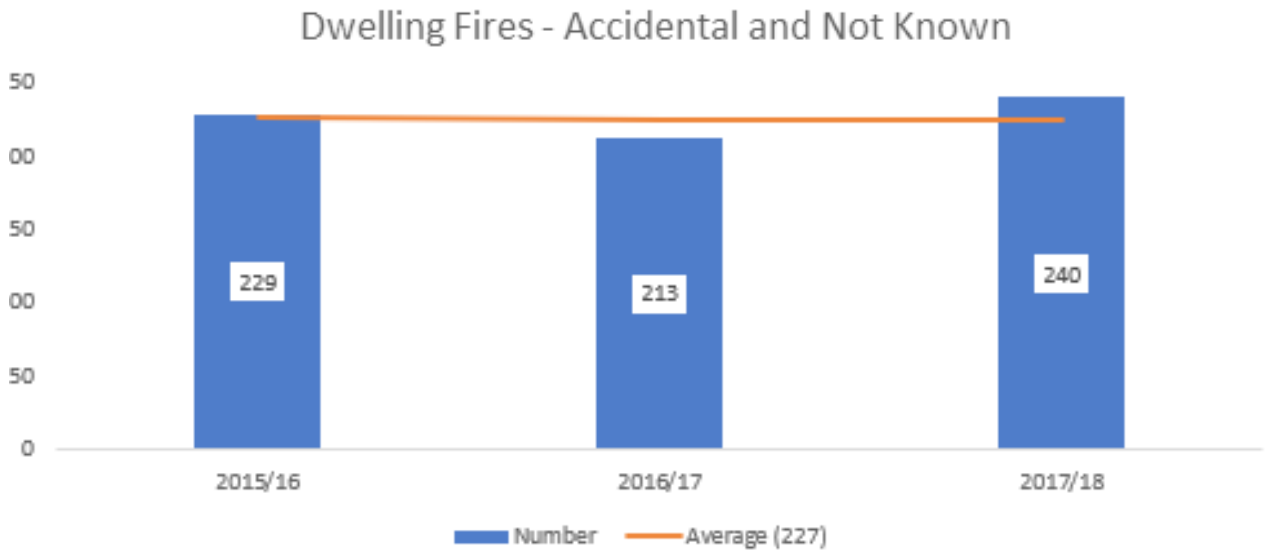
All dwellings identified as being high or very high risk, following a SWV or partnership referral, will fall into a reinspection cycle whereby the properties will be revisited within a pre-determined time period. Removal from the reinspection process will only occur if the risk level is downgraded following a visit.

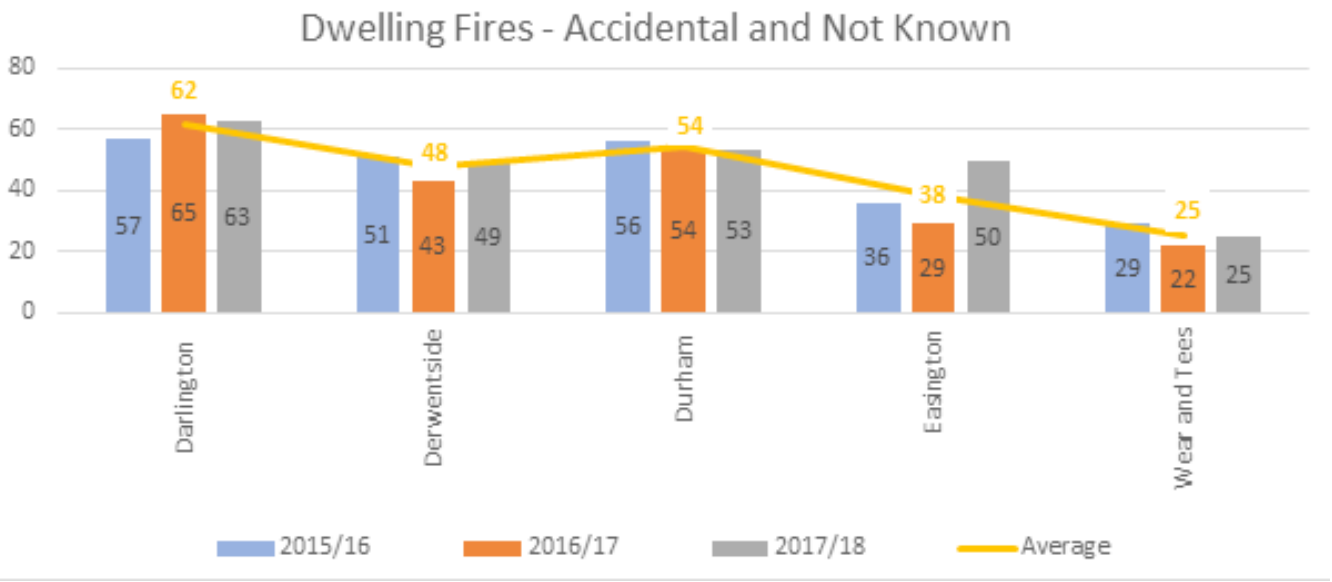
Number of incidents over the previous 3 years

Dwelling fires have been subdivided into two separate incident types within this section: accidental and deliberate. This highlights the variance in the number, type and location of incidents attended. For the purpose of this document, however, when establishing a risk score, the likelihood and consequence relating to the total number of incidents overall is taken into account.

Accidental dwelling fires - key demand information

Number of accidental dwelling fires (ADFs) over the previous three years

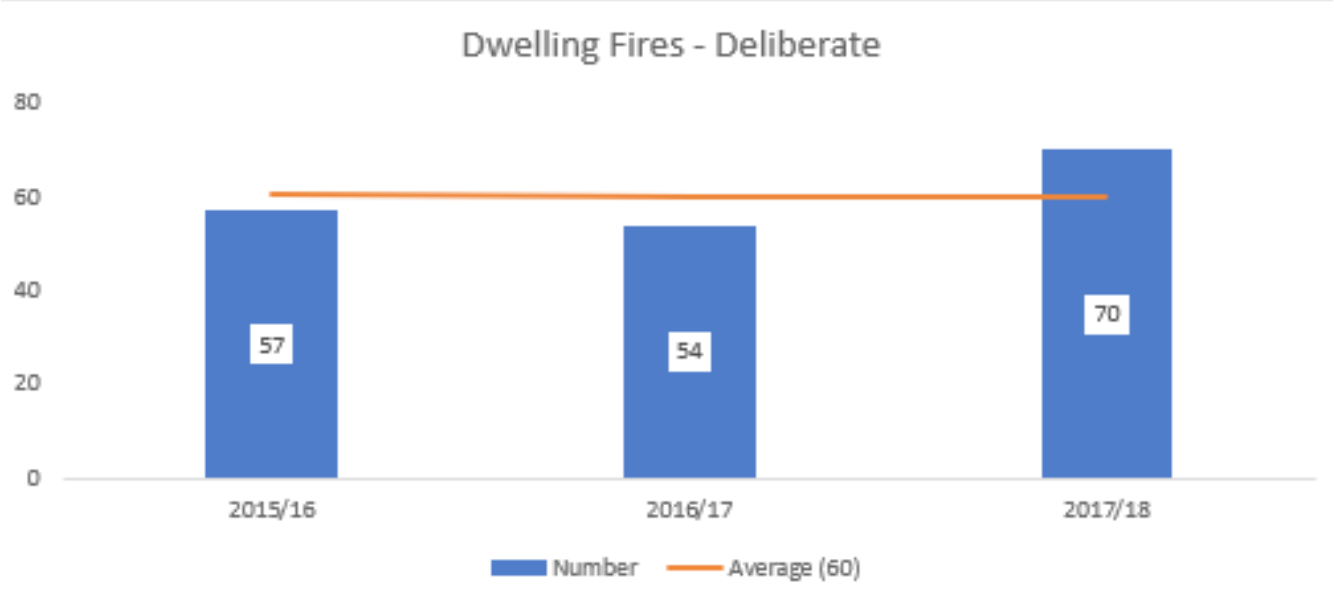


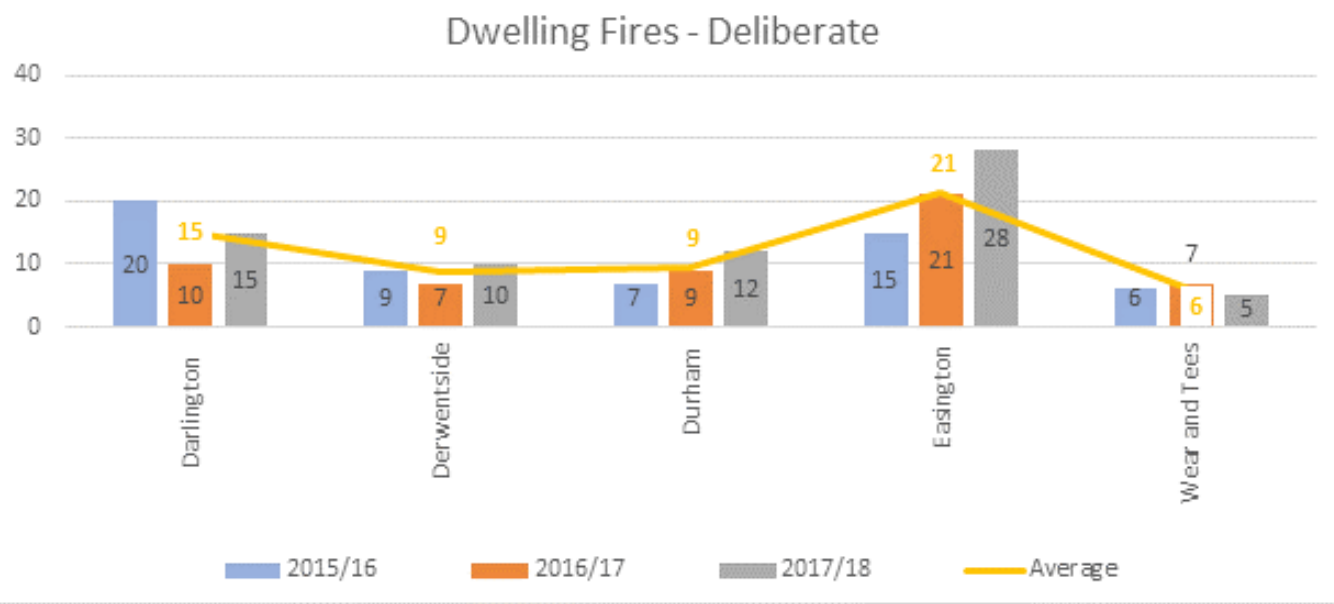


Over the previous three years, we attended an average of 227 incidents of this type. Wear and Tees have seen the lowest number of ADFs over the last three years, with Darlington having experienced the highest, followed closely by Durham and Derwentside. One of the main contributing factors is that these areas have the highest population density within the CDDFRS area. In terms of room of origin, over half of all ADFs occurred in the kitchen, followed by the bedroom and living room respectively. The majority were linked to distraction during the use of cooking appliances by lone persons over pensionable age and couples with dependent children, with a number of them leading to injury due to individuals attempting to tackle the fire.

Deliberate dwelling fires - key demand information

Number of deliberate dwelling fire incidents over the previous three years





Over the previous three years, we attended an average of 60 incidents of this type. Easington District has experienced the highest number of deliberate dwelling fires for the past two years, which is also reflected in the number of deliberate primary and secondary fires in general.

The level of deprivation and overall crime rates in Easington contribute to this statistic. Most deliberate dwelling fires spread from secondary fires external to the property, although fires starting in the living room and bedroom also featuring prominently.

In total we attended an average of 287 dwelling fires over the previous 3 years. This overall figure has been used when identifying the level of risk.

Risk assessment

The risk to residents of County Durham and Darlington is:

Risk 1 – Dwelling fires					
Catastrophic			↑		
Significant				★	
Moderate					↓
Minor					
Limited					
	Low	Medium Low	Medium	Medium High	High

Likelihood	Medium high
Consequence	Significant
Overall assessment	**Very High**

2. Other residential premises

The types of property considered in this risk include non-domestic properties such as: residential care homes; hotels; student halls of residence; prisons and hospitals. The frequency of incidents in properties in this category is relatively low compared to dwelling fires. The majority of these properties are covered under the Regulatory Reform (Fire Safety) Order 2005 (FSO), and the fire authority is therefore the enforcing agency for this legislation. Although prisons are crown premises and therefore not covered by the FSO, they have been included in this category due to the risk and demand levels posed for these premises.

CDDFRS has a statutory obligation to enforce fire legislation and to reduce the risks of fire causing death, serious injury and property-related loss in the community. Therefore, when setting out our management strategy and risk-based programme for enforcing the provisions of the FSO in accordance with the principles of better regulation set out in the Statutory Code of Compliance for Regulators and the Enforcement Concordat, we have produced an annual dynamic risk profile of the buildings in our area that are audited under the FSO.

There is the potential for a high number of fires to occur in these premises, both nationally and internationally, which could lead to fatalities as a result.

There are five strands to the identification process adopted by CDDFRS when identifying businesses that require fire safety audits and inspections, as is explained further in the 'Business Identification Process' below.

Business identification process

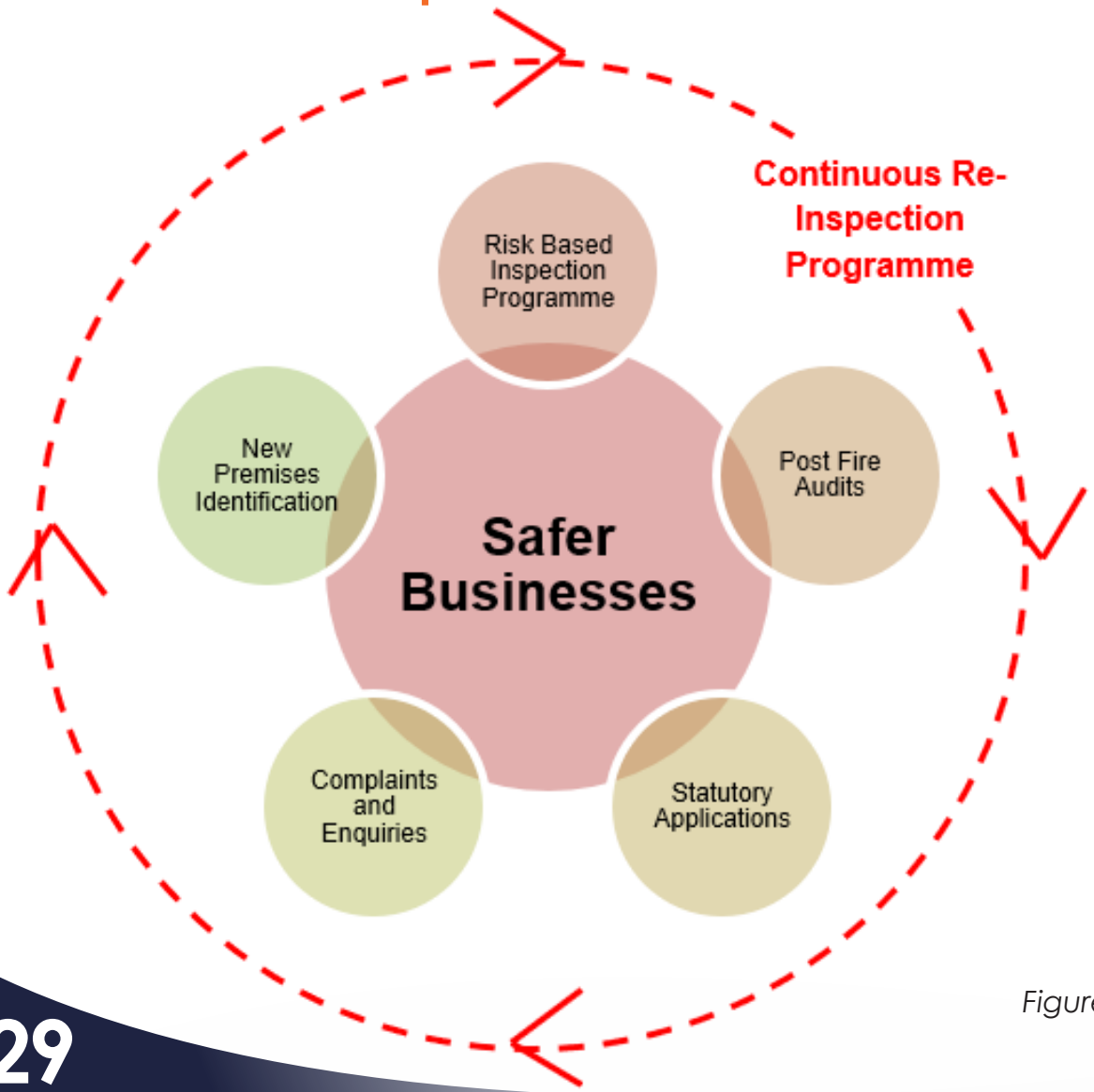


Figure 7

Understanding the business fire safety identification process

Risk-based inspection programme

The three-year programme involves inspections by the central team and operational crews, including elements of risk-based themes to identify premises types or localities on which to focus. The focus of these audits changes depending on intelligence gathered from the profiling of previous years' fire incidents in non-domestic properties, as well as national trends.

Post-fire audits

A post-fire audit is carried out following a fire on non-domestic premises to ascertain if any legal action should be taken against the Responsible Person; it also serves as an opportunity to give advice to the occupants to prevent future fires from occurring and to make the premises safer.

Statutory applications

UK FRSs are statutory consultees for both Building Regulations applications and Licensing applications. These applications may trigger an audit if the premises in question have not received a recent visit or if the changes to the building or the purpose for which the building is to be used are substantial.

Complaints and enquiries

There are occasions when members of the public complain to CDDFRS with regard to the fire safety of a building or the management of particular premises in relation to fire safety. All complaints are investigated within 24 hours of being reported. Complainants are contacted if they wish to receive feedback following the investigation, and can remain anonymous if requested. People also contact CDDFRS for goodwill advice or to request an audit of their premises.

New premises identification

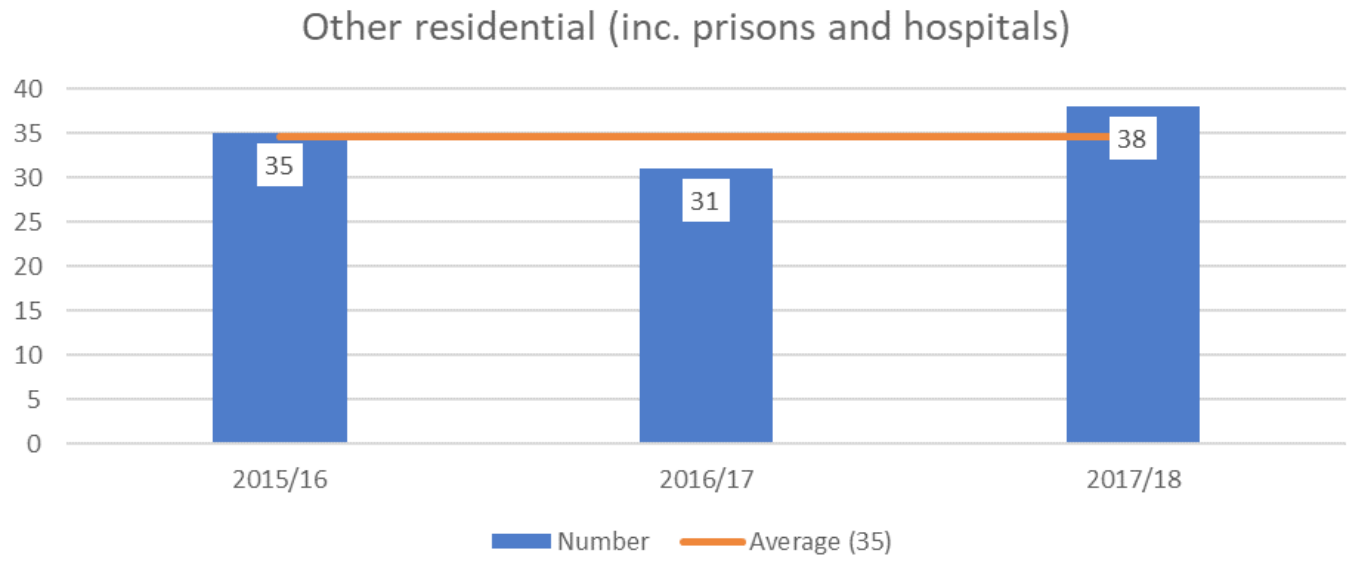
Operational crews are utilised to carry out data gathering within their station areas to establish new businesses and to ensure they are entered into the reinspection programme. Themes are set to cover risks that become evident through past fire profiling and national trends. Premises can also be cross-mapped to ensure they are within CFRMIS and in the reinspection programme. Crews feed back intelligence to the central fire safety team on new properties that they find when carrying out duties in the community.

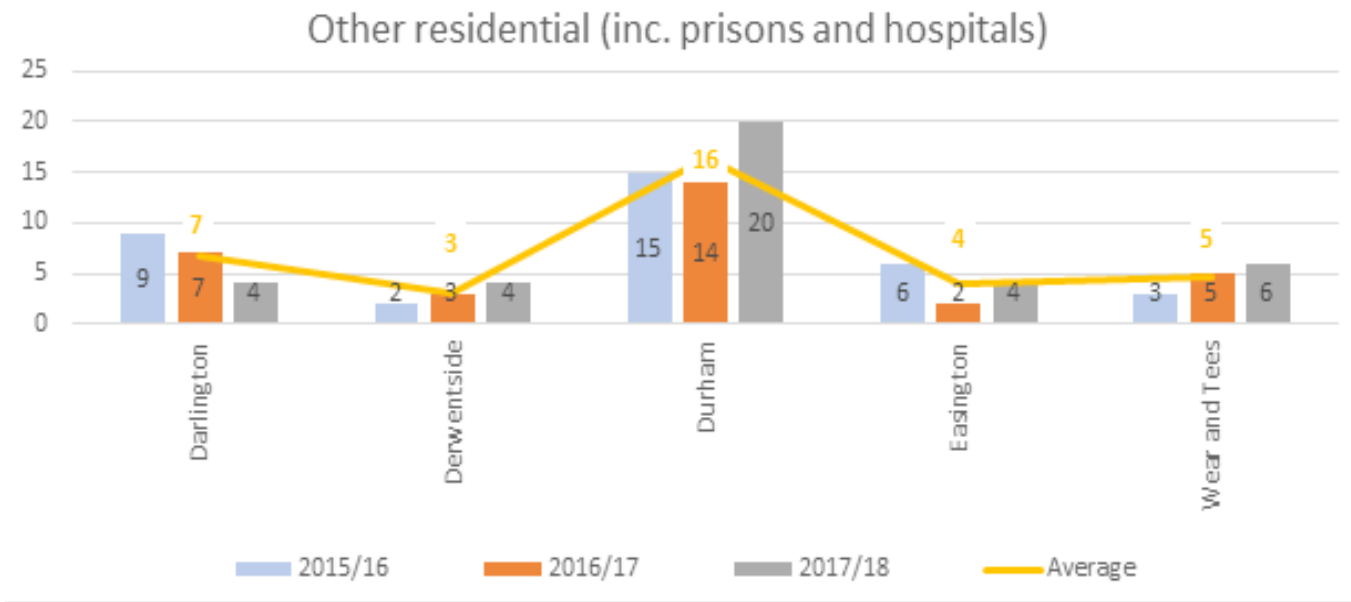
Continuous reinspection programme

The continuous reinspection programme is managed within CFRMIS. It uses embedded risk ratings and the compliance levels of premises to schedule jobs in response to the risk level following a fire safety audit and the completion of an ABC audit form. As a result, the reinspection frequency for given premises is greater where the risk to occupants is greater, and the potential loss or risk to the community, at a local or national level is taken into account as the score is weighted to reflect this. Our current frequency of audits ranges between 12 months and 12 years, depending on the risk rating.

Other residential premises - key demand information

Number of incidents over the previous three years





Over the previous three years, we attended an average of 35 fires in other residential premises. The majority of incidents attended by CDDFRS were at prisons, which although covered under the FSO, fall within the Crown Premises Fire Inspection Group jurisdiction. Other than prisons, properties such as hospitals and care and residential homes have also encountered a high number of incidents. The residents in these types of property tend to be vulnerable for various reasons, such as age or a lack of mobility. It is also common to find hazards, such as medical oxygen cylinders, that contribute to the increased risk.

Risk assessment

The risk to residents of County Durham and Darlington is:

Risk 2 – Other residential premises					
Catastrophic			↑		
Significant			★		
Moderate			↓		
Minor					
Limited					
	Low	Medium Low	Medium	Medium High	High

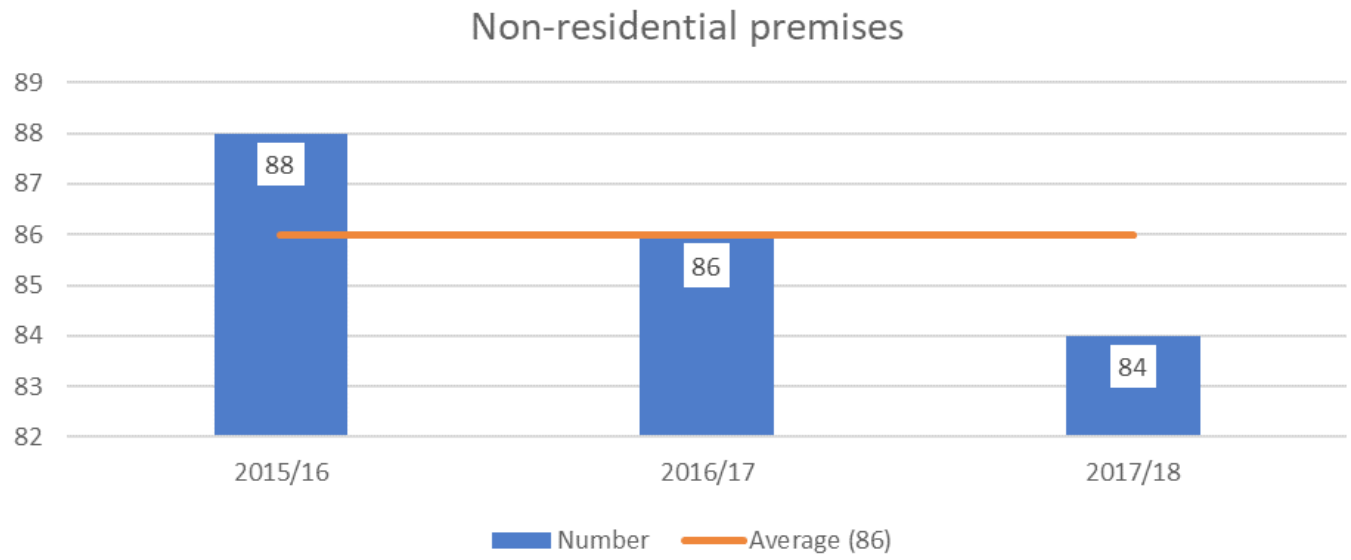
Likelihood	Medium
Consequence	Significant
Overall assessment	**Very High**

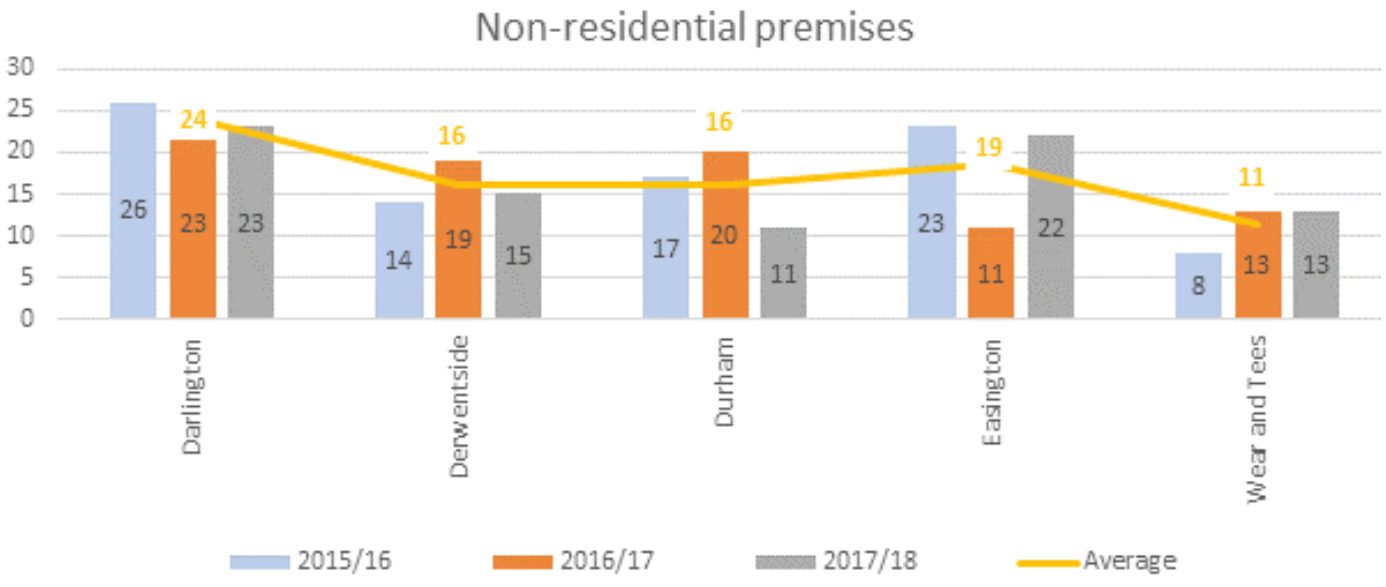
3. Non-residential premises

Non-residential premises fires occur in buildings that are mainly places like shops, factories, takeaways and agricultural buildings, many of which fall within the FSO. Half of fires of this incident type are started by accidental causes; the other half are either deliberately started or the cause could not be established. There were 8,361 non-residential fires attended nationally last year.

Non-residential premises - key demand information

Number of incidents over the previous three years





Non-residential premises - key demand information continued...

Over the previous three years, we attended an average of 86 fires a year in non-residential premises. In total, we attended 258 incidents of this type (excluding prisons and hospitals) within the last three years. We have seen a slight decrease in the number of incidents that we are attending on a year-on-year basis. Factories, shops, education establishments and takeaways are all common property types that we have responded to within this area. In terms of prominent locations, Darlington and Easington both encountered the highest volume of incidents attended by operational crews.

Risk assessment

The risk to residents of County Durham and Darlington is:

Risk 3 – Non-residential premises					
Catastrophic			↑		
Significant				★	
Moderate				↓	
Minor					
Limited					
	Low	Medium Low	Medium	Medium High	High

Likelihood	Medium High
Consequence	Significant
Overall assessment	**Very High**

4. Flooding

Although there is currently no statutory duty for CDDFRS 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. While Durham County Council and Darlington Borough Council are the lead authorities for flooding incidents, much of the technical expertise and knowledge of flood risk lies with partner agencies, including CDDFRS. This includes responding to flooding incidents where required, including both fluvial (river) and surface water flooding.

High ground is a significant part of the geology to the west of our area, with lower undulating ground to the east.

Two major rivers, the Wear and Tees, run through our area and coupled with this is a wide tranche of relatively low-lying land, encompassing the towns of Chester-le-Street and Durham and numerous smaller villages that are susceptible to flooding during spate conditions. Tunstall Reservoir dam is regarded by DEFRA as a key dam in the UK, requiring specific on-site and off-site emergency plans. There are a number of recognised flood plains identified by the Environment Agency (EA).

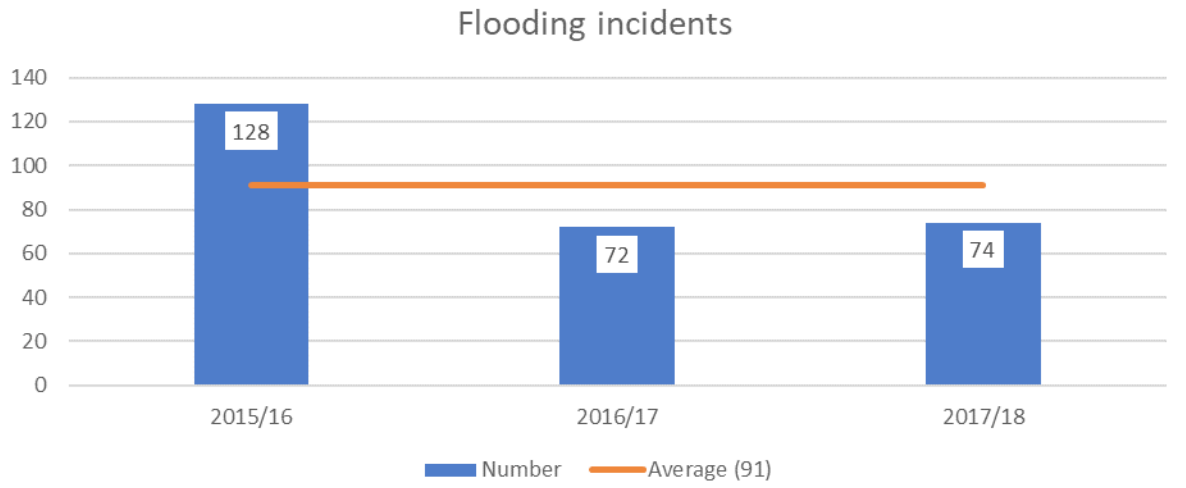
More information on flooding risk can be found here:

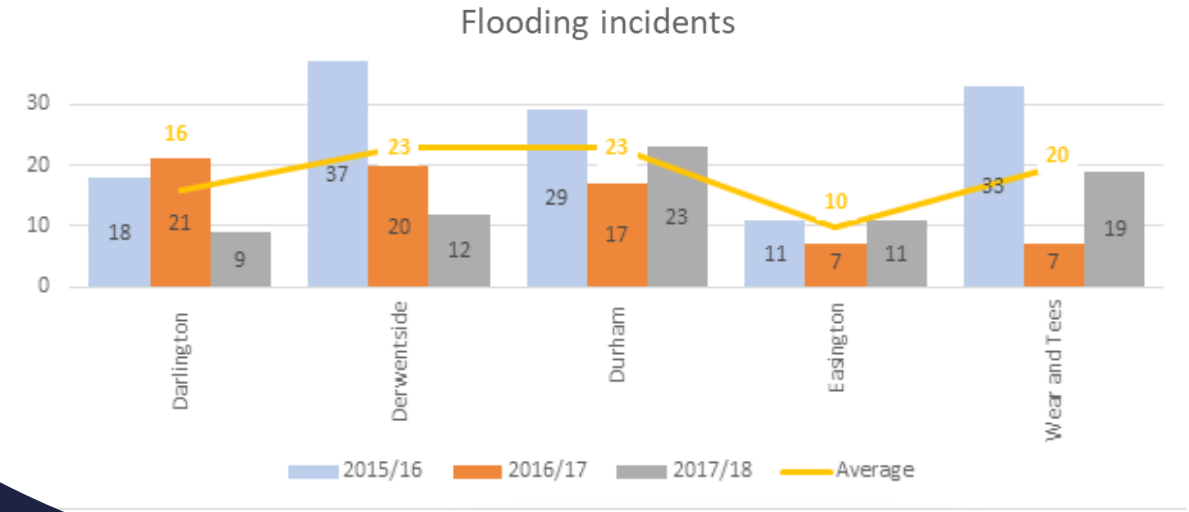
http://apps.environment-agency.gov.uk/wiyby/default.aspx

https://www.durham.gov.uk/floods

Flooding - key demand information

Number of incidents over the previous three years:





Flooding - key demand information continued...

Over the previous three years, we attended an average of 91 flooding incidents a year. The actual total number of incidents we attended was 274, although those attended within 2015/16 accounted for almost 50% of these.
When looking at the location of flooding incidents, Wear & Tees and Durham Districts have seen quite a significant increase. At a very local level, Middleton-in-Teesdale and St John's Chapel, both of which are rural villages in the west of our Service area, have encountered 10 incidents or more each. Some of the other affected locations include: Framwellgate Moor; Sedgefield; and Stanhope.

In terms of the types of flooding incidents we have attended, 111 were to make the areas safe, 56 were advice only, 55 involved pumping out, four included evacuation and the rest encompassed other incident types, as well as no action being taken by operational personnel.
The main property type involved in the flooding incidents was dwellings, followed by highways, road surfaces, pavements and nursing/care facilities.

Risk assessment

The risk to residents of County Durham and Darlington is:

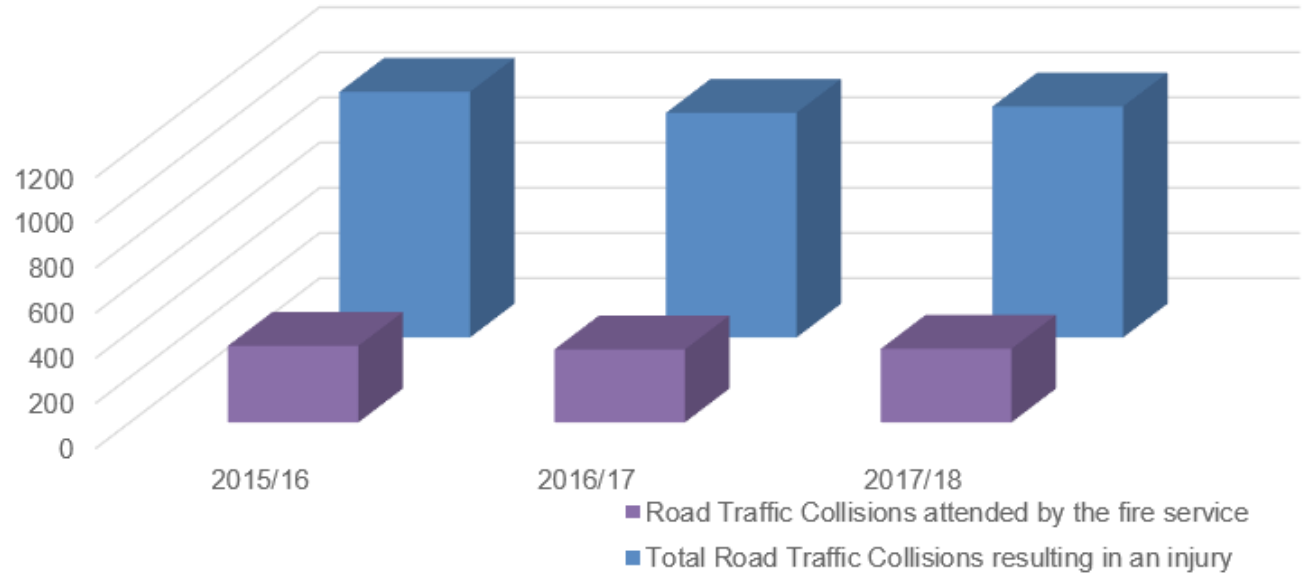
Risk 4 - Flooding					
Catastrophic				★	
Significant				↓	
Moderate					
Minor					
Limited					
	Low	Medium Low	Medium	Medium High	High

Likelihood	Medium High
Consequence	Catastrophic
Overall assessment	**Very High**

5. Road traffic collisions (RTCs)

Nationally, RTCs are the most frequently attended non-fire incident by FRSs. Durham County Council is the only local authority in the North East with a higher than the national average number of casualties from RTCs. The area covered by CDDFRS is large and has a significantly high number of rural roads to the west. Car occupants are the most likely to be killed in a RTC, followed by pedestrians, motorcyclists and cyclists. Children aged under 15 are most likely to be involved in RTCs as pedestrians.

In 2017/18, there were 1023 road traffic collisions in the Service area involving injuries to members of the public, with CDDFRS requested to attend 324 of these. 211 of the collisions resulted in a fatality or serious injury and operational personnel performed extrication or release at 127 of these. These figures are typical of previous years, as the chart below shows.



Due to a high population density in certain areas across County Durham and Darlington and extensive road networks including the A1(M); A19 and A66, alongside a vast network of rural roads, a high number of RTCs occur in our area.

RTCs continued...

The heat map below shows the areas across County Durham and Darlington that have experienced the highest rates of RTCs during the previous three years.

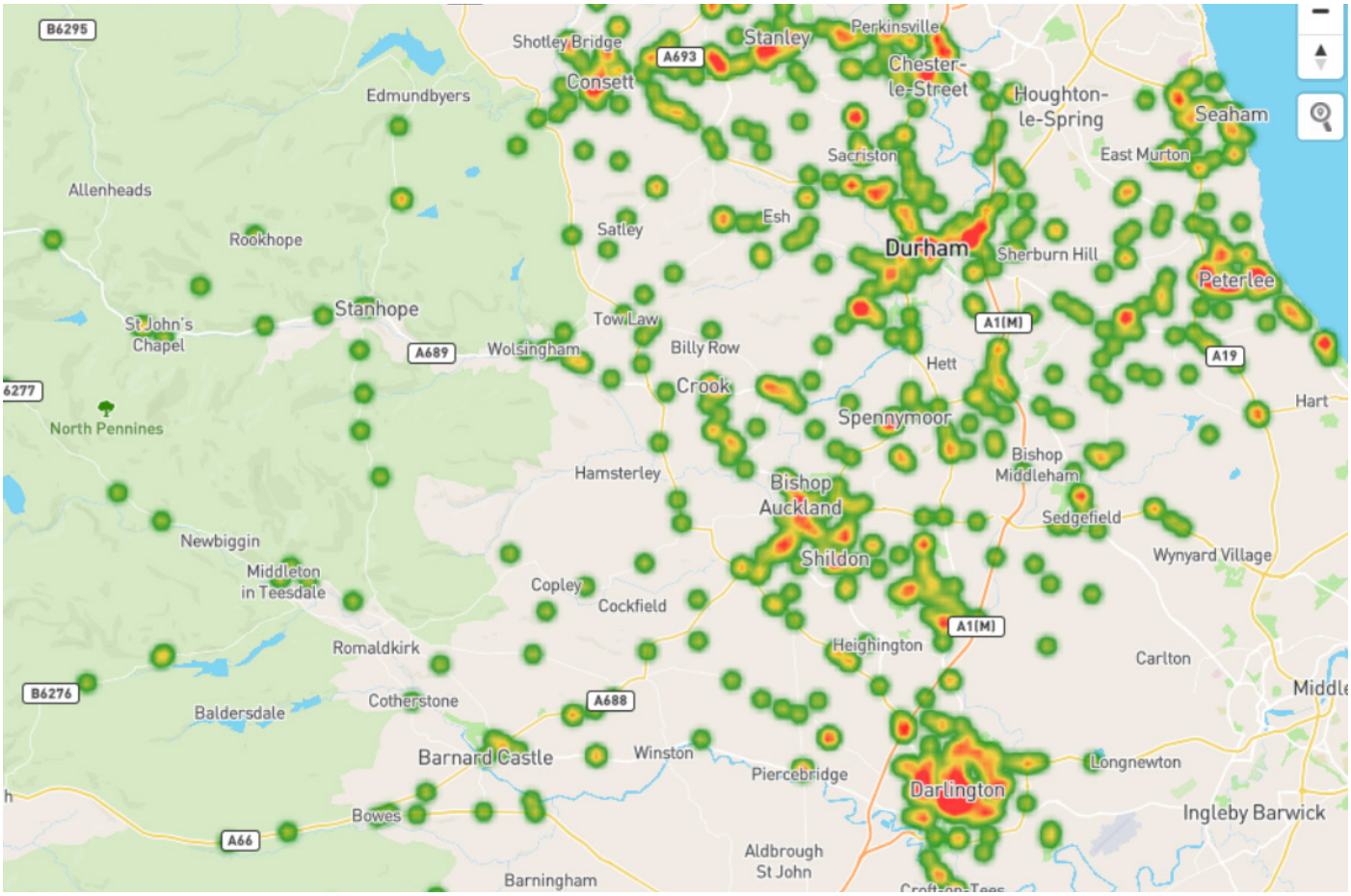
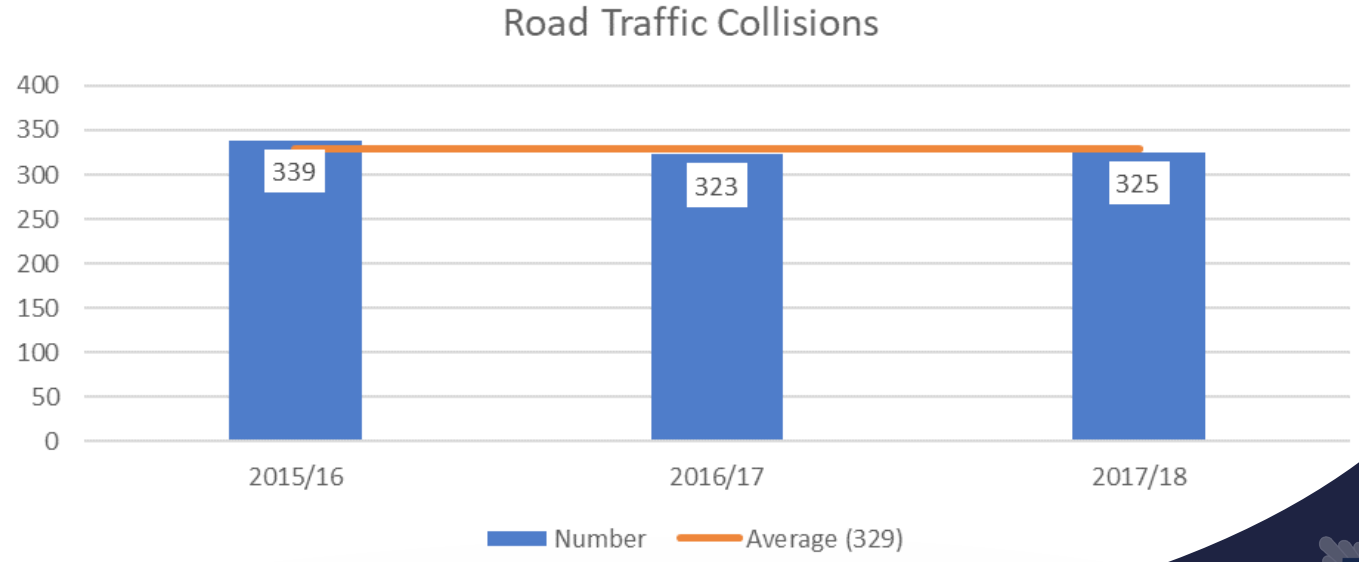


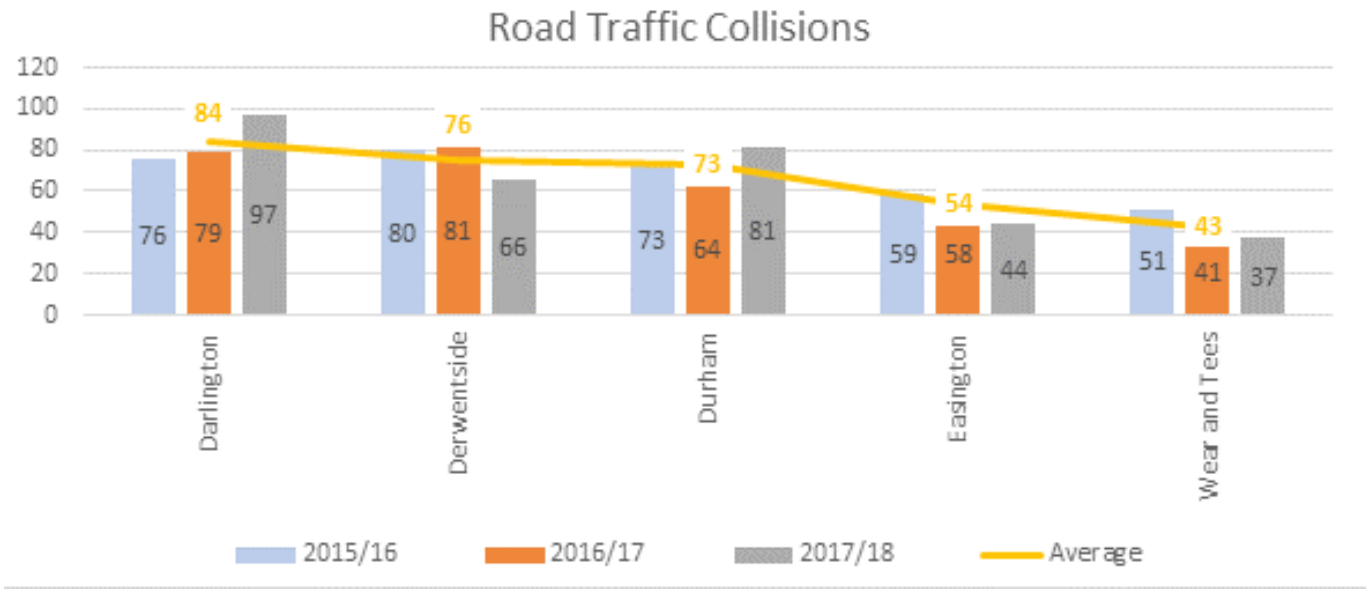
Figure 8: Heatmap of RTCs involving fatalities and serious injuries 2015 - 2018

More information on road traffic collisions in County Durham and Darlington can be found by clicking the following links:
https://www.durham.gov.uk/article/2379/Road-safety-team
http://www.gateshead.gov.uk/ne-roadsafety/Dashboard.aspx

RTCs - key demand information

Number of incidents over the previous three years:





Over the previous three years, we attended an average of 329 RTCs a year. Of the 987 RTCs that CDDFRS was requested to attend over the last three years, most have involved either the extrication of trapped individuals or making the vehicle safe. Other types of work undertaken by operational crews at RTCs have included making the scene safe, offering medical assistance only and the release of individuals where there was no requirement for an extrication to take place.

Regarding incident locations, there is a fairly even split in terms of where the RTCs have occurred. Although this is the case, both Darlington and Durham Districts have seen an increase in the number attended during 2017/18 compared to previous years. The majority of incidents attended included making the vehicle safe; extrication and/or standing by with no action needed.

Risk assessment

The risk to residents of County Durham and Darlington is:

Risk 5 - Road traffic collision's (RTCs)					
Catastrophic				↑	
Significant				★	
Moderate					↓
Minor					
Limited					
	Low	Medium Low	Medium	Medium High	High

Likelihood	Medium High
Consequence	Significant
Overall assessment	**Very High**

6. Hazardous materials

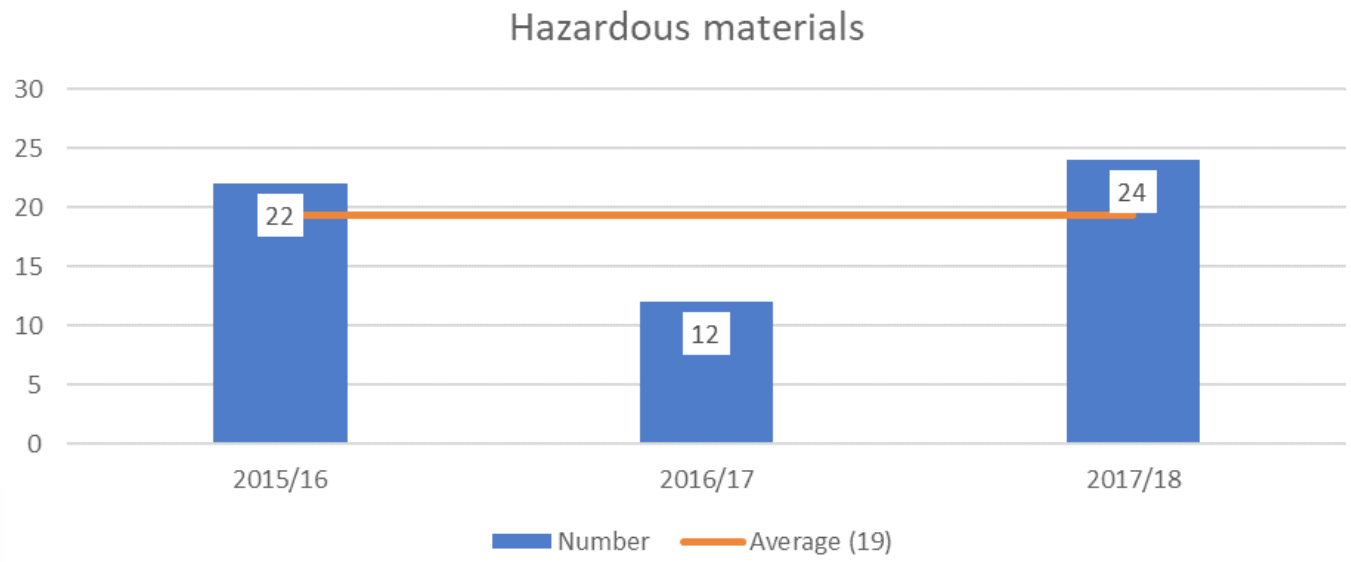
There are several pieces of legislation that place a duty on CDDFRS to protect lives, property and the environment from the damaging effects of hazardous materials. We work very closely with partner organisations, particularly the Environment Agency (EA), to try to reduce the impact caused by hazardous materials. Dangerous hazardous materials are regularly transported through the Service area via rail along the East Coast mainline or road, mainly along the A1M, A19 and A66.

There are a number of other associated risks from hazardous materials, with some examples being Control of Major Accident Hazards (COMAH) sites and a multitude of other industrial sites, farms especially in some of the more rural locations to the west of the Service area, waste sites and water treatment plants, some of which store large quantities of chlorine.

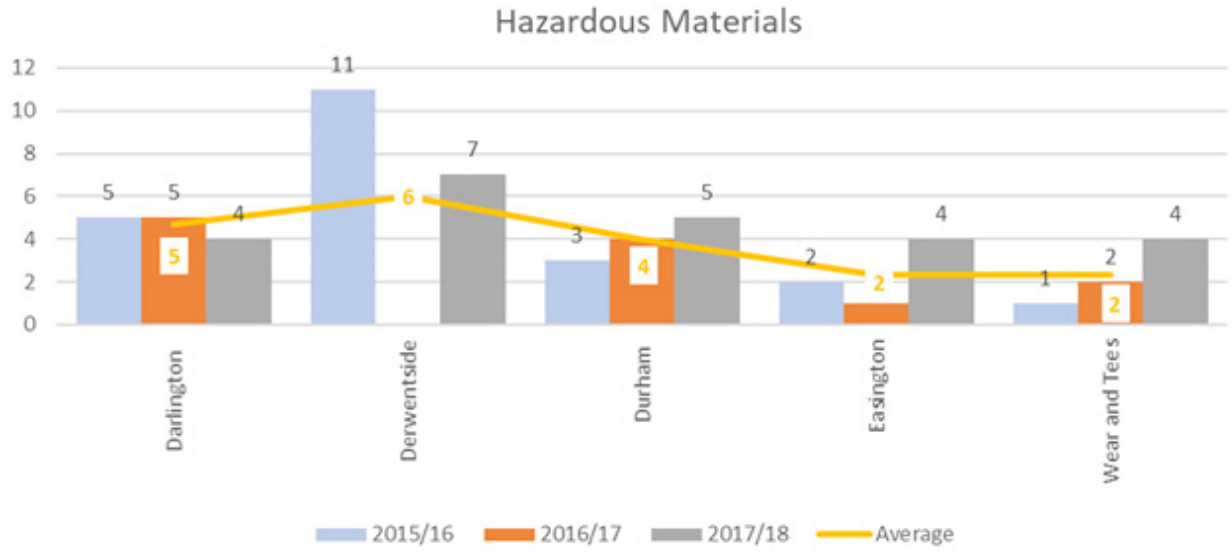
There are also a number of high-pressure natural gas transmission pipelines crossing the region. This hazard arises from the high pressure and the possibility of fire and explosion from a release if one of the pipelines failed or sustained damage.

Hazardous materials - key demand information

Number of incidents over the previous three years



Hazardous materials - key demand information continued...



Over the previous three years, we attended an average of 19 hazardous material incidents a year. Of the 58 hazardous material-related incidents we attended in total, almost 50% of these related to dwellings, with non-residential and outdoor making up the rest. The number of incidents doubled in 2017/18 compared to 2016/17, largely due to the fact that Derwentside District had no incidents at all during 2016/17, even though it still had the most over the three-year period.

The only district to see a decrease in 2017/18 was Darlington, although this was only by one incident. Incident types of any significance include small methamphetamine drug production labs, suspect packages including white powder, gas leaks and cylinders.

Risk assessment

The risk to residents of County Durham and Darlington is:

Risk 6 – Hazardous materials					
Catastrophic			★		
Significant			⬇		
Moderate					
Minor					
Limited					
	Low	Medium Low	Medium	Medium High	High

Likelihood	Medium
Consequence	Catastrophic
Overall assessment	**Very High**

7. Industrial

Industrial incidents can take a wide variety of forms, and their potential impact on our communities varies considerably in both scale and nature. In some cases, these incidents will have very limited impacts beyond the immediate area and can be dealt with locally, although others can have cascading effects that may impact the wider community.

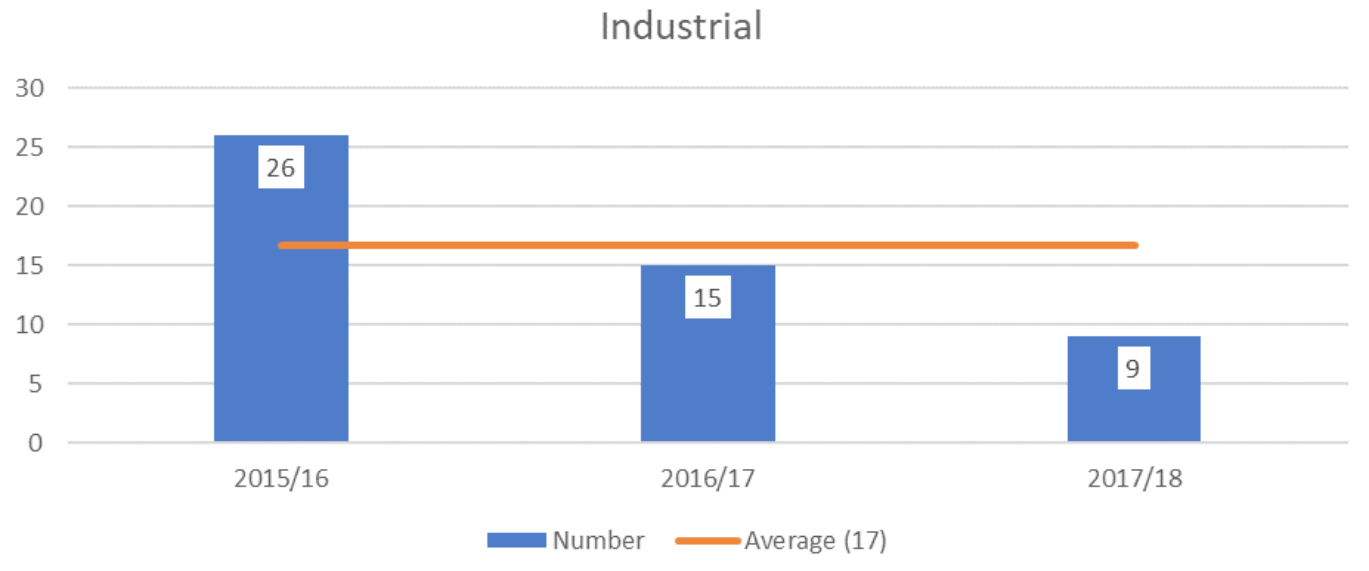
Within our Service area, there are two COMAH sites covered by the Dangerous Substances (Notification & Marking of Sites) Regulations 1990 (NAMOS); Ineos ChlorVinyls and PRC UK Limited, both of which are in Newton Aycliffe. There are also a number of other high-profile businesses that are considering becoming either lower or upper tier COMAH sites.

These businesses are required to take all necessary measures to prevent major accidents involving dangerous substances in order to limit the consequences to people and the environment of any major accidents that do occur.

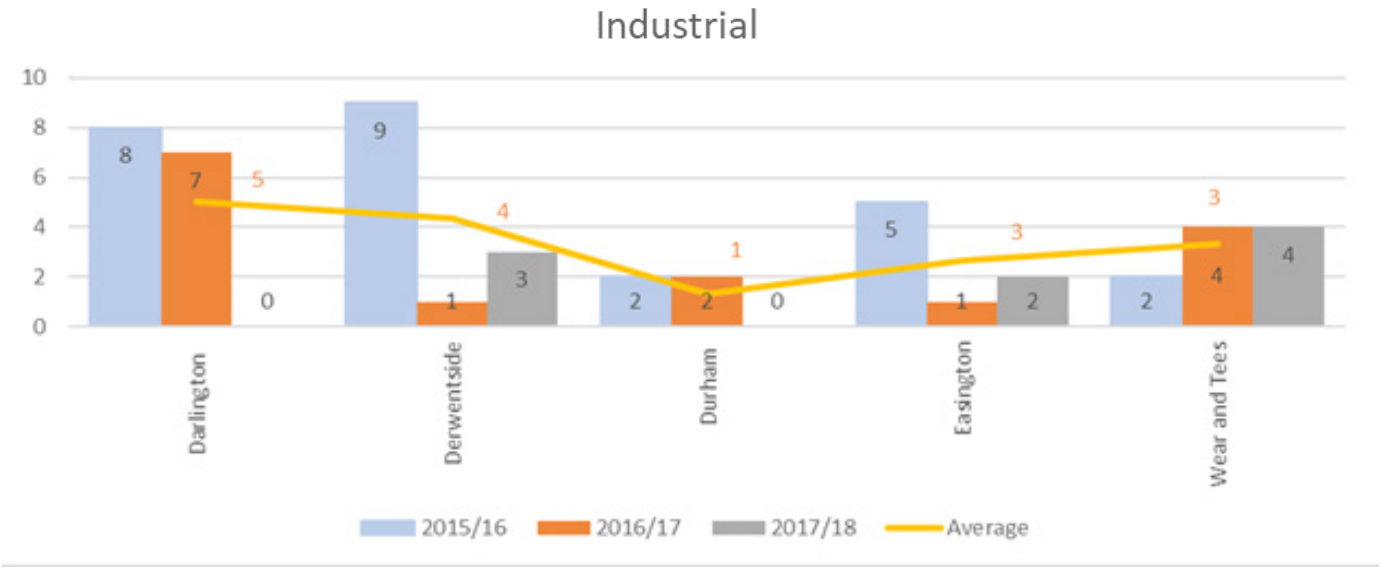
There are a number of industrial estates in our area that pose risks as a result of the diverse range of manufacturing and/or processes undertaken by the businesses that occupy premises at these sites. The experienced level of demand remains relatively low at these premises due to the majority of sites being well-protected from the risk of fire and other incidents. The significant level of prevention activity that we undertake as a FRS helps to ensure this level of protection remains high.

Industrial - key demand information

Number of incidents over the previous three years



Industrial - key demand information continued...



Over the previous three years, we attended an average of 17 industrial-based incidents a year. We have attended 50 incidents in total, 42 of which were primary fires, with eight relating to special service calls. The primary fires were spread across both processing and manufacturing, with almost 50% of these occurring in factories, followed closely by engineering units. Examples of other premises involved in primary fires included food and drink processing, recycling and chemical manufacturing sites. The special service calls we responded to included making safe, the removal of people from objects, the rescue/release of persons and/or no action or offering advice only.

The number of industrial incidents we attend overall has fallen quite significantly on a year-on-year basis. We attended 26 incidents in 2015/16, but only nine in 2017/18.

Risk assessment

The risk to residents of County Durham and Darlington is:

Risk 7 – Industrial					
Catastrophic			★		
Significant			⬇		
Moderate					
Minor					
Limited					
	Low	Medium Low	Medium	Medium High	High

Likelihood	Medium
Consequence	Catastrophic
Overall assessment	**Very High**

8. Malicious attacks/ terrorist incidents

The UK faces a serious and sustained threat from terrorism, including from international groups, domestic extremists and Northern Ireland-related groups. The current UK threat level for international terrorism is 'severe', which means an attack is highly likely. While the majority of incidents have occurred in and around major cities in the UK, it is vital that all emergency services are prepared to deal with an incident in their area.
For the purposes of this document, 'terrorist' refers to any individual or group seeking to use threats or violence as a means of inflicting terror for the purpose of advancing political, religious, racial or ideological causes. This includes a wide variety of individuals and groups of varying ideologies and backgrounds.

Incident types may include Marauding Terrorist Firearms Attack (MTFA), Chemical Biological Radiological Nuclear and explosives (CBRNe), vehicles as a weapon of choice, or smaller-scale attacks.
We prepare for such incidents by taking advice from the relevant authorities on the potential risks posed and assessing the impact that such an attack/incident may cause through working with key partners as part of the LRF. CDDFRS has had no attacks or incidents of a malicious nature in recent years, although the risk of such incidents remains. We have attended white powder incidents, but as none have been classed as malicious in nature, they are covered within the hazardous materials section of this document.

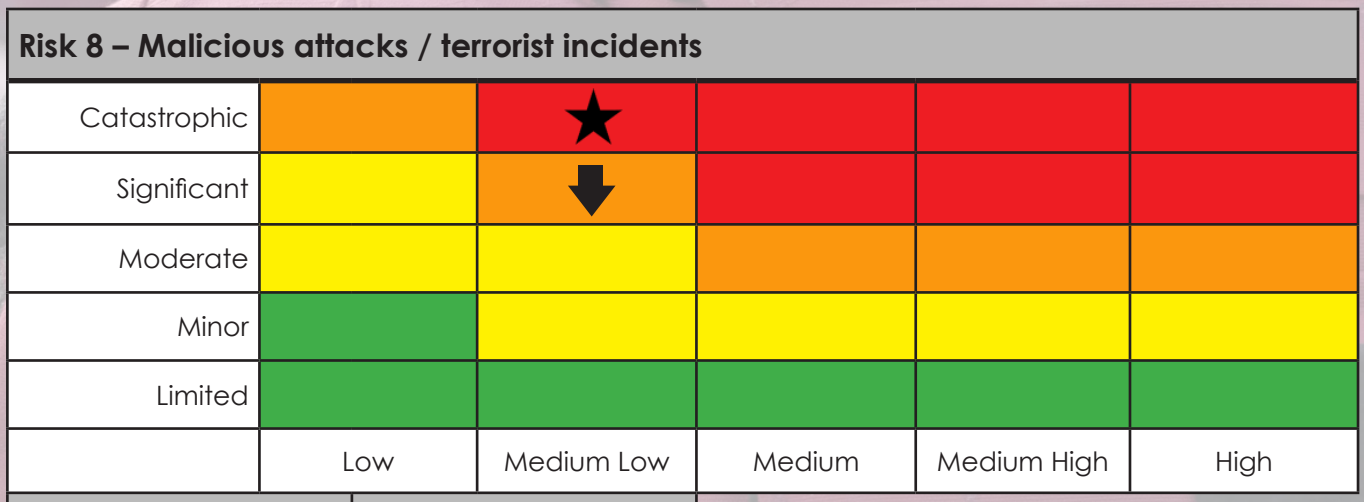
Malicious attacks/ terrorist incidents - key demand information

There have been no incidents of this nature over the previous three years. As a result of the risk levels posed, CDDFRS took the decision earlier this year to implement an MTFA response capability across the Service.

For more information on Counter Terrorism see: https://www.gov.uk/government/organisations/national-counter-terrorism-security-office

Risk assessment

The risk to residents of County Durham and Darlington is:



Likelihood	Medium Low
Consequence	Catastrophic
Overall assessment	**Very High**

9. Air

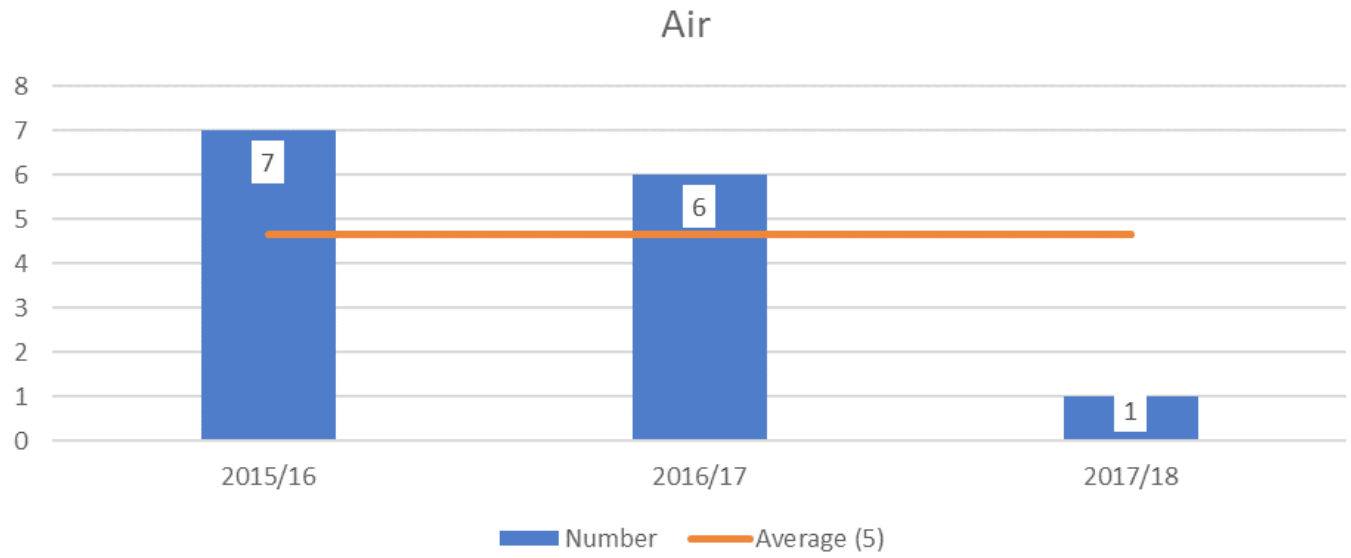
Although it is one of the safest modes of transport, incidents relating to air travel are still present across the UK, with the majority of occurrences related to smaller aircraft such as microlights and gliders. Within County Durham and Darlington, there are several airfields. Durham Tees Valley Airport is located on the outskirts of Darlington, and Catterick Garrison (which has military helicopter traffic) and RAF Leeming are both located just south of Darlington, while Newcastle International Airport is to the north.

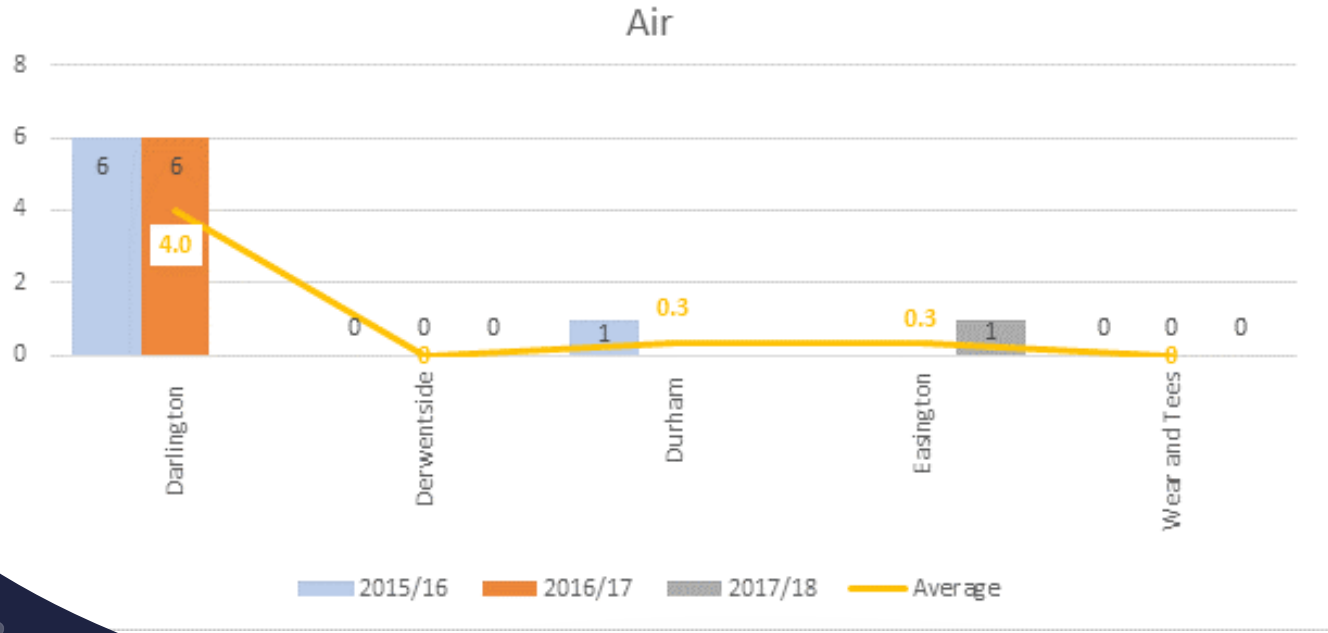
There are also a number of other smaller-scale airfields located at Fishburn, Shotton Colliery and Wheatley Hill, with the smaller-scale aircraft and parachute companies operating out of these facilities.

For more information on Durham Tees Valley Airport see: http://www.durhamteesvalleyairport.com/

Air - key demand information

Number of incidents over the previous three years





Air - key demand information continued...

Over the previous three years, we attended an average of five air-related incidents a year. Of the 14 incidents in total that we attended, 11 involved light aircraft, one a helicopter, one a drone and the other a medium jet aircraft.

13 of these incidents required no action, with the other made safe by operational personnel. In terms of locations, 12 occurred at Durham Tees Valley Airport, one in Shincliffe, Durham and the other in Wingate, Easington.

Risk assessment

The risk to residents of County Durham and Darlington is:

Risk 9 – Air					
Catastrophic		★			
Significant		▼			
Moderate					
Minor					
Limited					
	Low	Medium Low	Medium	Medium High	High

Likelihood	Medium Low
Consequence	Catastrophic
Overall assessment	**Very High**

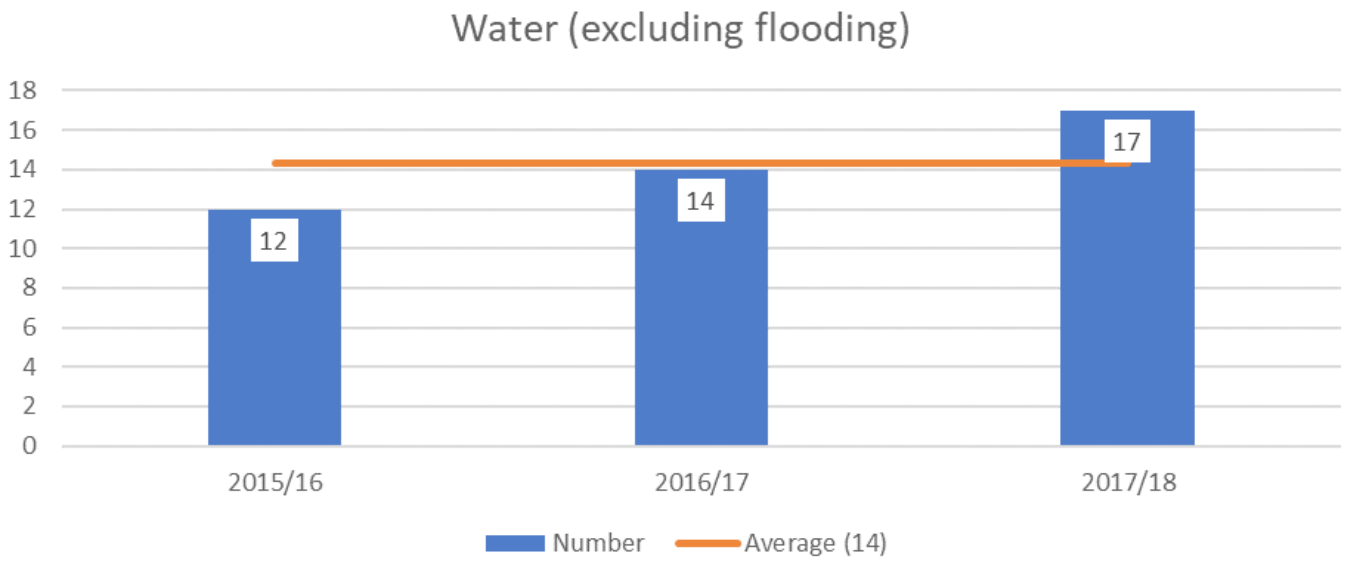
10. Water (excluding flooding)

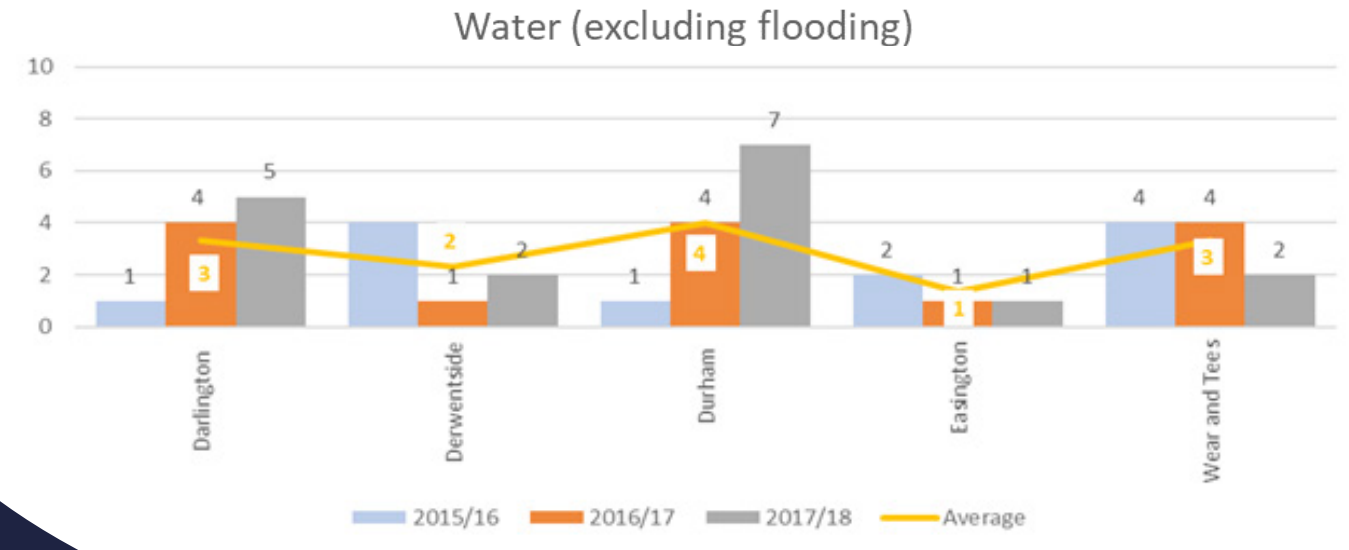
There are a number of water-related risks across County Durham and Darlington, with the River Wear, River Skerne and River Tees all each posing their own risks. The risk of members of the public entering the water and getting into difficulty appears to be on the increase. The combination of the River Wear running directly through the centre of Durham and the growing student population in the City brings an increased risk of water-related incidents occurring. County Durham has over 17 kilometres of coastline, and there are a number of lakes, reservoirs and other water bodies across the Service area that pose risks to the community. Seaham Harbour to the east handles ships of up to 8,000 tonnes and has 900 metres of quay frontage. Our crews carry out training in these areas to ensure their knowledge of the hazards posed and ability to respond are first class. CDDFRS continues to prepare for water rescue incidents on a daily basis and provides an emergency rescue response 24 hours a day.

More information on drowning prevention can be found here: https://www.rlss.org.uk/

Water (excluding flooding) - key demand information

Number of incidents over the previous three years





Water (excluding flooding) - key demand information continued...

Over the previous three years, we attended an average of 14 water rescue-related incidents a year. Overall, this equates to 43 water rescue incidents in total, with an increase in number year on year. The main type of incident we attend involves the rescue of people from rivers, including – on five occasions – rescues from vehicles. Domestic pets, livestock and horses make up the bulk of the remaining incidents. Durham has experienced the most water-related incidents, followed by the Wear and Tees and Darlington Districts.

Risk assessment

The risk to residents of County Durham and Darlington is:

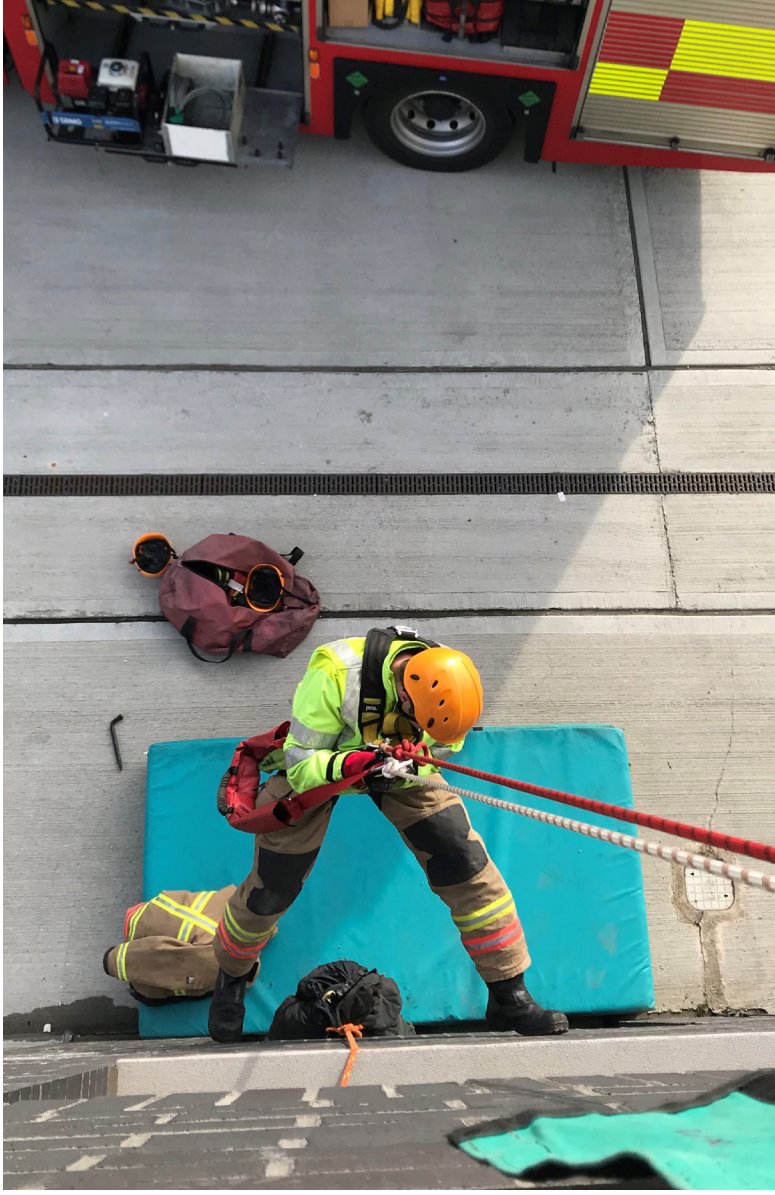
Risk 10 – Water (excluding flooding)					
Catastrophic					
Significant		↑			
Moderate			★		
Minor				↓	
Limited					
	Low	Medium Low	Medium	Medium High	High

Likelihood	Medium
Consequence	Moderate
Overall assessment	**High**

11. Height

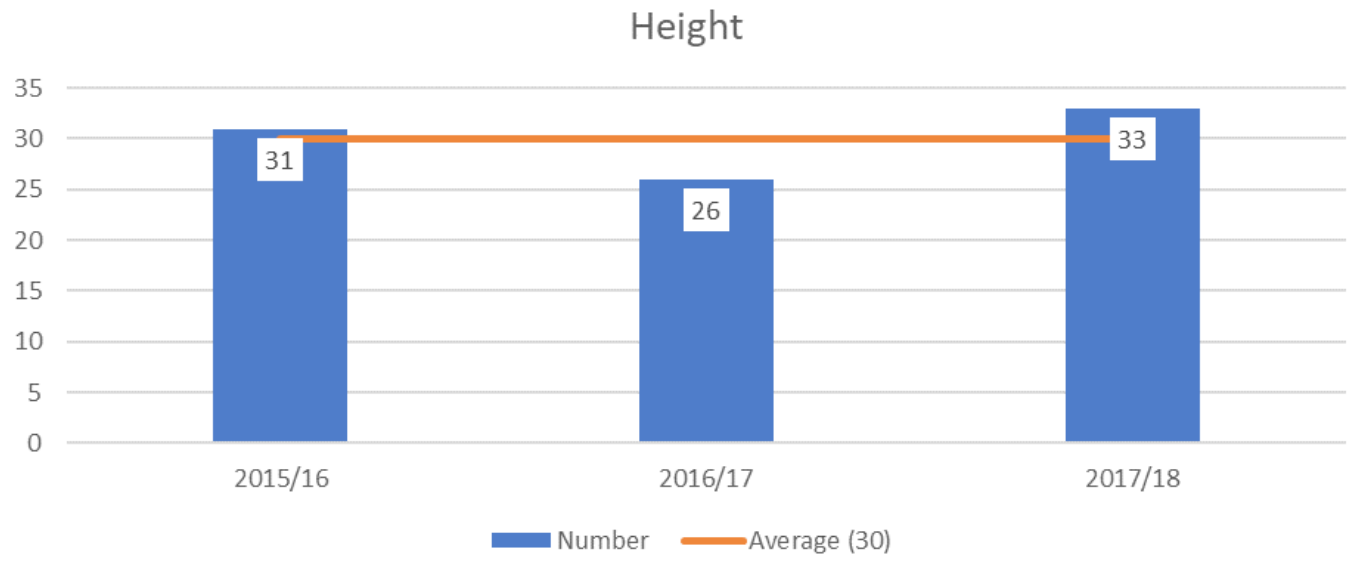
Nationally, FRSs respond to a wide range of incidents at height involving a variety of environments, such as above and below ground, industry, buildings/ dwellings (including buildings under construction), open structures and natural environments (such as steep ground, rock faces, excavations or sink holes).

Locally, CDDFRS covers a wide geographical area, including coastlines to the east and fells and dales in the rural regions to the west. We respond to incidents where people are stranded in inaccessible locations without specially trained rope rescue equipment, and where there is a high level of risk due to things such as the level of industry and confined space e.g. mine shafts across areas of County Durham and Darlington.

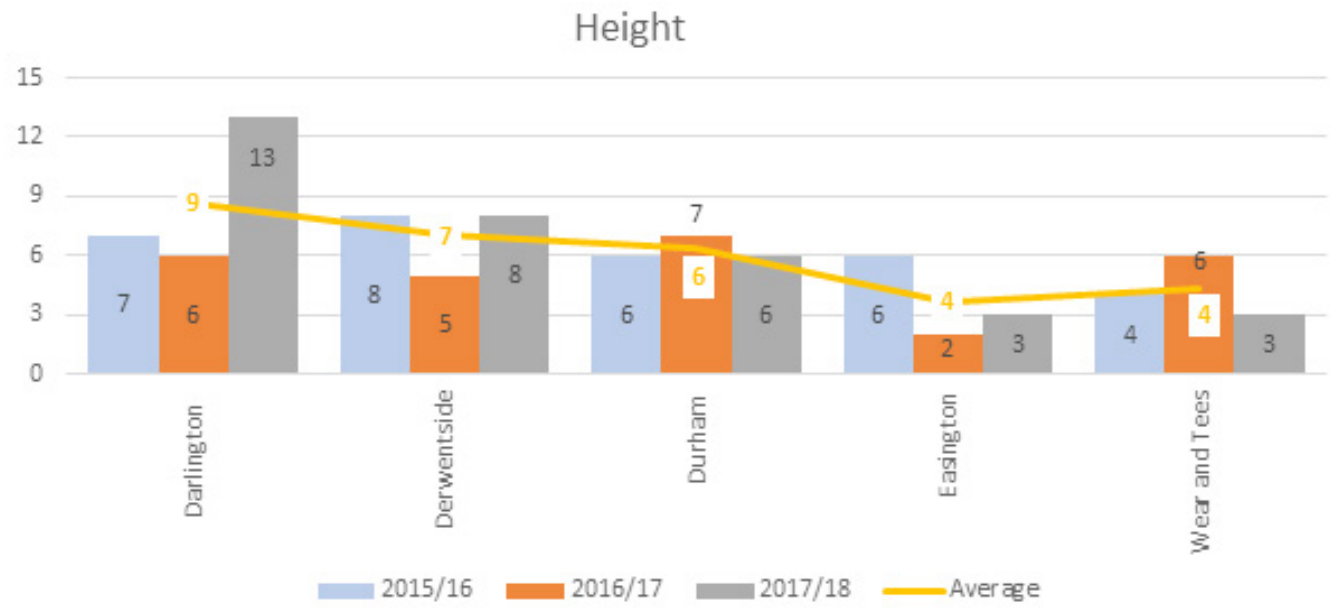


Height - key demand information

Number of incidents over the previous three years



Height - key demand information continued...



Over the previous three years, we attended an average of 30 height rescue-related incidents a year. This equates to 90 incidents in total. Of these, almost a quarter involved dwellings, 15% trees and 5% bridges, with the remainder being made up of other premises. The majority of those rescued were persons, followed closely by domestic and wild animals. Darlington District saw an increase in height rescues in 2017/18, as did Derwentside and Easington on a lesser scale, although the remaining districts experienced a slight decrease.

Risk assessment

The risk to residents of County Durham and Darlington is:

Risk 11 – Height					
Catastrophic					
Significant		↑			
Moderate			★		
Minor				↓	
Limited					
	Low	Medium Low	Medium	Medium High	High

Likelihood	Medium
Consequence	Moderate
Overall assessment	**High**

12. Rail

Incidents on the railways 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.

The East Coast Main Line (ECML) runs through our Service area, with stations at Darlington, Durham and Chester-le-Street. Trains running from Sunderland to London pass through Seaham and Blackhall. If these lines were closed for any reason, there would be a widespread impact on not only the local community and surrounding areas, but also potentially the wider economy.

There are also a number of other local lines in operation, with stations at Bishop Auckland, Chester-le-Street, Newton Aycliffe, Seaham, Shildon and Witton-le-Wear, all of which pose their own unique levels of hazards and risks. As well as the risks associated with passenger rail travel, there are hazards associated with freight, given the local rail infrastructure.

Should an incident occur at any one of the stations or at any point along the network, there is the potential for a significant impact on the local community.

There have been no major passenger rail incidents on the whole of the UK rail network since 2007 (Grayrigg); however, there have been several incidents on the railway network itself, involving individuals that have caused major disruption, such as trains having to be stopped and/or cancelled.

New trains are being introduced on the ECML in 2019, carrying in excess of 600 passengers at high speed, so any incident involving these trains could be significant. Dangerous goods are also regularly transported through the Service area, and one of the biggest risks associated with rail incidents nationally concerns the use of level crossings.

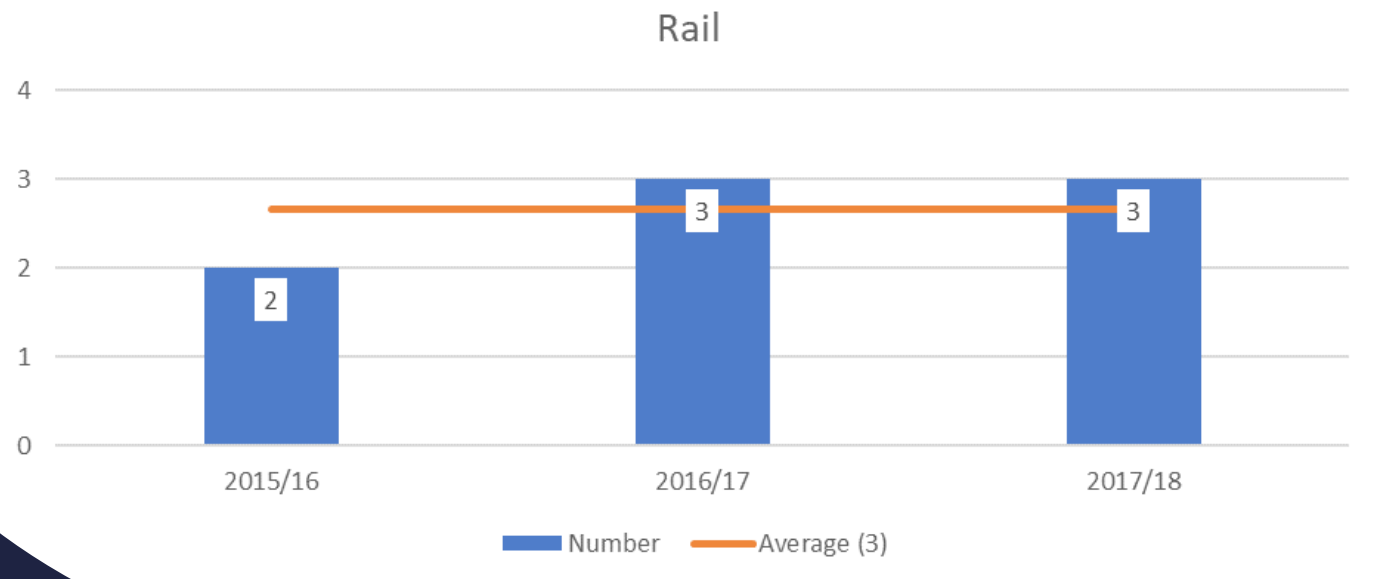
More information on rail safety can be found here:

https://www.networkrail.co.uk/who-we-are/our-approach-to-safety/

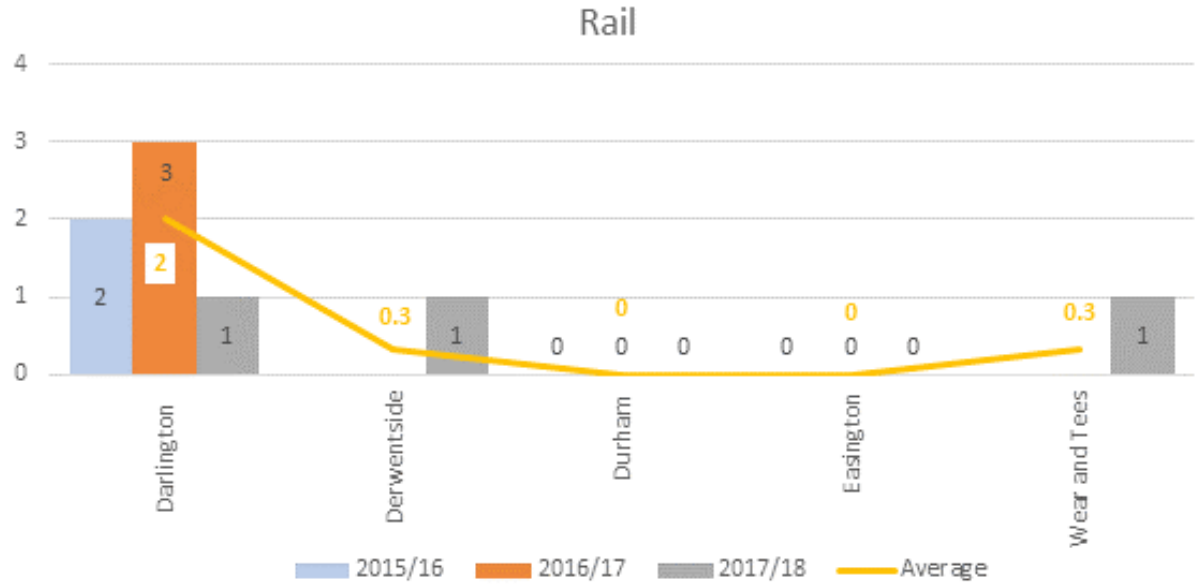
www.btp.police.uk

Rail - key demand information

Number of incidents over the previous three years



Rail - key demand information continued...



Over the previous three years, we attended an average of three rail incidents a year. Although such incidents can have significant consequences, fortunately, the number of incidents we attend on railways in County Durham and Darlington is low; only eight in total over the previous three years, 75% of which were located within Darlington District. Of these incidents, none were related to the trains themselves, but instead involved assisting other agencies with suicide attempts, bariatric patients and medical interventions, as well as instances where no action by CDDFRS personnel was required.personnel.

Risk assessment

The risk to residents of County Durham and Darlington is:

Risk 12 – Rail					
Catastrophic	↑				
Significant		★			
Moderate			↓		
Minor					
Limited					
	Low	Medium Low	Medium	Medium High	High

Likelihood	Medium Low
Consequence	Significant
Overall assessment	**High**

13. Wildfires

Nationally, there have been a number of high-profile wildfire incidents, with CDDFRS supporting the most recent fire in Lancashire by deploying a number of personnel and equipment to support the efforts in bringing the fire under control and concluding the incident.

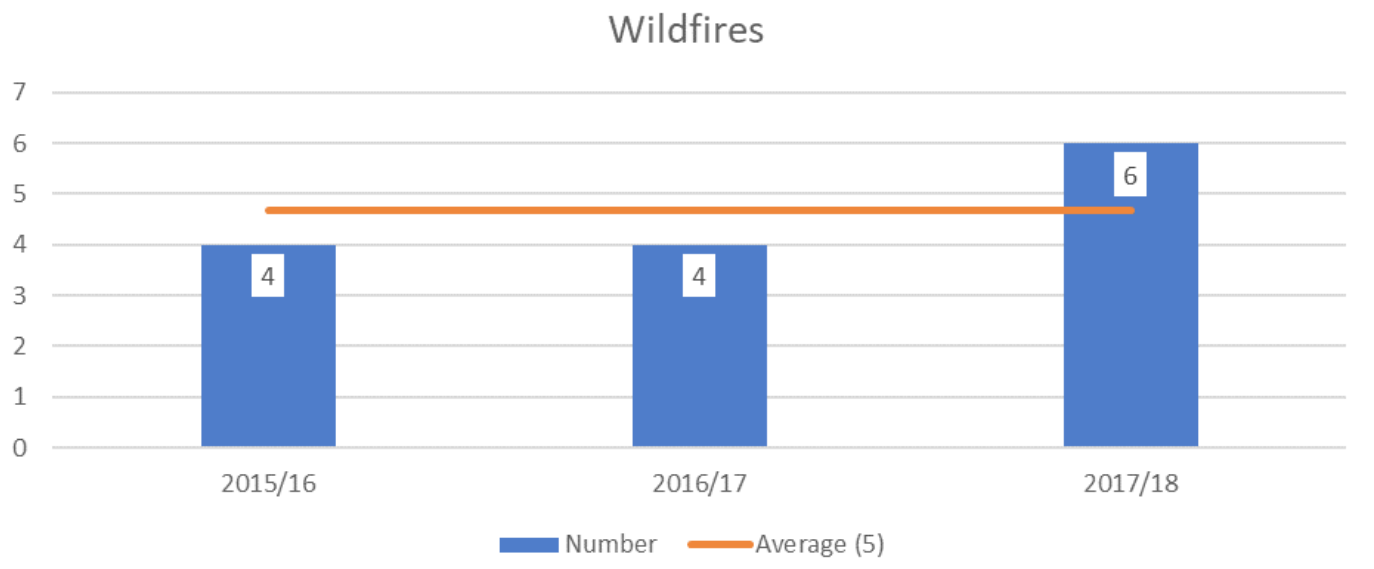
In terms of our local risk from wildfire, the west of the Service area is predominantly rural, consisting of open moorland and wooded river valleys, and is sparsely populated. Middleton-in-Teesdale, Barnard Castle and Stanhope fire stations cover a large outlying area of small villages and communities. These remote rural areas present us with a risk of wildfire, particularly during the summer months. We know that wildfires can start for many reasons, such as mishandled campfires or barbecues, malicious activity such as deliberate fire setting, infrastructure incidents such as sparks from electricity lines or rail transport, and natural phenomena such as lightning (although this is rare).

Hot, dry and windy weather are ideal conditions for wildfires to start and spread. Such weather tends to be relatively short-lived, but is most likely to occur between the months of March and September.

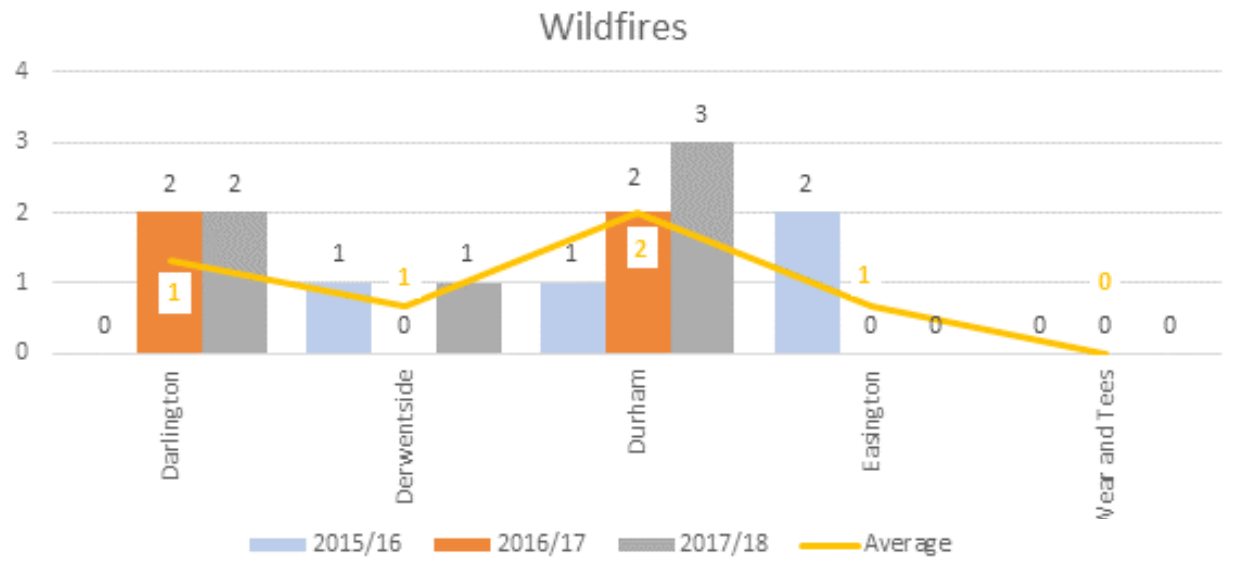
The number of incidents we attend is relatively low across the Service area; however, there remains a risk of such incidents in the more rural areas, and appropriate resources and procedures therefore remain in place should such an incident occur.

Wildfires - key demand information

Number of incidents over the previous three years



Wildfires - key demand information continued...



Over the previous three years, we attended an average of five wildfire incidents a year. Although all of the wildlife incidents occurring in our area have been relatively small compared to others seen nationally, they have had an impact on our resources, with four fire appliances or more attending 50% of all incidents over the previous three years. Within the criteria set for this element of risk, the main areas of concern are stacked/baled crop and scrubland, including three incidents that covered in excess of 10,000 square metres.

Durham District has seen a steady increase in wildfires year on year, involving a range of incident types, while Darlington has had four in total since 2016/17, all of which were stacked/baled crops.

Risk assessment

The risk to residents of County Durham and Darlington is:

Risk 13 - Wildfires					
Catastrophic		↑			
Significant		★			
Moderate			↓		
Minor					
Limited					
	Low	Medium Low	Medium	Medium High	High

Likelihood	Medium Low
Consequence	Significant
Overall assessment	**High**

14. Building collapse

When a building collapse occurs, there is the potential for a number of persons to be: killed or seriously injured; trapped or classed as missing. There is also a risk of power loss and damage to other essential services, and roads and access routes may even become blocked, all of which would impact greatly on the local communities. Depending on the size and construction of the building, and occupation rates, there will – of course – remain the possibility of fatalities or serious casualties.

Due to the makeup and diversity of the buildings and architecture within County Durham and Darlington, there will always remain the risk of buildings collapsing for a multitude of reasons, such as gas explosions, fire, age and construction type, vehicular impact, structural defects or dilapidation and poor upkeep. This is why CDDFRS feels it necessary to include such a risk within this document and when planning its level of resources to respond to such an incident.

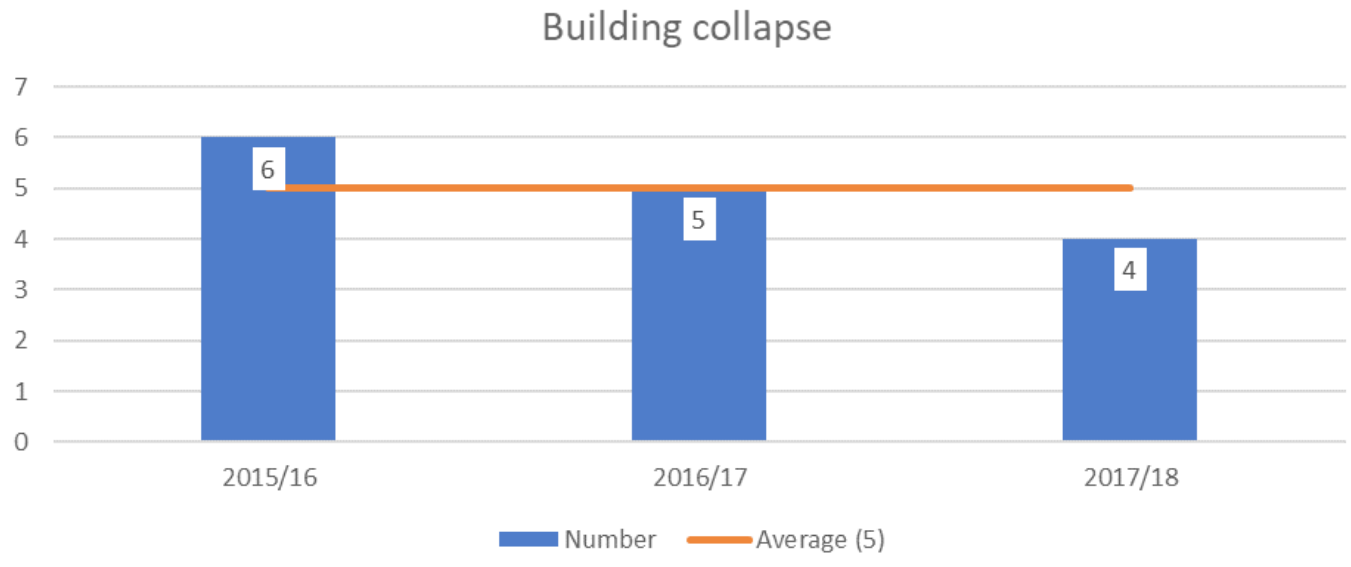
For more information on dangerous structures, please see:

https://durham.gov.uk/article/3738/Dangerous-structures

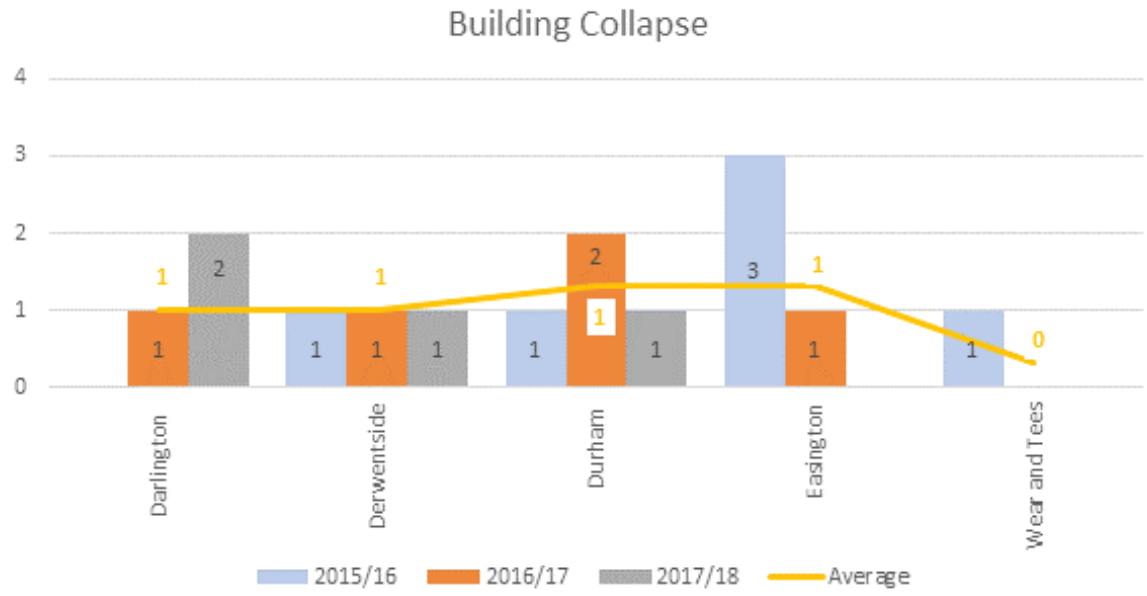
https://www.darlington.gov.uk/media/1546/dangerous_structures.pdf

Building collapse - key demand information

Number of incidents over the previous three years



Building collapse - key demand information continued...



Over the previous three years, we attended an average of five incidents a year related to building collapse, equating to 15 incidents in total. The main incident types included the partial collapse of gable ends and chimneys, with some of the more recent incidents involving a car crashing into a property and the partial collapse of a World War II bunker due to fire damage.

Risk assessment

The risk to residents of County Durham and Darlington is:

Risk 14 – Building collapse					
Catastrophic		▲			
Significant		★			
Moderate		▼			
Minor					
Limited					
	Low	Medium Low	Medium	Medium High	High

Likelihood	Medium Low
Consequence	Significant
Overall assessment	**High**

15. Secondary fires

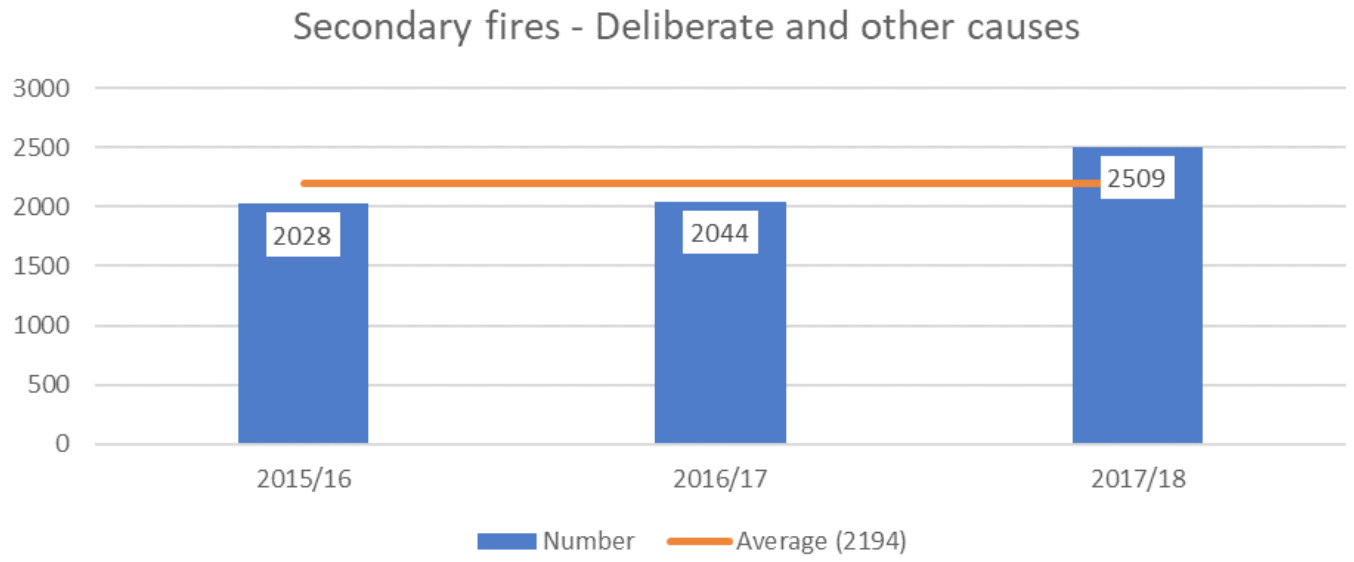
This type of incident incorporates fires with no casualties, rescues or valuable property loss. These include outdoor fires, derelict property and derelict vehicle fires (together classed as 'small fires'). Outdoor fires may involve grass, refuse, wheelie bins and straw.

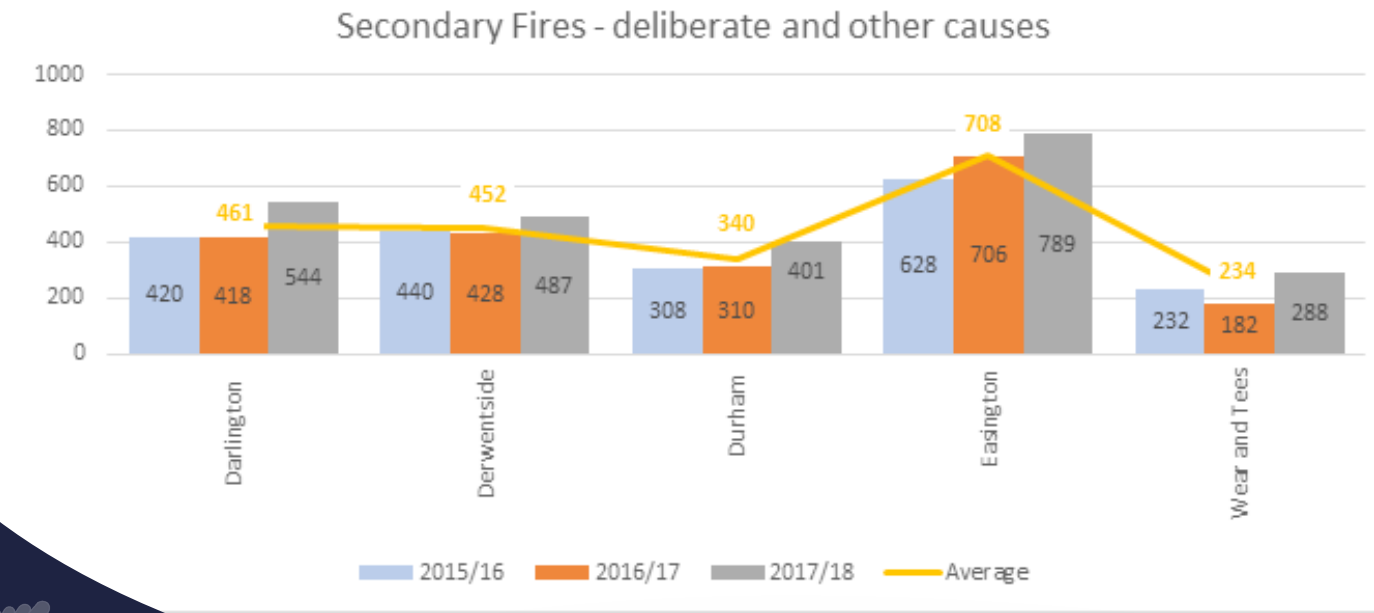
Although there may be less damage incurred by secondary fires than primary fires and these incident types generally occur outdoors, not involving people or property, the impact of deliberate secondary fires on CDDFRS is substantial.

Secondary fires are one of the biggest burdens placed on our resources, particularly in the Easington area, which has the largest problem in terms of the number of incidents. As with primary fires, the number of accidental secondary fires that we experience is extremely low in comparison to those set deliberately. 95% (6,581) of our secondary fires were deliberate or the cause was unknown, with this ratio of incidents being higher than any other incident type. The majority of these are classed as loose refuse.

Secondary fires - key demand information

Number of incidents over the previous three years





Secondary fires - key demand information continued...

Over the previous three years, we attended an average of 2,194 secondary fires a year of deliberate and unknown cause, equating to 6,581 in total. As with many of the other deliberate fires we attend, the main area of concern is Easington District, where a total of 2,123 of these incidents have occurred over the last three years. Other districts widely affected include Darlington and Derwentside. Loose refuse is the main item being set alight, with other items including scrubland, tree scrub, wheelie bins and small refuse/rubbish/recycling containers. The remaining districts also suffer from a high number of deliberate secondary fires, all of which saw an increase during 2017/18 compared to previous years.

Of all of the incidents attended across the Service, the majority occurred between the hours of 16:00 and 22:00 and the months of April to August.

Risk assessment

The risk to residents of County Durham and Darlington is:

Risk 15 – Secondary fires					
Catastrophic					
Significant					↑
Moderate					★
Minor					↓
Limited					
	Low	Medium Low	Medium	Medium High	High

Likelihood	High
Consequence	Moderate
Overall assessment	**High**

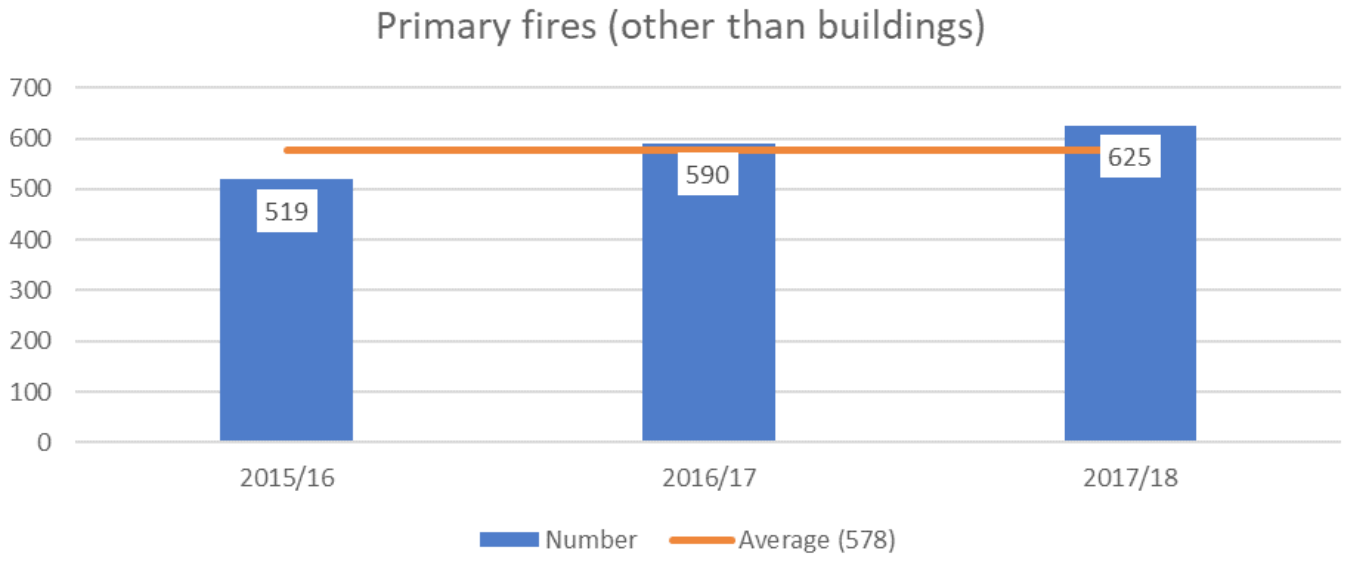
16. Primary fires (other than buildings)

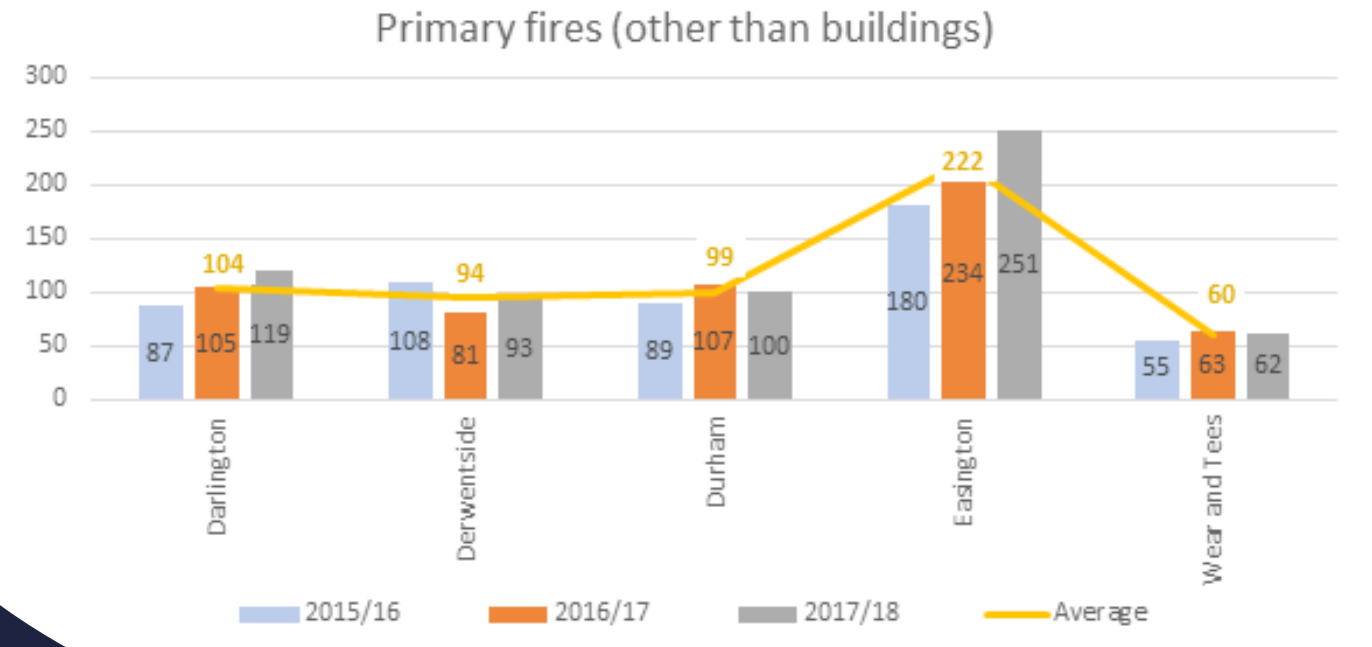
Primary fires are those that occur in a vehicle or outdoor structures, any fire involving fatalities, casualties or rescues or any fire attended by five or more pumping appliances. We have classified this section as "Primary fires (other than buildings)", as many of the incidents for primary fires have already been covered within other categories, due to them relating to premises.

Primary fires covered within this section predominantly relate to incidents involving road vehicles, but the category also includes agricultural equipment, garden sheds, garages and straw bales. Although these incidents do not involve properties, they do still have a value attached to the things involved in the fire. Less than a third of this incident type are caused accidentally.

Primary fires (other than buildings) - key demand information

Number of incidents over the previous three years





Primary fires (other than buildings) - key demand information continued...

Over the previous three years, we attended an average of 578 primary fires a year that did not involve buildings. The actual overall total number of incidents we attended was 1,734, with Easington District accounting for the most, which includes an increase year on year.

Darlington and Durham Districts both encountered in excess of 100 incidents during 2017/18. The majority of incidents were deliberate road vehicle fires, with garden sheds, grassland, woodland and crops making up the remaining incidents.

Risk assessment

The risk to residents of County Durham and Darlington is:

Risk 16 – Primary fires (other than buildings)					
Catastrophic					
Significant				▲	
Moderate					★
Minor					▼
Limited					
	Low	Medium Low	Medium	Medium High	High

Likelihood	High
Consequence	Moderate
Overall assessment	**High**

17. Waste disposal site fires

Waste disposal sites nationally are recognised as being susceptible to fires, whether accidental or through negligence. Such fires are an increasingly growing risk, and have the potential to impact upon resources and local communities for a significant period of time.

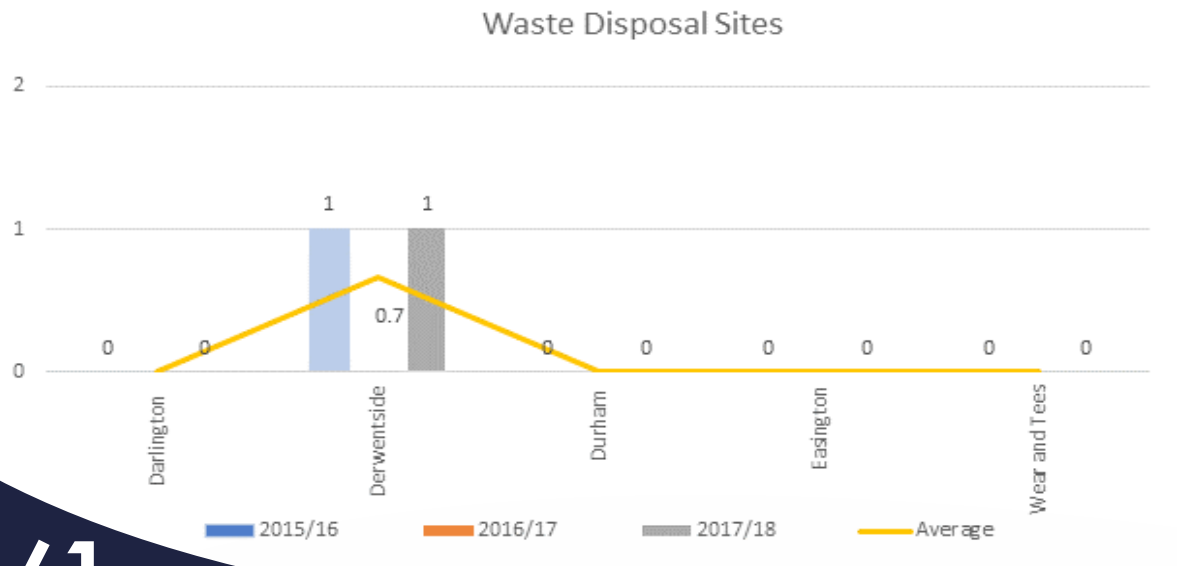
As well as the health risk to the residents of County Durham and Darlington and firefighters dealing with this type of incident, waste disposal site fires also place a strain on partner agencies such as the police, EA, public health, local authorities and the site owners.

There are a number of waste disposal and recycling centres across the Service area, including a mix of local authority-owned and privately-owned sites. The local authority-owned sites are often regulated by regulatory bodies such as the EA, while the private sites are regularly managed through unclear management structures.

For the purpose of this document, "Waste Disposal/Treatment Site Fires" are those that have occurred inside any building located within the boundaries of the site itself, but do not include smaller fires that occur outside. Locations such as small intermediate collection points and treatment facilities containing ISO containers, skips, outdoor loose recycling or material have experienced a number of smaller-scale fires over the previous three years that we have attended, with one of the key accelerants being lithium batteries. These are covered under the risk types "Secondary/Primary Fires", due to the nature of what is on fire.

Waste disposal site fires - key demand information

Number of incidents over the previous three years



Waste disposal site fires - key demand information continued...

Over the previous three years, we attended an average of less than one waste disposal site fire a year. We have only attended two overall, with both occurring in Derwentside. One of the incidents involved a pile of scrap metal and plastics that spread to the recycling building itself, while the other was due to a large accumulation of approximately 100 tons of domestic waste that had been stacked for some time. The impact of these incidents on our resources related to not only equipment, but also operational personnel being on scene for several hours.

Risk assessment

The risk to residents of County Durham and Darlington is:

Risk 17 – Waste disposal site fires					
Catastrophic	↑				
Significant	★				
Moderate					
Minor	↓				
Limited					
	Low	Medium Low	Medium	Medium High	High

Likelihood	Low
Consequence	Significant
Overall assessment	**Medium**

18. Major public events

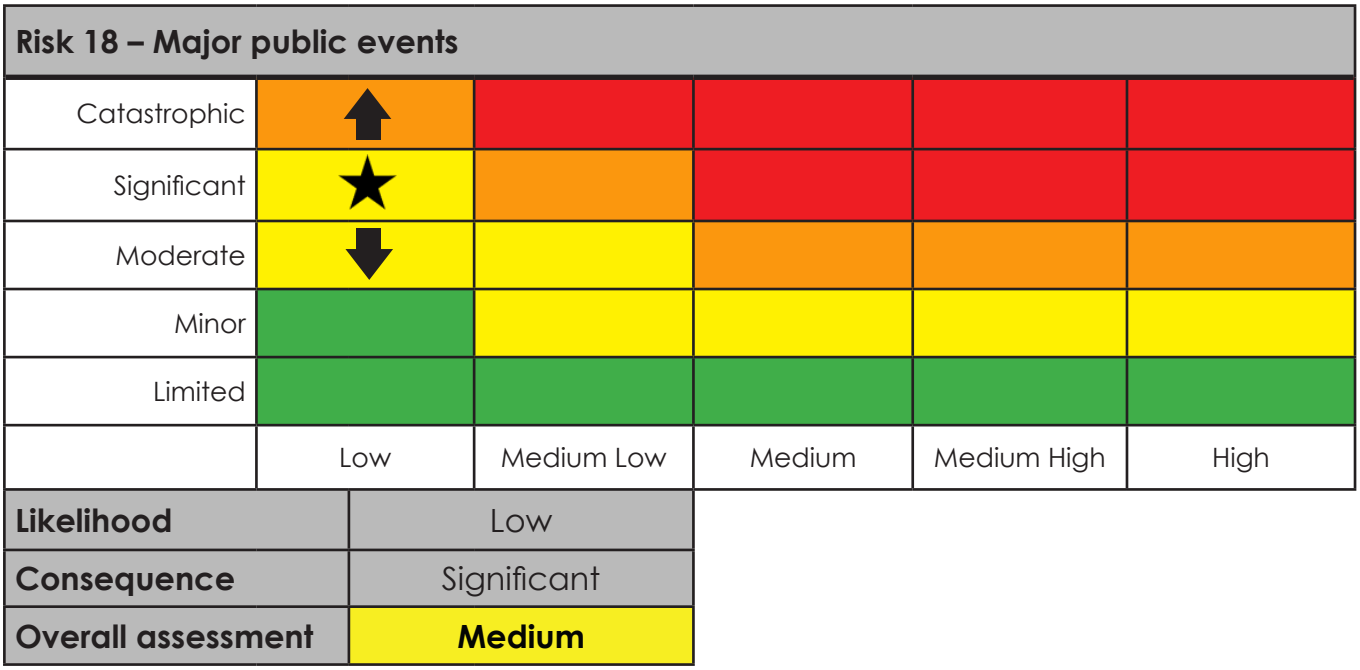
For the purpose of this document, major events are defined as those incidents that require a significant response involving assistance from other emergency services at large-scale events. In County Durham and Darlington, there are a number of public events each year that attract large crowds of people into concentrated areas, and this presents a significant level of risk. The Safety Advisory Group (SAG) for both Durham and Darlington receives a number of notifications for events each year, with some being of significant scale. A few examples of such events include Durham Pride and Skylive Airshow, both of which host in excess of 20,000 people, while events such as Kynren, Durham Miners' Gala and Lumiere can host in excess of 100,000 people. The Emirates Riverside cricket ground near Chester-le-Street holds various events that attract large crowds throughout the year. These large-scale public gatherings and events have the potential to impact on local infrastructure, resources and emergency services should an incident occur, which is why it is appropriate to include this risk within the document.

Major public events - key demand information

During the previous three years, there have been no incidents of any significance at major events across County Durham or Darlington. Although this is the case, there remains a need to ensure appropriate levels of resources are made available to support these types of events and the high consequences should an incident occur.

Risk assessment

The risk to residents of County Durham and Darlington is:



Likelihood	Low
Consequence	Significant
Overall assessment	**Medium**

19. Heritage risks

The Service area has 111 Grade 1 listed buildings and 193 Grade 2* listed buildings. Durham also has a World Heritage Site with the Cathedral and Castle, which was inscribed by UNESCO in 1986. Listing marks celebrates a building's special architectural and historic interest and also brings it under the consideration of the planning system, so that it can be protected for future generations.

Grade I: buildings of exceptional interest.
Grade II*: particularly important buildings of more than special interest.
Some examples of listed buildings from our area include:

- Durham Cathedral
- Durham Castle
- Escomb Saxon Church
- Raby Castle
- Crook Hall
- Rokeby Park
- Auckland Castle

- St Mary's Church, Barnard Castle
- Bowes Museum
- Walworth Castle

The destruction of any historic building represents a loss that is difficult to replace, so it is important that these buildings and their contents are protected from the damage that may result in a fire.
More information on heritage risk can be found here: https://durham.gov.uk/conservation

Heritage risks - key demand information

There have been no incidents within Grade I or II* listed buildings of any historical significance, such as those listed above, over the previous three years.

Risk assessment

The risk to residents of County Durham and Darlington is:

Risk 19 – Heritage risks					
Catastrophic	↑				
Significant	★				
Moderate	↓				
Minor					
Limited					
	Low	Medium Low	Medium	Medium High	High

Likelihood	Low
Consequence	Significant
Overall assessment	**Medium**

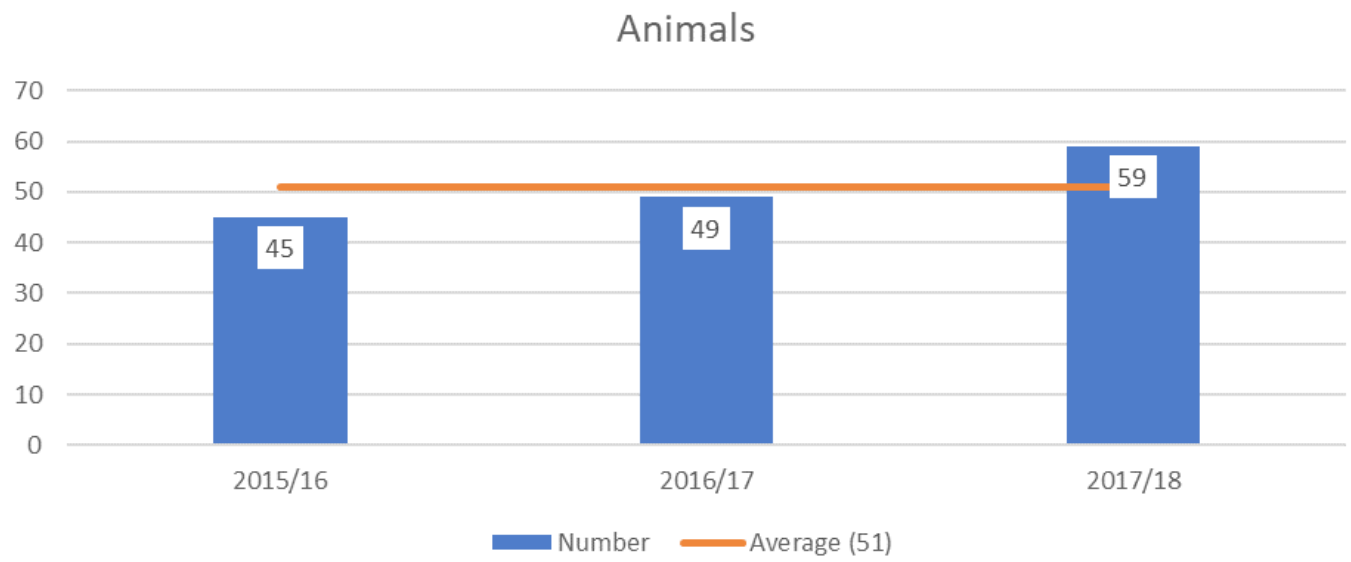
20. Animals

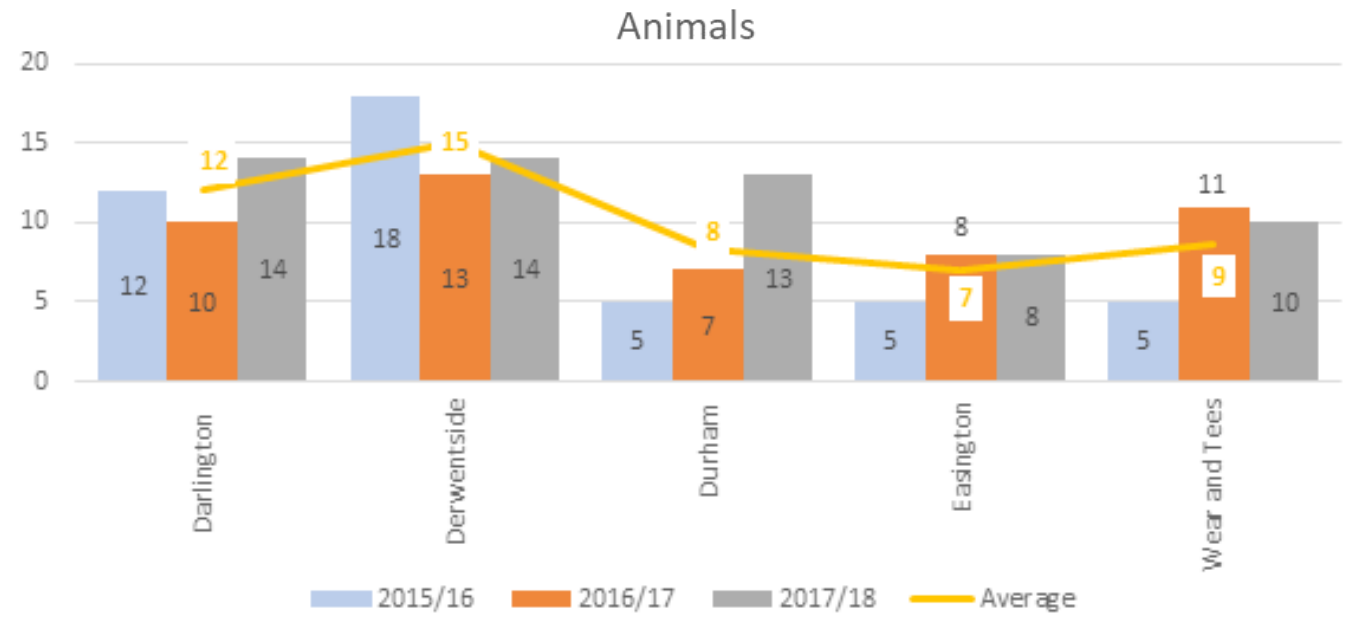
For many years, firefighters have responded to a variety of incidents involving pets, livestock and wild animals. Animals in distress can pose a potentially serious risk to the public, staff from other agencies and firefighters. There is also an element of risk of members of the public suffering serious injury should they decide to attempt an animal rescue themselves.

As a predominantly rural area, CDDFRS inevitably responds to incidents where a range of animals are in distress. We therefore have a range of resources available to deal with this risk, including a specialist animal rescue provision based at Bishop Auckland.

Animals - key demand information

Number of incidents over the previous three years





Animals - key demand information continued...

Over the previous three years, we attended an average of 51 animal rescues per year. This equates to 153 in total, many of which have been spread across the five districts. We saw an increase of 10 incidents in 2017/18 compared to the previous year, with Derwentside District responsible for the highest number of incidents attended year on year.

There is a large range of types of animals involved in these incidents, from domestic animals (which account for over 50% of all incidents) to a mix of wild animals and livestock accounting for the remaining 50%.

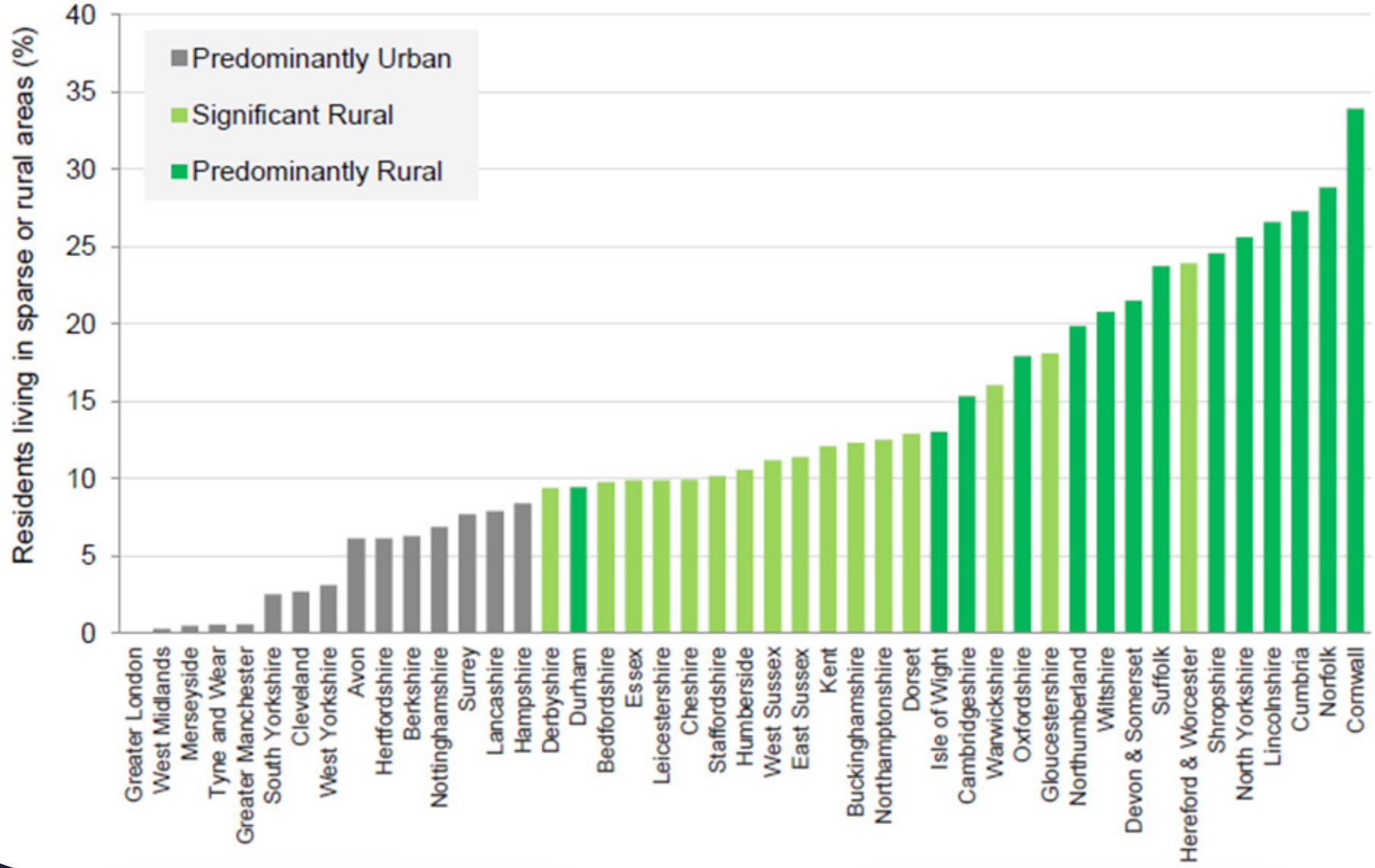
Risk assessment

The risk to residents of County Durham and Darlington is:

Risk 20 - Animals					
Catastrophic					
Significant					
Moderate		▲			
Minor			★		
Limited				▼	
	Low	Medium Low	Medium	Medium High	High

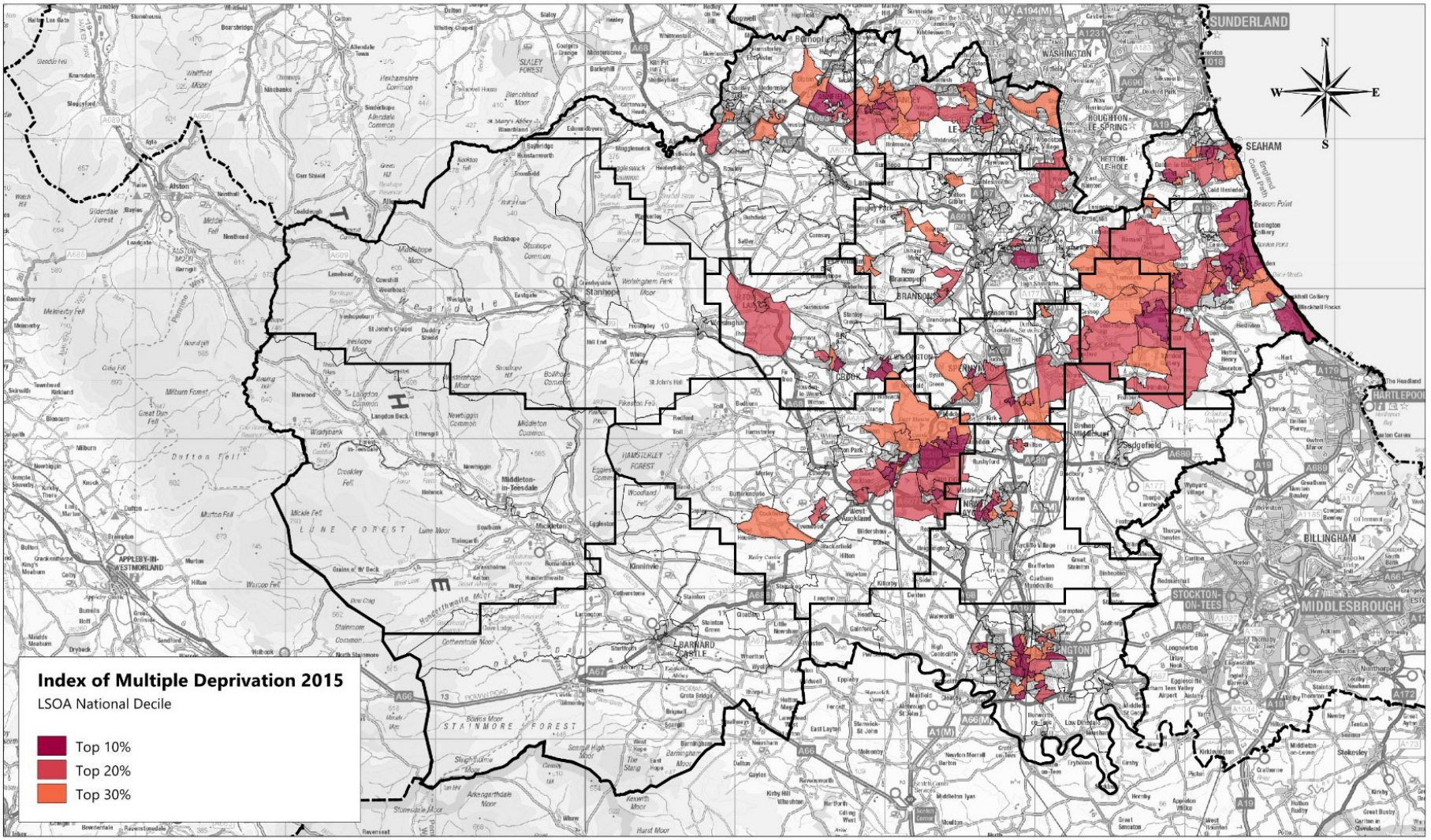
Likelihood	Medium
Consequence	Minor
Overall assessment	**Medium**

Appendix A


Residents living in sparse or rural areas (%)
40
35
30
25
20
15
10
5
0
Predominantly Urban
Significant Rural
Predominantly Rural
Greater London
West Midlands
Merseyside
Tyne and Wear
Greater Manchester
South Yorkshire
Cleveland
West Yorkshire
Avon
Hertfordshire
Berkshire
Nottinghamshire
Surrey
Lancashire
Hampshire
Derbyshire
Durham
Bedfordshire
Essex
Leicestershire
Cheshire
Staffordshire
Humberside
West Sussex
East Sussex
Kent
Buckinghamshire
Northamptonshire
Dorset
Isle of Wight
Cambridgeshire
Warwickshire
Oxfordshire
Gloucestershire
Northumberland
Wiltshire
Devon & Somerset
Suffolk
Hereford & Worcester
Shropshire
North Yorkshire
Lincolnshire
Cumbria
Norfolk
Cornwall

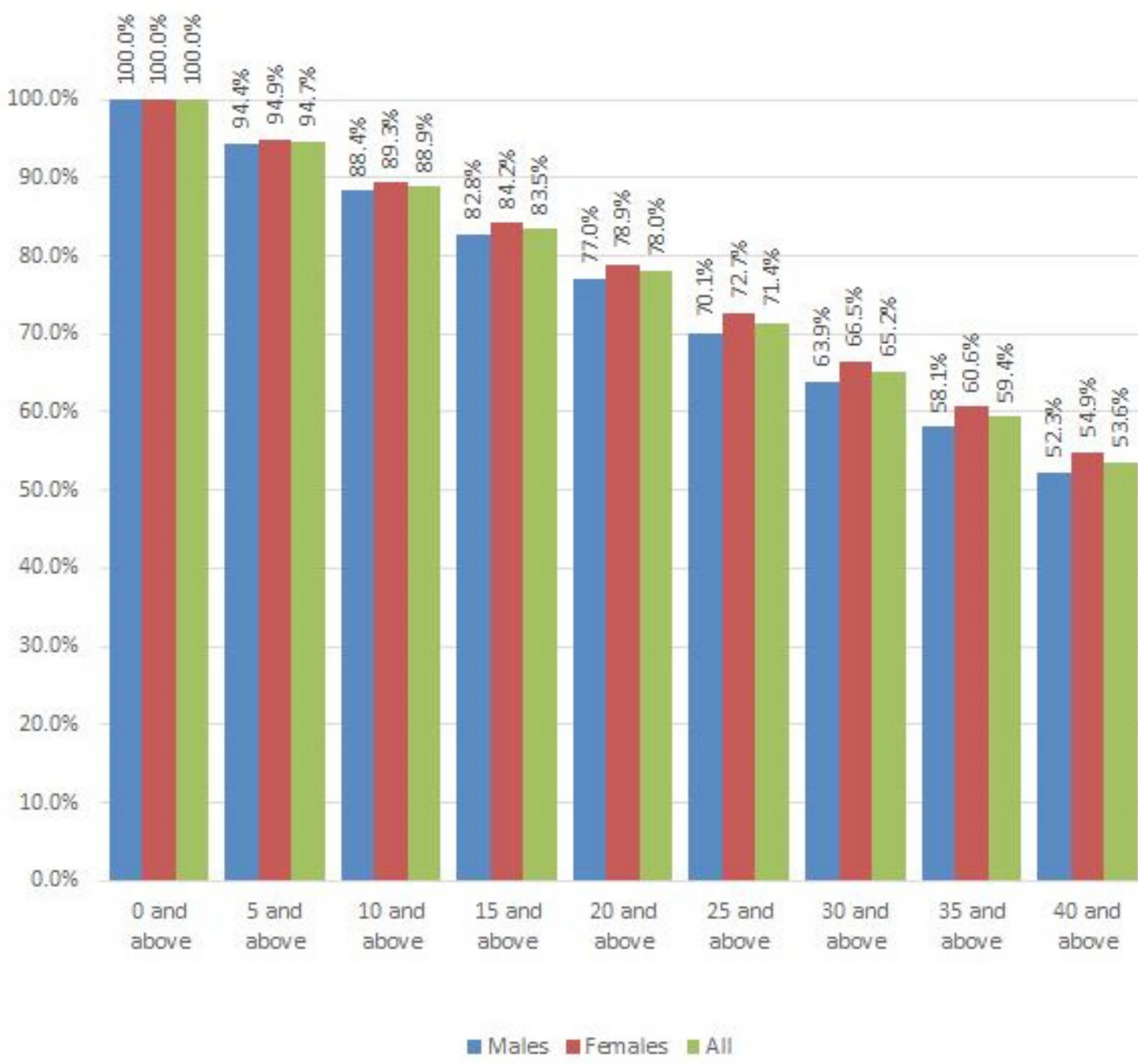
Appendix B

Index of multiple deprivation 2015
Lower layer super output areas (LSOAs)



Appendix C

Percentage population of County Durham and Darlington ONS mid-2017 population estimates reversed cumulative values



46.9%
49.3%
48.1%
39.9%
42.3%
41.1%
32.2%
34.8%
33.5%
25.3%
27.7%
26.5%
19.1%
21.5%
20.3%
13.1%
15.4%
14.3%
7.7%
10.0%
8.9%
4.2%
6.0%
5.1%
1.8%
3.0%
2.4%
0.5%
1.1%
0.8%
45 and above
50 and above
55 and above
60 and above
65 and above
70 and above
75 and above
80 and above
85 and above
90 and above

County Durham and Darlington
Fire and Rescue Service