



**NORTH YORKSHIRE
FIRE & RESCUE SERVICE**



Community Risk Profile

March 2022



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Foreword

The Fire and Rescue National Framework for England outlines the requirement for every fire and rescue authority to assess all foreseeable fire and rescue related risks that could affect their communities.

It's essential that we understand current and future risks and their potential impact on the people who visit, live and work in North Yorkshire and the City of York. To be able to do this we need to understand the communities that we serve and the places where they live and work.

Our range of services are prevention and early intervention, fire safety, supporting resilience, and emergency response. Like most public sector organisations, our resources are limited. It is important that our communities have confidence in us, and the way we deliver our services, by using our resources effectively and efficiently to address the risks that are present.

In this document we set out an overview of the risks that we have identified. We focus on what we have identified to be the priority risks. This allows us to decide how we use the resources available to us to deliver our full range of services.

Society is constantly changing, as are our communities. Our services need to adapt and evolve with this, so the information presented here is crucial in helping us continue to keep our communities safe now and in the future.

This Community Risk Profile provides a comprehensive and forward-looking assessment of the risks in our communities that will impact upon, and shape, the services we deliver over the coming years.



Jonathan Foster
Interim Chief Fire Officer

Introduction

Our statutory duties

North Yorkshire Fire and Rescue Service (NYFRS) plays a crucial role in making our communities safer. We do this by preventing and protecting people from fire and other risks, and by responding effectively to emergencies when they occur.

We fulfil the Government's priorities in the Fire and Rescue National Framework (2018)¹ which requires fire and rescue authorities to:

- make appropriate provision for fire prevention and protection activities and response to fire and rescue related incidents;
- identify and assess the full range of foreseeable fire and rescue related risks their areas face;
- collaborate with emergency services and other local and national partners to increase the efficiency and effectiveness of the service they provide;
- be accountable to communities for the service they provide; and
- develop and maintain a workforce that is professional, resilient, skilled, flexible and diverse.

We must ensure that we make provision for:

- extinguishing fires;
- protecting life and property in the event of fires;
- rescuing and protecting people in the event of a road traffic collision; and
- rescuing and protecting people in the event of other emergencies.

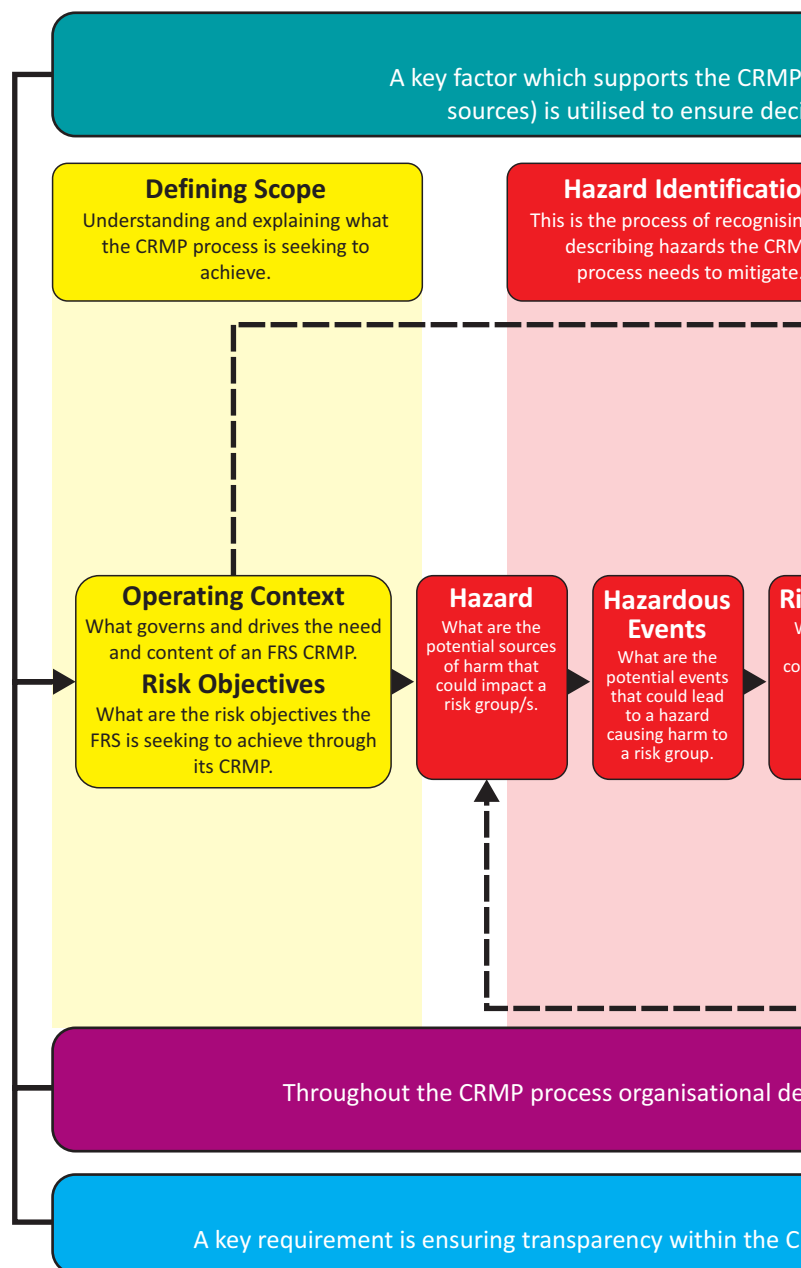


NFCC
National Fire
Chiefs Council

Integrated Risk Management Plan

For each Fire and Rescue Service in England, these statutory duties are built into an Integrated Risk Management Plan (IRMP) that is developed and owned by each Service.

“Every Fire and Rescue Authority must assess all foreseeable fire and rescue related risks that could affect their communities, whether they are local, cross-border, multi-authority and/or national in nature from fires to terrorist attacks. Regard must be had to Community Risk Registers produced by Local Resilience Forums and any other local risk analyses as appropriate.”¹



¹ Fire and Rescue National Framework for England 2018

The Chief Fire Officer produces an IRMP covering at least a 3-year period. This is known locally in North Yorkshire as our Risk and Resource Model (RRM). We've called it the RRM because its aim is to improve community safety by reducing risk through making the best use of our resources, such as our fire engines and our people. We need to provide communities with a service that is 'value for money' whilst also making sure we provide a safe working environment for our firefighters.

Figure 1 illustrates how our RRM planning framework is aligned to the national framework produced by the National Fire Chiefs Council (NFCC).

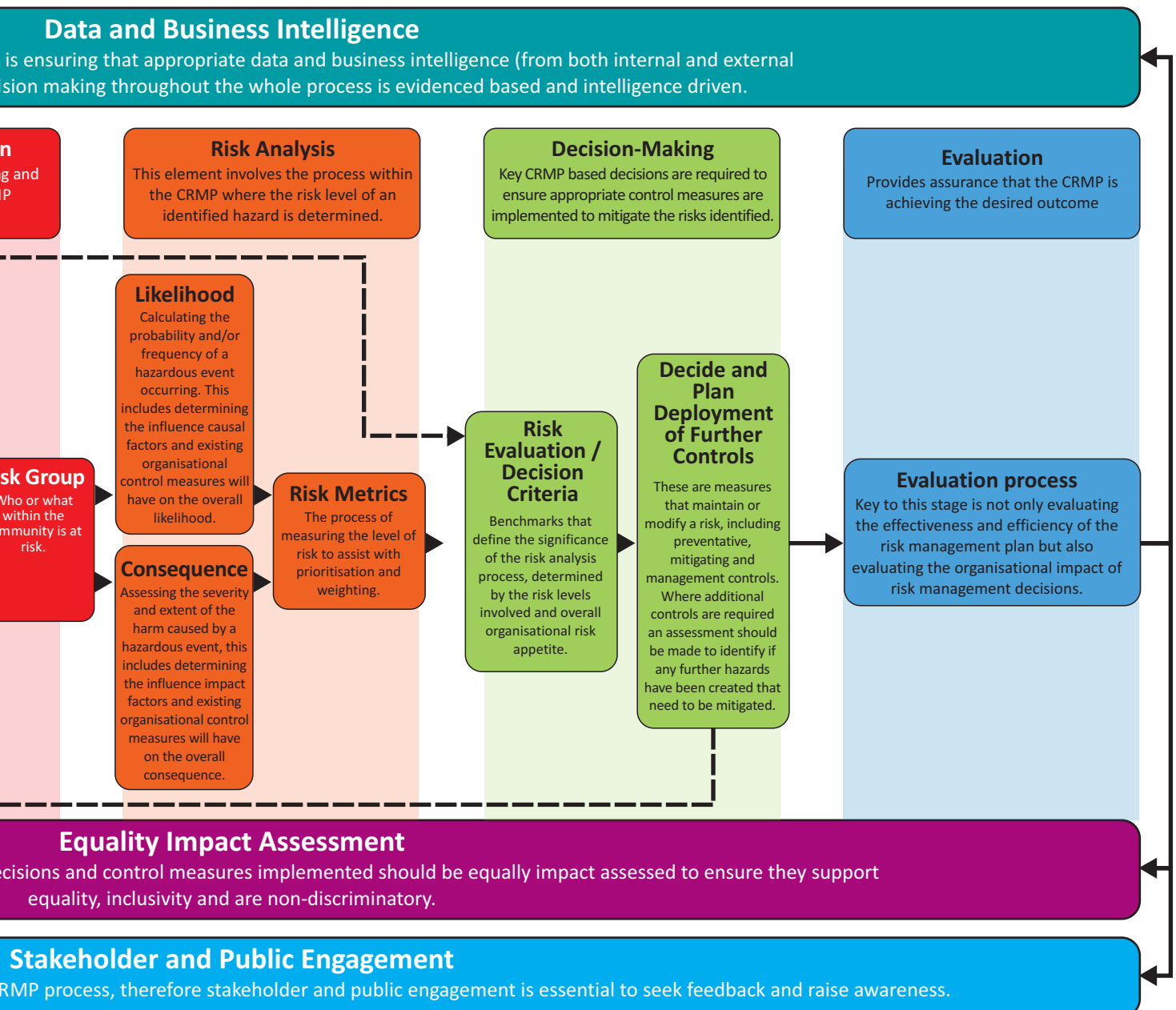
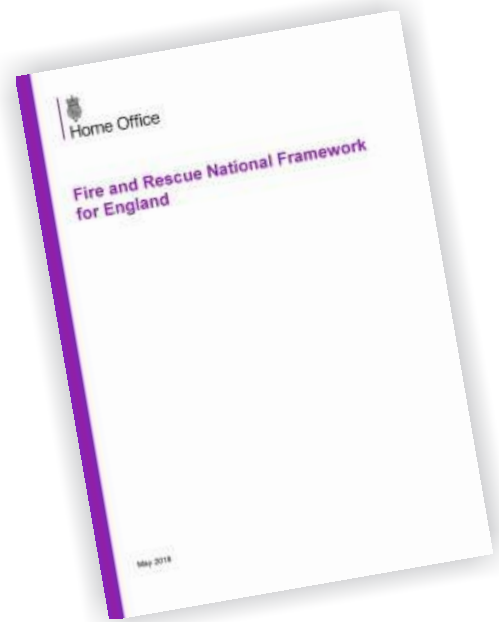


Figure 1: NFCC Community Risk Management Plan Strategic Framework

Community Risk Profile

The resources that we put in place will be based on an assessment of risk across the Service area. We call our assessment of risk the Community Risk Profile (CRP). Our research and understanding of the factors that create risk have been considered, based on a wide range of information from a variety of sources. This has helped us to prioritise the risks we need to focus on: accidental dwelling fires leading to death and serious injury, road and water.

Information is also included about social, environmental, technological and infrastructural changes so that we have a good understanding of the issues which are likely to affect our communities and our Service in future years.

The data and information we have used is:

- relevant;
- reliable;
- based on a suitable sample size;
- validated; and
- sustainable.

This analysis helps us to understand the needs of our communities so that we can shape our prevention, protection, and emergency response interventions and bolster community resilience. Based on all this information we now have a better view of what, where and why risk exists in our county. We have a deeper understanding of the risk factors and hazards that increase the likelihood of our services being needed. More importantly, it allows us to understand how and where we can intervene early to reduce the need for our emergency response.

To ensure we keep abreast of changes to our existing risks, as well as emerging or future projected risks, we will regularly update our Community Risk Profile.



How do we define risk?

This section sets out our local and national risks and how we define and prioritise them.

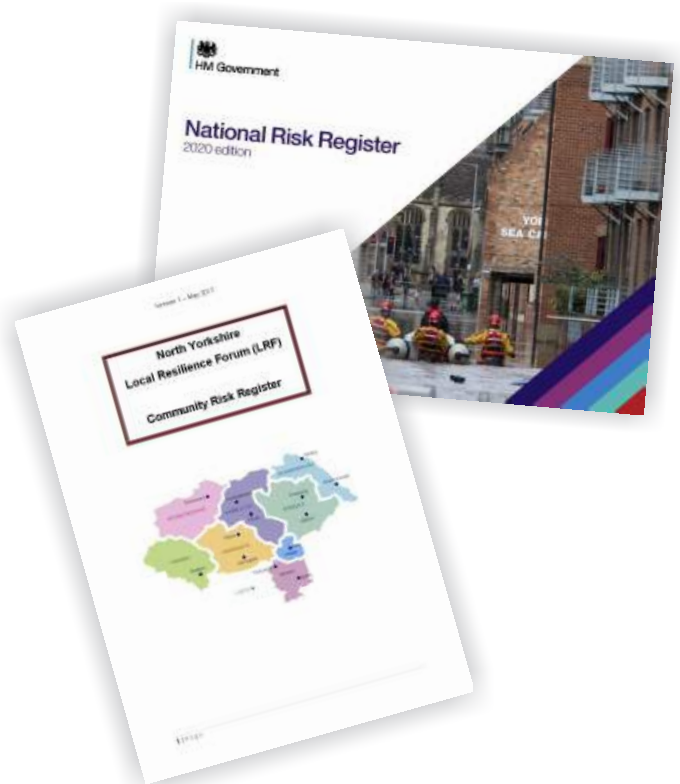
We define risk as a combination of the likelihood and consequences of hazardous events:²

- **Hazardous event** = an event with the potential to cause harm. This may be referred to as a threat or risk.
- **Likelihood** = the chance of something happening. This is sometimes also referred to as the probability, frequency or uncertainty of events.
- **Consequence** = the outcome of an event. Specifically, the severity or extent of harm caused by the event.

We have considered three broad areas of risk – fire, road and water, against the definition of risk. We have considered a range of other risks which are also important for us to understand. We have focussed on three priority areas that present the greatest threat/harm to life from a fire and rescue perspective in North Yorkshire:

- Accidental dwelling fire risk and fatality/injury risk
- Road risk and fatality/serious injury risk
- Water risk; flooding, rescues and other water-related risk

We recognise that fires occur in commercial / agricultural buildings, vehicles, open spaces etc. but we have concentrated on dwelling fires because these are more likely to result in death or injury.



We have also considered the National Risk Register and the Community Risk Register created by North Yorkshire's Local Resilience Forum (NYLRF) which is a partnership of local agencies working together to manage emergencies covering the whole of North Yorkshire and York.

We need to know where vulnerable people live. Having this information helps us plan how best to deliver our services to help prevent fires and other emergencies that could affect them. To help us define what we mean by 'vulnerable', we have identified and analysed the factors that put people at an increased likelihood of requiring an intervention or response from our Service.



² NFCC definition of risk

Service area: North Yorkshire and the City of York

Our county

North Yorkshire is the largest county in England covering 3,200 square miles. There are 340,000 households with a population of 830,000 residents. There are 37,000 active businesses. The City of York is home to over 21,000 students, with two universities. North Yorkshire's national parks and over 800 tourist attractions attract more than 20 million visitors each year.

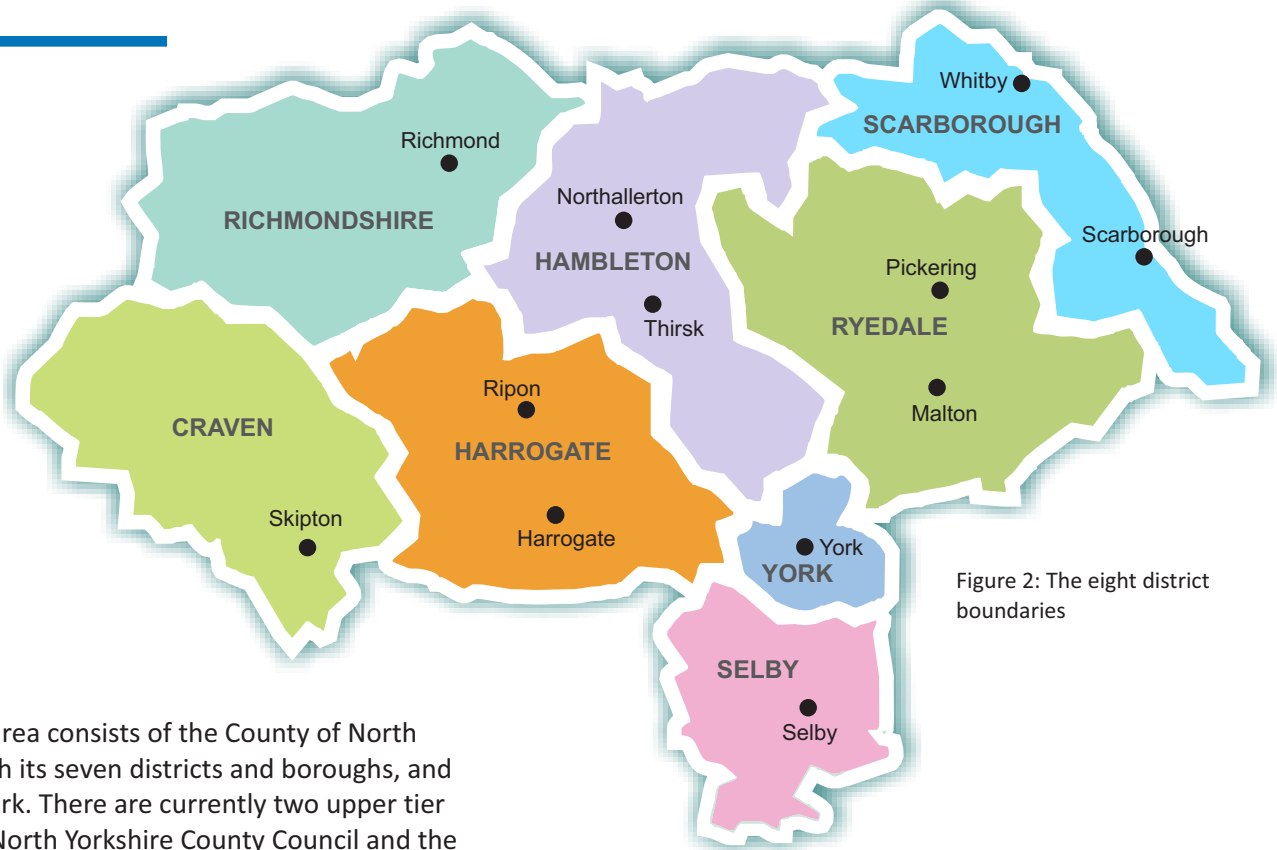


Figure 2: The eight district boundaries

Our Service area consists of the County of North Yorkshire with its seven districts and boroughs, and the City of York. There are currently two upper tier authorities; North Yorkshire County Council and the City of York Council.

Our county has isolated rural settlements and farms, market towns, and larger urban areas such as York, Harrogate, and Scarborough. Overall, it is sparsely populated, but the population is increasing steadily. It has an ageing population with the number of people in the older age groups increasing at a higher rate than the average in England. By 2025, there will be 21,200 additional people aged 65+ in our county, but a decrease in the working-age population. Rate of suicides is slightly higher than the national average. Compared to the England average, overall population health is better and smoking prevalence is significantly lower. Life expectancy varies by 15 years between wards across the county.

Two of the major rivers in the county are the River Swale and the River Ure. The Swale and the Ure form the River Ouse which flows through York and into the Humber estuary. The River Tees forms part of the border between North Yorkshire and County Durham.



There are approximately 6,000 miles of road across our Service area. The road network is the main means of transport connecting small towns and villages. The rural nature of our county means that people often travel further to access work, education and services. Each year North Yorkshire and York welcomes tens of thousands of visitors who travel to, in and around the county, primarily on rural roads.

Our county is a popular tourist destination. Hospitality and entertainment are some of the main industries in the area. Stretching from the North Sea in the east to beyond the Pennine watershed in the west, and from the Tees in the north to the Ouse and beyond in the south, the county has two of England's ten national parks, three designated areas of outstanding natural beauty, over 200 sites of special scientific interest and over 12,000 listed buildings. The coastline of North Yorkshire runs for approximately 45 miles from just north of Whitby to south of Filey.

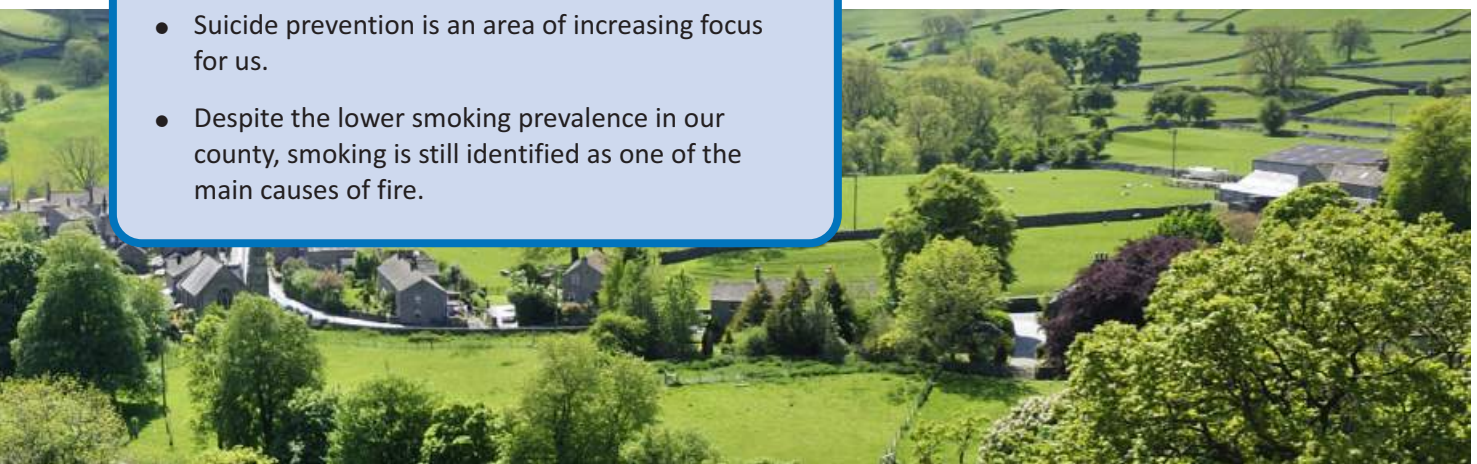


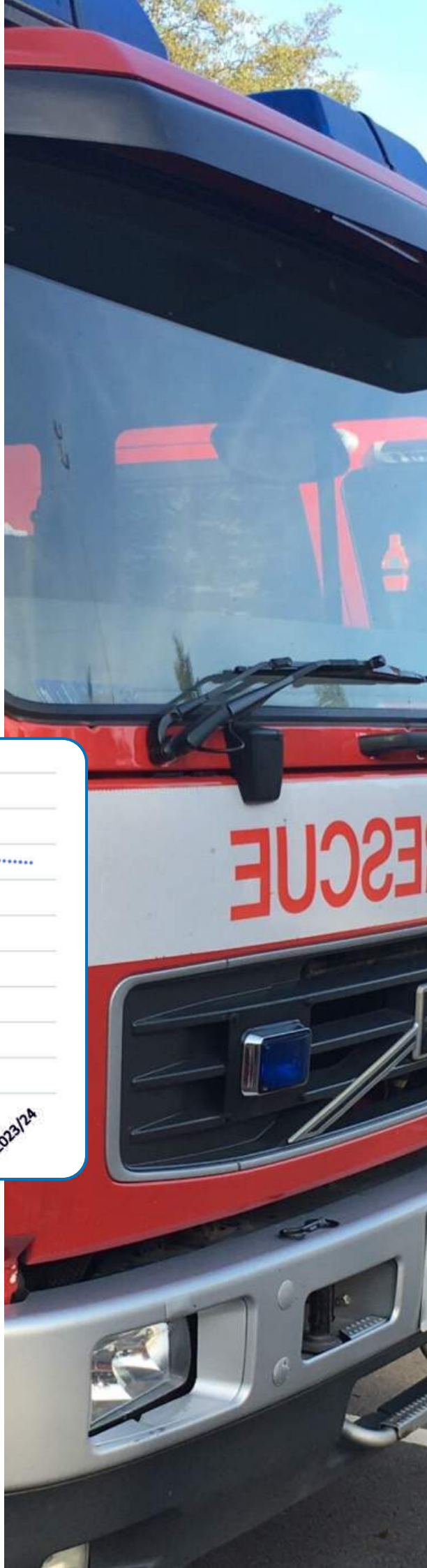
Figure 3: Arterial road network



So what does this tell us?

- Our size, geography and rurality present challenges around travel (distances, times and the nature of the roads), and for ensuring even access to our services across the county.
- A high number of visitors and students means that our population and risk profiles fluctuate throughout the year.
- An ageing population requires a wider range of interventions to minimise the need for emergency response.
- Suicide prevention is an area of increasing focus for us.
- Despite the lower smoking prevalence in our county, smoking is still identified as one of the main causes of fire.





Total incidents

Overall, we've seen a decrease in the total number of incidents we attend over the last ten years, with some upward fluctuations over the last three years.

There was a downturn in 2020/21 due to COVID-19. This was largely attributable to the reduction in road traffic collisions. Over the last five years, total incidents ranged between 6,492 and 7,535.

Year	Total
2016/17	6594
2017/18	6546
2018/19	7326
2019/20	7535
2020/21	6492

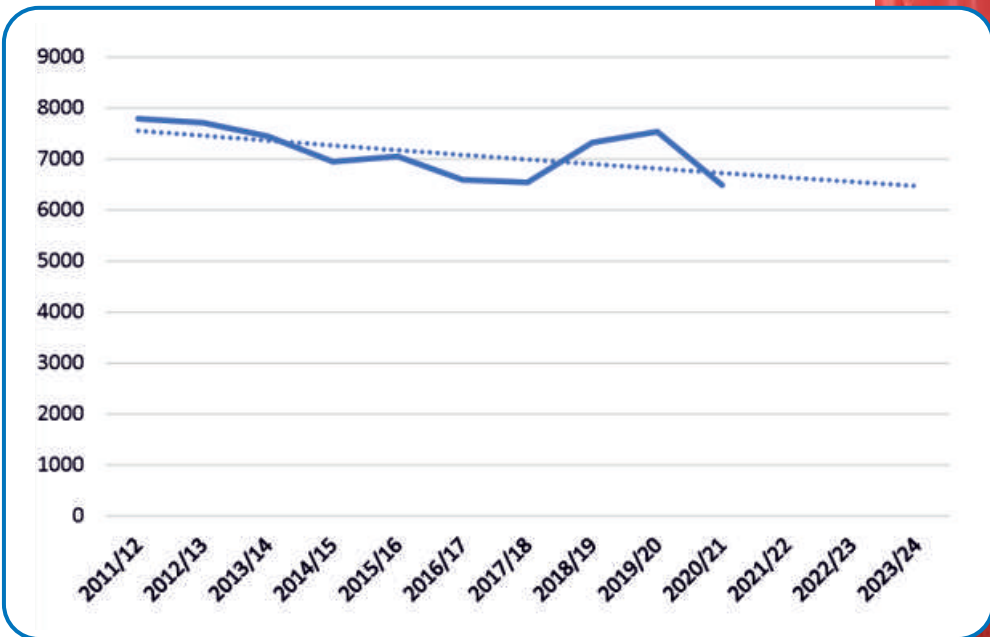


Figure 4: Total incidents attended (Home Office)

Fires account for roughly a quarter of the incidents that we respond to and non-fire incidents (we call these special services) a further quarter. Just under half of the incidents we respond to are false alarms. Over the last ten years there's been an overall downward trend in fires and false alarms but we provide special services across an increasingly wide range of types and this is steadily growing as an overall proportion of our work. Most incidents requiring our attendance occur from around 9am and up to around 10pm.

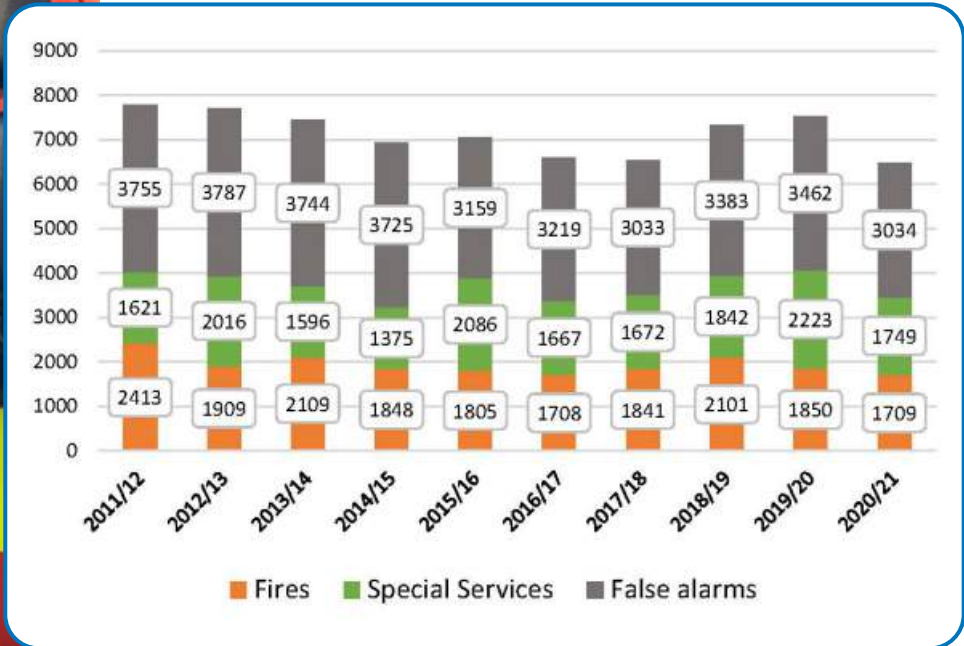


Figure 5: Number of incidents by incident category (Home Office)

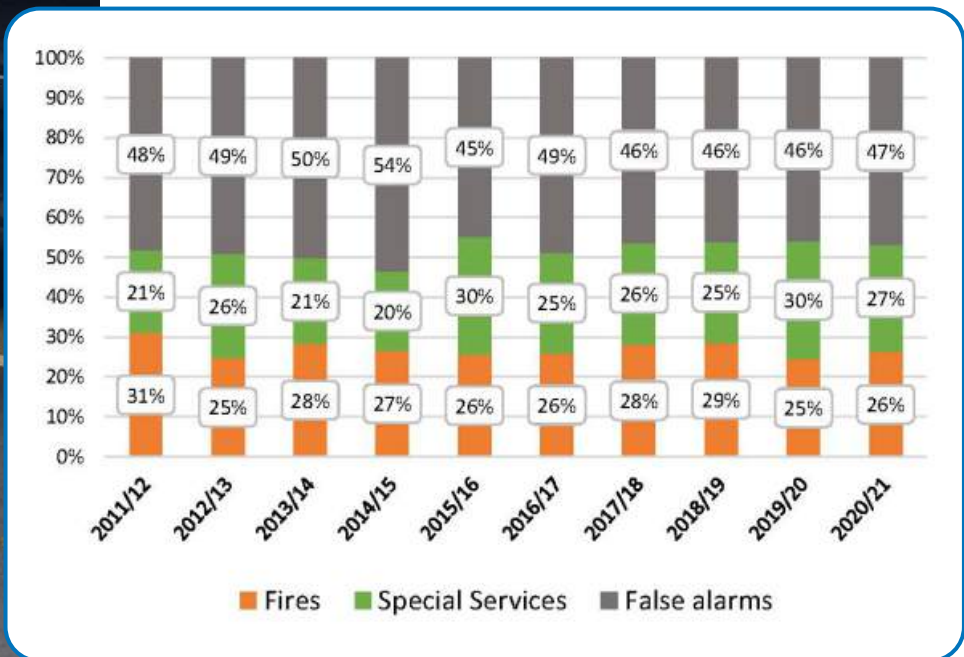
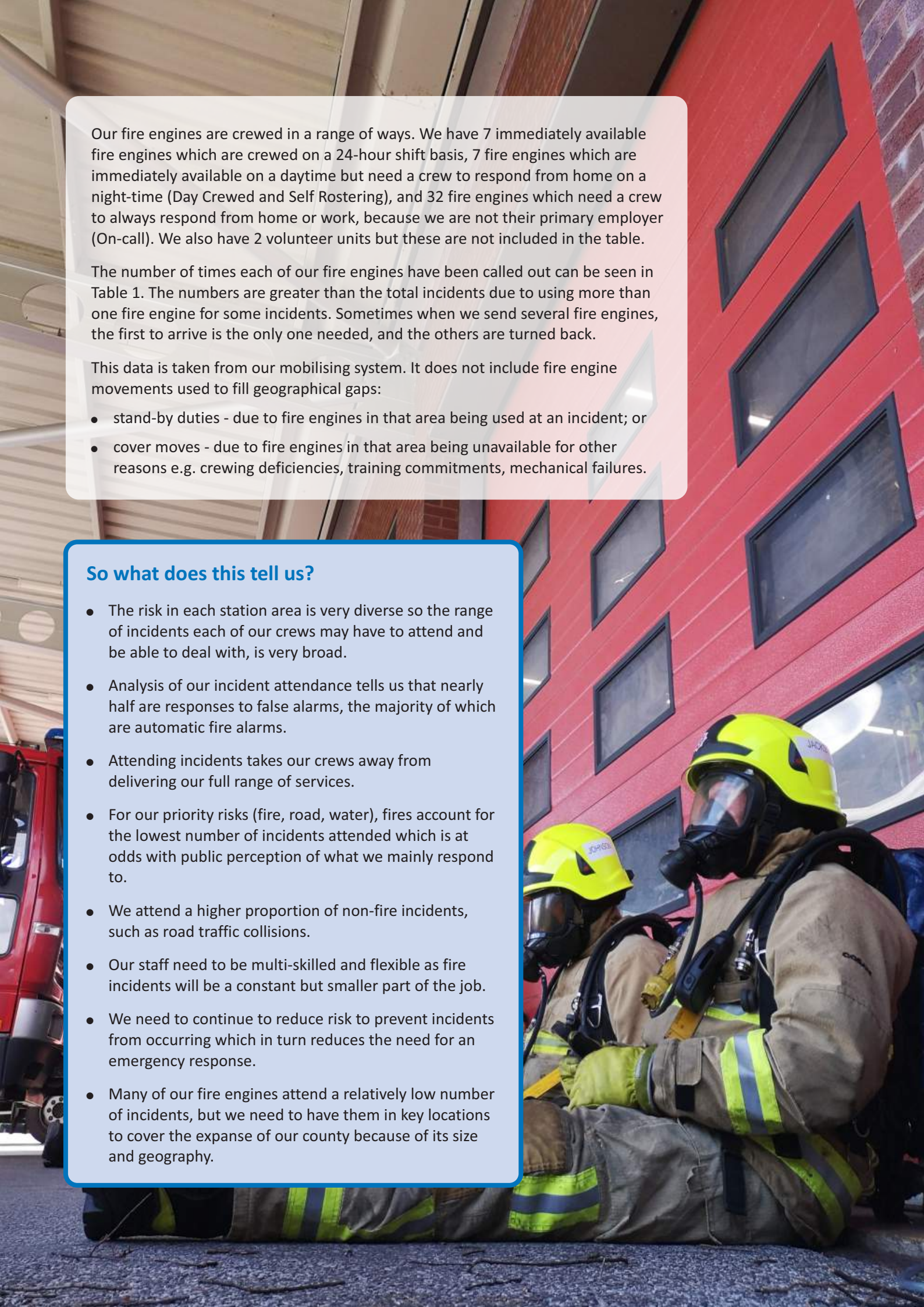


Figure 6: Incident category as a percentage (Home Office)

Table 1: Number of times each fire engine was called out for each year (NYFRS mobilising system)

Fire Engine	17/18	18/19	19/20	20/21	Average	Total
York (Shift)	1,065	1,183	1,173	971	1,098	4,392
Acomb (Shift)	765	832	820	790	802	3,207
Scarborough (Shift) 2	650	537	688	440	579	2,315
Harrogate (Shift) 2	630	461	574	410	519	2,075
Scarborough (Shift) 1	560	555	510	442	517	2,067
Harrogate (Shift) 1	498	525	489	437	487	1,949
Selby (Day Crewed)	391	454	441	452	435	1,738
Huntington (Shift)	412	430	405	358	401	1,605
Ripon (Day Crewed)	316	336	374	375	350	1,401
Skipton (On-call) 1	289	314	337	264	301	1,204
Northallerton (Self Rostering)	231	316	350	281	295	1,178
Knareborough (On-call)	278	286	291	263	280	1,118
Richmond (Self Rostering)	228	280	278	270	264	1,056
Tadcaster (Day Crewed)	195	267	291	295	262	1,048
Malton (Day Crewed)	224	256	274	256	253	1,010
Whitby (Day Crewed)	211	225	246	209	223	891
Filey (On-call)	219	222	243	205	222	889
Thirsk (On-call)	185	193	150	130	165	658
Boroughbridge (On-call)	157	166	129	116	142	568
Colburn (On-call)	92	114	167	173	137	546
Pickering (On-call)	142	138	137	122	135	539
Acomb (On-call)	72	116	134	140	116	462
Selby (On-call)	131	117	103	105	114	456
Northallerton (On-call)	159	119	104	67	112	449
Bedale (On-call)	103	113	121	111	112	448
Stokesley (On-call)	90	114	102	107	103	413
Kirkbymoorside (On-call)	75	112	95	65	87	347
Easingwold (On-call)	89	100	79	68	84	336
Leyburn (On-call)	92	85	85	71	83	333
Ripon (On-call)	121	93	68	47	82	329
Lythe (On-call)	95	81	87	63	82	326
Settle (On-call)	76	85	99	64	81	324
Skipton(On-call) 2	78	91	89	66	81	324
Malton (On-call)	113	59	48	51	68	271
Helmsley (On-call)	72	64	56	75	67	267
Tadcaster (On-call)	73	55	54	49	58	231
Masham (On-call)	54	75	60	41	58	230
Sherburn (On-call)	64	57	51	56	57	228
Bentham (On-call)	47	50	68	57	56	222
Robin Hoods Bay (On-call)	54	44	61	45	51	204
Huntington (On-call)	34	35	52	62	46	183
Grassington (On-call)	23	52	61	40	44	176
Summerbridge (On-call)	36	55	28	40	40	159
Hawes (On-call)	26	38	58	32	39	154
Reeth (On-call)	30	39	46	31	37	146
Danby (On-call)	39	40	22	27	32	128
	9,584	9,979	10,198	9,650		38,600



Our fire engines are crewed in a range of ways. We have 7 immediately available fire engines which are crewed on a 24-hour shift basis, 7 fire engines which are immediately available on a daytime but need a crew to respond from home on a night-time (Day Crewed and Self Rostering), and 32 fire engines which need a crew to always respond from home or work, because we are not their primary employer (On-call). We also have 2 volunteer units but these are not included in the table.

The number of times each of our fire engines have been called out can be seen in Table 1. The numbers are greater than the total incidents due to using more than one fire engine for some incidents. Sometimes when we send several fire engines, the first to arrive is the only one needed, and the others are turned back.

This data is taken from our mobilising system. It does not include fire engine movements used to fill geographical gaps:

- stand-by duties - due to fire engines in that area being used at an incident; or
- cover moves - due to fire engines in that area being unavailable for other reasons e.g. crewing deficiencies, training commitments, mechanical failures.

So what does this tell us?

- The risk in each station area is very diverse so the range of incidents each of our crews may have to attend and be able to deal with, is very broad.
- Analysis of our incident attendance tells us that nearly half are responses to false alarms, the majority of which are automatic fire alarms.
- Attending incidents takes our crews away from delivering our full range of services.
- For our priority risks (fire, road, water), fires account for the lowest number of incidents attended which is at odds with public perception of what we mainly respond to.
- We attend a higher proportion of non-fire incidents, such as road traffic collisions.
- Our staff need to be multi-skilled and flexible as fire incidents will be a constant but smaller part of the job.
- We need to continue to reduce risk to prevent incidents from occurring which in turn reduces the need for an emergency response.
- Many of our fire engines attend a relatively low number of incidents, but we need to have them in key locations to cover the expanse of our county because of its size and geography.

Priority risks



Accidental dwelling (home) fires

The risk of death and injury from a fire at home, at work and in the wider community tragically still exists across the UK. Around three-quarters of fire deaths still occur in dwellings. Over the last ten years there have been 25 fire fatalities in the Service area, 2 of which were work related.

There's a downward trend in dwelling fires both nationally and in our county, with the lowest number of 289 incidents recorded in our Service area in 2020/21 (Figure 7). This downward trend in incidents is responsible for the reduction in the number of non-fatal injuries at accidental dwelling fires (Figure 8).

The downward trends reflect our proactive prevention and protection work to stop these incidents from occurring in the first place, as well as improved fire safety standards, building design and regulations, changing cooking habits, increased smoke alarm ownership, and a reduction in smoking.

While there is likely to be a growth in house numbers in the county over the next 5 years, these homes will meet modern safety regulations, significantly reducing fire risk. Even in older buildings, renovation and improvement works to modern standards, should also reduce fire risk.

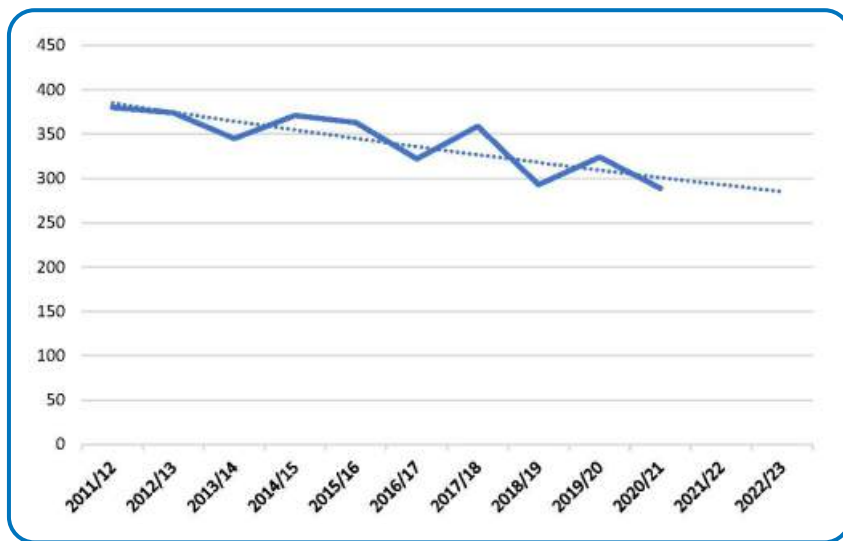


Figure 7: Accidental dwelling fires (Home Office)



Figure 8: Accidental dwelling fire injuries and fatalities (Home Office)



Who is at risk?

We have explored the factors that increase the likelihood of a dwelling fire as well as the factors that put people at greater risk of dying in a house fire.

The people most likely to experience a fire are:

- those living in rented households rather than owner occupiers;
- those living in flats rather than those in a house;
- those under the age of 60;
- those living in a household with five or more members rather than those living in smaller households; and
- those with a long-term illness or disability rather than those without.

However, national data show that there are factors that put people more at risk of dying in a fire, including not being able to self-evacuate. These are:

- older people (65+);
- people with mobility issues;
- those that live alone; and
- people who live in more deprived areas.

Those over 65 represent the largest proportion of fire fatalities and injuries in our Service area over the last 10 years. All districts have an ageing population, with a predicted 14% increase across North Yorkshire and the City of York in over 65s by 2025 (compared to 2018). While these people maybe less likely to have a fire, if they do, the consequences could be more severe.



Indices of Deprivation

The Indices of Deprivation 2019 provide a set of relative measures of deprivation for small areas across England.

These small areas are known as Lower Super Output Areas (LSOAs) and are designed to be of a similar population size, with an average of approximately 1,500 residents or 650 households. This means that an urban area will have many LSOAs covering a small geographical area compared to less populated rural areas. Across North Yorkshire we have 493 LSOAs.

An overall Index of Multiple Deprivation (IMD) for each LSOA is based on seven 'domains of deprivation' with each 'domain' having a particular weighting as set out in Figure 9.

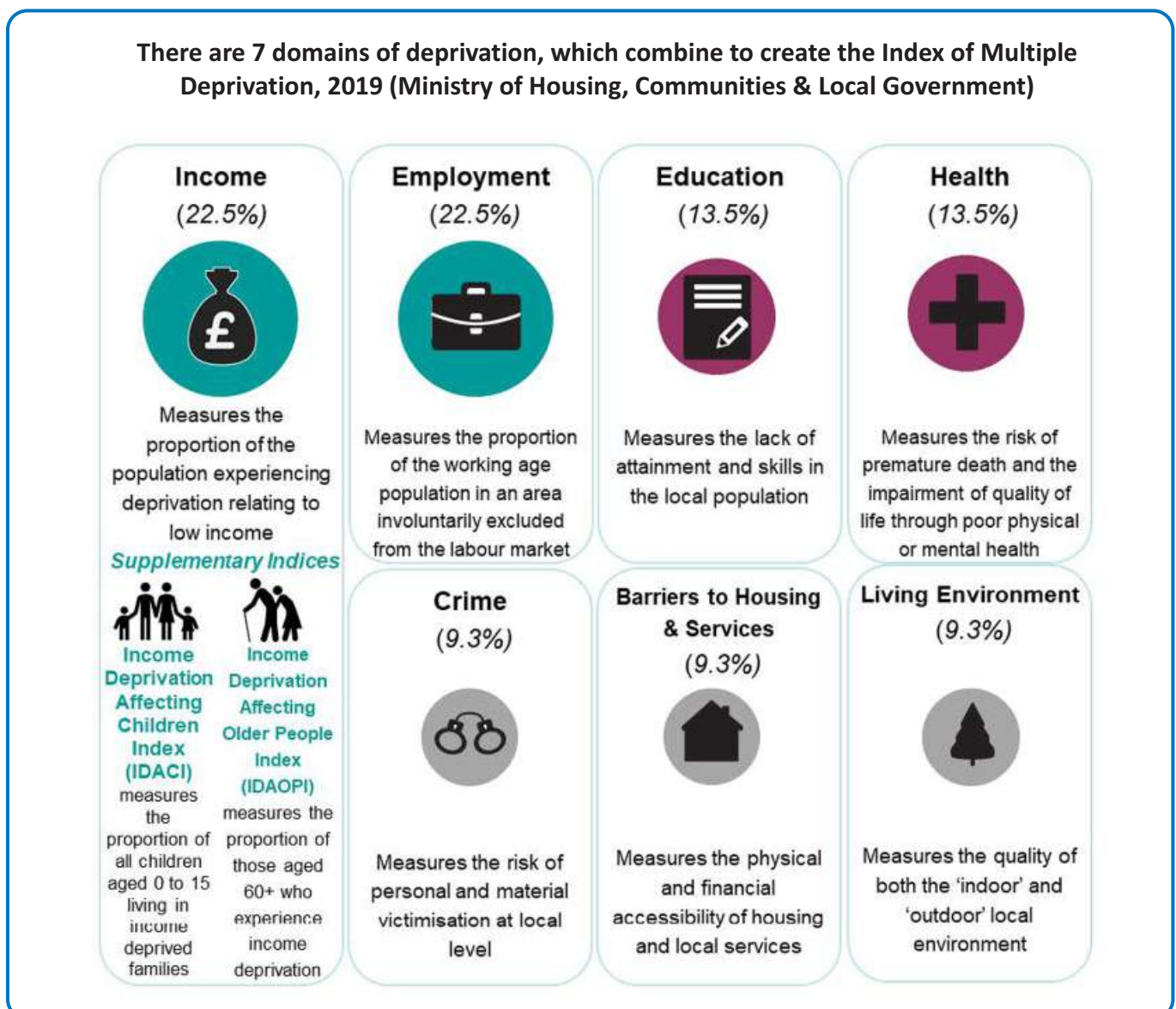


Figure 9: The seven domains of deprivation from the IMD (2019)

Areas with a high IMD score are linked to areas of highest demand for our services. In 2019 the average IMD score for North Yorkshire and the City of York was amongst the lowest in the country (figure 10). Of the 493 LSOAs in North Yorkshire and the City of York, 30 are amongst the 20% most deprived in England, 20 of which are in the Scarborough district.

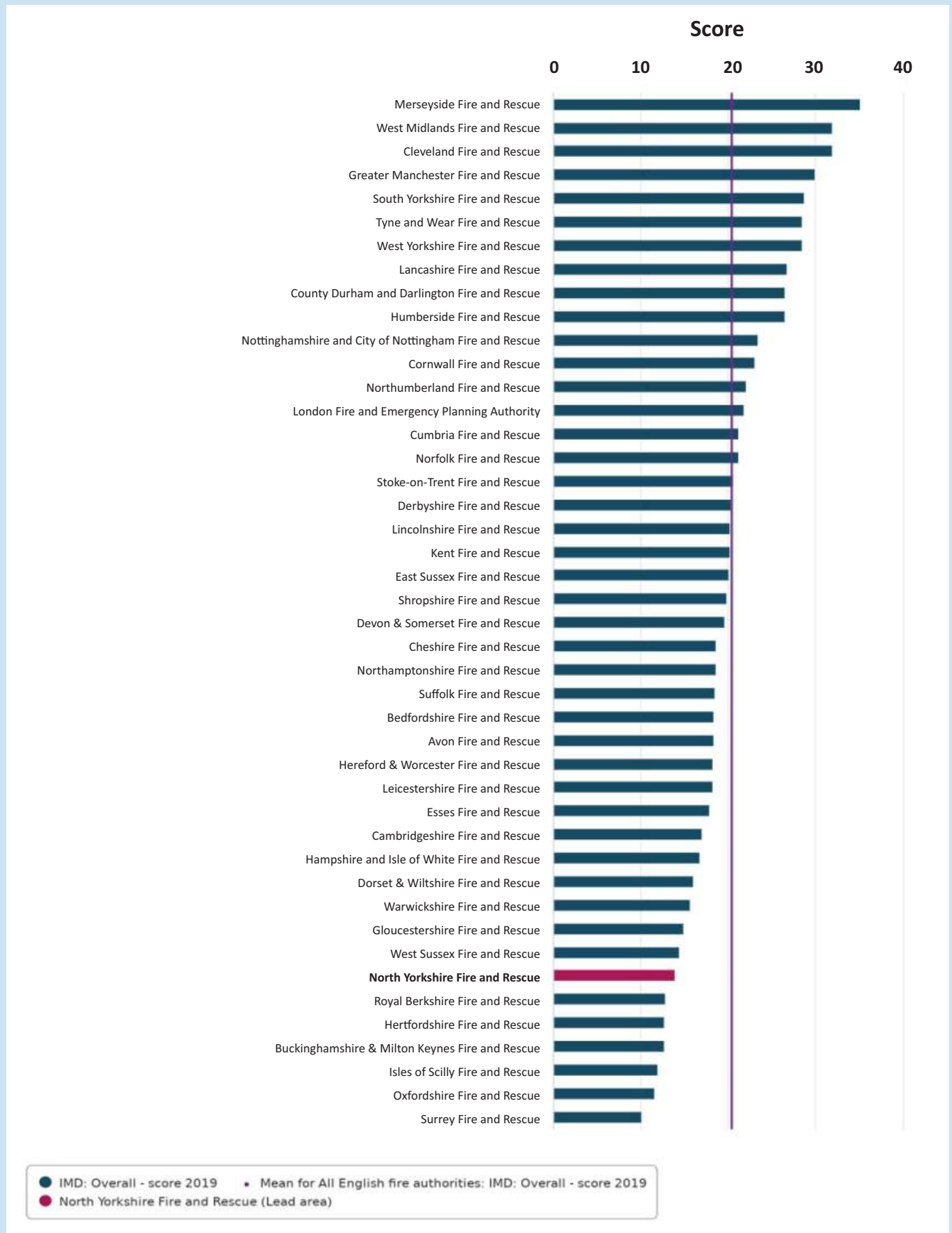


Figure 10: IMD 2019 average scores by fire and rescue service area (Ministry of Housing, Communities & Local Government)

Combined Fire Risk



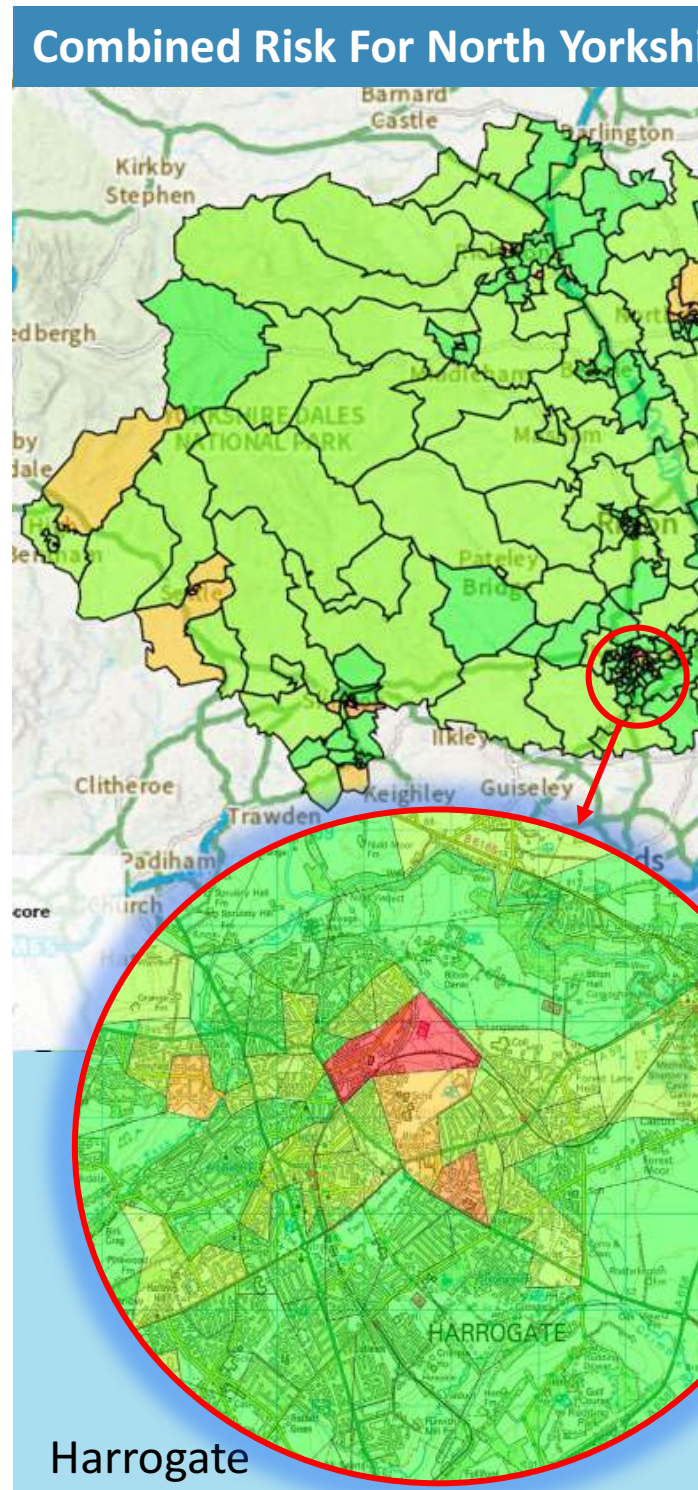
We have created a combined risk score that incorporates both the likelihood of people experiencing a house fire and of having a severe outcome linked to their difficulty in evacuating.

We have used datasets based on the risk factors. The data sets used are:

- age, in particular focussing on over 65s living alone;
- proxy indicators of frailty e.g. blue badge ownership;³
- a social renter data set; and
- Indices of Multiple Deprivation.

We used modelling software to create a combined risk score across the datasets. We put the scores into 5 bands allowing us to compare the relative risk across the county. A higher score will place it in a higher risk band which we can show on a map. The bands allow us to compare risk by showing areas that have higher numbers of people that meet the risk factors. We recognise however, that the calculated level of vulnerability in an area will not apply to every person living there.

Figure 11 shows the combined fire risk by LSOA (around 650 households) across North Yorkshire.



So what does this tell us?

- Overall, the risk of death or injury in a residential fire is low but they still occur.
 - We need to find and help those most at risk to prevent fires from occurring.
 - The spread of risk is quite consistent however, there are more areas towards the east of the
- Service area with greater numbers of people meeting the risk factors.
- The larger urban centres such as York, Harrogate and Scarborough have a broad range of fire risk including the highest risk areas.
 - A lot of our higher risk is on the borders of our county, further from our fire stations, meaning we need to focus more of our prevention activity in these areas.

³ North Yorkshire County Council and The City of York, 2021 (Closed data source)

Fire Fire & Rescue Service Area

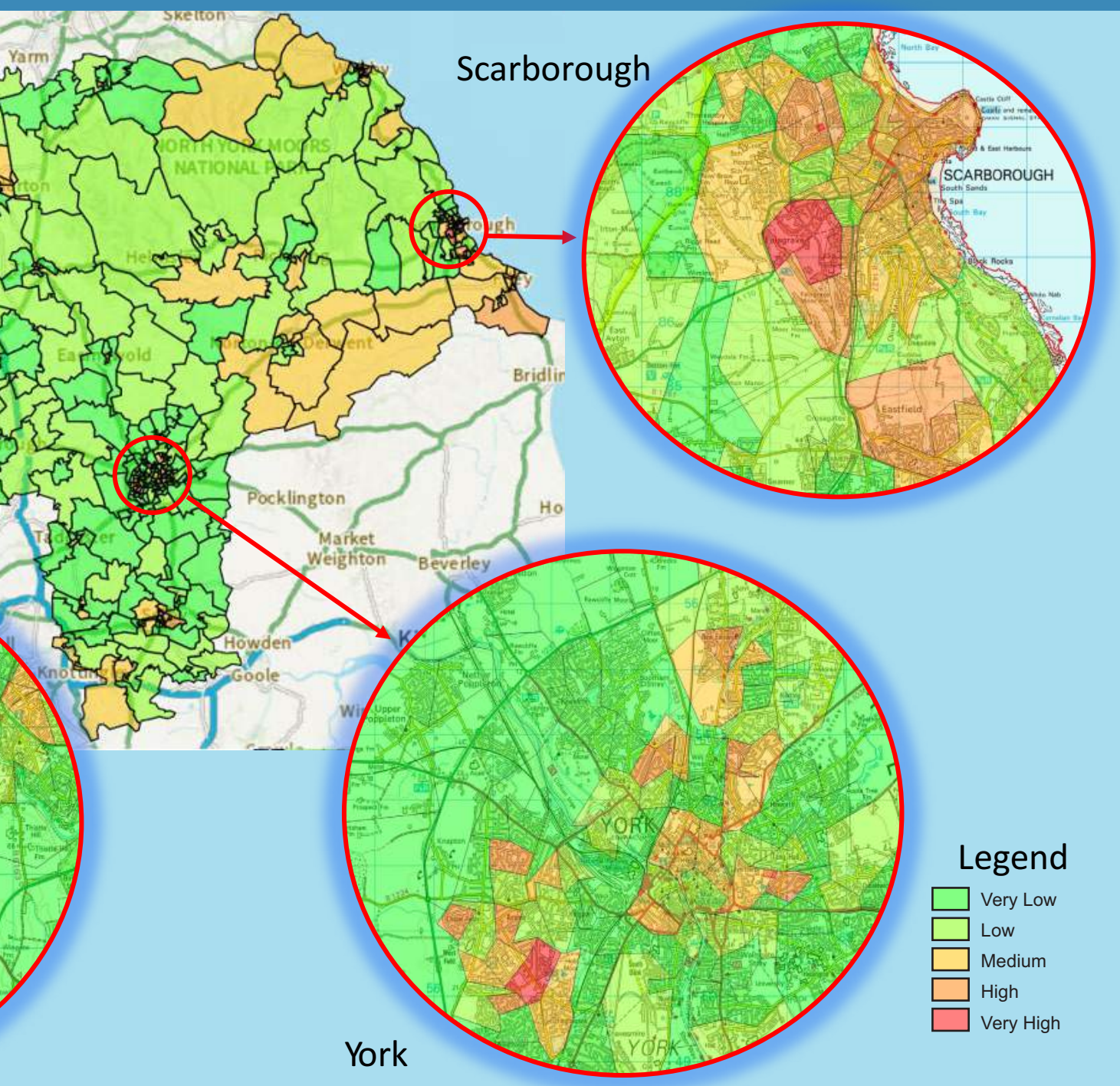


Figure 11: Combined score of over 65s living alone; blue badge ownership; social rented housing; IMD

- Our prevention services need to adapt and develop to meet the needs caused by societal changes such as an ageing population.
- We have a significant role to play working in partnerships to further reduce fire risk within our communities.

Road risk



A downward trend in the number of collisions and injuries on our roads has continued over the last five years.

Over the last five-year period, an average of 2,196 people were injured on our roads each year. 374 sustained serious injuries and tragically, 39 people lost their lives. Whilst there's been a steep decline in slight and serious injuries, the number of fatalities has remained at a steady level over time. We attend more killed or serious injury (KSI) collisions on the roads than we do for fire or water incidents.

Our focus is on preventing and reducing the incidents that cause most harm i.e. the number of fatalities and serious injuries but also providing an effective response in the event of an incident requiring our intervention.

NYCC Collision Density (2016-2020)

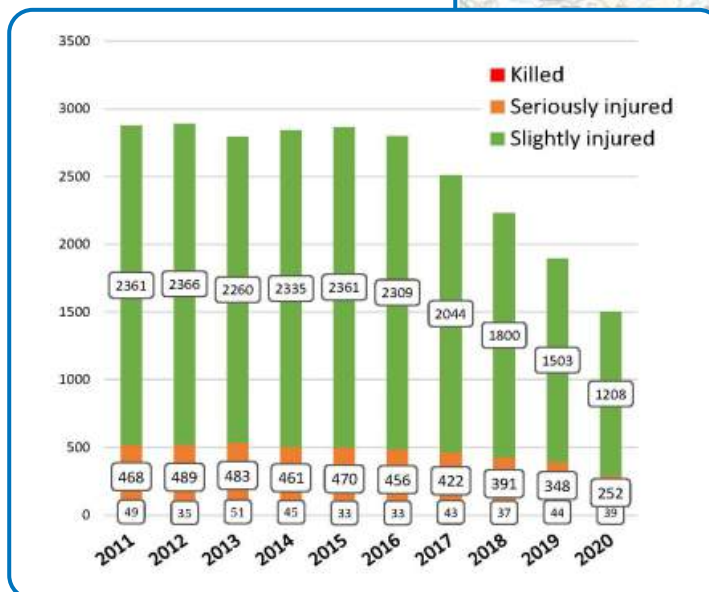
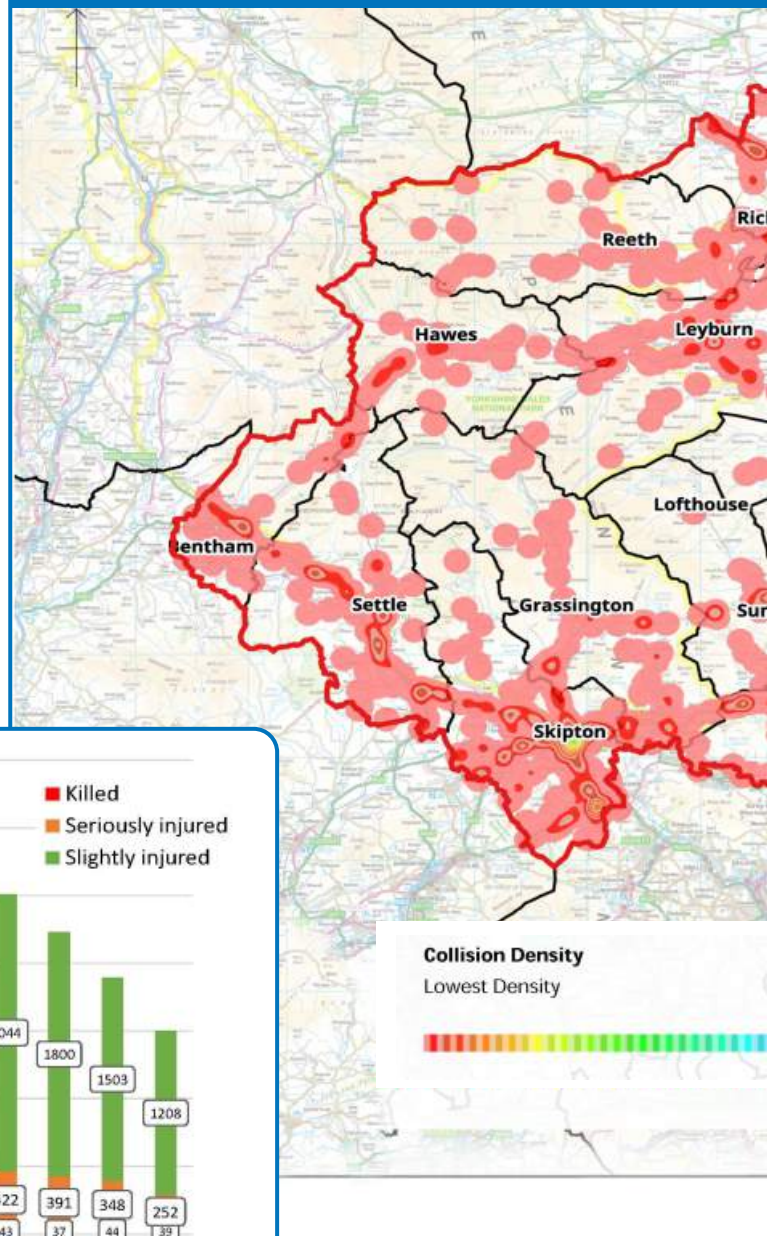


Figure 12: Number of casualties by severity of injury (Department for Transport)

The maps in Figures 13 to 15 show the density of collisions over the last five years and include the hotspots (Figure 13), as well as the locations of fatalities (Figure 14) and serious injuries (Figure 15).

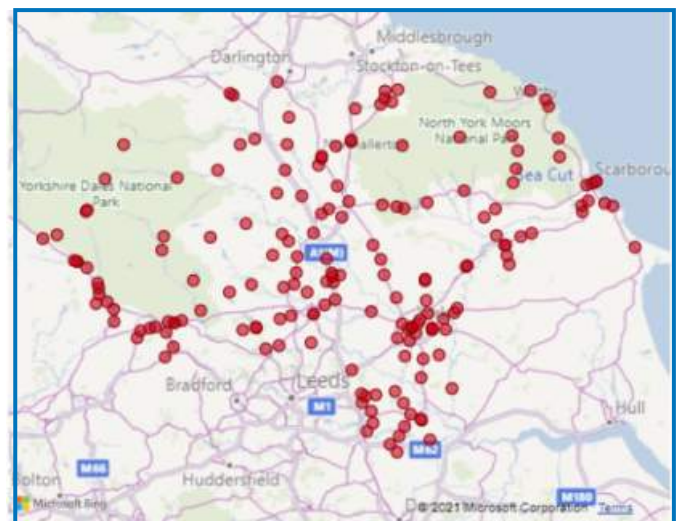
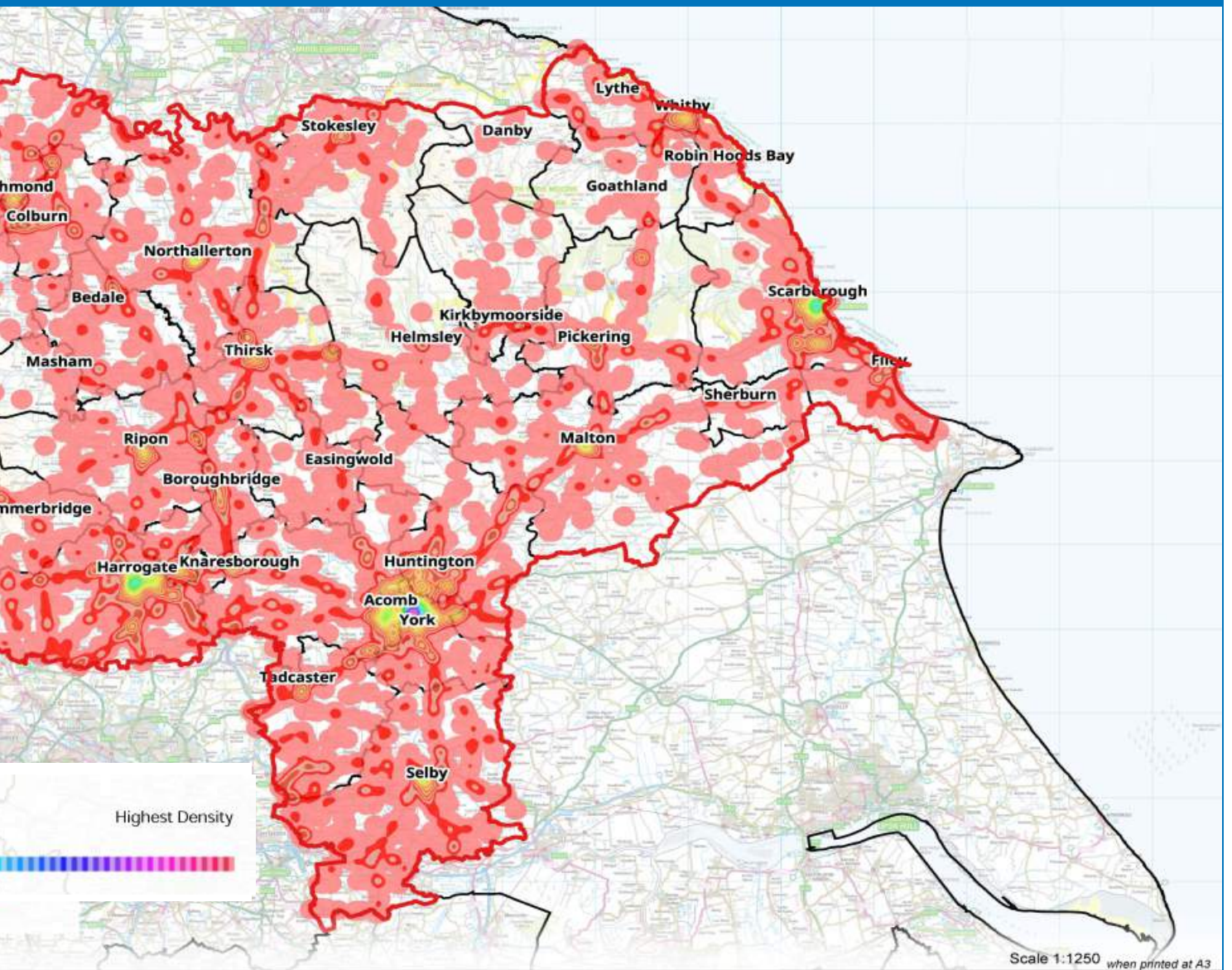


Figure 14: Collisions resulting fatality 2016-2020 (NYCC)



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Figure 13 NYCC Collision Density (2016-2020)

Analysis of casualty and collision data enables us to identify who is at greater risk of being seriously injured or killed, where the most serious incidents are likely to occur, when they happen, and why.

We use our prevention services to work collaboratively with partners as part of the York and North Yorkshire Road Safety Partnership, to reduce the likelihood of road traffic incidents occurring.

We consider road risk across 3 main categories:

- Geography
- Vehicles
- People

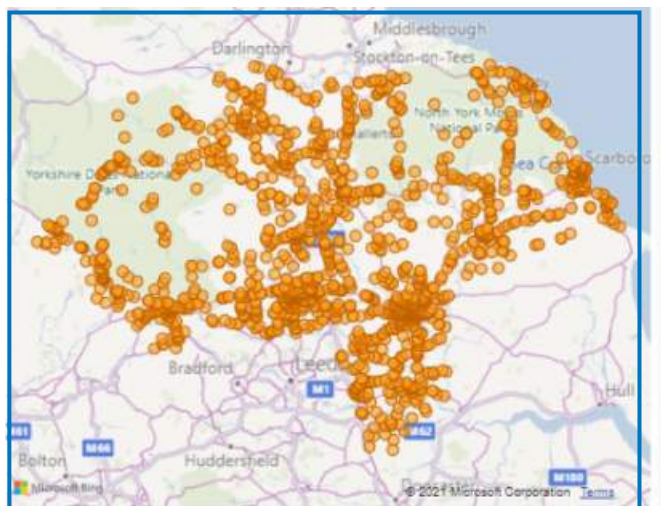


Figure 15: Collisions resulting in serious injury 2016-2020 (NYCC)

Geography

Our road network is relatively large and remote, and includes several strategic routes traversing the county and a vast network of rural roads. The majority of fatal and serious collisions occur towards the south and west of the county on either 'A' classification roads or smaller rural roads, predominantly in 60mph speed limits.

Five-year road traffic collision data which uses our incident data, along with datasets from the York and North Yorkshire Road Safety Partnership, shows that hotspots follow the main arterial routes and are in the urban towns and cities including York, Harrogate, Acomb, Scarborough and Skipton. Some of these are likely to be smaller impact collisions that will not have required a fire service attendance. There are identifiable routes which continue to have a higher-than-average incidence of serious road accidents, particularly those routes which are popular with the motorcycling community.

Vehicles

Almost 70% of road collisions involve cars. Motorcycles represent 20% of collisions which is disproportionately high relative to the miles travelled by them.

Most fatalities and serious injuries involve cars, however there is a disproportionate representation of motorcycle users involved in serious road accidents leading to death or serious injury.

Of note is a year-on-year increase in the number of fatalities and serious injuries involving pedal cyclists. Large numbers of slow moving vehicles such as agricultural vehicles can present a risk to other road users in our county.



People

The highest proportion of people killed or seriously injured on the roads in North Yorkshire are males aged between 16-35 and there is a higher-than-average proportion of persons aged over 70 killed or seriously injured on our roads. Certain age groups and vehicles pose a higher risk, such as males over 40 on high powered motorcycles.

Driver error is a factor in 60% of killed and serious injury incidents. The rate of alcohol-related road traffic accidents is similar to the rate for England. North Yorkshire Police report that drink and drug driving is still an issue within the county with a higher incidence in rural areas.

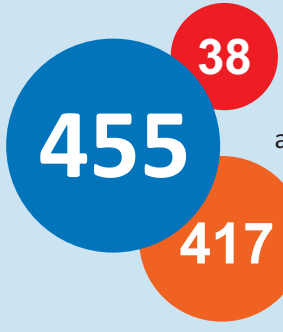
The rural nature of the county means that people are more likely to take risks which is particularly relevant to rural drink driving or high-speed driving when the roads are quiet.

So what does this tell us?

- The scale of the road safety problem in our Service area is greater than our incident data indicates as our attendance is not requested to all road traffic incidents.
- Around 6 in 10 collisions which result in people being killed or seriously injured occur on our more rural roads - mainly on roads with a 60mph speed limit.
- We recognise that road safety is a significant area where we need to focus our prevention activity.
- Tackling the factors that increase the likelihood of a road traffic incident and severity of the harm caused requires an evidence-based approach to prevention activities.
- We have a significant role to play working in partnerships to further reduce road risk within our communities.
- Road traffic collision activity sadly remains constant though with an increased complexity of rescue techniques because of new vehicle technology.

Figure 16: York and North Yorkshire Road Safety Partnership infographic on fatalities and serious injuries 2015-2019

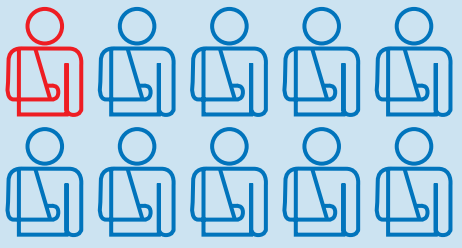
Killed and Seriously Injured Casualties in York and North Yorkshire



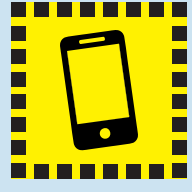
On average, 455 people are killed or seriously injured on our county's roads annually



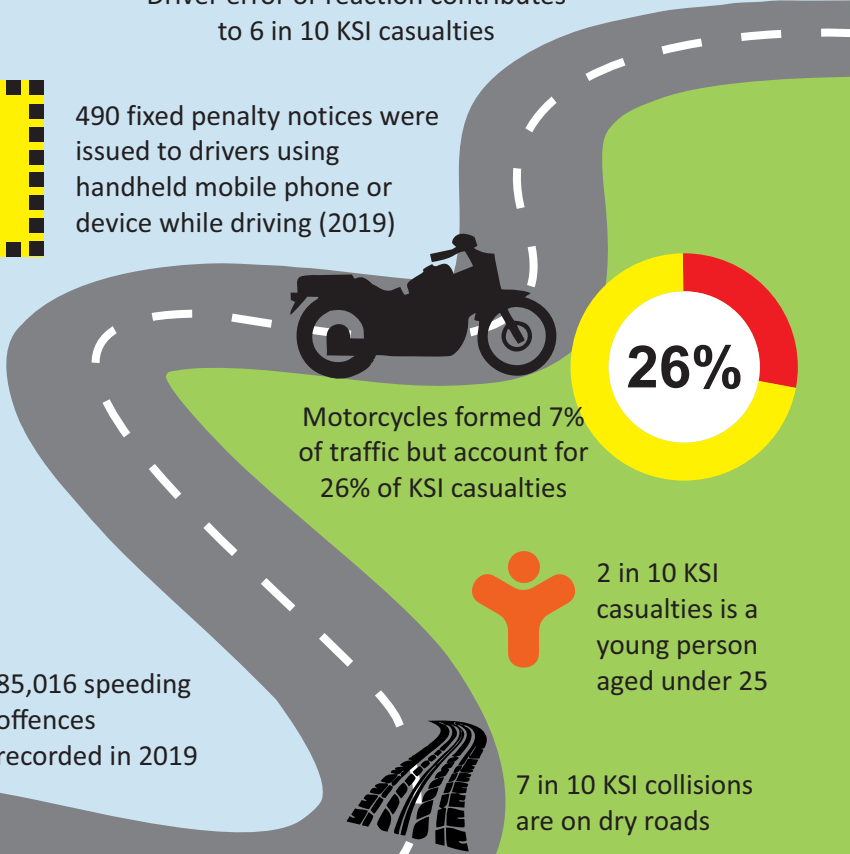
Driver error or reaction contributes to 6 in 10 KSI casualties



1 in every 10 KSI casualties is a fatality



490 fixed penalty notices were issued to drivers using handheld mobile phone or device while driving (2019)



1 in 10 KSI casualties is a pedestrian,

2 in 10 is a passenger and

7 in 10 is a driver



85,016 speeding offences recorded in 2019

2 in 10 KSI casualties is a young person aged under 25

7 in 10 KSI collisions are on dry roads

Pedal cyclists account for 14% of KSI casualties, increasing over time



Speed Limit

- 2% of KSI collisions are in a 20mph limit
- 28% of KSI collisions are in a 30mph limit
- 5% of KSI collisions are in a 40mph limit
- 1% of KSI collisions are in a 50mph limit
- 57% of KSI collisions are in a 60mph limit
- 7% of KSI collisions are in a 70mph limit



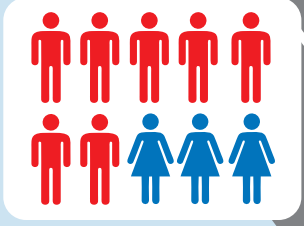
3 KSI casualties in every 10 are on urban roads, 7 in 10 are on rural roads

9 in every 20 KSI casualties are car occupants

5 in every 20 KSI casualties are powered two wheeler riders or passengers

3 in every 20 KSI casualties are pedal cyclists

2 in every 20 KSI casualties is a pedestrian



7 in 10 KSI casualties are male

1 in every 20 KSI casualties is an occupant of another vehicle e.g. goods vehicle, bus or coach

Data based on 5 year average from 2015-19, Dept for Transport.

Water risk



Flooding

Floods can be devastating, costing the lives of people and animals, as well as destroying crops, homes, businesses, and infrastructure.

The number of flooding incidents has fluctuated considerably year on year in line with weather conditions. NYFRS has seen a significant increase in the scale of flooding incidents over the last ten years (incident numbers shown do not represent total incidents as the flooding of an entire village for example could be classed as a single flooding event but the level of response required is significant).

Attendance at large scale flooding events such as in York, Malton and around Selby has become a routine activity, one which the Service has prepared and planned for alongside other organisations through the North Yorkshire Local Resilience Forum.

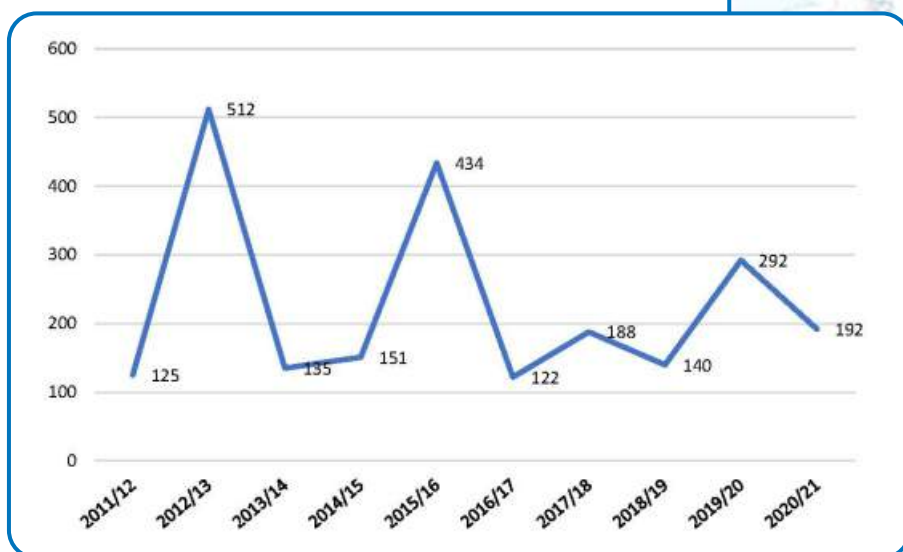


Figure 17: Number of flooding incidents (Home Office)

Flood Zones in North Yorkshire

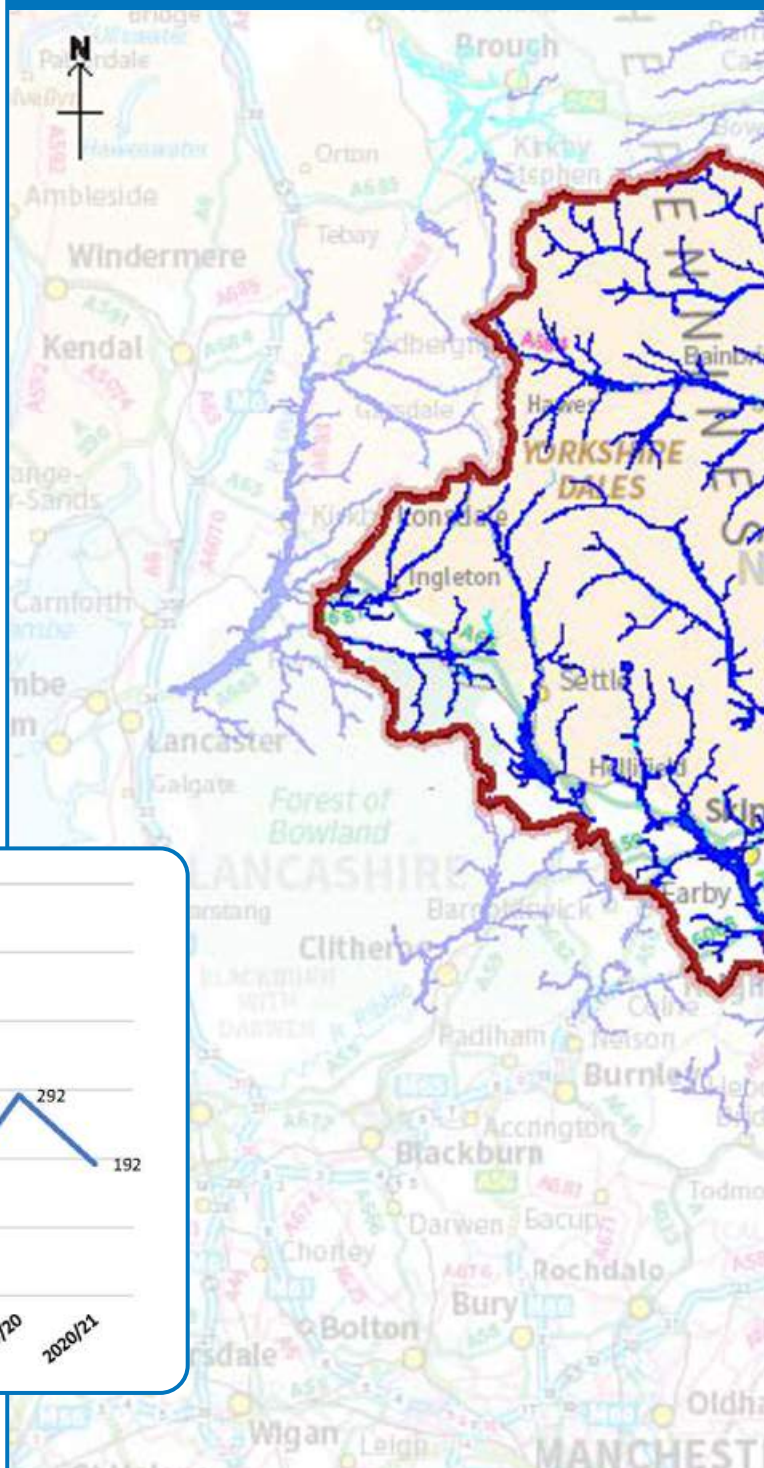
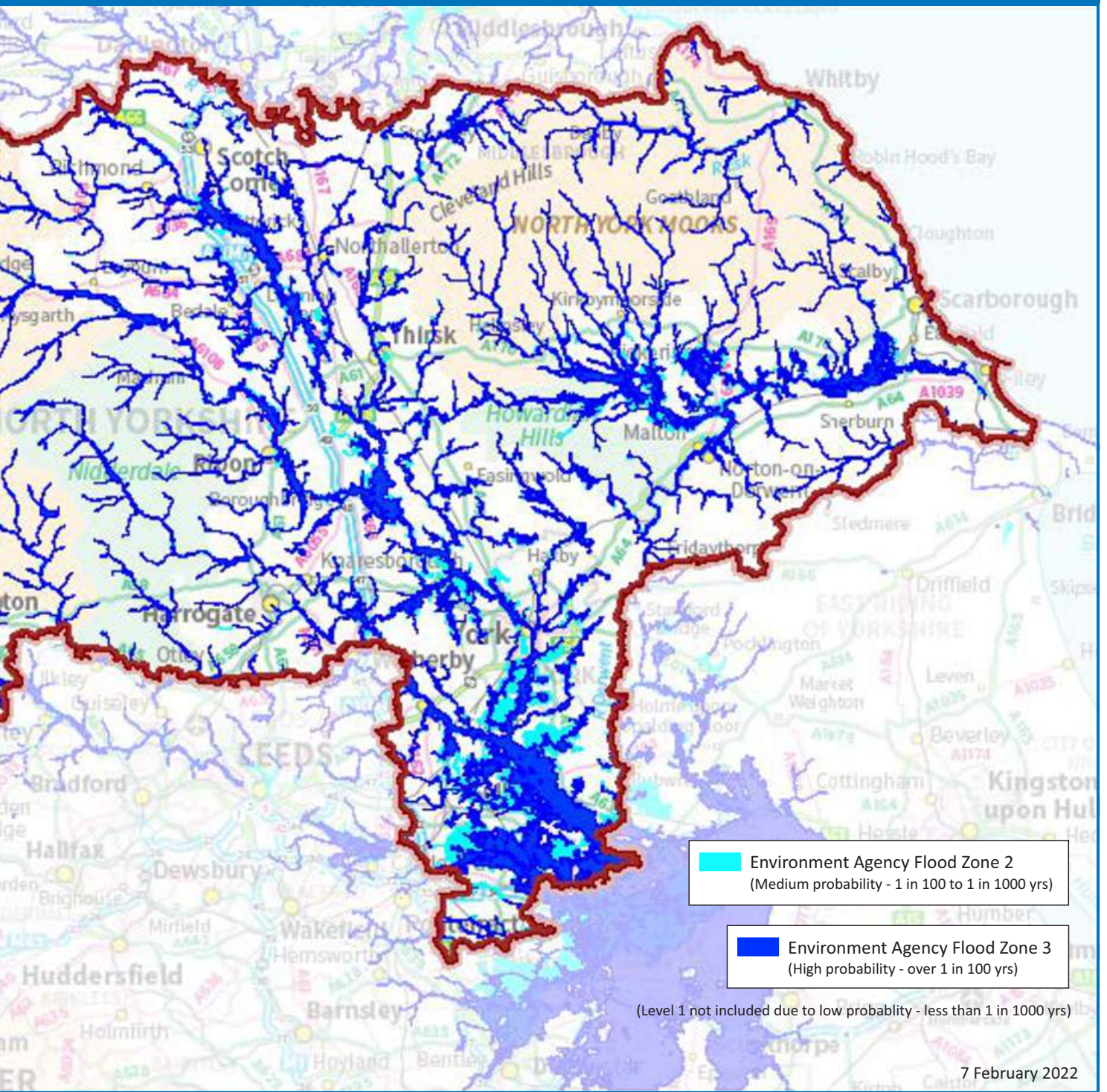


Figure 18: Flood plains (Environment Agency)

Figure 18 shows the predictive flood layers and indicates the areas most at risk of flooding. This provides geographical information but not when an event may occur. Currently we rely on real time information from the Environment Agency and Met Office as to when a flooding event is likely to happen.

We have looked at other factors that contribute to people, households, and businesses being at risk of flooding. Climate change will result in drier summers, wetter winters, and rising sea levels. Changes in the way land is used and future building developments on flood plains are all contributory factors to the increased risk of floods in the future.



Water rescues

An average of 400 people drown in the UK each year and a further 200 people take their own lives on our waters.

NYFRS has seen an increase over the last five years in the number of people requiring our assistance to be rescued from water. This includes helping people who have tried to drive through flood water, those who have got into difficulty whilst taking part in sport and leisure activities and those who have attempted suicide by jumping into deep or fast flowing water.

We have used our historic water incident related data to ensure that we capture all incidents, including those during spate conditions e.g. rescues from water may relate to a swift water incident or assisting someone to leave a flooded property. This data has been modelled and presented using a 'heat map' (Figure 20). The main areas of water related risk are in the York and Selby areas, Craven and parts of Ryedale. The incidence and particularly scale of flooding is likely to increase over the next five years. A significantly high proportion of water rescue incidents occur in western and southern areas of the county. There is a strong correlation between the incidence of flooding and the need for us to assist in rescues and evacuations.

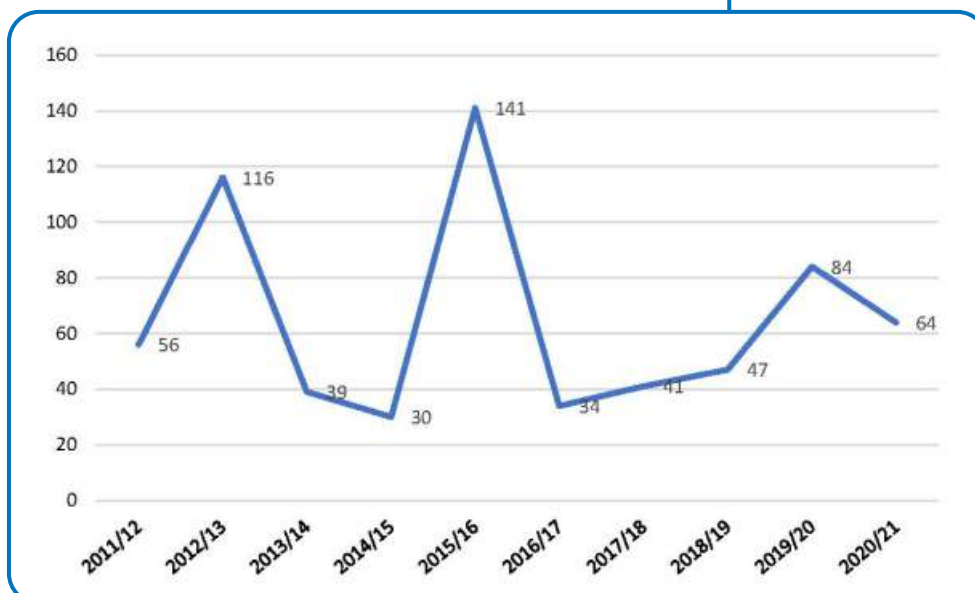


Figure 19: Rescue or evacuation from water (Home Office)

(Life risks) and Flooding Incidents

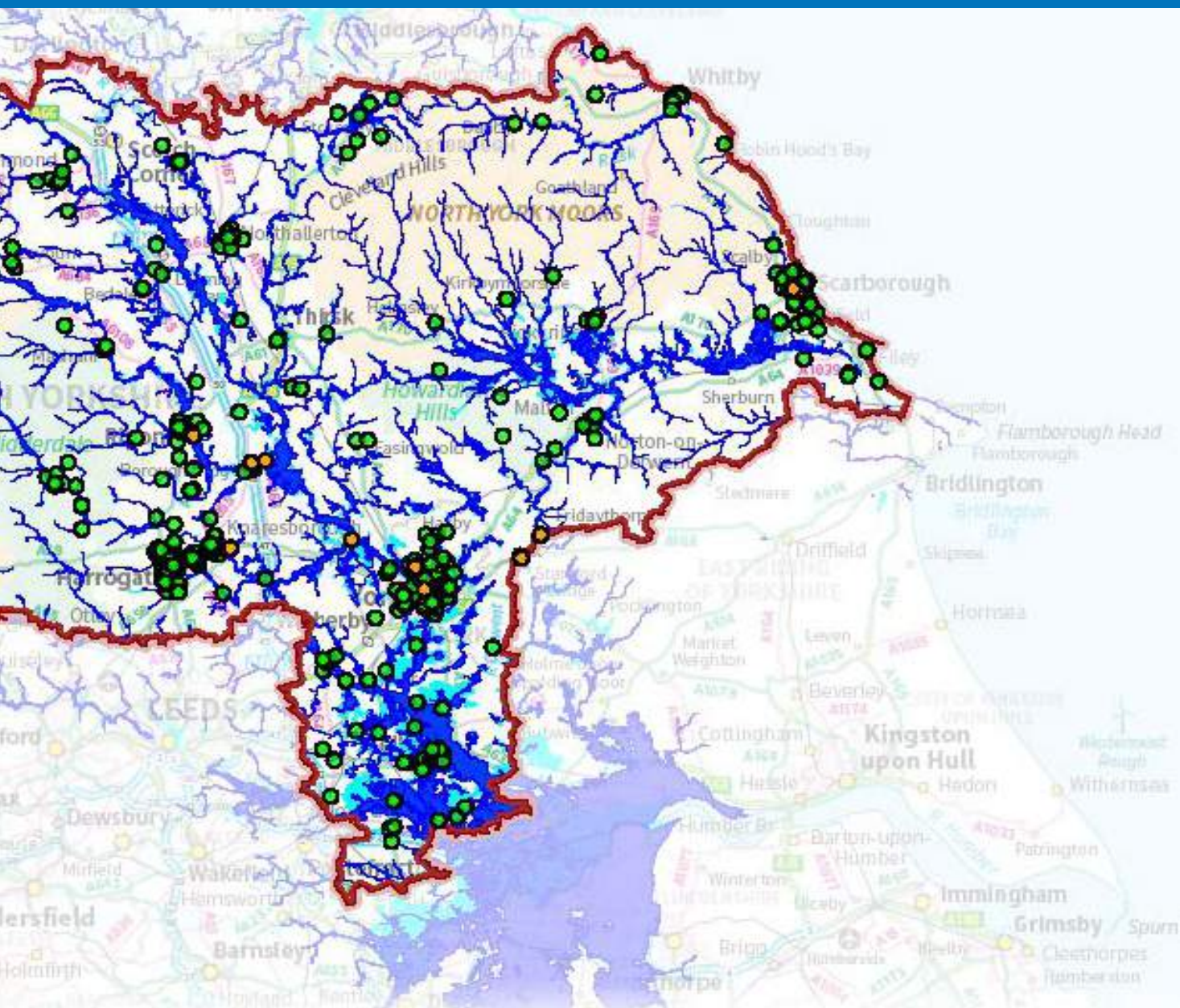


Figure 20: Water rescue and flooding incidents (NYFRS Mobilising System)

So what does this tell us?

- Flooding incidents and water rescues are likely to be an increasing area of demand for our Service.
- Some of these incidents are preventable, as they are often linked to human behaviour e.g. driving through flood water.
- Water rescue incidents can be complex and present significant risk to our firefighters and other rescuers, for which we must plan and train for, and equip accordingly.
- We need to increase our emphasis on helping communities build resilience.

Other risks

National Risk

The risks the UK faces are continually changing. The Government monitors the most significant emergencies that the UK and its citizens could face over the next five years through the National Risk Assessment (NRA). The National Risk Register (NRR) is the public version of the assessment.

North Yorkshire Local Resilience Forum (NYLRF)

This is a multi-agency partnership that provides a structure to help agencies plan and work together to prepare for major incidents and emergencies which may have a significant impact on the community. While emergencies are unlikely, it is useful to understand the types of risks in North Yorkshire. By understanding these risks, we can ensure that we have either taken steps to mitigate the risk or if that cannot be done, taken steps to monitor and respond to it should it happen.

Within North Yorkshire the Local Resilience Forum undertakes a review of the national risks and those risks facing the county. A 'Community Risk Register' has been developed that highlights potential hazards in our area.

The top three risks are:

- Pandemic Influenza: an influenza type pandemic remains the highest assessed natural hazard which has a significant impact on our communities;
- Flooding (Coastal, Fluvial and Surface water): this is the most common and widespread natural disaster and can occur from the sea, rivers and from continuous and/or abnormal rainfall levels. The highest flooding risk is surface water flooding which happens when drainage systems are unable to cope with the volume of rainfall; and
- Adverse/severe weather: we experience a wide variety of weather systems and the impacts are varied from heavy rain, snow and ice to shortage of rain and drought along with a wide range of temperatures.

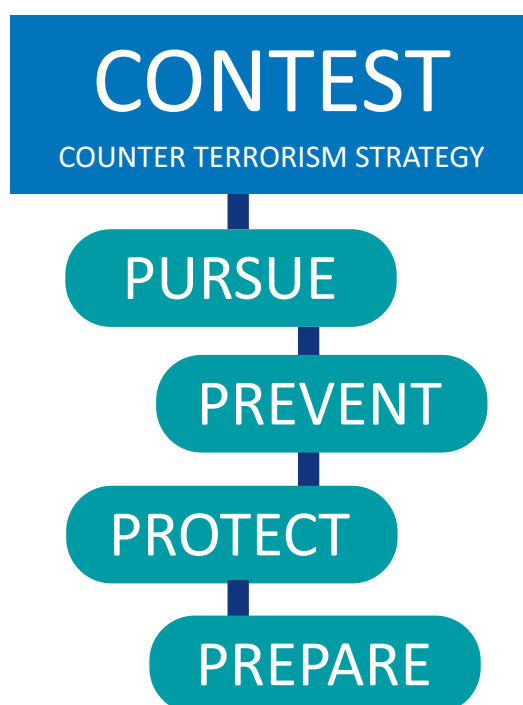
Counter Terrorism

Although we are not a specified authority under the Counter Terrorism Act, we still have an important role to play in preventing people becoming drawn into terrorism.

CONTEST is the UK's counter-terrorism strategy. The aim of the strategy is "to reduce the risk to the UK and its interests overseas from terrorism so that people can go about their lives freely and with confidence". The success of this strategy is not linked to total elimination of the terrorist threat, but to reducing the threat sufficiently to allow people a normal life free from fear.

The CONTEST strategy is comprised of the 'four Ps' - Prevent, Pursue, Protect, and Prepare. It aims to reduce terrorism at all levels through: Preventing more people from being radicalised; Pursuing suspects operationally and legally; Protecting the public through security measures; and Preparing to manage the response to mitigate the impact of an inevitable attack.

The UK national terrorism threat level at the time of publication is substantial.



Heritage Risk

The term “heritage building” is a broad one; however, it is likely to be a building of significant historical and architectural interest likely to contain articles of historical value.



There are approximately 13,000 buildings listed as Grade 1 or 2 in North Yorkshire and the City of York. Although the number of these sites in comparison to domestic dwellings is few, we recognise the unique risk they pose if involved in fire.

Such buildings may be publicly or privately owned, managed by charitable bodies, trusts, or other types of bodies. There are, therefore, no typical ownership and management arrangements for these types of premises.

A fire in any type of building can be disastrous but in the case of a heritage building there is a further dimension; the loss of property that forms part of the nation's cultural heritage which is irreplaceable.

Older buildings can pose a greater risk of fire spread due to building materials and methods as they do not have the same level of compartmentation and fire stopping features as modern buildings. However, renovation and improvement works must be to modern standards which reduces risk. Heritage buildings also have considerable risk management plans to further reduce the risk and likelihood of fire and impact.

Commerce and Industry

North Yorkshire and the City of York do not have a significant amount of heavy industry compared to our regional neighbours. There is however a substantial commercial base including tourism, service and hospitality and specialised industry in particular supporting banking and finance, pharmaceutical and medical and data warehousing.

We have two sites within the county that are classified as Control of Major Accident Hazards (COMAH) sites. COMAH sites pose a potential risk to society, firefighters, environment, and the economy should an incident occur. These higher risk sites are visited by our crews for familiarisation and to gather information that might be needed if an incident occurs. Business fire safety has a risk-based inspection programme for premises.

Local Infrastructure Development

The North Yorkshire Fire and Rescue Area covers seven Borough and District councils and the upper tier authorities of North Yorkshire county Council and the City of York. All have proposed plans for their respective areas regarding infrastructure developments.

We monitor these development plans and factor into the community risk profile any impact that these developments have on risk.

New housing and residential developments meet modern fire standards including the installation of hard wired fire detection. We link our Protection teams and our Prevention services as part of a person-centred approach to fire safety in domestic premises and the impact on local services and amenities where we can support community resilience.



Firefighter safety

NYFRS has a robust process for identifying new premises that could pose a risk to firefighters during an incident.

The identification of specific premises/sites is via a wide range of sources, including:

- NYFRS Risk Profile and existing premises/sites
- Police
- Health and Safety Executive
- Local Authority Emergency Planning Departments – COMAH sites
- Other emergency responders
- Neighbouring Fire and Rescue Services risk information (risks within 10 kilometres of our county borders)

Political

We monitor government and local political decisions which can have an impact on the economy, community and environment and impact on the risk in the county.

An example of this is the announcement in July 2021 that the current county, district and borough councils would be replaced by a new single council for North Yorkshire in April 2023 with City of York Council remaining as it is. North Yorkshire Fire and Rescue Service is well connected with the existing authorities and will remain actively engaged in seeking future opportunities for collaboration in any new structure.

Economic

The Police, Fire and Crime Commissioner for North Yorkshire has responsibility for the Service budget, which comprises a combination of central government grants and the set amount of money that people pay through their council tax for fire and rescue services (the fire and rescue precept).

About a third of funding comes from the Government while two-thirds is raised locally through the fire and rescue precept. We have no flexibility to increase our precept beyond the current cap of 1.99%, which is below inflation.

We are facing a number of challenges in relation to our rurality and On-call service model, our ability to invest in our capability to protect our communities with increasingly ageing equipment, fleet and estate, and our ability to transform and diversify our Service and workforce.

Legislation

NYFRS is required to operate in line with several pieces of legislation. Anticipated Government proposals on Fire Service Reform and recent changes to fire safety legislation will potentially impact of the way we deliver our services.

Any changes to legislation or shift in priorities has implications on the way that we deliver our services. For example, following the tragic loss of 72 lives at Grenfell Tower, London, in 2017 the Government provided additional funding to all fire and rescue authorities to carry out an assessment of high rise residential buildings.

Societal

Societal change including demography, employment, and cultural attitudes and behaviours, shape the way we need to deliver our services to ensure we are effectively targeting, engaging with and supporting our communities in the best way possible. It is important for us to understand these changes so we can plan and prepare for long term changes to how we deliver our services.

For example, the Covid-19 Pandemic has allowed many people to work from home or vary how they run businesses. Many will not revert back to the pre pandemic patterns and we anticipate more people looking to relocate to North Yorkshire from other parts of the country as this 'agility' to work remotely increases.



Quality assurance and validation

Technological

The way we fuel our cars, power and heat our homes, the devices we use for work and leisure are significantly different to only ten years ago.

Technology is changing at such a rapid pace it is nearly impossible to keep up with. As industry and commerce adapt to this it will present us with new challenges and opportunities.

Environmental

We are committed to ensuring that we operate as an environmentally conscious organisation.

Changes to environmental legislation and the pledges and commitments made by Central Government will have an impact on us as we strive to make our buildings and fleet compliant.

So what does this tell us?

- Environmental factors and the impact of climate change are likely to continue to be a major influence to changes in the risk within our county.
- As society changes, the nature of the risk will change, which will require us to adapt our interventions.
- Innovation is being developed and introduced in firefighting and rescue equipment and techniques.
- We will need to keep up with the pace of technological advancement to ensure that we are best placed to deliver our range of services in the modern world.
- Heritage buildings present a special risk in our area, but the risk is very well managed and we have plans in place as to how we respond.

Our understanding of risk has improved through the development of this Community Risk Profile which helps us to shape our services for the future to help our communities be safe and feel safe.

The data used in the modelling of risk is from validated sources.

It has been accessed through web sites such as Local Insights and is considered a trusted and reliable source. We have used some 'closed source' data sets, for example 'Blue badge' data which we obtained from North Yorkshire County Council and the City of York Council. All data has been used to provide an informed view of risk in our Service area.

Independent scrutiny of the methodology used by the risk profiling team, the chosen data sets applied in the modelling and the resulting profile has been applied. North Yorkshire County Council was invited to peer review the RRM model and has provided the following feedback:

"... great progress had been made and there is a good developing understanding of risk across the county. NYFRS are building an excellent product that will underpin their ability to deliver strategic services across the area, and NYCC are proud to be working alongside their partner to ensure the product is robust and reliable."

Data Sources

[Home Office - fire and rescue statistics](#)

[Ministry of Housing, Communities & Local Government – Indices of Multiple Deprivation](#)

[Local Insight](#)

[Department for Transport - road traffic statistics](#)

[North Yorkshire County Council - road traffic collision data](#)

[Office for National Statistics \(ONS\)](#)

[Gov.uk – flood map](#)

NYFRS Vision Mobilising System

