

Report of The Transformation Directorate

Risk and Resource Model Proposal Paper

Executive Board

March 2022

Contents

Executive summary.....	1
Background.....	3
Our Service.....	4
The Service area.....	4
What services do we deliver and how?.....	4
Our collaborative approach.....	6
Community Risk Profile.....	7
High Level Gap Analysis.....	8
Our Service area.....	8
Total incidents.....	8
Accidental dwelling fires risk.....	9
Road risk.....	9
Water risk.....	10
Other risks.....	10
Strategic intent.....	11
The Fire and Rescue Plan.....	11
Ambition 2025 and our strategies.....	11
Our intent.....	12
Transformation.....	13
Proposals (external consultation).....	14
Prevention.....	14
Protection.....	18
Response.....	20
Huntington.....	21
Harrogate.....	29
Scarborough.....	37
Aerial Ladder Platforms.....	45
Combination.....	47
Implementations (internal consultation/negotiation).....	51
Swift Water Rescue Capability.....	51
Duty Systems.....	54
Response Principles.....	56
Investment Pipeline.....	58
Implementation.....	59
Chief Fire Officer Recommendations.....	60
Appendices.....	61

Figures

Figure 1 - Huntington wide area combined fire risk	22
Figure 2 – Huntington wide area combined fire risk.....	22
Figure 3 – Huntington 5-year road incidents.....	23
Figure 4 – Huntington 5-year water incidents	23
Figure 5 – Huntington station ground 5-year total incident activity comparison.....	24
Figure 6 – Huntington station ground 5-year total incident type activity comparison	25
Figure 7 – Huntington station ground average incident demand profile by hour of day	25
Figure 8 - Effect on attendance times for Huntington	26
Figure 9 – 5-year Huntington 5-year incident demand redistribution.....	27
Figure 10 – Harrogate wide area combined fire risk	30
Figure 11 – Harrogate focused area combined fire risk.....	30
Figure 12 – Harrogate 5-year road incidents	31
Figure 13 – Harrogate 5-year water incidents	31
Figure 14 – Harrogate station ground 5-year total incident type activity comparison	32
Figure 15 – Harrogate station ground average incident demand profile by hour of day	33
Figure 16 – Harrogate station ground 5-year total outside of peak hours incident activity comparison	33
Figure 17 – Harrogate 5-year incident demand redistribution	34
Figure 18 – Scarborough wide area combined fire risk.....	38
Figure 19 – Scarborough focused area combined fire risk	38
Figure 20 – Scarborough 5-year road incidents.....	39
Figure 21 – Scarborough 5-year water incidents.....	39
Figure 22 – Scarborough station ground 5-year total incident type activity comparison.....	40
Figure 23 – Scarborough station ground average incident demand profile by hour of day.....	41
Figure 24 - Scarborough station ground 5-year total outside of peak hours incident activity comparison	41
Figure 25 – Scarborough 5-year incident demand redistribution	42
Figure 26 – Huntington 5-year total ALP mobilisations	45
Figure 27 – Harrogate 5-year total ALP mobilisations	46
Figure 28 – Scarborough 5-year total ALP mobilisations.....	46
Figure 29 – Combined 5-year total incident demand redistribution.....	47
Figure 30 – Average (5-years) On-call appliance availability post cover moves and detachments	48
Figure 31 – Craven 5-year water incidents.....	52
Figure 32 – Service map	62
Figure 33 – Strategic framework	80
Figure 34 – Prevention and Protection proposed model.....	81
Figure 35 – Prevention and Protection current structure	82
Figure 36 – Prevention and Protection proposed structure.....	83
Figure 37 – First appliance (day) attendance times for residential premises	84
Figure 38 - First appliance (night) attendance times for residential premises	84
Figure 39 - First appliance (day) attendance times for residential institutional premises.....	84

Figure 40 - First appliance (night) attendance times for residential institutional premises.....	84
Figure 41 - First appliance (day) attendance times for commercial hotel premises.....	84
Figure 42 - First appliance (night) attendance times for commercial hotel premises.....	84
Figure 43 - First appliance (day) attendance times for commercial premises	84
Figure 44 - First appliance (night) attendance times for commercial premises	84
Figure 45 – Second appliance (day) attendance times for residential premises	85
Figure 46 – Second appliance (night) attendance times for residential premises	85
Figure 47 – Second appliance (day) attendance times for residential institutional premises.....	85
Figure 48 - Second appliance (night) attendance times for residential institutional premises.....	85
Figure 49 – Second appliance (day) attendance times for commercial hotel premises.....	85
Figure 50 - Second appliance (night) attendance times for commercial hotel premises.....	85
Figure 51 - Second appliance (day) attendance times for commercial premises	85
Figure 52 - Second appliance (night) attendance times for commercial premises	85

Tables

Table 1 – Huntington station ground 5-year total incident activity.....	24
Table 2 – Harrogate station ground 5-year total incident activity	32
Table 3 – Harrogate station ground 5-year total incidents between 21:00-09:00	33
Table 4 - Scarborough station ground 5-year total incident activity.....	40
Table 5 – Scarborough station ground 5-year incidents between 21:00-09:00	41
Table 6 – Total number of appliances: current and proposed.....	48
Table 7 – Service total 5-year water incidents	51
Table 8 – Craven total 5-year water incidents	51
Table 9 – District comparison of total 5-year water incidents.....	52
Table 10 – Savings and investment profiles	58
Table 11 – Emergency response resources	63

Executive summary

This document presents the outcomes of the Risk and Resource Model (RRM) project. It informs the creation of the Community Risk Management Plan, known locally as the RRM, in accordance with the statutory responsibilities laid out in the Fire and Rescue National Framework for England, 2018¹. The RRM facilitates the wider transformation necessary to realise the changes to our Service to ensure we provide the best service to the public, outlining proposals for change to ensure we provide our services where they're needed the most.

We recognise the need for a redesign of our Service to focus more on prevention, protection and resilience to achieve the principles set out in the Commissioner's Fire and Rescue Plan. The only way we can achieve this is to rebalance our existing resources to uplift our delivery of early intervention activity, which in turn will further remove, reduce, and mitigate risk.

The proposals we are presenting will enable the beginning of this redesign. Standing still and operating in the same way in which we have previously, is not an option. Some of our proposals require external consultation whilst others will be implemented immediately, although internal consultation and negotiation will be necessary.

Our Community Risk Profile provides us with a deeper understanding of the risks present within our county. It identifies that there are areas of higher risk across our county where we need to redirect our range of services. The risk profile, combined with analysis of our historic incident data, has enabled us to accurately consider our prevention, protection, and emergency response provision which in turn, has informed our recommendations to the Commissioner.

We recommend increasing our prevention and protection capability by providing additional resources to increase and enhance service delivery, expertise, and guidance. Increased coverage and equitable access to our services to help those most at risk from fire, road, and water, will be realised by implementation of our proposals. These proposals will be subject to public consultation.

The risk in the Huntington area is low. We recommend that the Huntington fulltime 24-hour shift fire appliance is removed, whilst retaining a small core of fulltime staff at the station for the short term, to provide 100% On-call fire appliance availability, and support for On-call recruitment, prevention, protection and risk information activity. The incident demand profile for Harrogate and Scarborough does not warrant the provision of two 24-hour fire appliances. The Tactical Response Vehicles should be replaced with standard fire appliances, crewed during the times of highest demand only. These changes will enable us to reinvest in our early intervention services. These proposals will be subject to public consultation.

False alarm attendances are a burden on the Service, wasting valuable time and resource, and diverting our operational crews from risk reduction activities and other more critical incident types. We recommend a change to our management of, and response to Automatic Fire Alarms, through the development of a range of alternative approaches to reduce our attendances to them. These proposals will be subject to public consultation.

Introduction of a Craven based specialist water rescue capability is necessary to respond more effectively to the risk we know is present in that area. There is no requirement to

¹ Home Office, 2018

publicly consult on this implementation, but we recommend it features within that consultation to inform the public of this additional capability.

The implementation of self-rostering across all fulltime stations will benefit both the Service and the individuals who operate this system. A change to the shift start/finish time, and duration, will match the incident demand profile and increase productivity. We will begin implementation which will require internal consultation and negotiation.

We've stated our Response Principles, and how we intend to measure and monitor them. Our analysis of response times will inform our declaration of a Response Standard in future. We recommend that this is included in the public consultation to help us to better understand what the public expectation is of our performance.

The On-call system requires improvement which comes at a significant cost. Changes to terms and conditions requires the greatest investment however, other areas also require significant investment such as improvements to the recruitment process, retention and workforce diversity, to support long term sustainability.

The proposals we are recommending save approximately £1.5 million. Subject to unplanned financial fluctuations, our aim is to reinvest this money in vital areas of our Service concentrating on On-call improvements and an uplift in prevention and protection services.

Background

The primary duties of all fire and rescue services (FRSs) are set out in the Fire Services Act (2004). Further duties are set out in the Regulatory Reform (Fire Safety) Order 2005, the Civil Contingencies Act (2004), the Health and Safety at Work Act (1974) and the Police and Crime Act (2017). These are enacted through the National Framework for Fire and Rescue Services (2018), including the provision of an Integrated Risk Management Plan (IRMP).

For those FRSs who operate under a Police, Fire and Crime Commissioner (PFCC) governance model, the Framework outlines the requirement for the PFCC to produce a Fire and Rescue Plan and an IRMP, of which the latter may be delegated to the Chief Fire Officer.

The Service has developed our IRMP which we have chosen to call the Risk and Resource Model (RRM) as it more clearly states its purpose of identifying and analysing risk to align our prevention, protection, resilience and response services to remove, reduce and/or mitigate risk.

Our current IRMP is called the Community Safety Plan (2016/17 – 2020/21). This was extended to 2021/22, along with an accompanying risk assessment, to enable further work to be undertaken with the development of the RRM.

The current IRMP defines risk from an emergency response demand perspective. To measure local risk, the frequency and number of the most usual incident types such as house fires, road traffic collisions and car fires, was deemed to be the best indicator of the risk of those incidents over time. This incident data was used to produce risk scores for each station area, by giving each incident type a weighting and then adding together all the incidents in that area to provide the final risk score.

The 2018/19 inspection of the Service undertaken by Her Majesty's Inspectorate for Constabulary and Fire and Rescue Services (HMICFRS) identified that our use of data to inform the IRMP was limited as we did not use a sufficiently wide range to produce an accurate, clear risk profile:

“The service should ensure its integrated risk management plan is informed by a comprehensive understanding of current and future risk. It should use a wide range of data to build the risk profile and use operational data to test that it is up-to-date.”²

The extension has provided the opportunity to develop our deeper understanding of the risk which is present within our county, and to develop the RRM, resulting in further development of the Community Risk Profile and resource options for change to our delivery models.

Our approach to RRM development broadly meets the Fire Standard for Community Risk Management Planning provided by the Fire Standards Board³, aligning with the National Fire Chief's Council's Community Risk Management Planning Programme guidance⁴:

- Community Risk Management Planning Strategic Framework
- Glossary of risk-related terms
- Definition of Risk
- National review of Community Risk Management methodologies across UK fire and rescue services

Similarly, we are broadly in alignment with the aspirations identified within the Fit for the Future's vision

“to identify what needs to change, using a sound evidence base and then identify how that change could be delivered, by supporting its implementation across all services.”⁵

² Her Majesty's Inspectorate of Constabulary and Fire and Rescue Services, 2019

³ Fire Standards Board, 2021

⁴ National Fire Chiefs Council, 2022

⁵ FIRE AND RESCUE SERVICES National Employers (England), National Fire Chiefs Council, Local Government Association, 2022

Our Service

The Service area

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.

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. 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.

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.

What services do we deliver and how?

Our range of services are prevention and early intervention, fire safety (protection), 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.

Prevention

Our prevention services are based around seven main areas:

- Domestic safety
- Road safety
- Water safety
- Early intervention activity
- Safeguarding
- Disruption (partnership working)
- Communication/engagement

Our prevention services are delivered predominantly by fulltime operational firefighters, operating from a range of fire stations across the county. These crews deliver prevention activity mainly within the more urban areas due to our fulltime fire stations being located within our bigger towns and cities.

We also have Community Safety Officers aligned to and working within the eight districts. In the main, they operate within the more rural areas of the county and deal directly with more complicated cases and/or offer support to our firefighters.

We have a dedicated central prevention department which has a range of staff who provide guidance and expertise, along with a range of resources to assist the delivery of our early intervention preventative activity.

Protection

Our protection services are delivered predominantly by fulltime operational supervisory managers, operating from a range of fire stations across the county. These crews deliver prevention activity mainly within the more urban areas due to our fulltime fire stations being located within our bigger towns and cities.

We have a dedicated central protection department which has a range of staff who provide guidance and expertise, along with a range of resources to assist the delivery of our business fire safety activity. As well as performing audits in more complex premises and processing enforcements when necessary, they also undertake formal fire safety consultation activity.

Response

Our emergency response resources are widespread across the county to account for the large travel distances and times resulting from the expanse of geographical we cover (see Figure 32 at Appendix A for a map of our stations). We have 38 fire stations and operate a range of duty systems as follows:

- 5 fulltime shift stations which are crewed 24-hours a day:
 - Acomb, Harrogate, Huntington, Scarborough and York
- 7 fulltime day crewed stations which are crewed 08:00-18:00 every day by firefighters who carry an alerter and are on call outside of these hours. 2 of these stations operate a day crewed self-rostering (SR) system
 - Malton, Northallerton (SR), Richmond (SR), Ripon, Selby, Tadcaster and Whitby
- 24 On-call stations (crewed by firefighters who provide on-call cover from home or their place of work).
 - Bedale, Bentham, Boroughbridge, Colburn, Danby, Easingwold, Filey, Grassington, Hawes, Helmsley, Kirkbymoorside, Knaresborough, Leyburn, Lythe, Masham, Pickering, Reeth, Robin Hood's Bay, Settle, Sherburn, Skipton, Stokesley, Summerbridge, Thirsk.
- 7 stations have both a fulltime and On-call crew:
 - Acomb, Huntington, Malton, Northallerton, Ripon, Selby, Tadcaster
- 2 volunteer stations crewed by volunteers:
 - Lofthouse and Goathland

We also have a control room in Northallerton, a training centre in Easingwold, a shared headquarters with North Yorkshire Police (NYP) in Northallerton and a joint Transport and Logistics Hub in Thirsk.

Our firefighters operate 46 fire appliances: 41 are Emergency Rescue Pumps (ERPs), of which 4 have a 4 x 4 capability, and we have 5 Tactical Response Vehicles (TRVs). 2 of the TRVs, located at Harrogate and Scarborough are crewed by 3 fulltime firefighters and attend a limited range of incidents. The other 3 are located at On-call stations (Helmsley, Sherburn and Summerbridge) and operate as a Light Rescue Pump (LRP) when crewed by 4 firefighters but they can also operate as TRVs with 3 crew. We also have a range of specialist units. A list of our emergency response resources is in Table 11 at Appendix B.

Resilience

Our current approach to providing resilience is based around three levels: Service resilience, community resilience and national resilience.

Service resilience

We need to ensure we are resilient in the provision of our range of services. Ensuring we have adequate resources in place, and a means of reacting to impacts upon them is vital, so that we can continue to safeguard the public we serve. Our personnel are provided with the correct vehicles, equipment and training to ensure that they are able to perform effectively.

Community resilience

Our resilience activity involves working with partners to enable communities and businesses to become less vulnerable and more resilient when incidents occur. We interact with local communities to help them to increase their local resilience (e.g. our involvement with producing and testing local flood plans) however, our contribution is currently limited and needs to increase. This is an area where we need to improve our offer of support in developing more robust local planning and assistance to the communities we serve.

We are an active member of the North Yorkshire Local Resilience Forum (LRF), leading and participating in the various working groups. The LRF and partner organisations have a strategic and coordinated approach to activity that enables community and voluntary networks (which includes individuals, businesses, community groups and voluntary organisations) to behave in a resilient way and take action to support one another and members of the public. Our combined approach supports a range of measures which assesses and improves community resilience across the county.

National resilience

We provide support to national resilience through the maintenance and delivery of national assets. We provide:

- 2 High Volume Pumps (Harrogate and Richmond)
- An Incident Support Unit (Acomb)
- A flood rescue boat (Selby)

We maintain these vital pieces of equipment and undertake specialist training to ensure that the assets are available for a coordinated national response when requested. We also use the equipment within our own county when we need to.

Our collaborative approach

We continue to pursue collaboration opportunities, building on our commitment to developing collaborative relationships, internally and externally, to maximise the opportunities which exist. Further collaboration will realise further benefits and continues to be a Service commitment. Our collaboration increases both our effectiveness and efficiency.

Examples of our collaborative approach so far include:

- Control resilience arrangements in conjunction with Cornwall Fire and Rescue Service
- a Joint Strategic Assets Management Programme
- Data development in conjunction with enableNY and partner organisations
- Efficiency savings through the sharing of our enabling services with NYP
- The introduction of the Public Safety Service, piloting a place based preventative service in conjunction with NYP and the Yorkshire Ambulance Service (YAS)
- Regional FRS collaboration to develop and share good practice and resources e.g. bulk foam capability, fire investigation, sharing of command structure resources etc.
- Emergency First Responder schemes at some fire stations in conjunction with YAS
- Gaining entry on behalf of NYP and YAS

This list is not exhaustive however, it demonstrates some of the areas where we are really making a positive difference. This could not be achieved in isolation.

Community Risk Profile

Integral to the RRM is a Community Risk Profile (CRP). The services we provide to the public need to be based on an assessment of current and future risks balanced with an understanding of the communities we serve and the places where they live and work. We have developed the CRP which has enabled a deeper understanding of the fire and rescue related risks within our county. It is the most comprehensive and forward-looking assessment of the risks in our communities which will impact upon, and shape, the services we deliver over the coming years. The document has now been published for access by all stakeholders and is available on our website and intranet.

We looked at factors that put individuals/groups/communities and businesses at an increased likelihood of requiring an intervention or response from our Service. We developed the CRP using sociodemographic and infrastructure data relevant to North Yorkshire and the City of York. Our use of historic operational incident data complements this and further enhances our understanding of risk.

We have used a range of data from different sources that helps us understand the community groups most at risk. This data is:

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

The CRP focuses on three broad areas of risk: fire, road and water. Within these, we have focused on three priority areas:

- 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 shared the CRP with middle managers and Representative Bodies prior to its publication. Briefing sessions were held with middle managers to enhance their understanding and awareness of the profile, along with workshops focussing on the use of the dashboards which are now also available to assist with their local analysis to direct our services in a more intelligent way.

Following its publication on the 16th March 2022, staff are being briefed on its content prior to the release of the RRM proposals. Raising staff awareness of the CRP and the supporting data dashboards is a fundamental requirement as our service delivery should be directed and focused in those areas where it is needed the most, ensuring that the members of public who require our assistance the most are identified and supported.

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 which are present across our communities. Analysis of the CRP has been included within the options development as this forms the fundamental basis of balancing resource with risk. This analysis has been combined with other analyses, including incident activity (geographical and incident types) and demand redistribution of incidents, and other critical work such as prevention, protection, risk information and hydrant maintenance activities.

To ensure we keep abreast of changes to our existing, as well as emerging or future projected risks we will regularly update our CRP to keep the communities of North Yorkshire and the City of York safe. The CRP will be annually refreshed and reviewed as a minimum. This will ensure that it will continue to inform the consideration of resourcing options to risk in future.

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

High Level Gap Analysis

We've analysed the CRP and our historical operational data to gain a deeper understanding of the risks within our county. We have undertaken a gap analysis against our current state compared with our desired state in future to further remove, reduce and/or mitigate the risks we know are present. The detailed gap analysis which was completed in 2021, is available at Appendix C.

Our Service area

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. Therefore, our geographical positioning of fire stations across our Service area is appropriate and we do not intend to amend our model in this respect.

A high number of visitors and students means that our population and risk profiles fluctuate throughout the year. Although we recognise this, we are aware of the challenges in identifying these members of the public and how we might interact with and influence them to make them feel safe and be safe. Our approach to prevention needs to be wide ranging to encompass a diverse range of public.

An ageing population requires a wider range of interventions to minimise the need for emergency response. This is a particular area that we need to focus on to really make a difference. We've identified that mobility is a significant issue, not for those who are more likely to experience a fire, but more importantly, the increase in consequence severity once a fire occurs.

Suicide prevention is an area of increasing focus for us. We recognise our increase in emergency response interventions to support other services in dealing with members of the public who pose a threat to themselves however, we aspire to provide additional support to help to prevent these circumstances progressing to the point where emergency intervention is necessary i.e. increased involvement in mental health support. Our current prevention provision does not adequately support the removal and/or reduction of this concerning rise in mental health impact.

Despite the lower smoking prevalence in our county, smoking is still identified as one of the main causes of fire. This is an area which remains a challenge for us, but through an increase in targeted interventions, concentrating on other factors addressed for instance through our Safe and Well interventions, we should be able to make a difference in reducing the prevalence of smoking with the population of our county.

Total incidents

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. This is an area which we look to continually improve. Our range of emergency response skills continue to develop however, we need to keep pace with the changes we see in technological advancements to ensure we remain effective in our response.

Analysis of our incident attendances tells us that nearly half are responses to false alarms, the majority of which are automatic fire alarms (AFAs). We need to review our response to AFAs to ensure that we deliver an appropriate response where it's needed whilst helping to reduce the number of emergency intervention calls we receive and respond to.

We need to continue to reduce risk to prevent incidents from occurring which in turn reduces the need for an emergency response. Attending incidents takes our crews away from delivering our full range of services. Reducing our emergency interventions through an increase in the delivery of our prevention and protection services will further reduce our emergency call rate. Other initiatives (e.g. a change of approach to AFAs) will support this further. Reducing our emergency calls frees up additional capacity to deliver our range of services where we need them the most.

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 (RTCs). Our staff therefore need to be multi-skilled and flexible as fire incidents will be a constant but smaller part of the job.

Many of our fire appliances 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. We have fire stations positioned in some of the county's remotest areas, with the next available fire appliance being a significant distance and time away.

Accidental dwelling fires risk

Overall, the risk of death or injury in a residential fire is low but they still occur. This should not limit us in providing widespread and equitable access to our prevention and protection services. Our prevention activity should focus on those who are most at need from our services. Currently, this activity is most prevalent within the more urbanised areas of our county due to the current availability of resource to provide it in these locations. We need to increase our capability to provide the same level of preventative activity across the county in a more even way. Increasing the volume of Safe and Well visits and other more specialised interventions and targeting them at the most vulnerable will reduce the risk across the county.

We need to find and help those most at risk to prevent fires from occurring. Our pursuit of more meaningful data to enable us to find those most at risk, continues. To develop this further, it's necessary to improve our specialist prevention capability to explore and maximise the opportunities for increased partnership working and data sharing.

The spread of risk across our county is quite consistent however, there are more areas towards the east of the Service area with greater numbers of people meeting the risk factors. 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.

The larger urban centres such as York, Harrogate and Scarborough have a broad range of fire risk including the highest risk areas. Delivery of our range of services in these areas however, is much higher because of the volume of resources we have there due to the location of our fulltime fire stations.

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. To make this possible, we need to invest in the redesign of our Service to improve the effectiveness of our prevention and protection services through increased service delivery and dedicated resources to support it.

Road risk

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. Our incident data does not reflect the full extent of road risk which is present across our county as we usually only attend, and report, those incidents where casualties are physically and medically trapped.

Around 6 in 10 RTCs which result in people being killed or seriously injured occur on our more rural roads - mainly on roads with a 60mph speed limit. Our emergency response capability caters for this, having a good, even, spread of coverage across our road network due to the location of our fire stations. We have also reintroduced TRVs into service, placing three of them at On-call stations which suffer from lower availability levels. A significant benefit from this is the ability to mobilise a TRV with a crew of 3 personnel (rather than the usual 4 personnel) to an RTC and perform lifesaving activity upon arrival.

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. We recognise that we have a significant role to play working in partnerships to further reduce road risk within our communities, targeting our prevention work where it has the most effect.

Our active partnership collaboration, at all levels within the York and North Yorkshire Road Safety Partnership enables us to collectively contribute to achieving 'Vision Zero', aiming to reduce the number of people killed or seriously injured on our roads.

RTC activity sadly remains constant though with an increased complexity of rescue techniques because of new vehicle technology. We will continue to try and prevent RTCs from happening however, we recognise that they will continue to occur, and therefore our emergency response to them needs to be as effective as possible. Better equipment and training helps us to perform effectively to reduce the severity of the impact on RTC casualties.

Water risk

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. We need to do more to influence the public's behaviour by directing our prevention and resilience activity appropriately.

Water rescue incidents can be complex and present significant risk to our firefighters and other rescuers, for which we must plan, train for, and equip accordingly. We currently provide a range of water rescue capability, with all operational personnel receiving a sound basic level of training to operate safely and effectively, whilst six of our stations provide additional and more specialised capability for water rescue incidents.

The CRP shows us that Craven experiences a higher number of water-related incidents compared to other areas of the county, yet we do not provide a specialist operational capability in this area. This needs to be addressed to ensure that we provide our emergency response resources where it is needed based on the risk that is present.

We need to increase our emphasis on helping communities build resilience. This is an area where we can do more to help in the future. We are effective in responding to these incidents however, helping communities to prepare for, and mitigate the impact of them, is an area where we could improve.

Other risks

Environmental factors and the impact of climate change are likely to continue to be a major influence to the risk within our county. The impact of climate change on weather conditions can significantly impact our communities. We need to ensure that we can continue to provide our assistance when these types of incident occur. Although the incidence of events such as wildfires and flooding are relatively low in comparison to other incident types, when they do occur, they can be protracted and over a wide scale.

Our emergency response is important to mitigate the effect of these incidents. We have reviewed our wildfire capability and equipment and improved our response which we test through joint training with partners and landowners. Improving our data recording and analysis to assess trends, and ability to predict climate impact locally will assist us. We will continue linking to national climate change work and resilience forums. Our targeting of education and intervention for landowners, visitors and national parks to reduce the incidents is effective and needs to continue.

As society changes, the nature of the risk will change, which will require us to adapt our interventions. We need to continually assess our risks and ensure we remain agile in designing and rebalancing our resources to meet a changing risk profile. We will do this through an annual review of the CRP and continual development of our RRM process, including an increased and more intelligent use of the available data.

Innovation continues, and we see developments in fire 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 are widespread across our county however, this risk is very well managed through our protection services and we have effective response plans in place.

Strategic intent

The gap analysis shows us that we need to fundamentally redesign our Service and its delivery models to focus more on prevention and protection activity. To do this, we need to shift our mindset and rebalance our resources to support the change. We've introduced several new approaches to enable us to align with the direction of travel identified within the Commissioner's Fire and Rescue Plan. A new vision, 'Ambition 2025', newly designed strategies, and a strategic intent, have been developed to facilitate the development of the Service to provide our range of services differently. Figure 33 at Appendix D provides a graphical representation of our strategic framework.

The Fire and Rescue Plan

The Commissioner's new Fire and Rescue Plan (2022 to 2024) will be published in April 2022. It sets a clear mission, strategic vision, principles, priorities, and associated outcomes:

- Our mission is *"Helping you be safe and feel safe in North Yorkshire"*.
- Our strategic vision is that *"North Yorkshire Fire and Rescue will be an exemplary local service"*
- Our four principles are: Caring for the vulnerable; Ambitious collaboration; Realising our potential; and Enhancing our service for the public (CARE)

The Commissioner has set five shorter term priorities for the Service:

- Actively engage with all communities to identify need and risk, and to reassure
- Work jointly as a trusted partner to prevent harm and damage, intervene early, and solve problems
- Deliver the "right people, right support" every time
- Maximise efficiency to make effective use of all available resources
- Enhance positive culture, openness, integrity, and public trust.

Ambition 2025 and our strategies

Ambition 2025 paper⁶ sets out ideas about how we might best deliver the CARE principles. It sets a clear direction and includes our opportunities for transformation, the challenges we'll face and how we can overcome them. It assumes a shared desire between the public, partners, politicians and workforce that we exist to deliver the best value for money services to ensure the public and our staff are helped to 'Be Safe and Feel Safe'.

The report introduces the transformation programme and its design around three categories of opportunity:

- On-call availability
- Maximising service delivery capacity
- Saving to invest to modernise

However, it also recognises the barriers to be overcome in reaching the ambition:

- Funding
- Capacity
- Resistance to change

We've developed new Service strategies, one for each Directorate, which complement each other and drive the tactical and operational planning.

⁶ (NYFRS Chief Fire Officer, 2019)

Our intent

The RRM project sits within the Fire Transformation Programme and is a foundation of subsequent transformation within the Service. The Programme will deliver a fundamental change to the Service's delivery model with a shift in focus to prevention and prevention delivery. We have outlined the strategic intent of the Fire Transformation Programme as follows:

“The Fire and Rescue Plan CARE principles are met through the Service's delivery model of prevention, protection, resilience and response. To fulfil the CARE principles, and further reduce the current and foreseeable fire and rescue related risks in North Yorkshire and the City of York, it is necessary to redesign the service model to prioritise prevention and protection activity, enabling a flexible, affordable and sustainable multi-year model.

The Risk and Resource Model (RRM) will develop the Community Risk Profile (CRP) for the Service area, and realign Service resources to remove, reduce and mitigate the risk. The RRM will define a resource plan to align the most effective and efficient distribution of resources. This will facilitate the Fire Transformation Programme until the output of the next RRM.”

The strategic intent clearly outlines the need to redesign our delivery models to shift the focus from response to prevention and protection activity, enabled through the RRM. The strategic intent facilitates a common understanding and consistent messaging to all stakeholders and it is therefore imperative that leaders and managers become familiar with it, to embed it across the workforce and wider stakeholders.

The RRM proposals presented within this document will enable the beginning of the redesign of the Service over the short term, although an annual review of the CRP along with subsequent reiterations of the RRM within the 4-yearly lifecycle, will enable further redesign over the medium to longer term.

Transformation

Our transformation programme is ambitious... it needs to be so that we're able to deliver the best possible service to the public which we serve, now and in the future. We need to develop our Service to concentrate more on prevention and protection activity, whilst also solving the significant issues we experience with our On-call fire appliance availability.

The Transformation Programme includes 9 main areas:

- Production of the Community Risk Profile
- Develop a full Resource Model, to address the Community Risk Profile (Physical Assets)
- Resource plan deliverables (implementation planning)
- On-call review deliverables options appraisal
- Capabilities review deliverables
- Value for Money (VfM) review deliverables
- Review of Prevention and Protection delivery
- Review of Service wide structures
- Investment plan

We have prioritised the programme and are focusing first on RRM development and On-call improvements. Development of these priority areas are critical so that we address the risks identified within the CRP, and those associated with our On-call fire appliance availability.

Beyond the Transformation programme, we are investing and developing other critical areas of our Service:

- We are committed to our people and are developing a range of improvements which support equality, diversity and inclusion, leading to a change in culture. As part of the analysis undertaken on the development of these proposals, we have an Equality Impact Assessment which considers internal and community people impact. This is will continually develop as we move through this change process.
- Modernisation of our estate is desperately needed but this comes at a significant cost:
 - Internal security measure improvements are necessary as our existing arrangements are outdated.
 - We are committed to developing our estate, fleet and equipment to be more sustainable through the conversion and/or modernisation of them to more environmentally friendly solutions (e.g. solar photovoltaic; hydrogen/electric powered vehicles; charging infrastructure etc.).

Proposals (external consultation)

Prevention

For the last three years the Service has moved towards a model of early intervention with an emphasis being on primary and secondary prevention, rather than the tertiary level. Our focus is to better understand what are the risk factors that put people most likely in need of our acute prevention services and how can we better support them in either removing, reducing or mitigating the risk, or when necessary, applying protection factors to help reduce risk.

Prevention services fall under the Capabilities Strategy which is based on the provision of: guidance, expertise and resource. The delivery of prevention services has proved challenging in more remote and rural areas which are some distance away from our fulltime stations. Work done in these areas has traditionally been done by specialist staff.

A comprehensive review of prevention and protection services is currently underway. The key areas of the review are shown in Figure 34 at Appendix E. We are aware of our significant challenges, and also the potential within the RRM to address these by redesigning our service models as set out in the strategic intent. Prevention services are broken down into 7 key pillars; these are closely aligned to the CRP which informs the RRM.

The early findings of the review indicate that by releasing additional resources, be that staffing or financial, the Service can be more effective and efficient in delivering its prevention and protection services and increase its support of community resilience. The current Prevention section is limited in its ability to provide both specialist support, as well as service delivery, due to limited resources (see the current staffing structure in Figure 35 at Appendix F).

What are we proposing?

A redesign of prevention services is necessary to improve support and service delivery to increase coverage and more equitable access to our prevention activity across our county. The following changes are proposed:

Prevention and Protection structure and tactical management

The Prevention and Protection Function should become a single unit rather than two discrete teams. This will enable increased synergy at managerial level and joining up to increase the interaction to achieve a common purpose whilst avoiding duplication. The strategic intent of focusing more on prevention, protection and resilience, combined with changes to legislation and other drivers, require us to remodel the Function Head roles and include the introduction of new, dedicated roles for Prevention and Protection. There is also a need for an increase in managerial support, specifically to oversee safeguarding, early intervention, and public health and partnership management.

Early intervention, health, and partnerships

We need to expand the Prevention and Protection Function, including the introduction of new roles, to provide an increase in expertise to support the delivery of our services. A significant focus for the Service is to work collaboratively in partnership with other organisations. Whilst we are currently very active in this space, there is huge potential to develop this further and contribute more fully to the broader community safety agenda.

The introduction of specialist roles such as a Partnership and Health Manager, and the enhancement of existing roles such as the Early Intervention Manager and Safeguarding Manager, will significantly improve our capability in this area. This also provides us with additional capacity and resilience to be able to maintain our ability to fulfil our statutory obligations.

Providing a resource to operate at a district level which can identify, create, develop, and improve partnership working, to best deliver community safety outcomes is necessary. The creation of new roles/teams that form part of the wider Prevention and Protection Function is set out in Figure 36 at Appendix G. It is important to

note that these new roles should have the correct level of authority and autonomy within their role profile, with the appropriate level of supervision. The roles identified in the potential proposed structure are indicative at this stage, and the terms and conditions applicable to the roles are flexible. The formation of additional roles needs to focus on the delivery of prevention activity and should be the priority. Longer term structural developments will require further investment realised from future RRM iterations.

Increased use of On-call staff to deliver prevention activity

An increase of Service Delivery capability and capacity is required, particularly in the rurality. This can be partly achieved through an increased use of On-call staff to deliver preventative interventions in their locality. Some training has been provided to a number of On-call staff which allows them to undertake post-incident activity (e.g. domestic safety activity) but this needs to increase to achieve the coverage required to positively impact on the areas of our county where our services are most needed, as identified in the CRP. This will take time to implement to the point where On-call support for prevention activity is at an appropriate level.

We plan to use On-call staff to deliver more proactive primary prevention activity in the more rural areas of our county which will significantly increase our ability to direct our prevention activity where it is needed the most. An increase in the post-incident preventative activity undertaken by On-call staff can be progressed now.

This approach will be progressive, as additional investment will be required over the longer term however, additional prevention activity will be delivered in these areas using the redeployment of staff as a result of the emergency response proposals.

Community Safety Officers

Community Safety Officers (CSOs) will revert to direct line management within the Capabilities Directorate, aligning more closely to supporting the delivery of the Capabilities Directorate's strategy by providing more dedicated support to Service Delivery. Retaining an appropriate number of CSOs to support Service Delivery through the Capability's Strategy is necessary. This will be subject to a periodic review once Service Delivery capability increases through other mechanisms (e.g. On-call within the rurality). To increase our level of support to Service Delivery, CSOs will have thematic references. e.g. domestic, road and water safety.

The Public Safety Service

The evaluation of a two-year trial of the Public Safety Service, has shown the benefits available from a place based, problem solving approach on behalf of multiple partner organisations. The trial is due to conclude in September 2022 and we propose to maintain an increase in investment in this service. This is still subject to further evaluation and adoption of the business case however, an aspiration is a potential 3-year expansion and roll-out.

Why are we proposing this?

Moving forward, the focus of the Service will be on the provision of prevention and protection services in line with our strategic intent. To achieve this, it's necessary to rebalance our resources to focus more on prevention services.

What's the impacts of the proposal?

The impact of this proposal is positive, in that we will continue to remove and/or reduce the risk which is present within our county through an increased early intervention approach. The production of the CRP has helped us to understand our community risks better. Aligning our prevention activity to risk and community demand by clearly identifying the locations where activity is low in proportion to the risk present will ensure that we are able to address the risks.

What's the benefits of the proposal?

- Stronger delivery of the Capabilities' Strategy by introducing technical expertise and support for the Service
- Increased focus on early intervention to reduce risk and lower the impact on communities
- More even coverage and access to our increasingly diverse range of prevention services across the service area through increased service delivery, aligned to the community risk profiling
- Ability to meet an increasing demand of requests from the community and stakeholders
- Development and strengthening of partnerships, stakeholder relationships, referral pathways and engagement with communities to support resilience
- Developing an increased understanding of community risk profiling leading to a shared understanding of risk with partner agencies
- Strengthening of the links between strategic partnerships and localised delivery
- Holistic approach to prevention, supporting wider community issues through increasing local resilience
- Increased capacity to develop new and innovative solutions
- Bridging the gap in areas where we currently do not provide adequate support (e.g. FireSafe programmes for over 18s, early youth intervention activity for primary school ages etc.)
- Improved support to staff and stakeholders
- Can be implemented in the shorter term using existing staff to provide positive outcomes
- Using skilled personnel to carry out tasks in an effective, efficient and coordinated approach
- Increased development and understanding of evaluation performance frameworks
- Personal professional development and career progression across Green/Grey Book and other contractual arrangements

- The Public Safety Service provides a more immediate and placed based intervention, cutting across a wider range of risk areas including policing and health
 - Place based, problem solving, and embedded within the local community therefore closer relationships and trust are formed
 - Widespread coverage across the county, delivering our prevention services in rural and outlying areas
 - A single role performs across multiple organisations for shared outcomes
 - Increased agility, flexibility, and responsiveness
 - Develops and supports community resilience
 - Value for money
 - Potential On-call availability support

What's the limitations and/or barriers to the proposal?

- To grow our prevention capability will require significant financial investment
- Our need to invest in this and other critical areas of the Service requiring immediate improvements needs to be balanced
- Any savings achieved through the rebalancing of our emergency response resources will need distributing across this and other priority improvements
- Dependence upon realisation of the RRM emergency response proposals
- The Public Safety Service requires a commitment and financial support from other organisations who could withdraw in the future leaving the service who is the employer holding responsibility for contractual and financial obligations
- Public Safety Officer response element (Fire) may detract from providing early intervention focused delivery and limit access to the roles for some existing staff
- Substantial investment in logistical and equipment in particular vehicles, training and access to IT equipment
- Staff and/or Representative Body resistance
- Time and costs to upskill staff to required level

Conclusions

- Redesign and expansion of Prevention and Protection into a single Function releases the benefits of synergistic working, improved understanding of risk, enhanced knowledge of prevention and early intervention, all of which will improve the effectiveness and efficiency in how we deliver our early intervention services
- The increased capacity and capabilities will make us stronger and more resilient
- This will allow us to achieve our highly aspirational vision and meet the requirements of the Fire and Rescue Plan CARE principles
- Implementation will require a progressive and phased delivery plan

Recommendations

- That the proposed Prevention operating model and its supporting structures should be implemented on a progressively phased basis as finances permit

Protection

Protection services have received significant attention from the Government since the Grenfell Tower fire and subsequent inquiry. As a result, significant demands have been made of FRSs to increase Protection capability. Future changes to legislation will require us to continue to provide an increased level of support to Protection services. Grant funding has been received from the Home Office and we are anticipating an announcement for more soon. This grant is specifically for the development of Protection services and a detailed spending plan has been implemented by the Service on how this investment will lead to 'additionality' in this area of service delivery.

A comprehensive review of prevention and protection services is currently underway. The key areas of the review are shown in Figure 34 at Appendix E. We are aware of not only significant challenges, but also of the potential within the RRM to address these by redesigning our service models now, as set out in the strategic intent statement.

What are we proposing?

Our current Protection staffing structure has been augmented through the implementation of additional posts, mainly focused on training, using the Protection Uplift Grant Funding provided by the Home Office. We propose that our enhancements continue, keeping the additional posts in place and maintaining the additional equipment which we have purchased.

Why are we proposing this?

The requirements required of FRSs due to legislative change (Fire Safety Act, Building Safety Regulator etc.) and requests by Government for specific projects, such as the Building Risk Review for high rise residential buildings will significantly increase workload.

To ensure we can meet these demands, our approach is to:

- Have a more integrated approach across Prevention and Protection
- Increase capacity through training, aligned to the competency framework
- Increase capacity by introducing new and additional roles
- Create new points of entry into Protection services
- Create career progression pathways for Green and Grey Book staff
- Work with our regional FRSs to support and benefit from collaborative work and shared resources (fire engineering, training, enforcement etc.)
- Apply our quality assurance framework
- Align our Risk Based Inspection Programme to national guidance and good practice

What's the impacts of the proposal?

We can better meet our statutory and regulatory duties/obligations with a competent team of specialists who, through the delivery of the Capabilities' Strategy, support the organisation's delivery of Protection services. This provides us with the resilience to accommodate increased demand and complexity of fire safety either as a consultee, advisor, regulator or enforcing authority, and with partners or other regulators/organisations.

What's the benefits of the proposal?

- Stronger delivery of the Capabilities' Strategy by introducing technical expertise and support for the Service
- More even coverage and access to our increasingly diverse range of protection services across the Service area through increased service delivery, aligned to the Risk Based Inspection Programme
- Meeting an increasing demand of requests from Government, consultations, other regulators and stakeholders
- Development and strengthening of partnerships, stakeholder relationships, engagement with the business community to support resilience and economic growth

- Use of the Risk Based Inspection Programme to increase our understanding of building and firefighter risk. This demonstrates our commitment to good regulatory practice as set out in the Regulator's Code
- A more integrated approach for prevention and protection in emerging areas of focus (e.g. specialised housing)
- Improved support to staff and stakeholders
- Can be implemented in the shorter term using existing staff to provide positive outcomes
- Increased capacity to develop new and innovative solutions
- Using skilled personnel to carry out tasks in an effective, efficient and coordinated approach
- Increased development and understanding of evaluation performance frameworks
- Personal professional development and career progression
- Strengthening of the links between strategic partnerships and localised delivery
- More effective use of planning and implementation frameworks at strategic and tactical managerial levels

What's the limitations and/or barriers to the proposal?

- Currently we are in receipt of a one-off grant which is supporting the introduction of the improved Protection structure. For this structure to be maintained in the long term, it will require sustainable funding as part of our base budget
- It is becoming challenging to recruit staff into Green Book roles due to the market conditions in the private sector where remuneration for these roles is significantly higher. We also recognise the potential risk of losing staff once they are trained and qualified
- The timescales required to train staff internally is significant and can limit the range of activities they can undertake

Conclusions

- Redesign and expansion of Prevention and Protection into a single Function releases the benefits of synergistic working, improved understanding of risk, enhanced knowledge of prevention and early intervention, all of which will improve the effectiveness and efficiency in how we deliver our early intervention services
- The increased capacity and capabilities will make us stronger and more resilient
- This will allow us to achieve our highly aspirational vision and meet the requirements of the Fire and Rescue Plan CARE principles
- Improved ability to adapt to new legislative requirements

Recommendations

- That the proposed Protection operating model and its supporting structures should be maintained as finances permit

Response

Our emergency response capability was last reviewed within the Fire Cover Review (FCR) in 2015. The FCR implemented a change to some fire appliance types but did not fundamentally challenge our approach to service delivery beyond emergency response. The CRP provides the basis for assessing risk, which informs how we deliver our range of services to remove, reduce and/or mitigate risk. This round of resource modelling ensures that our emergency response resources are proportionally realigned against risk; in effect, 'balancing resource to risk'.

Various datasets, information and methods were used to provide an analysis to inform the development of alternative emergency response options:

- CRP assessment of risk to Lower Super Output Area (LSOA)
- Historic (5-year) incident data (Incident Information Dashboard)
- Modelling software to predict impact of changes based on previous activity (Workload Modeler)
- Production of a Static Response Model to enhance our understanding of changes to appliance attendance times
- Address based analysis of impact of changes in attendance times on residential and commercial property types

For the purposes of the RRM we have used a 5-year data period: 1st September 2016 to 31st March 2021. Therefore, all the data contained within this document relates to that 5-year period.

We concentrated on ERP fire appliance incident data, taken from our core incident recording systems: Vision mobilising system; and the Home Office Incident Recording System (IRS). We triangulated all incidents between Vision and IRS to ensure a high degree of accuracy. Quality assurance and data cleansing was undertaken resulting in a small amount of data being removed due to reporting inaccuracies or erroneous entries. The excluded data is less than 1% of all data used.

To measure the impact, we analysed several areas:

- Risk (CRP)
- Effect on response attendance times for 1st attending fire appliance
- Effect on response attendance times of 2nd attending appliance
- Incident demand profiles (when and where do our incidents occur)
- Predicted incident activity based on previous demand
- Incident redistribution
- Prevention and protection activity redistribution
- Risk information and hydrant activity redistribution

We first considered a range of individual options. These were developed into the proposals being put forward. An analysis on the combination of options was conducted to assess the impact of the proposed changes:

- Removal of the Huntington Shift ERP fire appliance and the staff who operate it. A small team of fulltime staff will remain at Huntington to support the On-call fire appliance availability, On-call recruitment, prevention, protection, and risk information activity.
- Replacing the Harrogate TRV fire appliance with an ERP fire appliance, staffed to meet the incident demand profile of 12-hour shift times, indicatively 09:00–21:00.
- Replacing the Scarborough TRV fire appliance with an ERP fire appliance, staffed to meet the demand profile of 12-hour shift times, indicatively 09:00–21:00.

For the Workload Modeler, we did not include TRV fire appliances and other special appliances as they can only attend a limited range of incidents and are not classified as ERP fire appliances. TRV fire appliances have a complex set of response rules which limit their capability and therefore are not included as part of Pre-Determined Attendances (PDAs) to many of the life and property risk incident types. We have, however, conducted additional analysis on Aerial Ladder Platform (ALP) usage (see page 45) given the three affected stations having this resource.

Huntington

Huntington Fire Station consists of 2 appliances and an ALP. It is a mixed crewing station:

- the first appliance (P1) is crewed 24-hours a day on a 4 watch, full time shift basis. Each shift is made up of one Watch Manager (WM), one Crew Manager (CM) and 4 Firefighters (FFs). The shift follows a pattern of 2 days 08:00-18:00hrs, followed by 2 nights 18:00-08:00hrs, followed by 4 rest days.
- The second appliance (P2) is crewed through an On-Call shift system with an establishment of one WM, 3 x CMs and 8 FFs.

What are we proposing?

The fulltime 24-hour shift ERP fire appliance will be removed from the station. The On-call ERP fire appliance at the station will remain, resulting in this station being a single fire appliance station. This will reduce the total fire appliances from 46 to 45.

The firefighting staff who operate the appliance will be reduced to a smaller core of staff operating on a day staffing arrangement, 7-days a week. The purpose of leaving this small team of staff in place is to:

- Support the On-call appliance availability due to current poor availability status
- Support On-call firefighter recruitment activity in the local area
- Provide prevention, protection and other critical service delivery activity in the local area

The remaining staff (indicatively 4) would be at minimum of Crew Manager level, providing supervisory management and Level 1 incident command ability. Once the On-call staffing increases to provide 100% fire appliance availability, the use of fulltime staff at this location will be reviewed.

The ALP, currently operated from Huntington by the fulltime staff, may require relocating at Acomb, swapping this vehicle with the Mass Decontamination Unit. Other options for the mobilisation of the ALP from Huntington will be explored (e.g. use of On-call crew).

Why are we proposing this?

Risk

Huntington area has a predominantly low combined fire risk (see Figure 1). Across this area, we mobilised to 251 incidents of fire classified as risk to life and/or property. Of these, 105 were residential, 16 were 'persons reported' incidents, 71 were vehicle fires, and 27 were in commercial, retail, industrial or public assembly premises. 155 were recorded on IRS as risk to life and property fires, with 82 being recorded as false alarms.

The Huntington area has one LSOA that is high risk. This is around New Earswick (see Figure 2). Analysis shows that this is because of a relatively high number of social rented accommodation (72.9%) and an overall IMD score of 3 (a score of 1 being the most deprived and 10 the least). Life and property fire incident activity levels in this LSOA is low, with 10 incidents occurring during the 5-year period. Of the 10 incidents, 2 were false alarms. Of the 10 incidents, 5 were mobilised to as residential fires, with one turning out to be a false alarm.

There were 85 RTCs across the Huntington area. The distribution of these can be seen at Figure 3. Most of these occurred on the A1237 York Outer Ring Road and the A64. 3 involved large vehicles, 15 involved multiple vehicles and 67 involved single small vehicles.

10 water rescue incidents were recorded in the Huntington area. The distribution of these can be seen at Figure 4. Of these, 5 were incidents specifically linked to the rivers in York, 4 were in still or shallow water, and 1 was from moving water. Crews spent an average of 6 minutes 27 secs at these incidents.

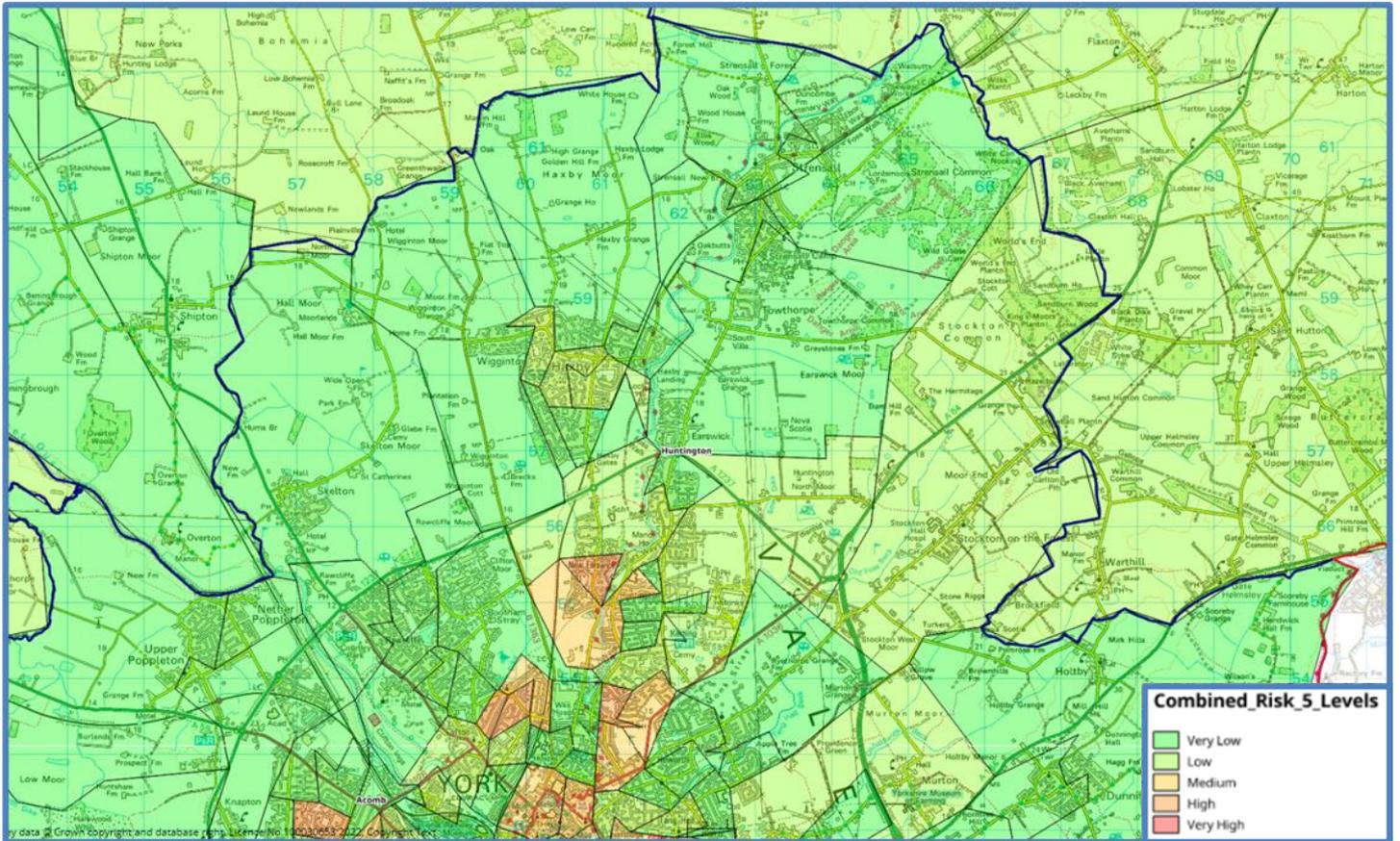


Figure 1 - Huntington wide area combined fire risk

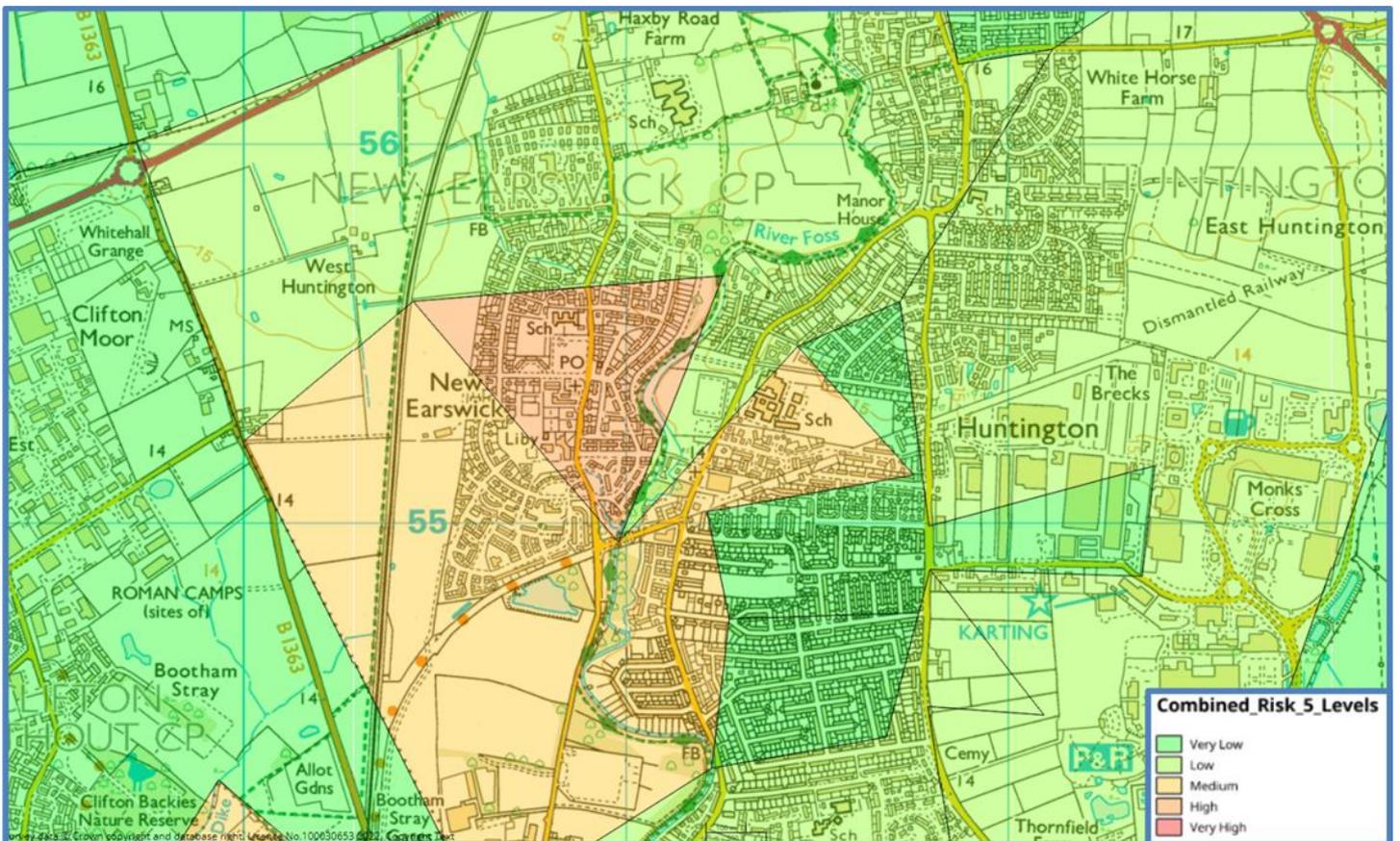


Figure 2 – Huntington wide area combined fire risk

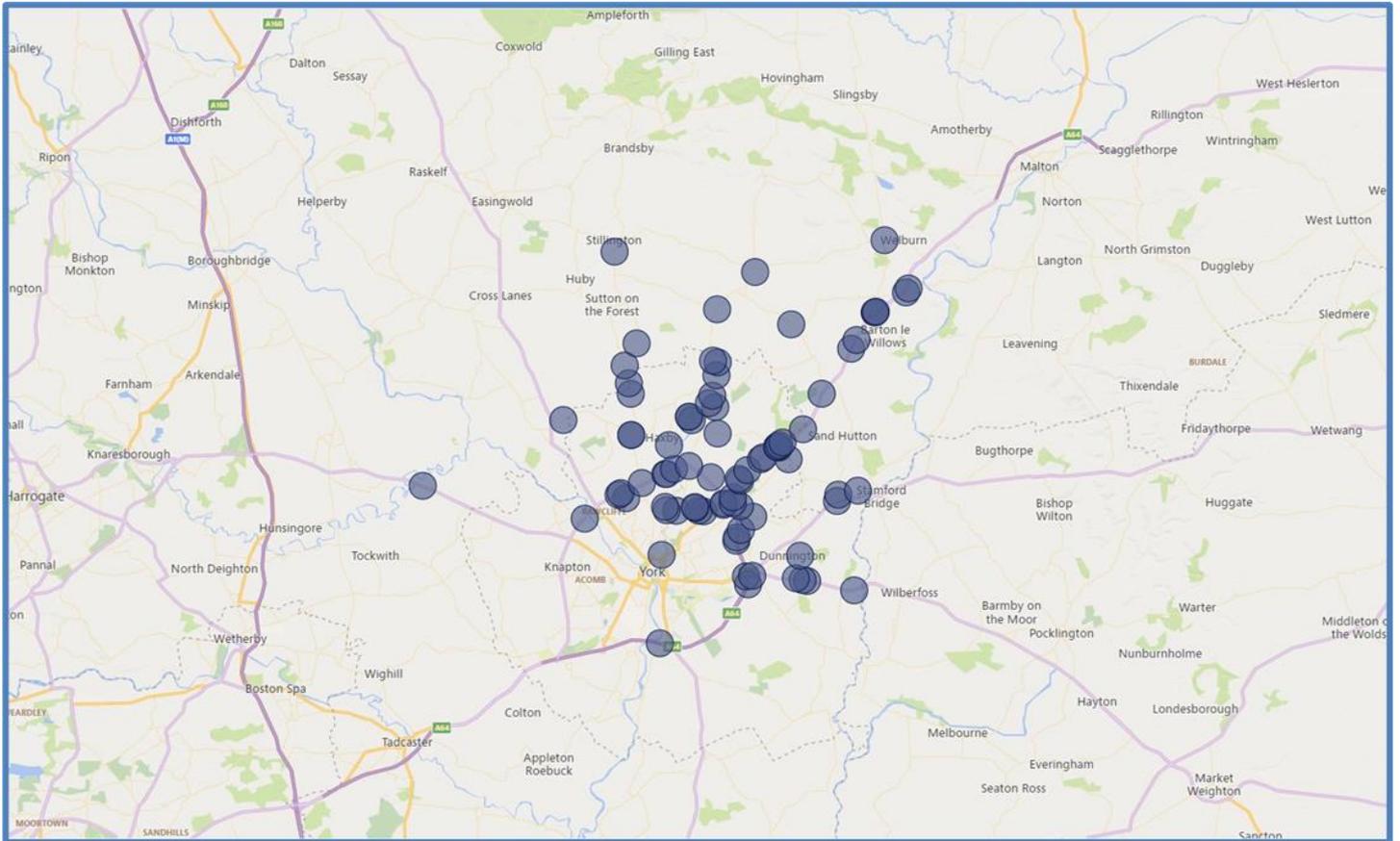


Figure 3 – Huntingdon 5-year road incidents

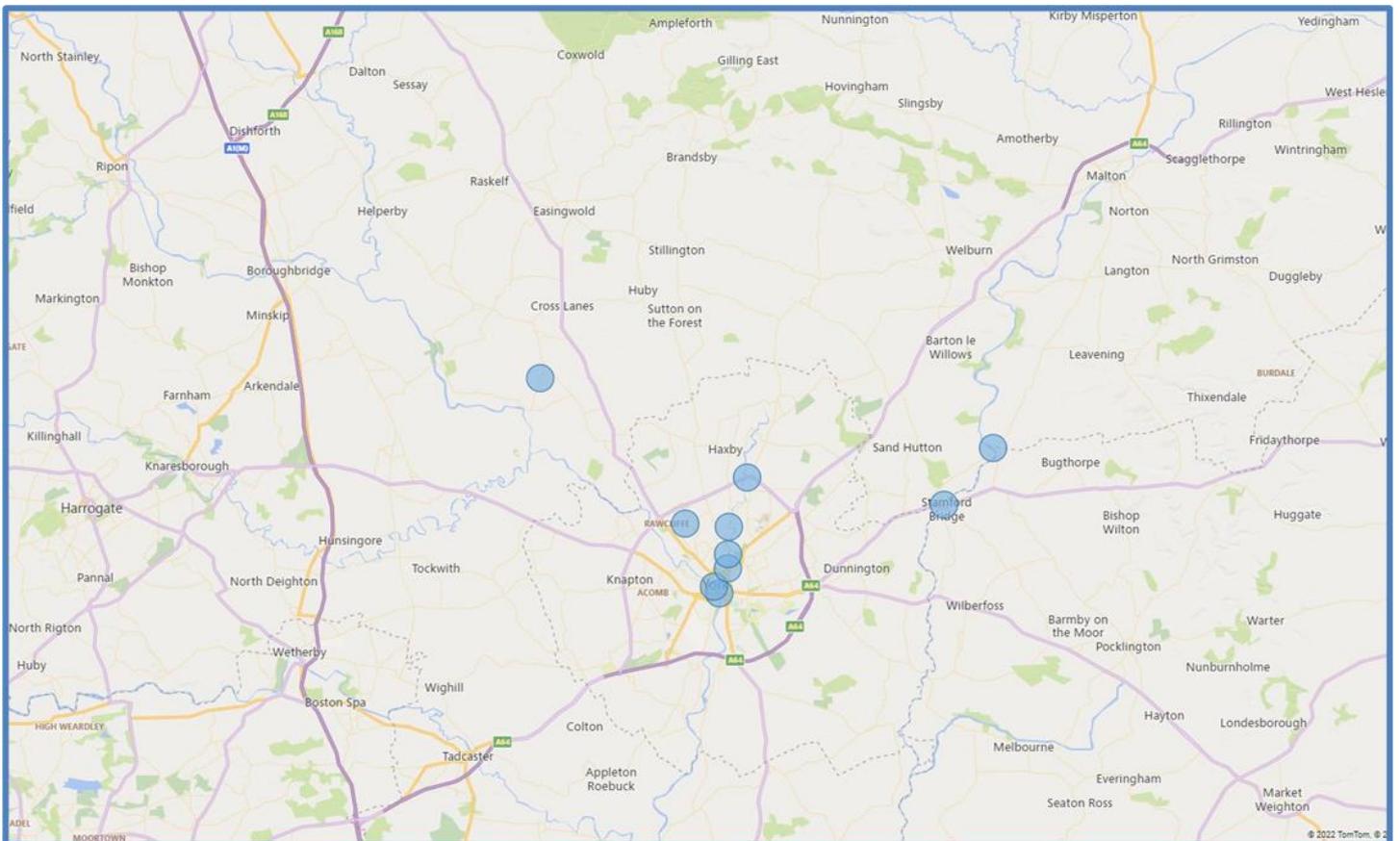


Figure 4 – Huntingdon 5-year water incidents

Incident activity demand

The fulltime Huntington fire appliance is the lowest response demand 24-hour shift appliance within the Service. Table 1 shows the total number of incidents attended over the 5-year period within Huntington's station ground. The incident type is designated in line with the response principles for mobilisation (e.g. AFA – no response from occupier is within fire incidents because we mobilise as though to a confirmed fire).

Table 1 – Huntington station ground 5-year total incident activity

Incident type	Station ground	P1 appliance attended	P2 appliance attended	Incidents where both attended	P2 appliance as the first attending
Fire	988	933	105	80	25
Road	85	82	16	16	0
Water	11	9	2	1	1
Other	291	256	19	10	9
All	1375	1280	142	107	35

Of the 1,375 incidents, the largest single incident type crews mobilised to was 'fires in the open', of which there were 225, representing 16.36% of total call volume. Crews attended 489 AFAs through the period, which is 35.5% of calls in the Huntington area. Of the 489 AFAs attended, only 15 were recorded as fires which represents 3% of all AFAs resulting in fires.

When benchmarking demand levels at Huntington against the busiest areas of each station type, we can see that activity levels are comparatively low (Figure 5). For the 5-year period, there were 1,375 incidents occurring in Huntington's station ground, compared with York (Shift) at 4,902, Selby (Day Crewed) at 2,123 and Skipton (On-call) at 1,454.

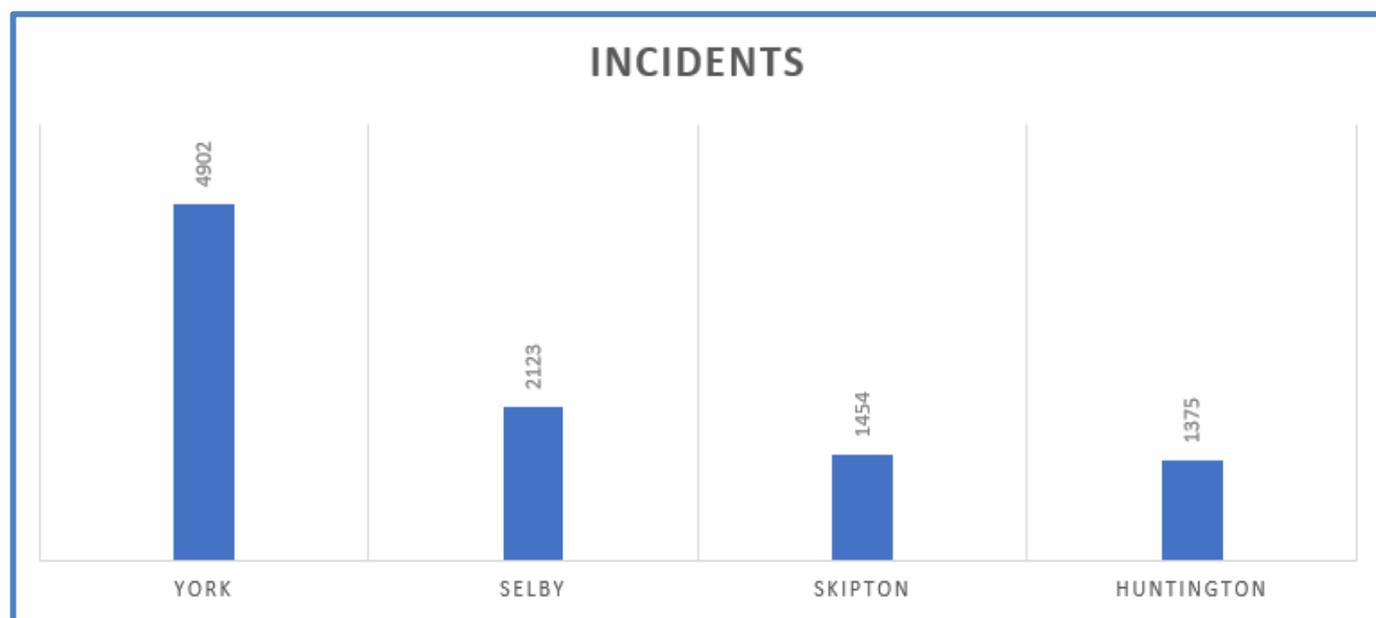


Figure 5 – Huntington station ground 5-year total incident activity comparison

Figure 6 shows a comparison across a breakdown of incident mobilisations for all fire, road, and water rescue incidents. Linked to the CRP, we have also included residential dwelling fires as an additional comparison. We've analysed this further, and although there were 121 mobilisations to reported dwelling fires, 63 of these resulted in them being recorded as an actual residential dwelling fire (although this does not mean that there was a life risk present). This means that of the 121 dwelling fires that were attended across the 5 year period, only 52% were recorded as a dwelling fire.

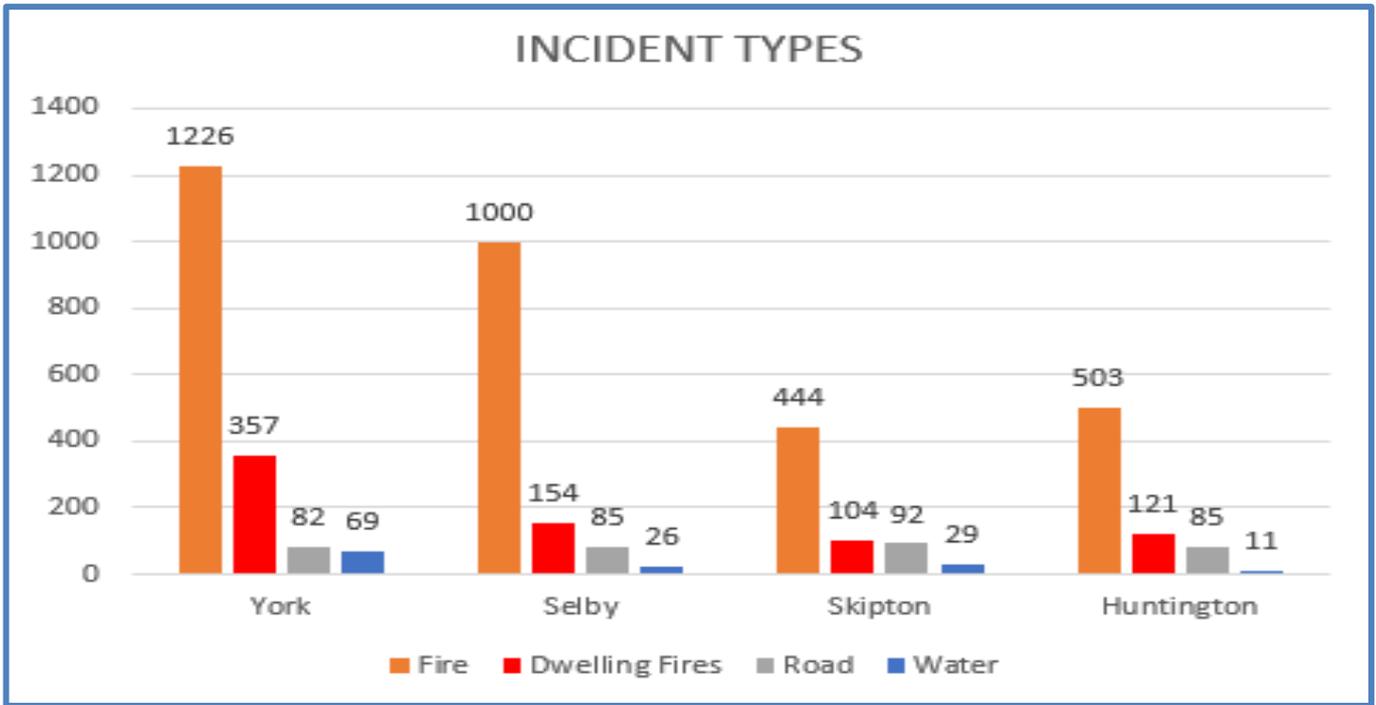


Figure 6 – Huntington station ground 5-year total incident type activity comparison

Figure 7 shows the time of day that these calls occurred over the 5-year period. For all incident types, the demand profile shows greatest activity between 09:00 and 22:00 when 70% of calls occur. This profile is replicated across the Service.

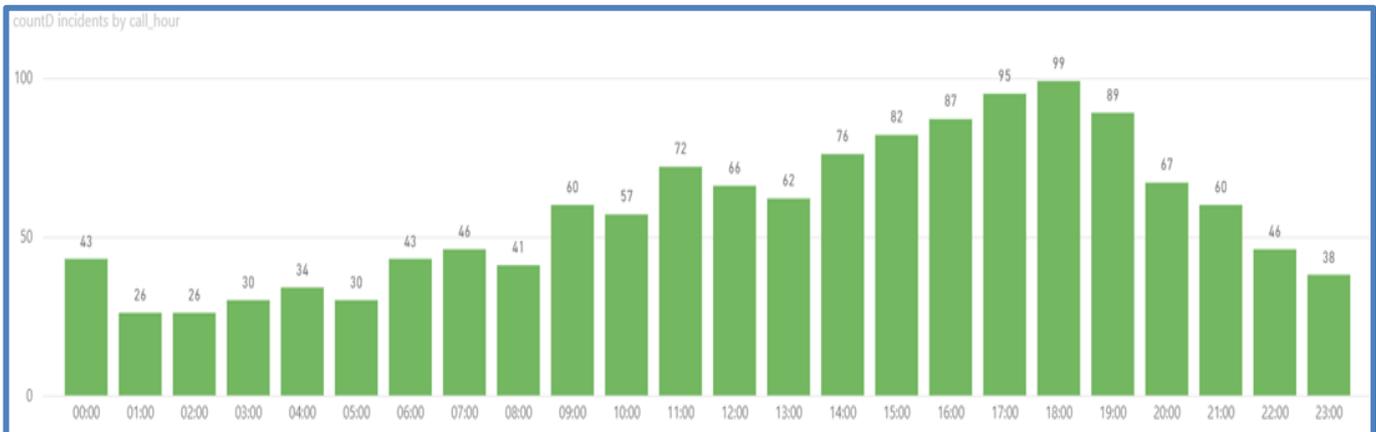


Figure 7 – Huntington station ground average incident demand profile by hour of day

What's the impacts of the proposal?

Attendance times

Analysis has been undertaken to identify the impact of the removal of the Huntington fulltime fire appliance on attendance times to all areas where it would have been the first attending fire appliance. The highest value is an additional 3 minutes 47 seconds during the day, and 3 minutes 03 seconds during the night, with all other areas seeing lower values. The proximity to both York and Acomb 24-hour shift fire stations means that further resources are quicker than in other areas of North Yorkshire. Figure 8 shows the impact across Huntington's area.

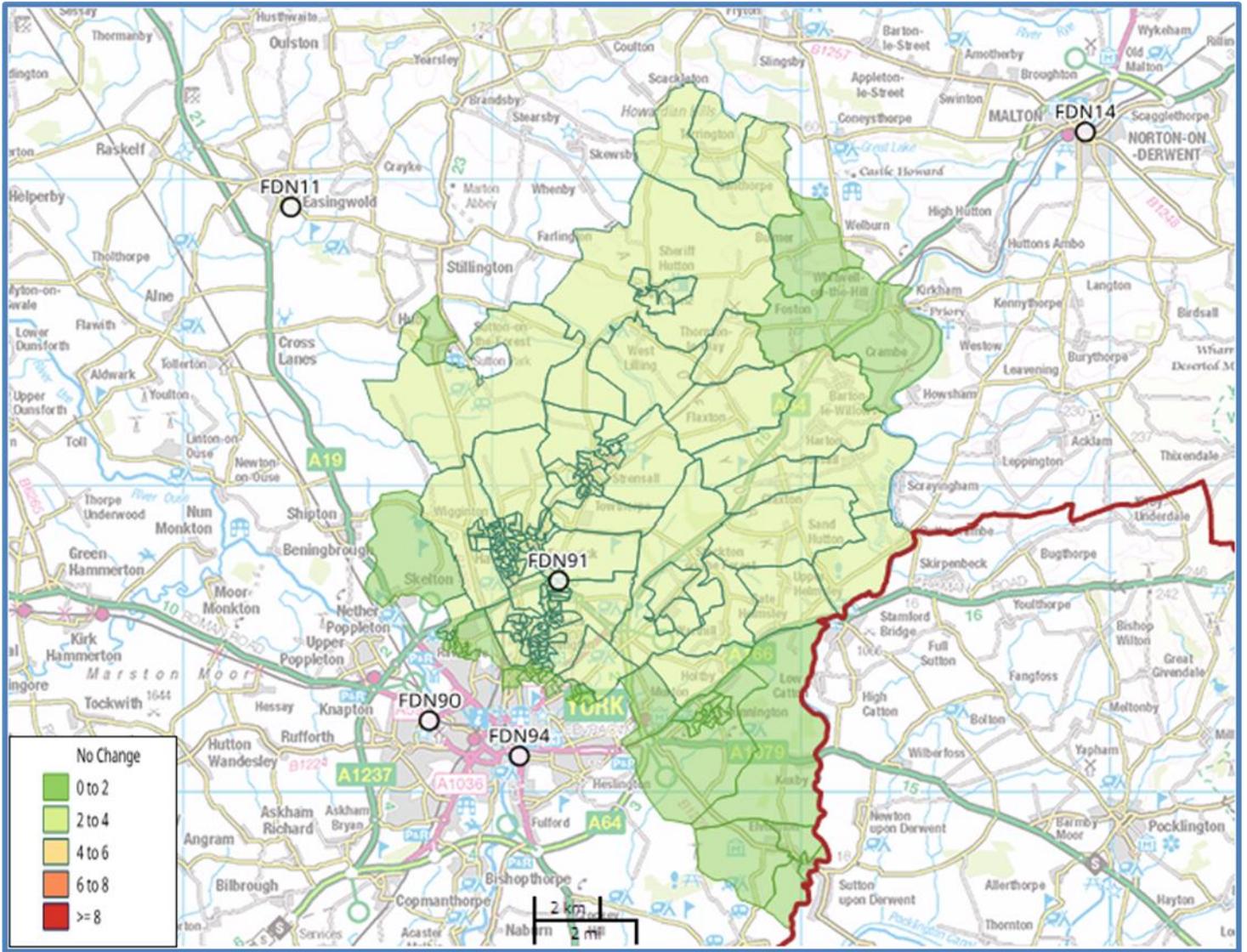


Figure 8 - Effect on attendance times for Huntington

Property type analysis

We have looked at different property types to understand the impact on residential and commercial sectors of our communities. We separated commercial hotel from the other commercial premises due to tourism being such a key component of North Yorkshire’s economy. We have included residential institution, so we were able to identify the change of attendance times for care and nursing homes due to the potential severity of a fire in these types of premises.

The area around Huntington accounts for 5.7% of properties across North Yorkshire. This comprises of It has 5.8% of our residential premises and 3.9% of residential institution. 5.2 % of commercial premises, and 1.1% of our commercial hotels. Huntington accounts for 5.4% of all the incidents the Service attends, with 1.5% of our total of fires occurring in the Huntington area.

Figures 37 to 52 in appendix H show the proportion of each premises type we will reach in a given time across the whole of North Yorkshire. The figures show the results of the combined proposed changes to Huntington, Harrogate and Scarborough. The effect across the Service as a whole is considered on page 47.

Demand redistribution

The removal of the Huntington fulltime appliance will result in a range of current activity being redistributed elsewhere. This includes operational incidents, and prevention, protection, risk information and hydrant maintenance activity.

Incident activity

Figure 9 shows the effect that the removal of the fulltime appliance will have on the incident demand for Huntington On-call appliance and other stations. The incident volume for Huntington station reduces by 783 incidents to a total of 1,202. Huntington On-call appliance would therefore attend this total number of incidents however, it is important to note that the data represents total incidents over a 5-year period. This equates to around 240 incidents per year, or around 4.6 incidents per week. This is based on Huntington On-call appliance being 100% available. Beyond Huntington station, Acomb's incident activity will increase the most, attending around 82 additional incidents per year, or around 1.6 incidents per week. Less impact is seen across stations which are further away from Huntington's station ground.

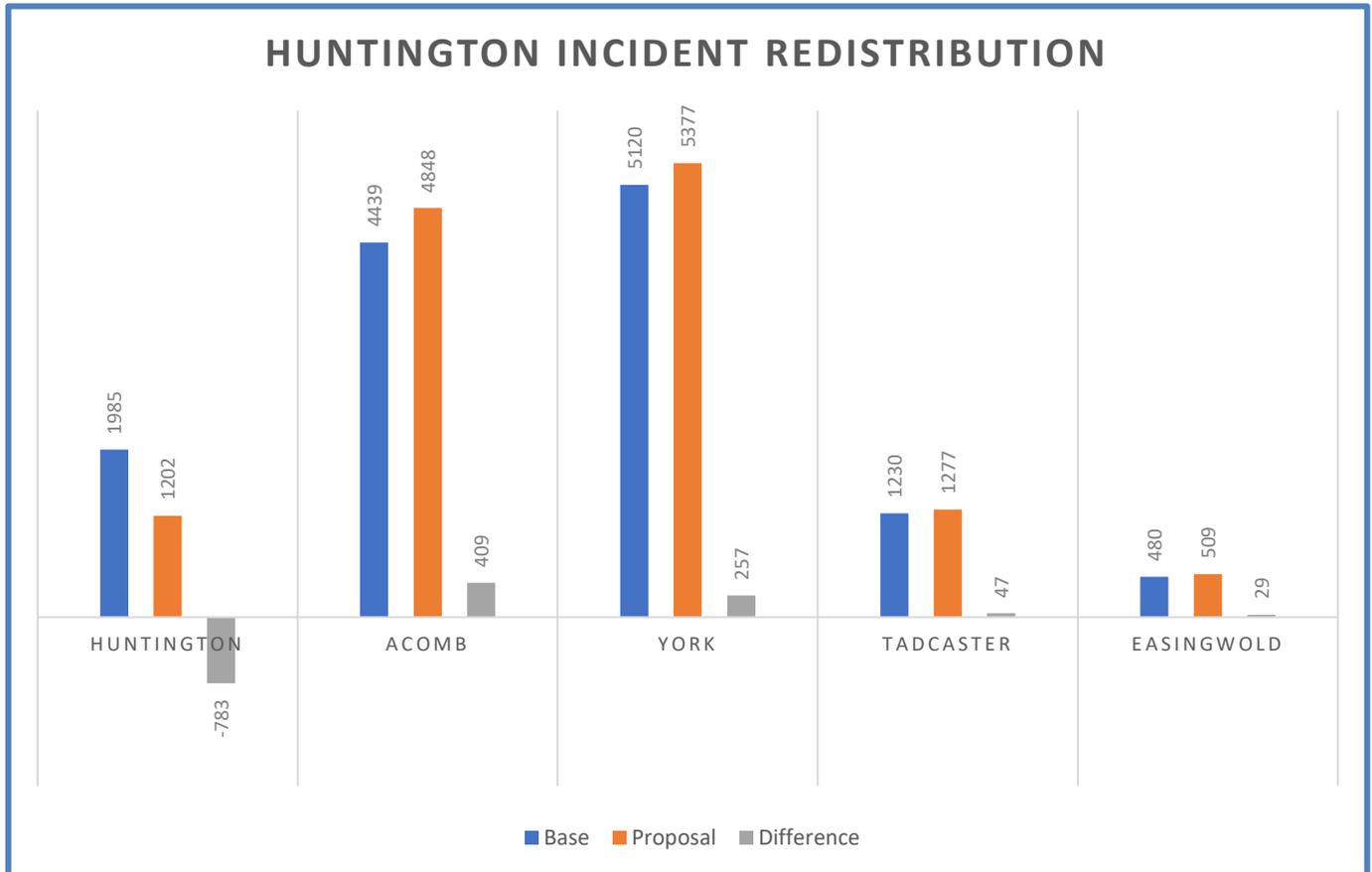


Figure 9 – 5-year Huntington 5-year incident demand redistribution

Prevention and Protection activity

Looking beyond incident data to other work activity carried out in the same 5-year period, Huntington recorded 697 unique prevention activity events within our recoding system (CFRMIS). This compares to the other two single appliance stations in York with 1,260 events for Acomb and 1,147 events for York. It is also a comparatively low level of activity in comparison with other single appliance fulltime stations with Whitby recording 1,692 and Northallerton 1,560. Only Ripon, with 556 shows a lower level of activity than Huntington.

Protection activity shows that operational staff from Huntington undertook 590 unique jobs through the 5-year RRM period. For comparison York and Acomb completed 659 and 466 respectively. Further comparison with other single pump stations showed that Malton undertook 465, and Whitby 432, demonstrating a relatively high level of activity from the crew at Huntington.

Both types of activity will continue to be undertaken by the small core of staff which will remain at Huntington, supported by the Protection team.

Risk information and hydrant maintenance activity

Huntington station area has 29 Site Specific Risk Information Sites. This is a low level in comparison to the rest of the service and particularly to other fulltime shift stations. Acomb has 92, Harrogate 117, Scarborough 128, and York 125.

Huntington has 884 active hydrants across 44 walks which require an annual check (a hydrant 'walk' is a number of hydrants which are grouped together on a route for testing purposes). This is commensurate with other single fulltime appliance stations. York has 846 hydrants across 44 walks, Acomb has 870 across 57 walks, Selby has 940 hydrants across 71 walks, and Ripon has 414 hydrants across 35 walks. The hydrant inspection demand can be resourced through a combination of On-call, Hydrant Technicians and/or the use of neighbouring stations' crews.

What's the benefits of the proposal?

- Balances the emergency response resource to the risk we have identified in the CRP for the Huntington area
- Will free up resources and/or financial investment opportunities for realignment with an increased prevention and protection capability
- Increase in Huntington On-call appliance availability
- Increased incident call rate for Huntington and surrounding On-call appliances will incentivise On-call staff
- Allows conversion of accommodation space to office use in line with the development of business hubs as identified in the On-call Review, Service need, as well as increased collaboration opportunities
- Reduction in associated operating costs e.g. equipment, training, and PPE
- A review of the York provision was planned to take place following previous relocation of the York area resources in 2011. This has now been completed as part of the RRM
- The fire station site is provided through a Private Finance Initiative. Continued use of the premises will be in line with the review of the PFI status

What's the limitations and/or barriers to the proposal?

- Staff will be required to transition to a different station and/or role which may create uncertainty and/or resistance.
- Reduction in overall number of fire appliances by one
- Perception from the community and other stakeholders of significant impact due reduced response capability
- Removal of a fulltime appliance and crew which can affect resilience for protracted events
- Special appliances (i.e. ALP and Incident Response Unit) may require relocation and upskilling of crews.

Conclusions

- The risk within the Huntington area does not warrant the provision of a fulltime 24-hour shift fire appliance.
- The fulltime 24-hour shift fire appliance and its associated crew should be removed.
- A small core of fulltime staff should remain in place at Huntington to support On-call fire appliance availability, On-call recruitment, prevention, protection, resilience, and risk information activity.

Recommendations

- That the Huntington fulltime shift fire appliance is removed along with the associated staff, although a small core of staff should remain in place at the station subject to further review.

Harrogate

Harrogate Fire station has two fulltime 24-hour shift fire appliances, an ALP and a High Volume Pumping (HVP) unit. The fire appliances are crewed by firefighters who work across four shifts and provide an immediate 24/7 response to emergencies. When not attending emergencies, they spend their time training, delivering prevention activity to the community and carrying out business fire safety audits.

The HVP is one of 2 sets in North Yorkshire, and of 52 throughout the country. They are a national asset and can be mobilised anywhere throughout England. Each set can pump large volumes of water up to 3km and are used to deal with major flooding, or provide large amounts of water to an incident.

What are we proposing?

Provide an ERP fire appliance in place of the TRV fire appliance at Harrogate fire station. This 2nd fire appliance will be staffed through a 12-hour period during the daytime only (Day Staffing).

Why are we proposing this?

Risk

Figure 10 shows the combined fire risk for the Harrogate area. It has a predominantly low combined fire risk profile. Across the Harrogate area, we mobilised to 554 incidents of fire classified as risk to life and/or property. Of these, 255 were residential, 24 were 'persons reported' incidents, 109 were vehicle fires, and 62 were in commercial, retail, industrial or public assembly premises. 340 were recorded on IRS as risk to life and property fires, with 182 recorded as false alarms.

There is one LSOA that is high risk. This is around the Woodfield area (Figure 11). Analysis shows that this is due to an IMD score of 1, and social rented accommodation of 62.3%, which is a relatively high proportion within the county. There are 300 households of people over 65 and living alone, and 163 households who are blue badge holders, which indicates a degree of frailty in the population.

Life and property fire incident activity levels in this LSOA is low with 16 incidents during the 5-year period. 14 of these incidents were mobilised to as residential fires, with 7 being recorded as false alarms. 4 of the 10 incidents took place outside of peak hours between 21:00 and 09:00. All 4 were mobilised to as residential properties, but 2 were recorded as false alarms.

For the Harrogate area, there was 136 RTCs. The distribution of these can be seen at Figure 12. These are distributed fairly evenly throughout the area, with the majority being on major routes. Of these, 12 were RTCs involving large vehicles, 14 were multiple vehicle incidents and 110 were single small vehicles.

5 incidents classified as water rescue incident were recorded in the Harrogate area. The distribution of these can be seen at Figure 13. Of these, 4 were in moving water and one was still or shallow water. Crews spent an average of 10 minutes 39 secs at these incidents.

Incident activity demand

During the 5-year period, there were 554 incidents of fire in the Harrogate area which we classify as potential risk to life. Of these, 218 were residential, 24 were persons reported incidents, 94 were vehicle fires, and 62 were in commercial, retail, industrial or public assembly premises.

Table 2 shows the total number of incidents attended over the 5-year period within Harrogate's station ground. The incident type is designated in line with the response principles for mobilisation (e.g. AFA – no response from occupier is within fire incidents because we mobilise as though to a confirmed fire).

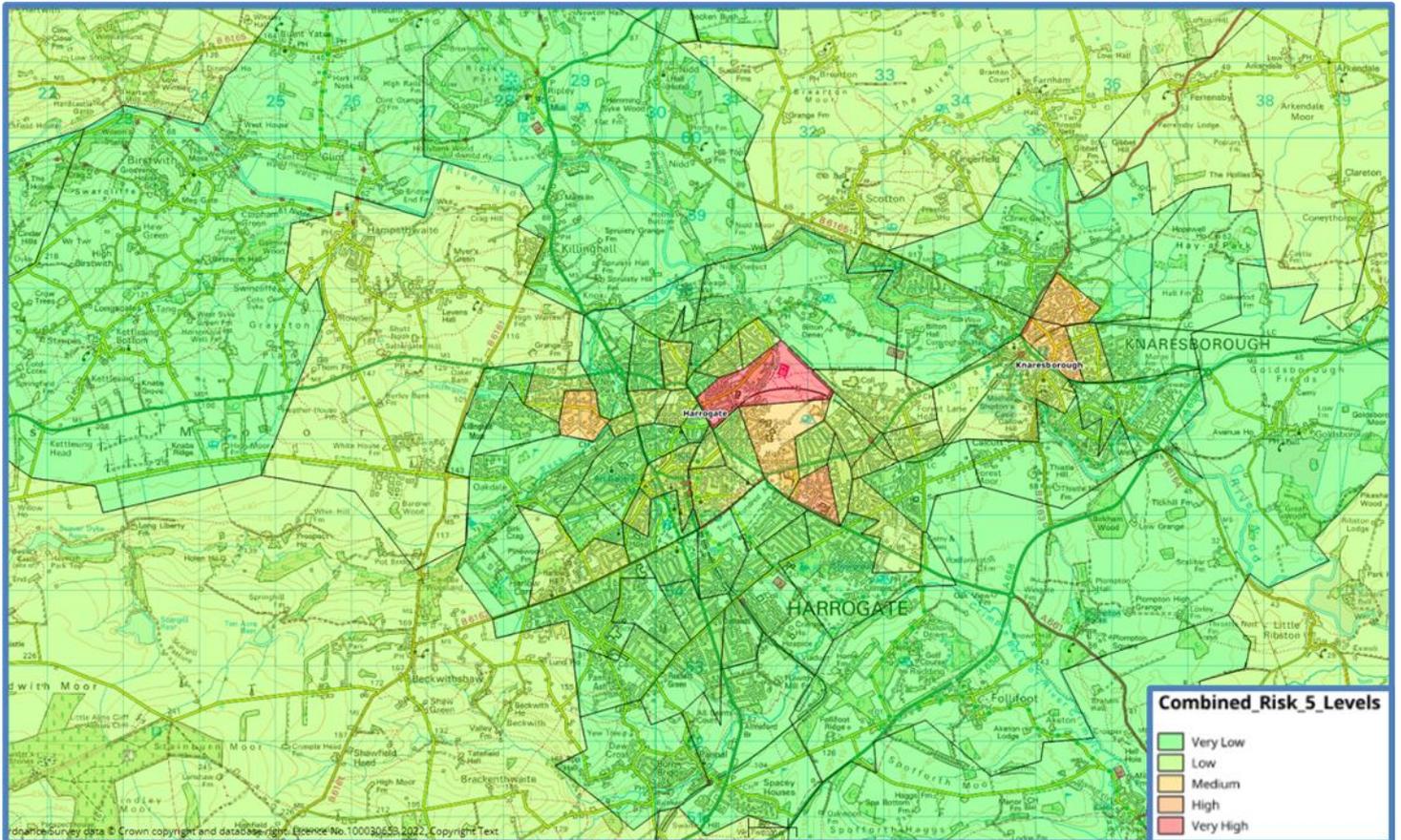


Figure 10 – Harrogate wide area combined fire risk

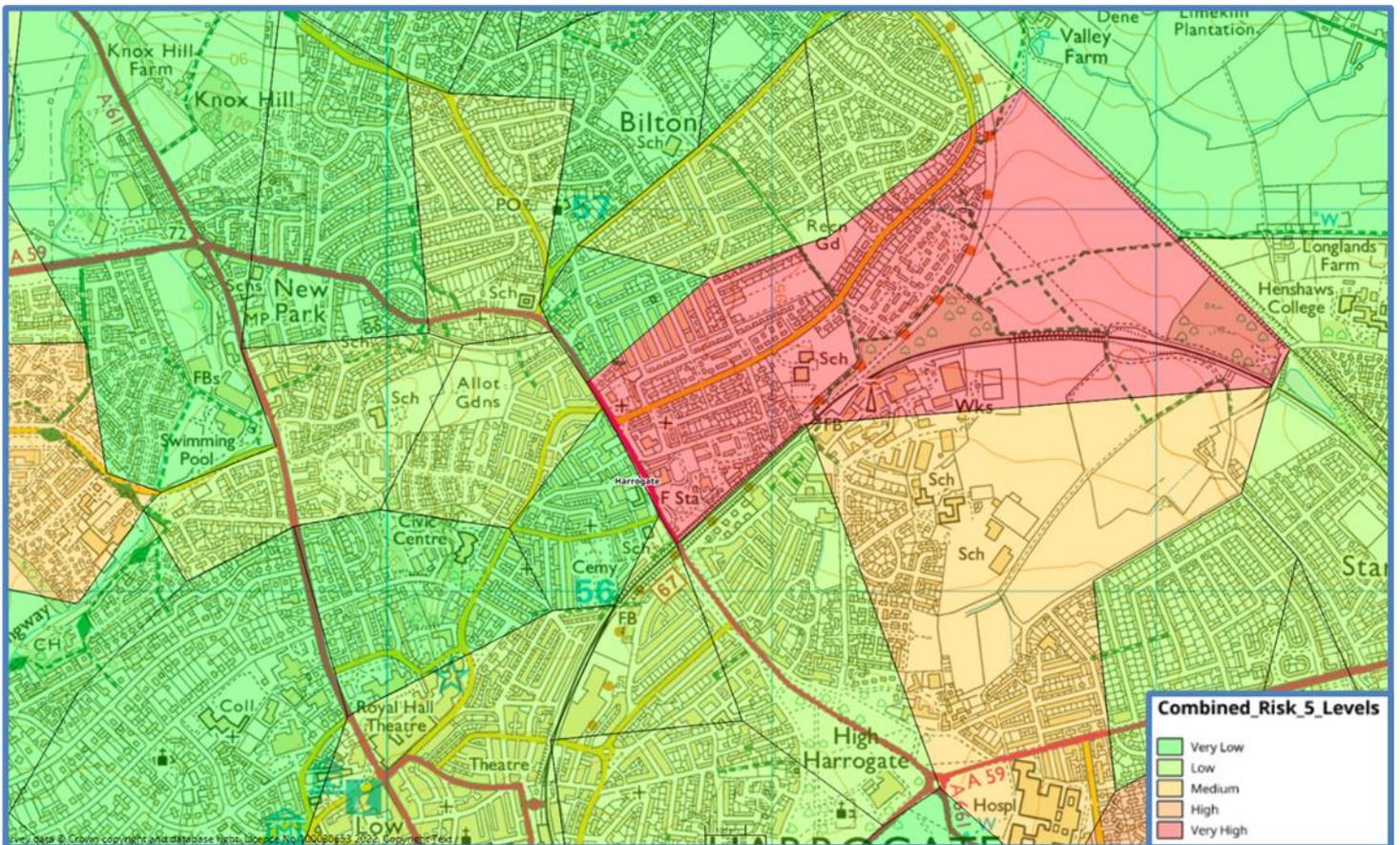


Figure 11 – Harrogate focused area combined fire risk

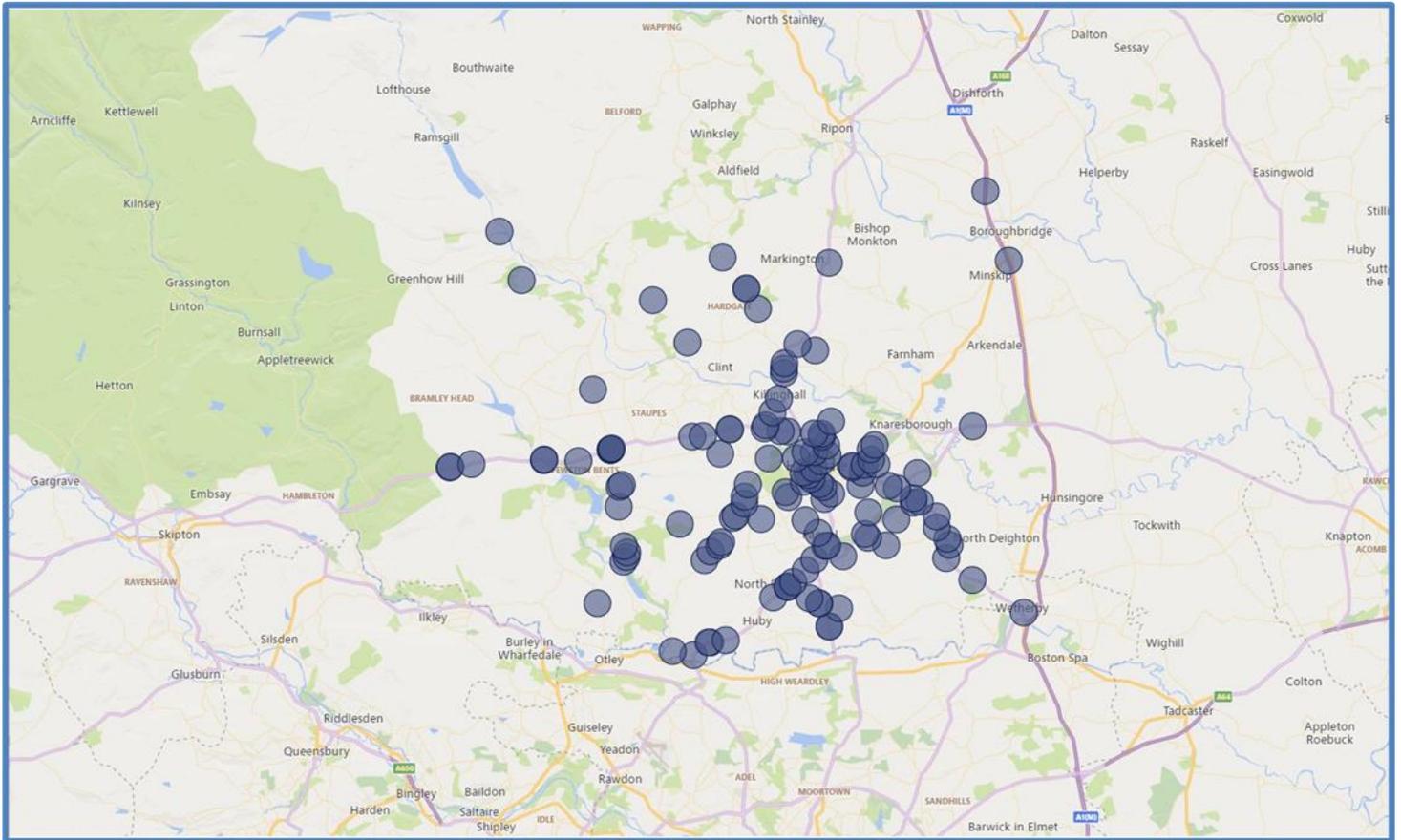


Figure 12 – Harrogate 5-year road incidents

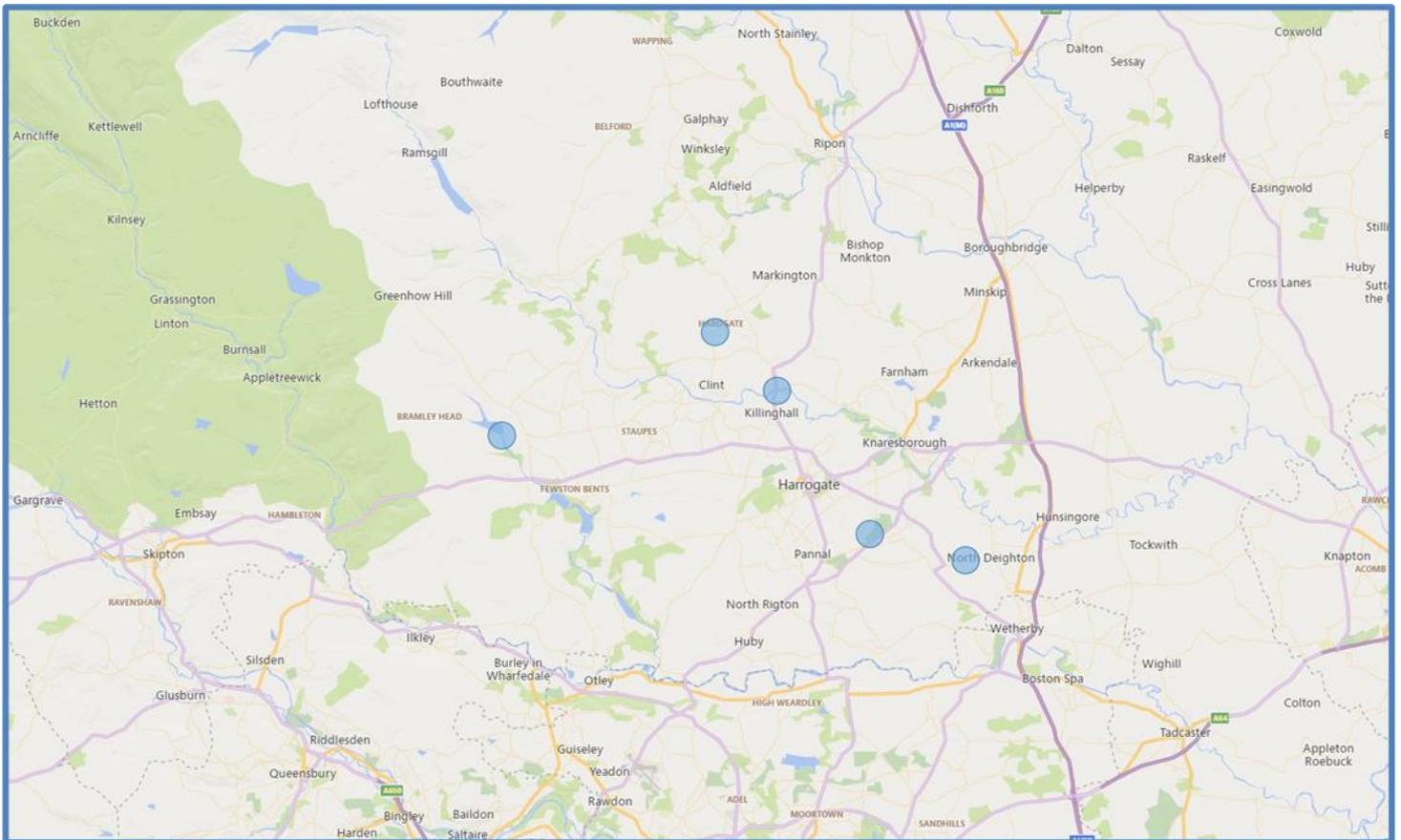


Figure 13 – Harrogate 5-year water incidents

Table 2 – Harrogate station ground 5-year total incident activity

Incident type	Station ground	P1 appliance attended	P2 appliance attended	Incidents where both attended
Fire	2709	1562	1359	508
Road	136	130	95	91
Water	5	5	3	3
Other	816	356	451	79
All	3666	2053	1908	681

Of the 3,666 incidents, the largest single incident type crews were mobilised to was AFA – residential premises, of which there were 671, representing 18.3% of total call volume. Crews attended 1,544 AFAs of all types through the period, which is 42% of calls in the Harrogate area. Of the 1,544 AFAs attended, only 41 were recorded as fires which represents 2.6% of all AFAs resulting in fires.

Figure 14 shows a comparison across a breakdown of incident mobilisations for all fire, road, and water rescue incidents. Linked to the CRP, we have also included residential dwelling fires as an additional comparison. We’ve analysed this further and although there were 305 mobilisations to reported dwelling fires, 176 of these resulted in them being recorded as an actual residential dwelling fire (although this does not mean that there was actually a life risk present). This means that of the 305 dwelling fires that were attended across the 5-year period, only 58% were recorded as a dwelling fire.

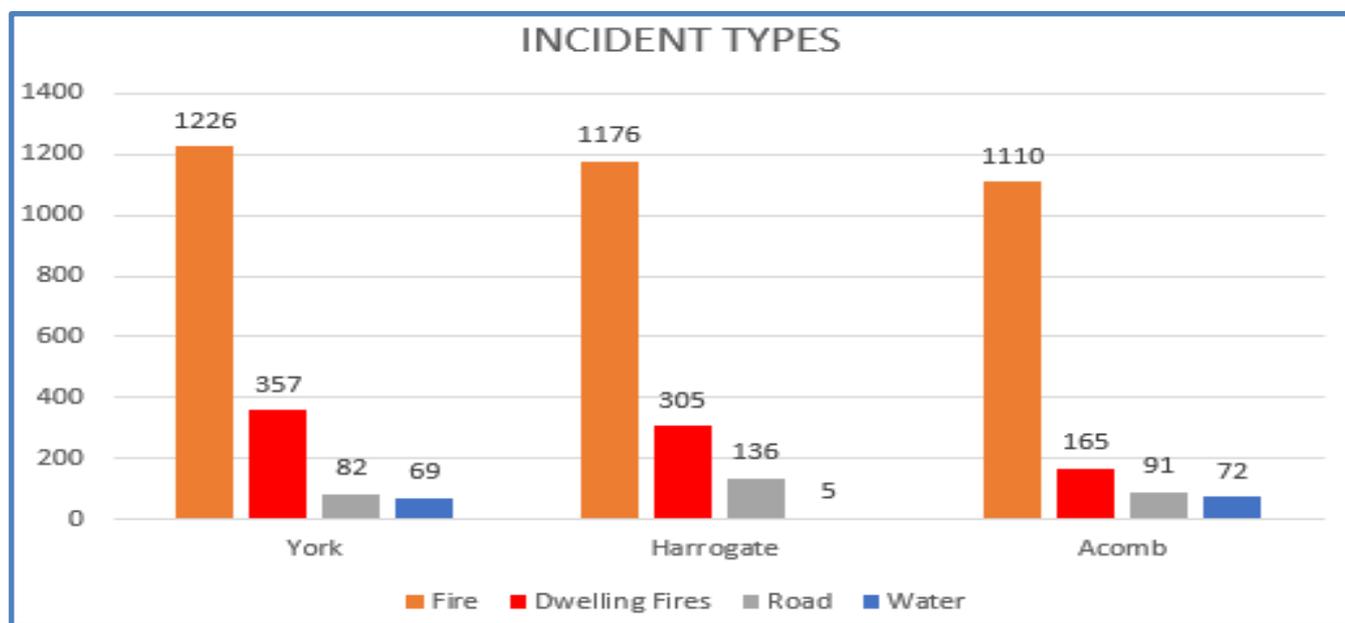


Figure 14 – Harrogate station ground 5-year total incident type activity comparison

Figure 15 shows the time of day these calls occurred. For all incident types, the demand profile shows greatest activity between 09:00 and 22:00, when 68% of calls occurred.

Table 3 shows Harrogate’s incident demand between 21:00 and 09:00, the hours of peak demand, where the proposal is to have a single fire appliance.

When comparing activity outside those peak hours with activity levels at single fire appliance shift stations (Figure 16) we see that they are significantly lower than those in York, and nearer to those of Acomb. It is also the same proportion (68%) of outside peak hours calls attended by Acomb.

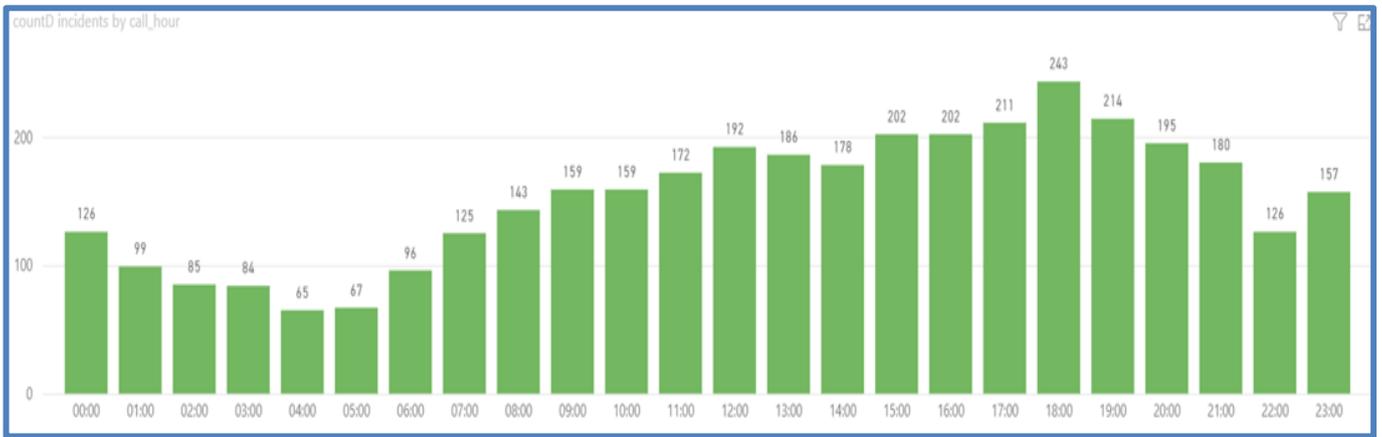


Figure 15 – Harrogate station ground average incident demand profile by hour of day

Table 3 – Harrogate station ground 5-year total incidents between 21:00-09:00

	Incident count (21:00 – 09:00)	% of total incidents
Fire (all types)	357	30%
Road	49	36%
Water	2	20%

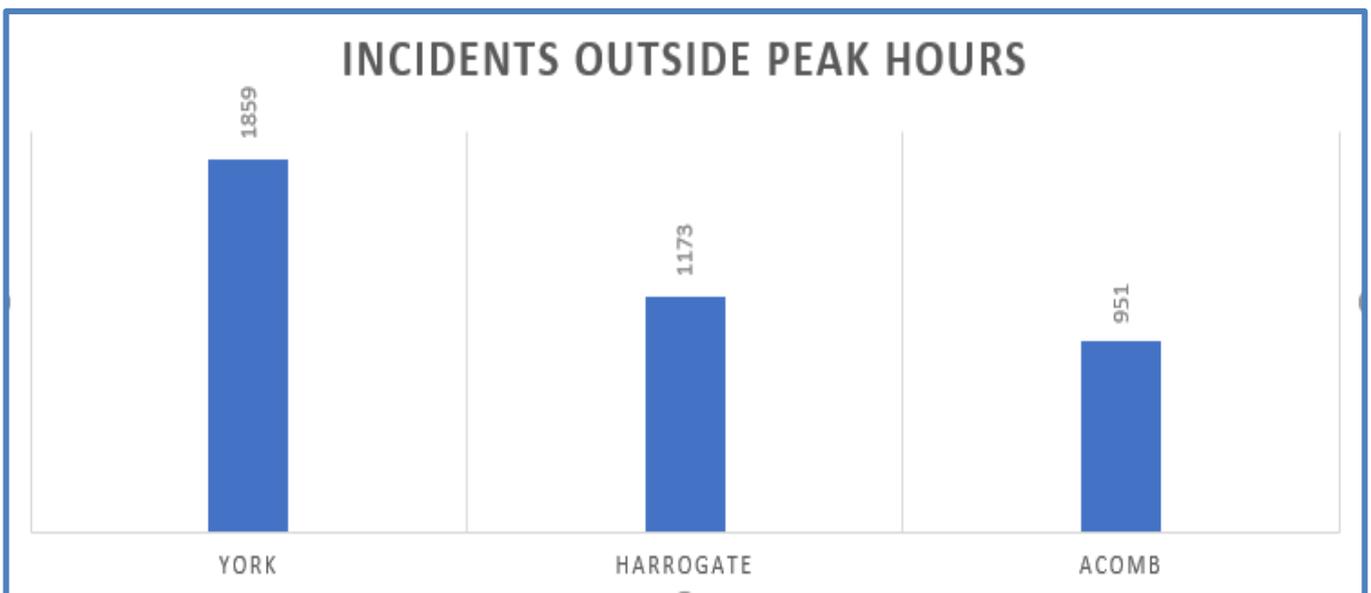


Figure 16 – Harrogate station ground 5-year total outside of peak hours incident activity comparison

What's the impacts of the proposal?

Attendance times

The current resource allocation at Harrogate is one 24-hour shift ERP fire appliance which can attend all incident types, and one 24-hour shift TRV fire appliance which can attend a limited range of incident types.

There is no change to the attendance times of the first attending fire appliance for either day or night. For incident types that have a pre-determined attendance of 2 fire appliances, the 2nd fire appliance comes from the next nearest location. This remains unchanged with the removal of the TRV fire appliance.

Analysis has shown that replacing the TRV fire appliance with an ERP fire appliance significantly improves the attendance time for the second appliance during the highest incident demand period (09:00 – 21:00). In

summary, there is greater resilience during peak demand periods, and outside of these hours the fire appliance attendance times and strength of attack remains unchanged.

Property type analysis

We have looked at different property types to understand the impact on residential and commercial sectors of our communities. We separated commercial hotel from the other commercial premises due to tourism being such a key component of North Yorkshire’s economy. We have included residential institution, so we were able to identify the change of attendance times for care and nursing homes due to the potential severity of a fire in these types of premises.

The area around Harrogate accounts for 10.4% of properties across North Yorkshire. This comprises of 9.1 % of commercial premises and 3.6% of our commercial hotels. It has 10.4% of our residential premises and 1.8% of residential institution. The period between 21:00 and 09:00 in Harrogate accounts for 3.9% of all incidents the Service attends, with 0.8% of our total of fires occurring in the Harrogate area.

Figures 37 to 52 in appendix H shows the proportion of each premises type we will reach in a given time across the whole of North Yorkshire. The figures show the results of the combined proposed changes to Huntington, Harrogate and Scarborough.

Demand redistribution

Incident activity

Figure 17 shows the effect that the removal of the 2nd fire appliance outside of peak incident activity has on the incident demand for the Harrogate Shift ERP fire appliances and other stations. The incident volume for Harrogate station reduces by 280 incidents to a total of 4,188. The Harrogate ERP fire appliances would therefore attend this total number of incidents however, it is important to note that the data represents total incidents over a 5-year period so this equates to around 838 incidents per year, or around 16 incidents per week. Beyond Harrogate station, Knaresborough’s incident activity will increase the most, attending around 39 additional incidents per year, or under one incident per week. Less impact is seen across stations which are further away from Harrogate’s station ground.

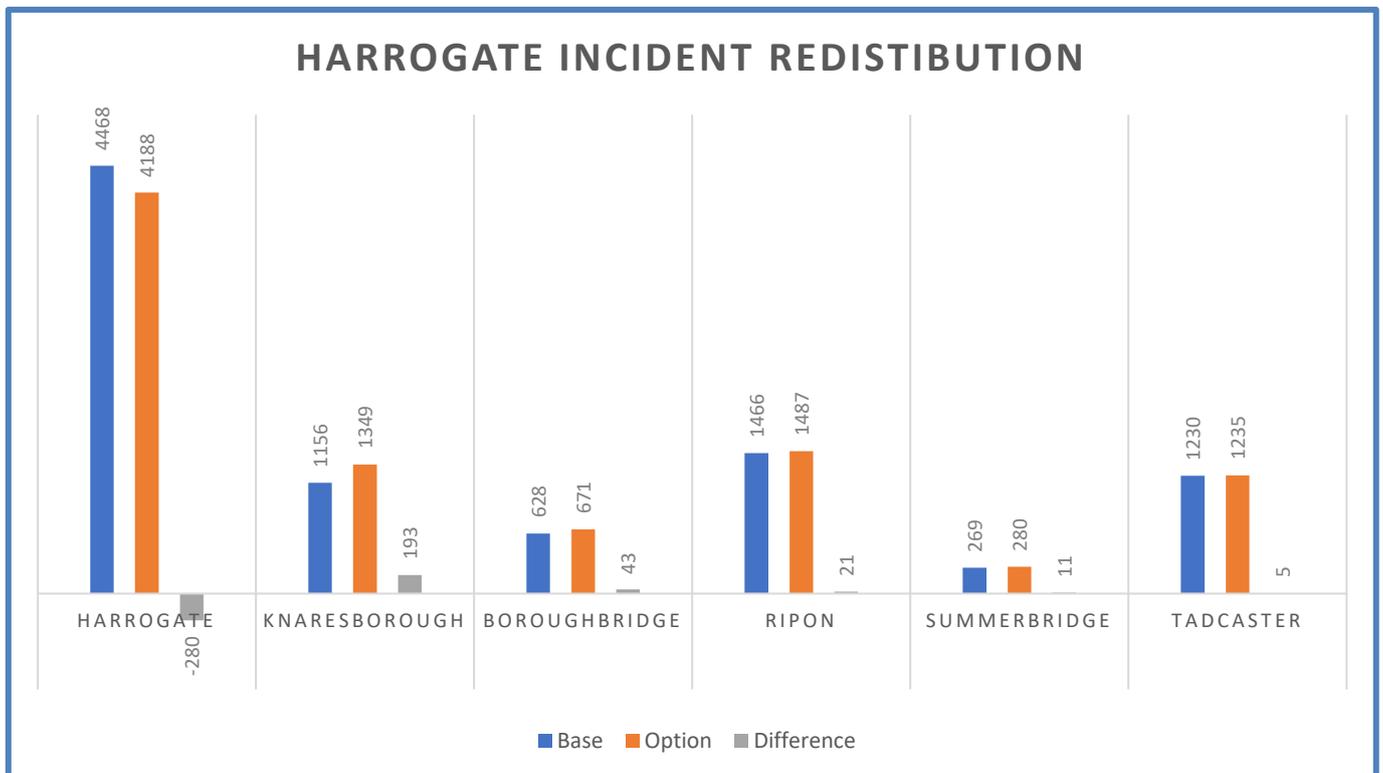


Figure 17 – Harrogate 5-year incident demand redistribution

Prevention and Protection activity

The delivery of prevention and protection activity will be largely unaffected due to this being predominantly delivered during a dayshift at these stations. The self-rostering implementation (see page 54) will introduce a change of shift start/finish time, and duration (indicatively 09:00 – 21:00), increasing the day shift from 10 to 12 hours enabling more productivity to be achieved within this timeframe. This will offset the impact on service delivery of the absence of a 2nd fire appliance during the night.

Risk information and hydrant maintenance activity

The same principle applies to the delivery of these activities.

What's the benefits of the proposal?

- Balances the emergency response resource to the risk we have identified in the Harrogate area
- Day staffing the second appliance will free up resources and/or financial investment opportunities for realignment with an increased prevention and protection capability
- Increase in productivity due to change of shift times and duration (12 hours)
- Reduction in stand-by and cover move requirements created by current TRV fire appliance capability limitations
- Replacing the TRV fire appliance with an ERP fire appliance increases daytime response capability in the Harrogate area as it will attend the full range of incidents in alignment with the incident demand profile
- Maintains fulltime fire appliance emergency cover, and the ability for Harrogate fire appliances to immediately respond for county wide and cross border deployments, aligned to our daytime incident demand profile
- The provision of an immediately available ERP fire appliance during the daytime mitigates the On-call fire appliance unavailability in the surrounding area
- Increase in surrounding On-call fire appliance availability during the night offsets the removal of an immediately available ERP fire appliance at Harrogate
- Increased incident call rate for surrounding On-call fire appliances will incentivise On-call staff
- The TRV fire appliance becomes an LRP fire appliance for redistribution to On-call stations (improved RTC response for instance)
- Reduction in associated operating costs e.g. equipment, training, and PPE

What's the limitations and/or barriers to the proposal?

- Staff will be required to transition to a different station and/or role which may create uncertainty.
- Reduction in overall number of appliances to 45 on a daytime, and 43 during the night impacting on resilience and resourcing of large-scale incidents (review of fire cover model required)
- Political resistance, particularly within the areas affected
- Perception from the community and other stakeholders of significant impact due reduced response capability
- The ALP may require alternative approaches for mobilising
- Complex incidents requiring large numbers of resources will require greater cover moves, potentially creating gaps in fire cover

Conclusions

- The risk within the Harrogate area does not warrant the provision of second fulltime 24-hour shift fire appliance
- The incident demand profile will be best met by replacing the replacing the TRV fire appliance with an ERP fire appliance, crewed during the daytime only
- Implementation of self-rostering, including a change of shift start/finish times and duration will better match our incident demand profile and support an increase in productivity at Harrogate

Recommendations

- That the TRV fire appliance at Harrogate is replaced by an ERP fire appliance, crewed during the daytime only (peak incident demand period)
- That a self-rostering system is implemented at Harrogate

Scarborough

Scarborough fire station has two fulltime 24-hour shift fire appliances, and an ALP. The fire appliances are crewed by firefighters who work across four shifts and provide an immediate 24/7 response to emergencies. When not attending emergencies, they spend their time training, delivering prevention activity to the community and carrying out business fire safety audits.

What are we proposing?

Provide an ERP fire appliance in place of the TRV fire appliance at Scarborough fire station. This 2nd fire appliance will be staffed through a 12-hour period during the daytime only (Day Staffing).

Why are we proposing this?

Risk

Figure 18 shows the combined fire risk for the Scarborough area. It has a low to medium combined fire risk area. Across the area, we mobilised to 577 incidents of fire classified as risk to life and/or property. Of these, 236 were residential, 20 were persons reported incidents, 115 were vehicle fires, and 67 were in commercial, retail, industrial or public assembly premises. 339 were recorded as risk to life and property fires, with 203 recorded as false alarms.

There is one LSOA area which is very high risk in Fallsgrave (see Figure 19). Analysis shows that this area has an IMD score of 2, a high concentration of blue-badge holders (170), and a high level of people aged over 65 and living alone (214). This elevates the combined fire risk score. There are also 3 areas in Scarborough around Eastfield, Barrowcliff and Castle Cliff with IMD scores of one (a score of one being the most deprived and 10 the least).

Due to lower levels of scoring in the other factors however, Fallsgrave is the sole very high area. Life and property fire incident activity levels in this LSOA is very low with 4 incidents during the 5-year period. 3 of these incidents were mobilised to as residential fires, with one being a small vehicle fire which was recorded as a false alarm. None of these incidents occurred outside of the peak period of 09:00 to 21:00.

There have been 88 RTCs. The distribution of these can be seen at Figure 20. These are distributed fairly evenly throughout the area, with the majority being on major routes such as the A165 and A171. Of these, 4 were involving large vehicles, 9 were multiple vehicle incidents and 75 were single small vehicles.

5 incidents classified as water rescue incident were recorded in the Scarborough area. The distribution of these can be seen at Figure 21. Of these, 2 were in moving water and three still or shallow water. Crews spent an average of 1 minute 5 seconds at these incidents.

Incident activity demand

During the 5-years period, there were 577 incidents of fire in the Scarborough area which we classify as potential risk to life. Of these, 236 were residential, 20 were persons reported incidents, 104 were vehicle fires, and 67 were in commercial, retail, industrial or public assembly premises.

Table 4 shows the total number of incidents attended over the 5-year period within Scarborough's station ground. The incident type is designated in line with the response principles for mobilisation (e.g. AFA – no response from occupier is within fire incidents because we mobilise as though to a confirmed fire).

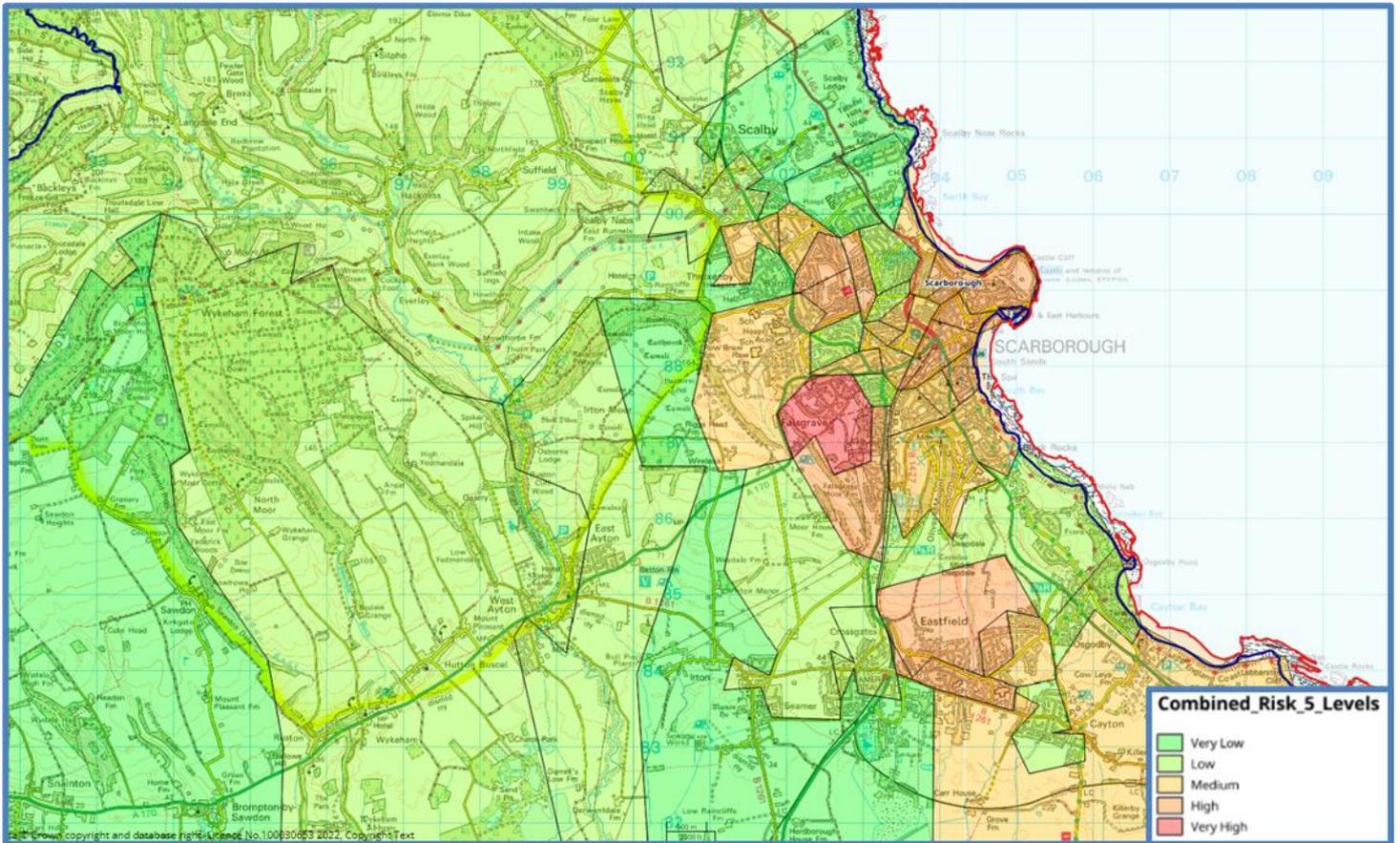


Figure 18 – Scarborough wide area combined fire risk

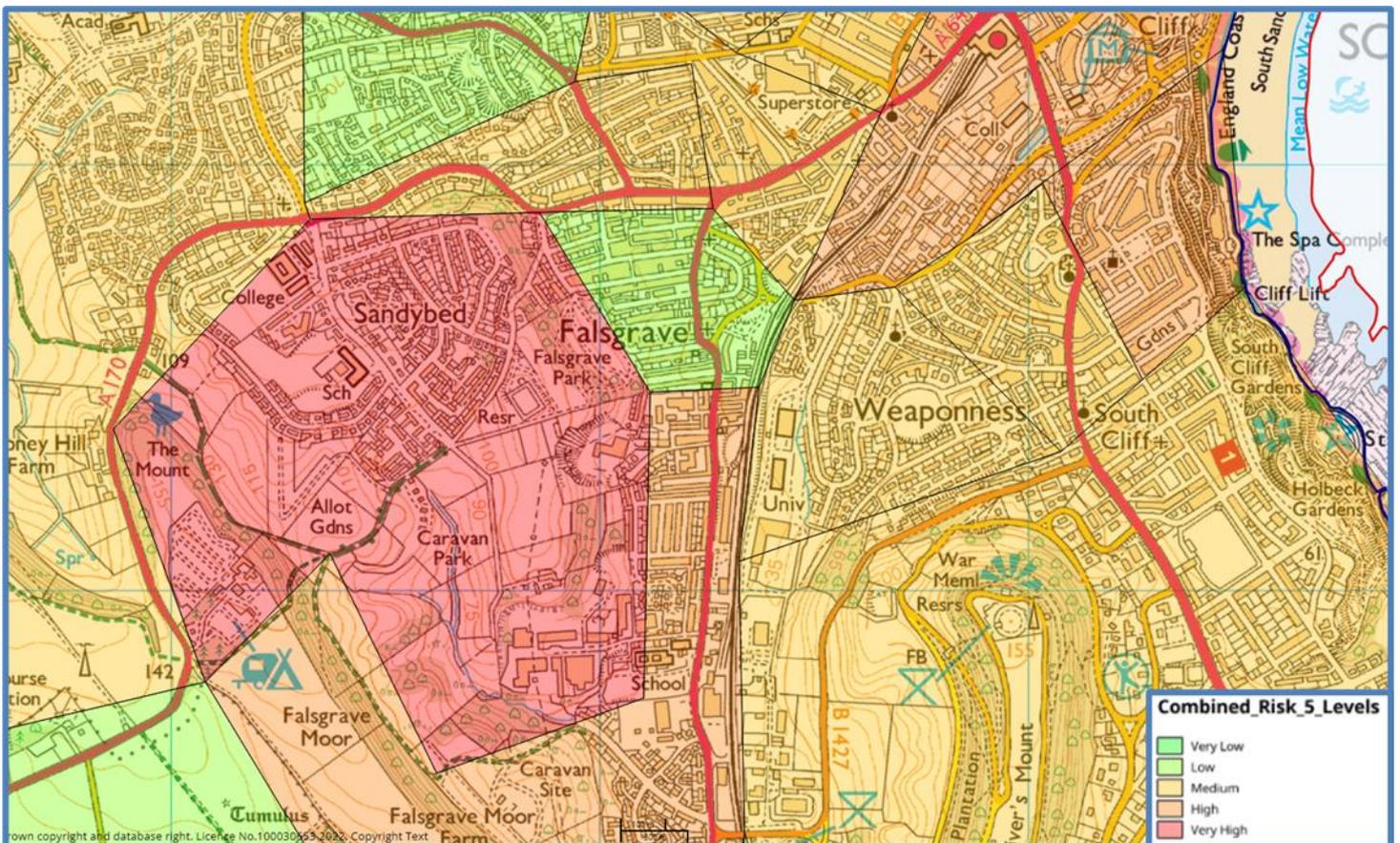


Figure 19 – Scarborough focused area combined fire risk



Figure 20 – Scarborough 5-year road incidents

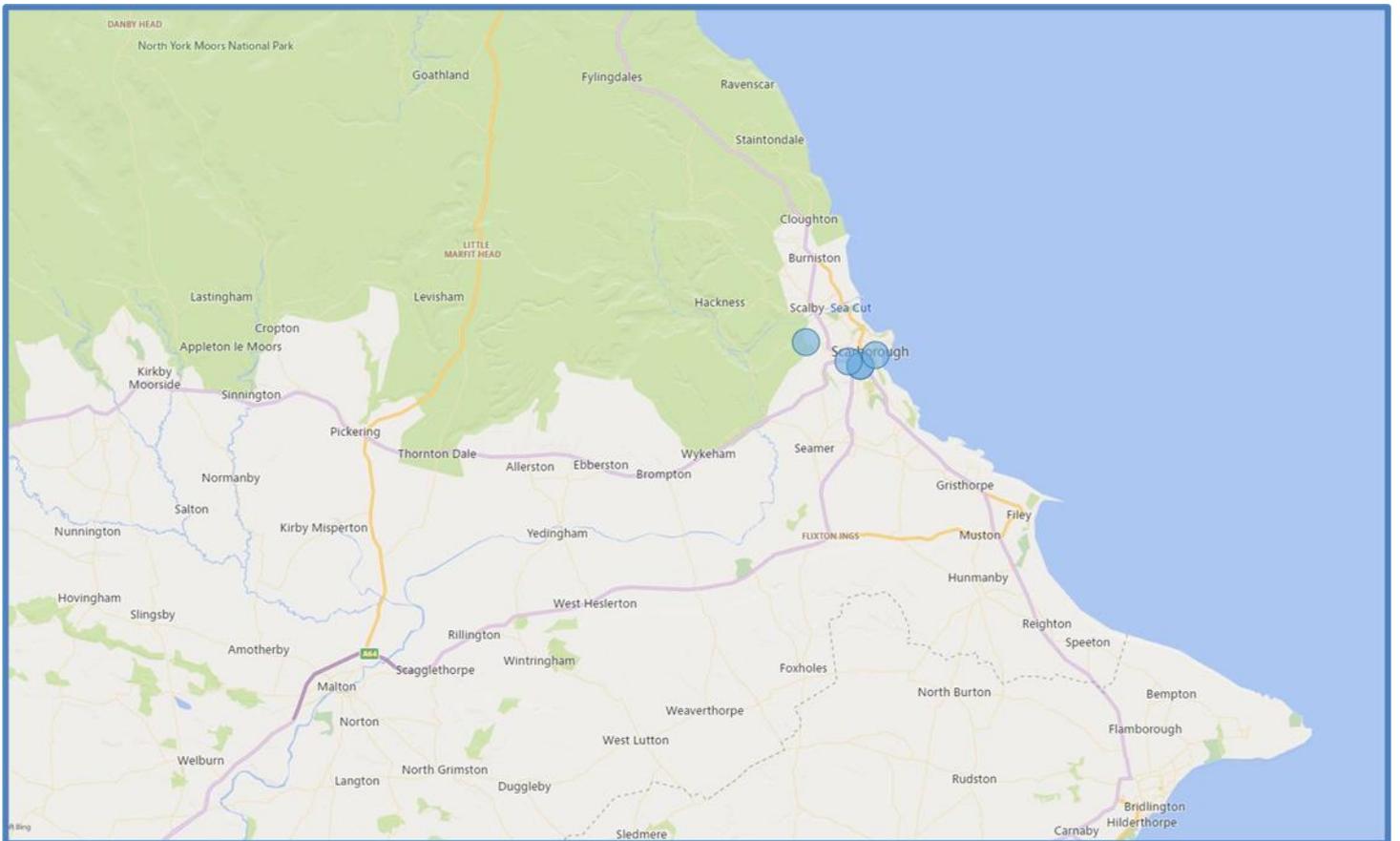


Figure 21 – Scarborough 5-year water incidents

Table 4 - Scarborough station ground 5-year total incident activity

Incident type	Station ground	P1 appliance attended	P2 appliance attended	Incidents where both attended
Fire	3039	1799	1766	647
Road	88	86	59	58
Water	5	1	0	0
Other	1162	507	694	164
All	4294	2393	2519	869

Of the 4,294 incidents, the largest single incident type crews mobilised to was 'fires in the open', of which there were 753, representing 17.5% of total call volume. Crews attended 1,648 AFAs of all types through the period, which is 38% of calls in the Scarborough area. Of the 1,648 AFAs attended only 34 were recorded as fires which represents 2% of all AFAs resulting in fires.

Figure 22 shows a comparison across a breakdown of incident mobilisations for all fire, road, and water rescue incidents. Linked to the CRP, we have also included residential dwelling fires as an additional comparison. We've analysed this further and although there were 323 mobilisations to reported dwelling fires, 176 of these resulted in them being recorded as an actual residential dwelling fire (although this does not mean that there was actually a life risk). This means that of the 305 dwelling fires that were attended across the 5-year period, only 49.5% were recorded as a dwelling fire.

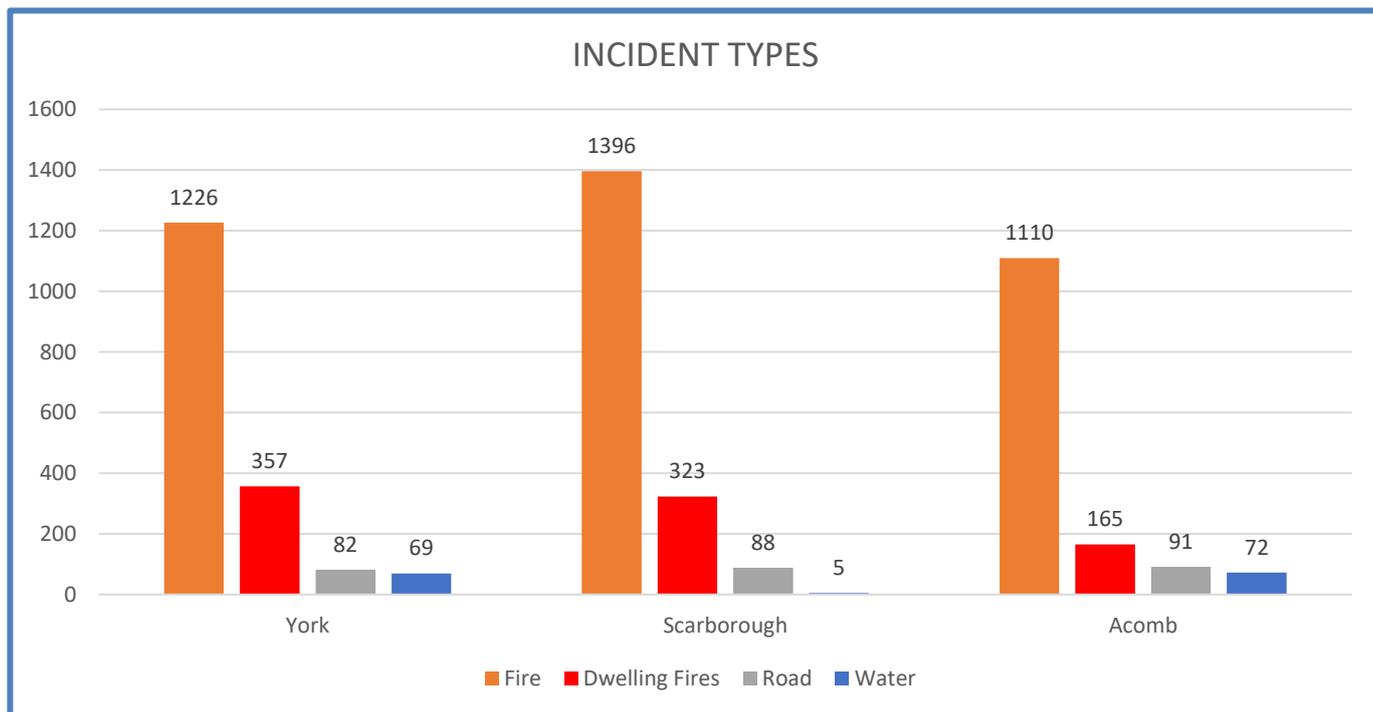


Figure 22 – Scarborough station ground 5-year total incident type activity comparison

Figure 23 shows the time of day these calls occurred. For all incident types, the demand profile shows greatest activity between 09:00 and 22:00, when 68% of calls occurred.

Table 5 shows Scarborough's incident demand between 21:00 and 09:00, the hours of peak demand, where the proposal is to have a single ERP fire appliance.

When comparing activity outside those peak hours with activity levels at single fire appliance 24-hour shift stations (Figure 24) we see that they are significantly lower than those in York and nearer to those of Acomb. It is also the same proportion (68%) of outside peak hours calls attended by Acomb and, Harrogate.

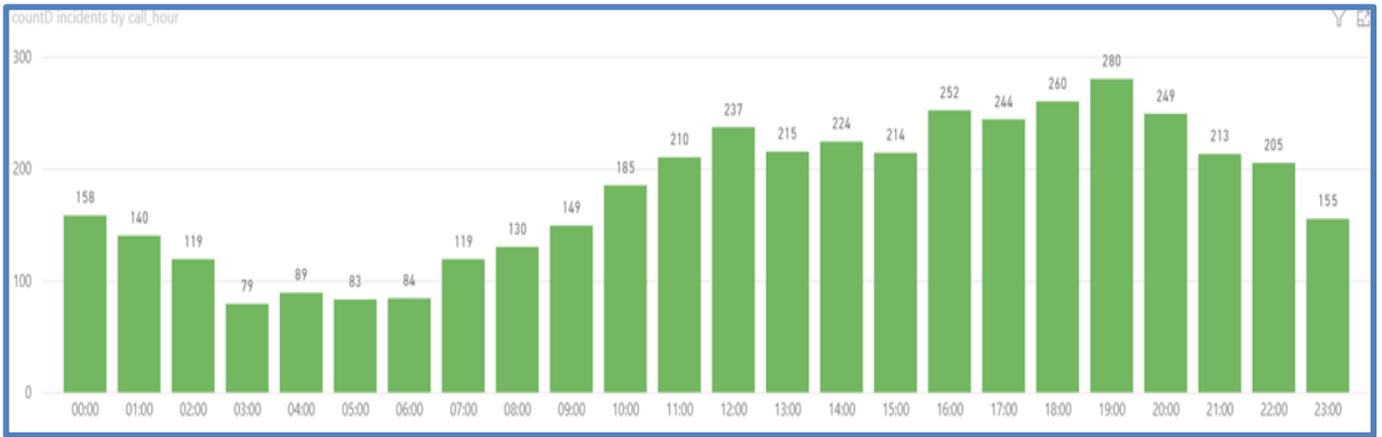


Figure 23 – Scarborough station ground average incident demand profile by hour of day

Table 5 – Scarborough station ground 5-year incidents between 21:00-09:00

	Incident Count (21:00 – 09:00)	% of total incidents
Fire (all types)	454	33%
Road	18	20%
Water	0	N/A

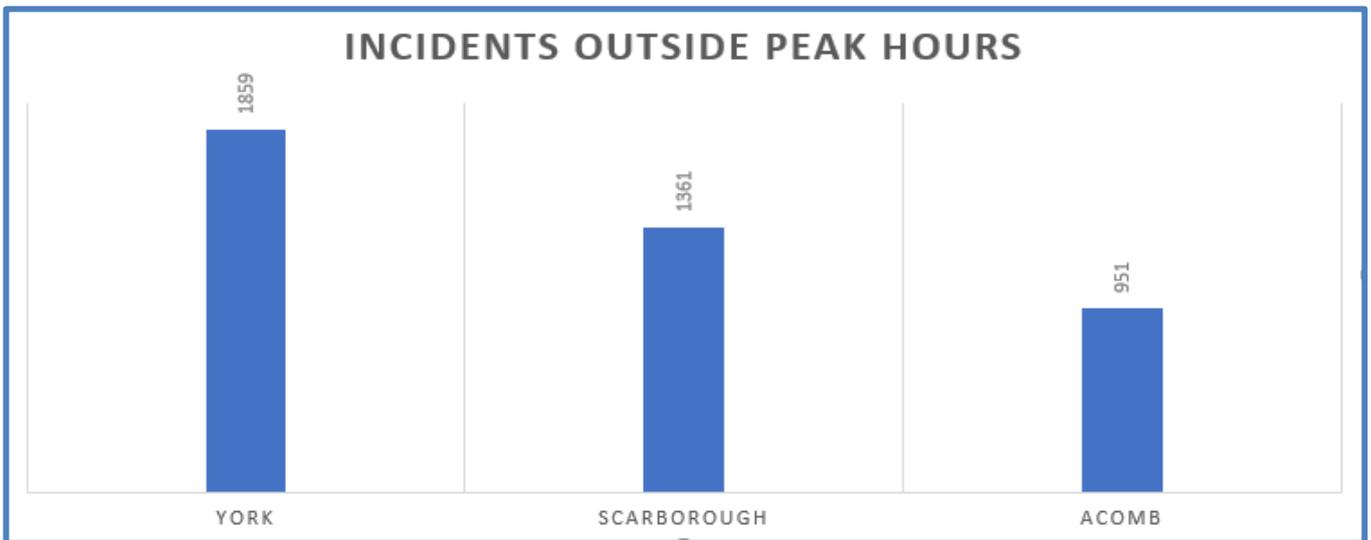


Figure 24 - Scarborough station ground 5-year total outside of peak hours incident activity comparison

What's the impacts of the proposal?

Attendance times

The current resource allocation at Scarborough is one 24-hour shift ERP fire appliance which can attend all incident types, and one 24-hour shift TRV fire appliance which can attend a limited range of incident types.

There is no change to the attendance times of the first attending fire appliance for either day or night. For incident types that have a pre-determined attendance of 2 fire appliances, the 2nd fire appliance comes from the next nearest location. This remains unchanged with the removal of the TRV fire appliance.

Analysis has shown that replacing the TRV fire appliance with an ERP fire appliance significantly improves the attendance time for the second appliance during the highest incident demand period (09:00 – 21:00). In summary, there is greater resilience during peak demand periods, and outside of these hours the fire appliance attendance times and strength of attack remains unchanged.

Property type analysis

We have looked at different property types to understand the impact on residential and commercial sectors of our communities. We separated commercial hotel from the other commercial premises due to tourism being such a key component of North Yorkshire’s economy. We have included residential institution, so we were able to identify the change of attendance times for care and nursing homes due to the potential severity of a fire in these types of premises.

The area around Scarborough accounts for 9.2% of properties across North Yorkshire. This comprises of 8.3% of commercial premises and 10% of our commercial hotels. It has 9.4% of our residential premises and 1.2% of residential institution. The period between 21:00 and 09:00 in Scarborough accounts for 4.6% of all incidents the Service attends, with 1.3% of our total of fires occurring in the Scarborough area.

Figures 32 to 57 in appendix H shows the proportion of each premises type we will reach in a given time across the whole of North Yorkshire. The figures show the results of the combined proposed changes to Huntington, Harrogate and Scarborough.

Demand redistribution

Incident activity

Figure 25 shows the effect that the removal of the 2nd fire appliance outside of peak incident activity has on the incident demand for the Scarborough 24-hour shift ERP fire appliances and other stations. The incident volume for Scarborough station reduces by 326 incidents to a total of 4,736. The Scarborough ERP fire appliances would therefore attend this total number of incidents however, it is important to note that the data represents total incidents over a 5-year period so this equates to around 947 incidents per year, or around 18 incidents per week. Beyond Scarborough station, Filey’s incident activity will increase the most, attending around 51 additional incidents per year, or one incident per week. Less impact is seen across stations which are further away from Scarborough’s station ground.

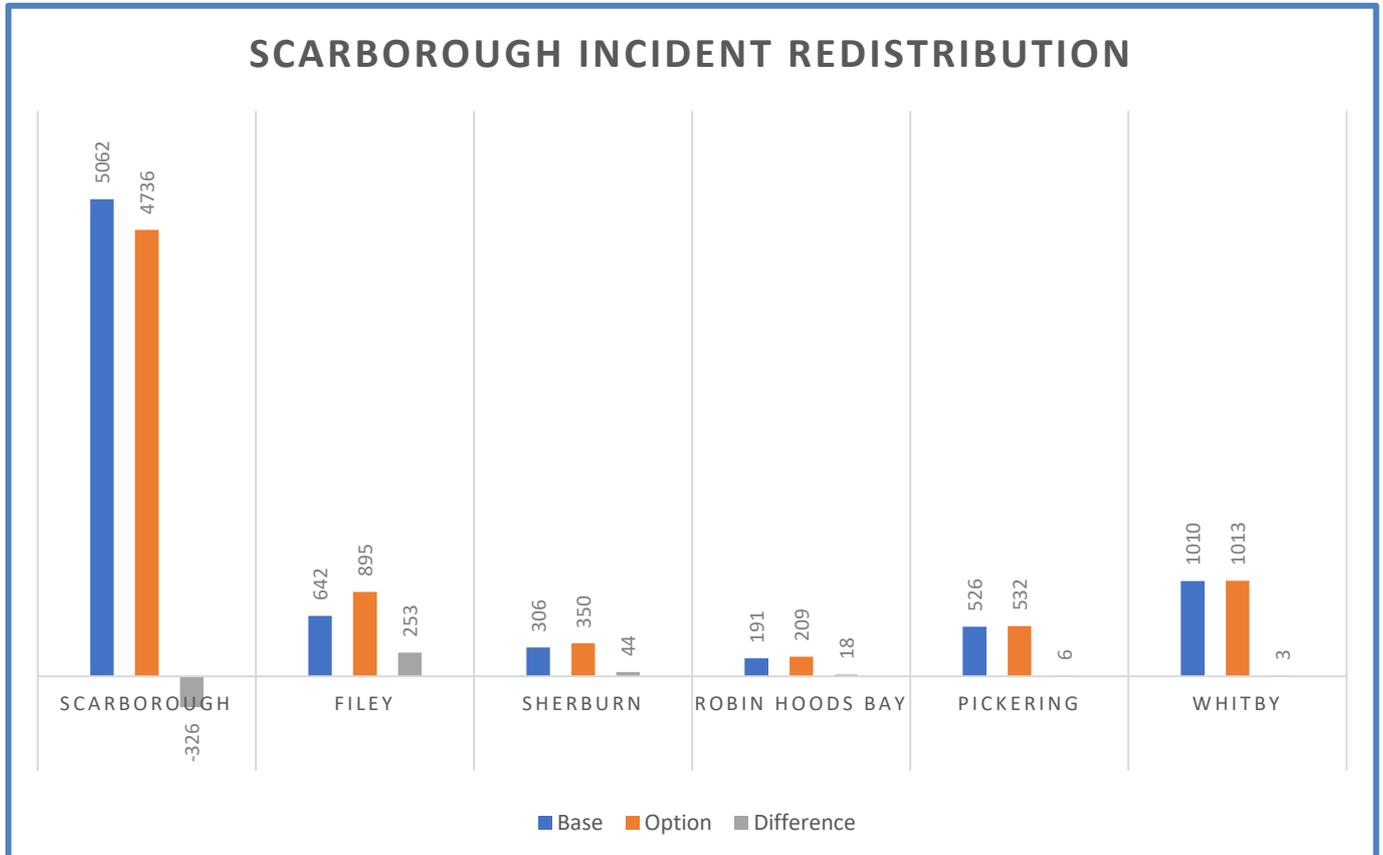


Figure 25 – Scarborough 5-year incident demand redistribution

Prevention and Protection activity

The delivery of prevention and protection activity will be largely unaffected due to this being predominantly delivered during a dayshift at these stations. The self-rostering implementation (see page 54) will introduce a change of shift time and duration (indicatively 09:00 – 21:00), increasing the day shift from 10 to 12 hours enabling more productivity to be achieved within this timeframe. This will offset impact on service delivery of day staffing the second appliance.

Risk information and hydrant maintenance activity

The same principle applies to the delivery of these activities.

What's the benefits of the proposal?

- Balances the emergency response resource to the risk we have identified in the Harrogate area
- Day staffing the second appliance will free up resources and/or financial investment opportunities for realignment with an increased prevention and protection capability
- Increase in productivity due to change of shift times and duration (12 hours)
- Reduction in stand-by and cover move requirements created by current TRV fire appliance capability limitations
- Replacing the TRV fire appliance with an ERP fire appliance increases daytime response capability in the Harrogate area as it will attend the full range of incidents in alignment with the incident demand profile
- Maintains fulltime fire appliance emergency cover, and the ability for Harrogate fire appliances to immediately respond for county wide and cross border deployments, aligned to our daytime incident demand profile
- The provision of an immediately available ERP fire appliance during the daytime mitigates the On-call fire appliance unavailability in the surrounding area
- Increase in surrounding On-call fire appliance availability during the night offsets the removal of an immediately available ERP fire appliance at Harrogate
- Increased incident call rate for surrounding On-call fire appliances will incentivise On-call staff
- The TRV fire appliance becomes an LRP fire appliance for redistribution to On-call stations (improved RTC response for instance)
- Reduction in associated operating costs e.g. equipment, training, and PPE

What's the limitations and/or barriers to the proposal?

- Staff will be required to transition to a different station and/or role which may create uncertainty.
- Reduction in overall number of appliances to 45 on a daytime, and 43 during the night impacting on resilience and resourcing of large-scale incidents (review of fire cover model required)
- Political resistance, particularly within the areas affected
- Perception from the community and other stakeholders of significant impact due reduced response capability
- The ALP may require alternative approaches for mobilising
- The specialist working at height capability may require additional support from neighbouring station staff.
- Complex incidents requiring large numbers of resources will require greater cover moves, potentially creating gaps in fire cover

Conclusions

- The risk within the Scarborough area does not warrant the provision of a second fulltime 24 hour shift fire appliance.
- The incident demand profile will be best met by replacing the TRV fire appliance with an ERP fire appliance, crewed during the daytime only (peak incident demand period)
- Implementation of self-rostering, including a change of shift start/finish times and duration will better match our incident demand profile and support an increase in productivity at Scarborough.

Recommendations

- That the TRV fire appliance at Scarborough is replaced by an ERP fire appliance, crewed during the daytime only.
- That a self-rostering system is implemented at Scarborough.

Aerial Ladder Platforms

We have 3 ALPs, located at Huntington, Harrogate and Scarborough. The ALPs are provided for use at high rise type incidents although they do have additional benefits for firefighting at other incident types. They are staffed by fulltime shift personnel at those locations on a dual crewing basis, which means that they do not have dedicated staff, using personnel from the ERP fire appliance to operate them. Current mobilising arrangements results in ALPs being automatically assigned to all fire incidents involving buildings of 3 or more storeys. ALPs can be specifically requested use at other incident types.

Analysis of ALP incident demand has been undertaken. We analysed high rise incident types, times of day/night and where the fire was located (which storey of the building).

Figure 26 shows ALP mobilisations for all incident types, broken down to high rise mobilisations for Huntington. This shows that the total number of incidents attended within the City of York area was 258 over the 5-year data period, of which there were 109 high rise mobilisations, 50 of which were false alarms. Of the remaining 59 high rise mobilisations, one incident occurred on the 4th floor, one on the 3rd floor, and all others on the 2nd floor and below.

Figure 27 shows ALP mobilisations for all incident types, broken down to high rise mobilisations for Harrogate. This shows that the total number of incidents attended within the Harrogate area was 213 over the 5-year data period, of which there were 50 high rise mobilisations. Outside of 09:00 - 21:00 there were 19 high rise mobilisations, 8 of which were false alarms. Of the remaining 11 incidents, 2 incidents occurred on the 3rd floor and 9 occurred on the 2nd floor or below.

Figure 28 shows ALP mobilisations for all incident types, broken down to high rise mobilisations for Scarborough. This shows that the total number of incidents attended within the Scarborough area was 375 over the 5-year data period, of which there were 65 high rise mobilisations. Outside of 09:00 - 21:00 there were 21 high rise mobilisations, 11 of which were false alarms. Of the remaining 10 incidents, one incident occurred on the 3rd floor and 9 occurred on the 2nd floor or below.

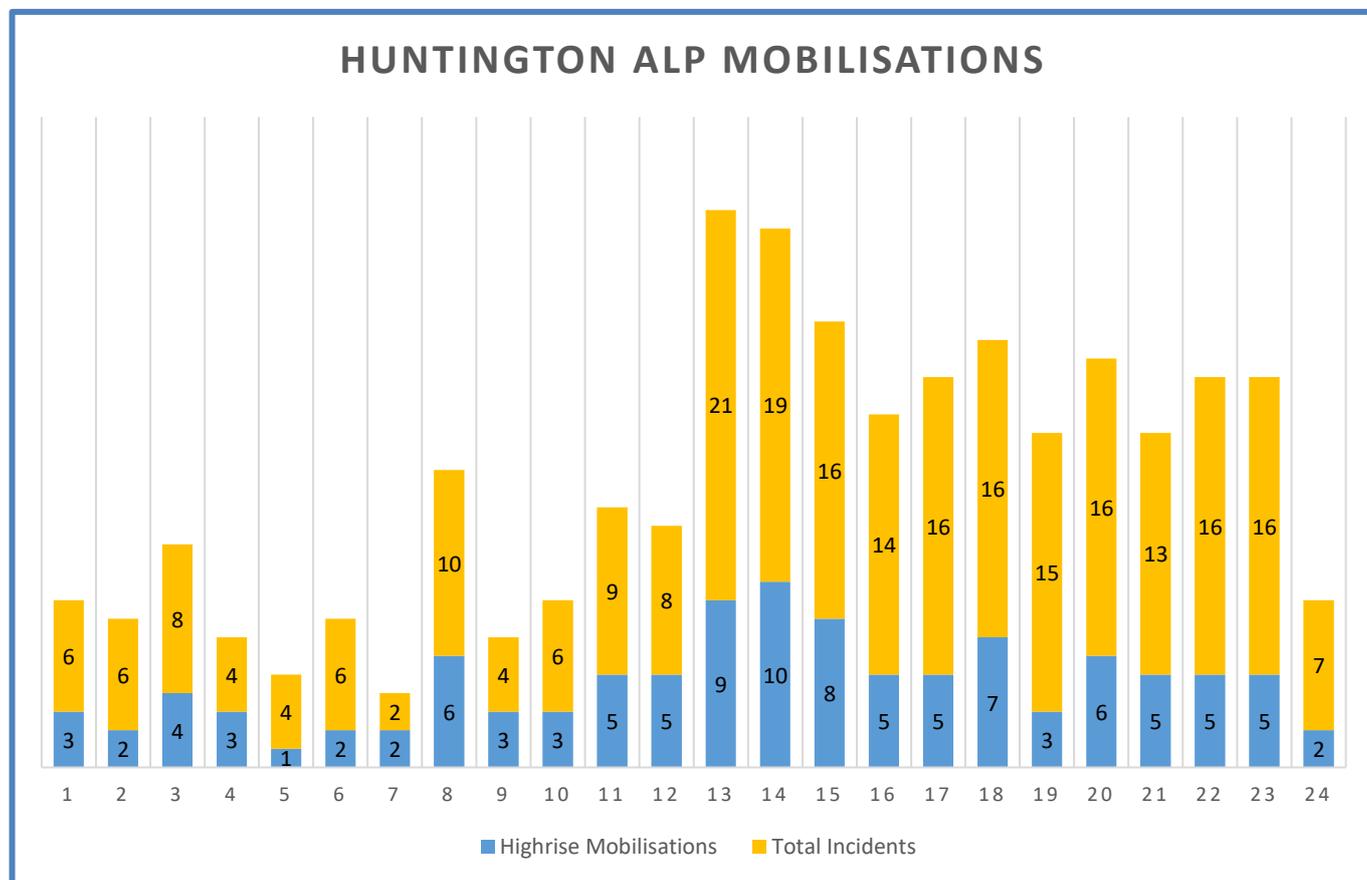


Figure 26 – Huntington 5-year total ALP mobilisations

HARROGATE ALP MOBILISATIONS

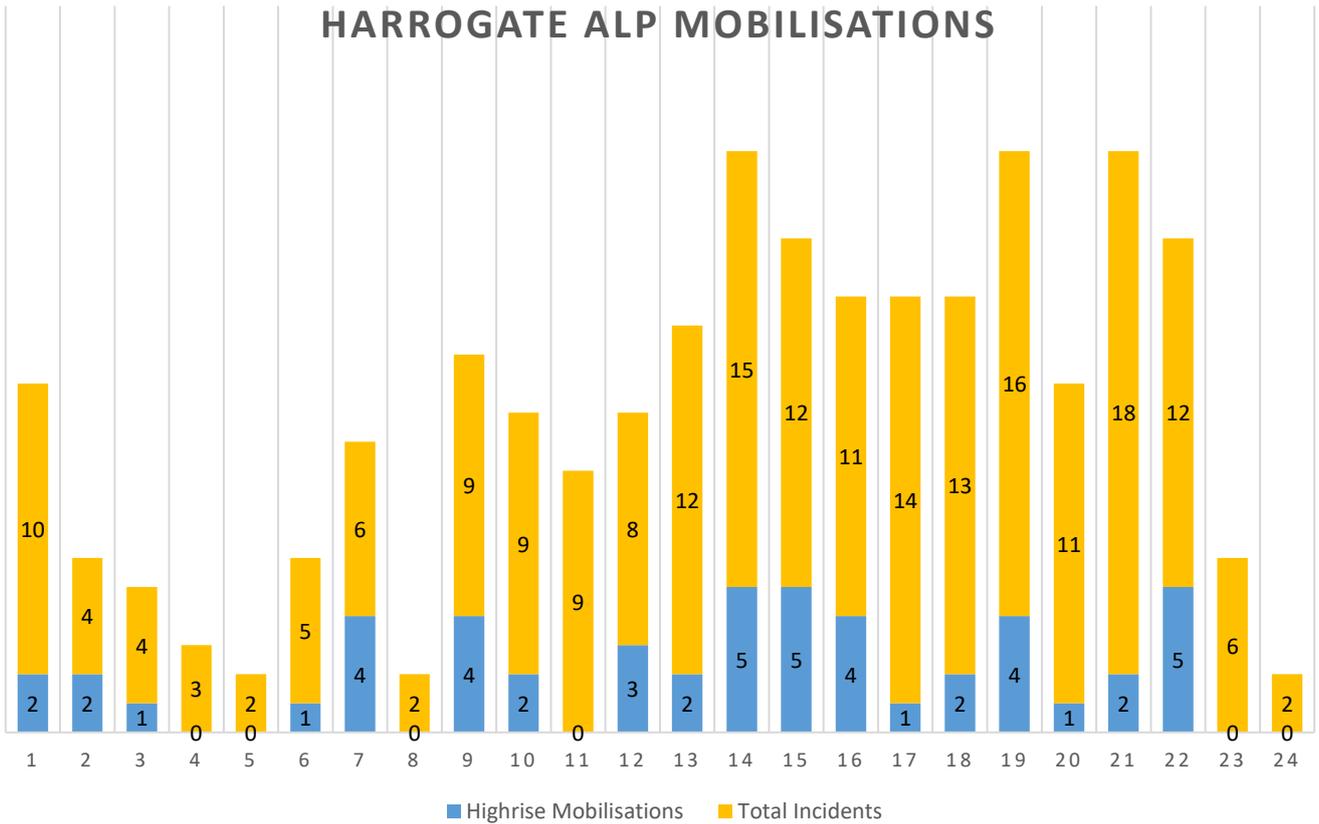


Figure 27 – Harrogate 5-year total ALP mobilisations

SCARBOROUGH ALP MOBILISATIONS

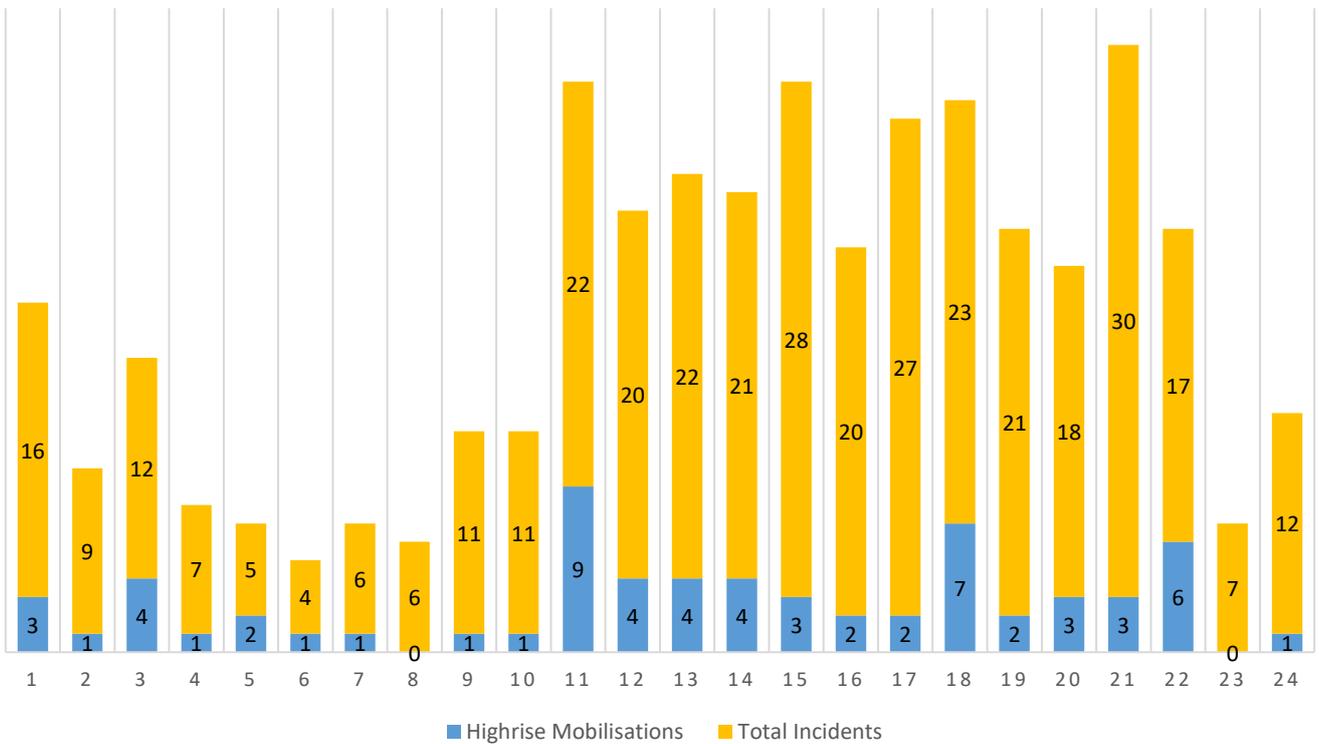


Figure 28 – Scarborough 5-year total ALP mobilisations

Combination

What's the impacts of the proposal combination?

Attendance times

There is a negligible Service wide negative impact on attendance times for the first appliance attending arising from the emergency response resource proposals. For the second appliance attendance times we see a noted improvement during our peak incident demand period (daytime).

There is an impact within the Huntington area as described earlier, with an increase of no more than 3 minutes and 47 seconds to any area. For Harrogate and Scarborough, there is an improvement to attendance times during the daytime due to the ERP fire appliances being immediately available for all incident types, and no impact during the night-time due to the current TRV fire appliances not able to respond as the second fire appliance.

Demand redistribution

Incident activity

Figure 29 shows the effect of the combined proposals on incident demand redistribution. Unsurprisingly, the closest stations to each of the stations being changed increase their incident activity the most compared to stations further away. It is important to note however, that the increase in demand is for a 5-year period, so Acomb for instance, will increase by around 82 incidents per year, equating to around an additional 1.6 incidents per week.

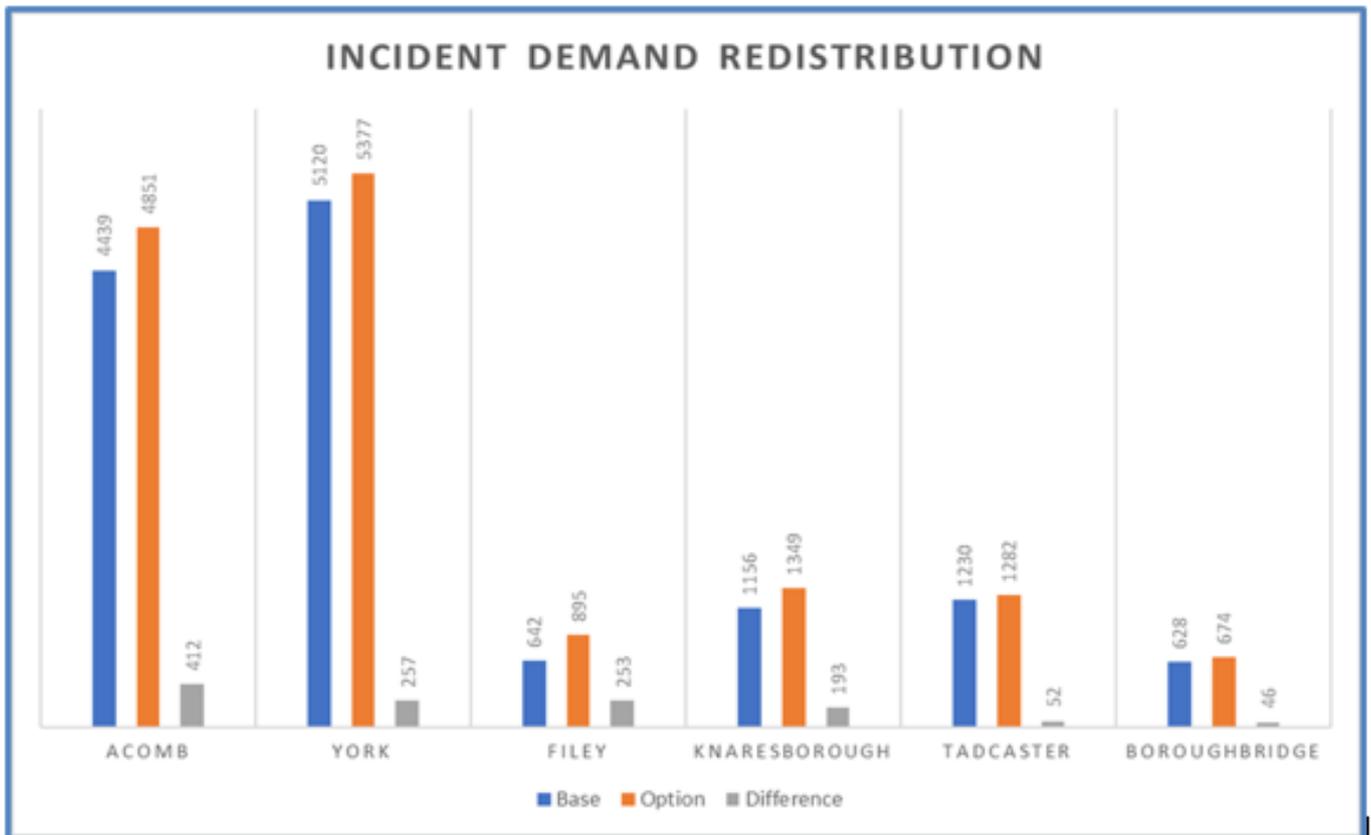


Figure 29 – Combined 5-year total incident demand redistribution

Global resilience

Global resilience changes throughout the day due to the complex On-call fire appliance availability profile however, it does generally follow a pattern. Figure 30 shows this pattern. Due to several factors, On-call fire

appliance availability reduces during daytime hours and increases during the night. It is not unusual to start with up to around 20 appliances being unavailable at the beginning of the day, before cover moves and staff detachments have been put in place to reduce this number. Conversely, the number of available On-call appliances significantly increases during the night.

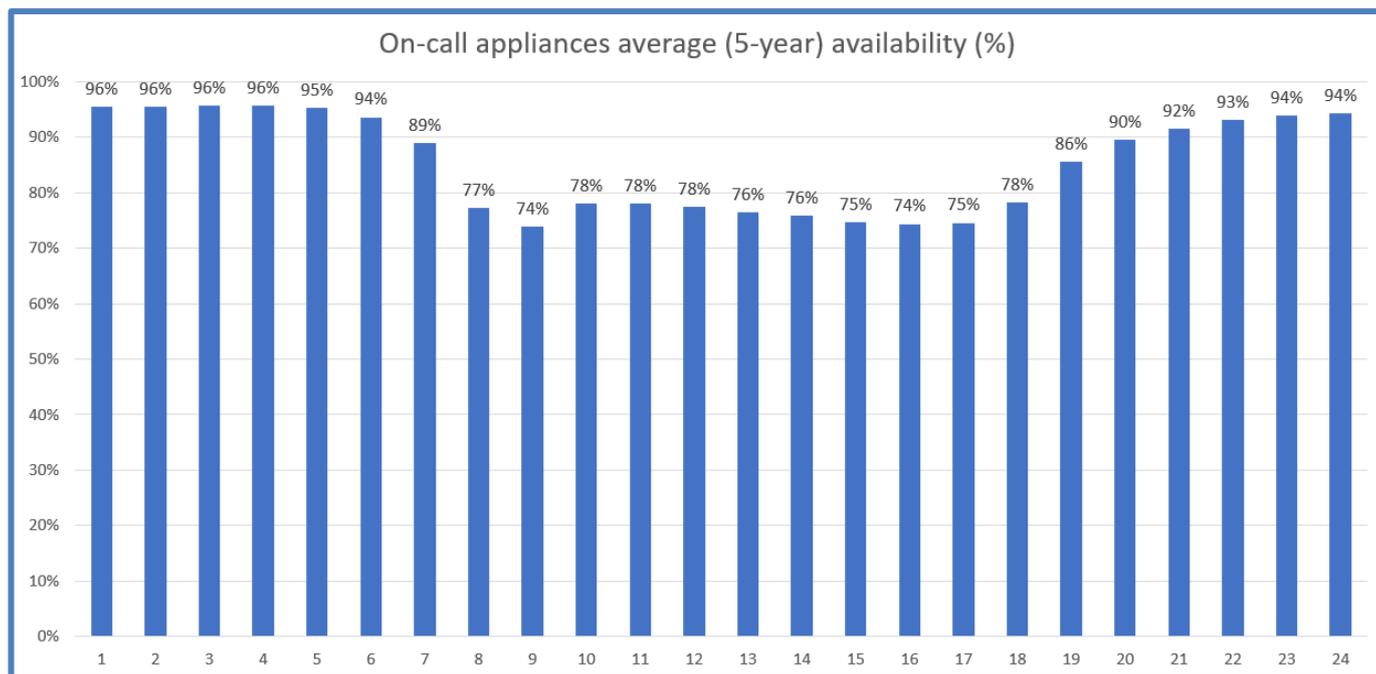


Figure 30 – Average (5-years) On-call appliance availability post cover moves and detachments

Table 6 shows the difference between the current and proposed number of appliances. The proposed daytime resilience is increased, as the total number of appliances that can attend a full range of incidents is increased from 44 to 45. This is due to the change of appliance from a TRV fire appliance to an ERP fire appliance at Harrogate and Scarborough. These are crewed by fulltime staff and able to attend all incidents. The TRV fire appliances placed at On-call stations are planned to operate as LRP fire appliances and can attend the full range of incidents, albeit with some additional support simultaneously mobilised for a small range of certain incident types.

Table 6 – Total number of appliances: current and proposed

Vehicle Type	Day		Night	
	Current	Proposed	Current	Proposed
Emergency Rescue Pump fire appliance	37	36	37	34
Light Rescue Pump fire appliance	3	5	3	5
4 x 4 fire appliance	4	4	4	4
	44	45	44	43
Tactical Response Vehicle fire appliance	2	0	2	0
Total fire appliances	46	45	46	43

The increased resilience during daytime hours fits with the global incident demand profile, whereas during the night, a decrease in total fire appliances is offset by the improved On-call fire appliance availability. Despite the maximum number of fire appliances reducing due to the changes at Huntington, Harrogate and Scarborough (46 to 43), we know that our resilience increases as On-call fire appliances generally become available during the night.

Automatic Fire Alarms (AFAs)

We attend 2,550 AFA incidents per year on average. AFA incidents make up 38% of all attendances, with 63% of attendances being to residential premises, and the remaining to commercial premises. It should be noted that 97.5% of residential and 98.4% of commercial AFA attendances resulted in a false alarm code.

False alarm attendances are a burden on the Service, wasting valuable time and resource, and diverting our operational crews from risk reduction activities and other more critical incident types.

Our Unwanted Fire Signals (UwFS) attendance policy was last reviewed in 2014. This resulted in a change to our response to AFAs, through non-attendance to daytime AFA incidents, albeit with some higher risk premises exemptions. We reviewed the UwFS guidance in 2021 and implemented the amendments across the Service. The new policy reflects the National Chief Fire Council's (NFCC) guidance.

Many other FRSs have adopted similar approaches to ours. Regionally, it was found that our policies and guidance closer aligned to the NFCC best practice. However, further improvements can be made to further reduce the burden of UwFS calls.

There is no legal duty on Fire and Rescue Authorities to respond to calls originating from AFA systems for the purpose of establishing if there is a fire.

What are we proposing?

We are proposing the development of the following:

- A review of internal guidance and resources to enhance operational staff engagement with the Responsible Persons
- A review of educational resources for Responsible Persons and enhanced training for staff to support this
- A removal of the requirement to attend AFAs at premises for which we currently hold Site Specific Risk Information (SSRI). This would result in non-attendance to a range of commercial, retail, and industrial premises. A reduction of around 12% overall for AFA attendances is anticipated
- Increasing the timespan related to our existing daytime non-attendance for non-sleeping risk premises (currently 08:00 to 18:00). Increasing this from 08:00 to 19:00 would realise an anticipated 2% reduction; or from 07:00 to 19:00, a 3.5% reduction
- Introducing the ability for the Service to charge for attendance at AFAs in the future (e.g. charging arrangements for those premises which exceed more than 3 false alarm actuations in a 12-month period). This will be done in alignment with regional approach currently in place. This may act as an incentive for Responsible Persons to improve their arrangements through behavioural change with the support of our education and guidance
- Responding to AFAs at premises with non-sleeping risk without the use of Emergency Response Driving, and remaining available for redirection to more critical incidents if required
- A review of the type of response we provide to AFAs (e.g. officer in car versus 4 firefighters on an appliance)

Why are we proposing this?

False alarm attendances are a burden on the Service, wasting valuable time and resource, and diverting our operational crews from risk reduction activities and other more critical incident types. We will reduce the burden on the Service on attending AFAs which turn out to be UwFSs.

What's the impacts of the proposal?

Reducing this burden will allow us to focus on the delivery of our range of services and achieve an increase in efficiency.

What's the benefits of the proposal?

- Reduced disruption to the delivery of prevention and protection activity, and our availability to respond to higher risk incidents
- Our operational preparedness and preplanning is less likely to be interrupted
- The maximum potential reduction from all proposals is 15.5%, or on average an annual reduction of 387 incidents
- Improvements in the guidance and training should also support a further reduction in incidents in residential and commercial premises.
- The options within the proposals presented ensure we align closer to the other Authorities in the region
- The proposals would not deviate from the NFCC guidance
- Reduction in cost to the Service
- Decrease in road risk due to less emergency response driving
- An increase in the provision of engagement, education, and the quality of support to businesses

What's the limitations and/or barriers to the proposal?

- This only applies to commercial premises which meet a certain criteria and does not affect the response to domestic and residential premises which account for a significant proportion of calls to AFAs
- The impact on incident activity for On-call stations may affect retention levels. An increase of On-call staff utilisation for other activities could offset this impact
- Perception from the community, businesses and other stakeholders that incident escalation may occur due to a delayed response
- Political resistance

Conclusions

- The outline proposal will significantly reduce the burden of UwFS on the Service
- Capacity to deliver our other services will increase and we will be more effective and efficient as a result

Recommendations

- That the Automatic Fire Alarm proposal should be taken to public consultation for implementation

Implementations (internal consultation/negotiation)

Swift Water Rescue Capability

Craven District covers the south-west area of North Yorkshire. It covers an area of 735 square miles and has a population of 56,832 (ONS, 2018). There are 4 stations in the district, all of which operate using the On-call model. Skipton fire station is the only 2 pump On-call station in North Yorkshire; it also has a specialist wildfire unit.

Flooding is one of the highest risks within the county as determined through the National Security Risk Assessment (NSRA) and published in the NYLRF's Community Risk Register. Government assessment of the risk through the NSRA determines the likelihood of flooding to increase in coming years due to climate change.

All operational personnel are trained to a minimum of MOD 2 water rescue. This enables crews to undertake rescues from shallow/slow moving water and from the bank. There are also 5 x MOD 3 water rescue units: Malton, Richmond, Ripon, Whitby, and Selby (MOD 4). MOD 3 crews are trained and equipped to undertake rescues from deep and fast moving water. The MOD 4 crew at Selby also have a power boat for use in areas where the water is of sufficient depth. There is also a boat on the Ouse at York, crewed by York station, specifically for carrying out rescues in York. These York river incidents (129 in the 5-year period) and the boat at York have not formed part of the data in this proposal. This is due to the York boat being a York only asset and cannot provide support to the rest of the county.

What are we implementing?

We are implementing an additional Swift Water Rescue capability in the Craven District. The implementation will involve enhancing water rescue capability by placing a MOD 3 water rescue unit in Skipton. This would involve training several (minimum 10) personnel, to respond to incidents. This work would be undertaken in addition to current On-call duties. Should the MOD 3 team be mobilised there would be sufficient crew still available to maintain availability of one of the appliances.

Why are we proposing this?

Risk

Based on the evidence gathered through the analysis of the CRP around water risk, the absence of a dedicated water risk capability within the Craven area represents a significant gap which requires addressing.

Incident activity demand

Table 7 shows that in the five years from 01/09/2016 to 31/08/2021 the Service responded to 218 life-risk water incidents.

Table 7 – Service total 5-year water incidents

R08 – Rescue – Water – Moving / Shallow	116
R08 – Rescue – Water – Still / Shallow	98
R07 – Rescue – Unstable Ground mud and ice	4

Table 8 shows that of these, 43 or 19.7% occurred in Craven District. The majority being local to Skipton. The location of these can be seen in Figure 31.

Table 8 – Craven total 5-year water incidents

R08 – Rescue – Water – Moving / Shallow	26
R08 – Rescue – Water – Still / Shallow	17

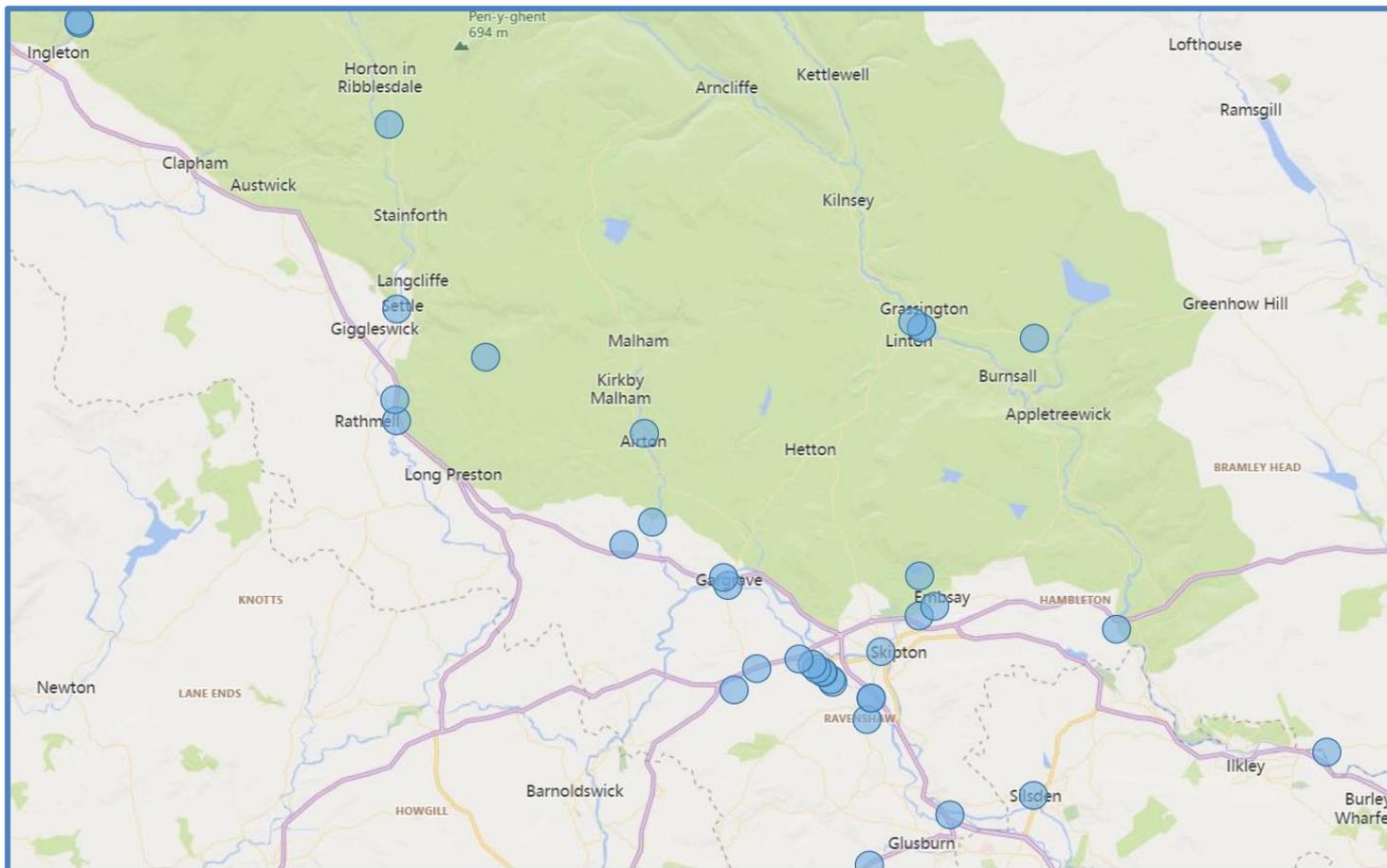


Figure 31 – Craven 5-year water incidents

Table 9 shows the number of water rescue incidents by district across the five years.

Table 9 – District comparison of total 5-year water incidents

Craven	43	19.7%
Hambleton	18	8.3%
Harrogate	41	18.8%
Richmondshire	32	14.7%
Ryedale	7	3.2%
Scarborough	18	8.2%
Selby	35	16%
York (excl. York River Inc)	24	11%

What this shows us is that Craven has the largest proportion of water rescue incidents across the county but is under resourced with water rescue capabilities compared to other areas.

What's the benefits of the proposal?

- Balances the emergency response resource to the risk we have identified in the Craven area
- Increased capability of emergency response to Craven water incidents
- Reduction in the response time for the first specialist resource to arrive at water incidents in the Craven area
- On-call staff will be incentivised by the additional expertise and associated increase in response capability
- Combined use of the Wildfire vehicle currently at Skipton prevents the need to purchase additional vehicles
- Reduces the need for extended travel distances of current specialist resources to attend incidents within Craven
- Reduced impact on service delivery activity of other fulltime units

What's the limitations and/or barriers to the proposal?

- Consultation and negotiation with staff is required due to the need for an additional training commitment. It is anticipated however, that staff at these locations will welcome the additional responsibility
- Requirement to improve On-call capacity and increase financial investment to support additional training commitments

Conclusions

- The water risk within the Craven area warrants the introduction of a Specialist Swift Water Rescue capability based in that area

Recommendations

- That a Craven based Swift Water Rescue capability is implemented

Duty Systems

We currently operate 3 different shift systems for wholetime operational staff. At Scarborough, Harrogate, York, Acomb and Huntington, crews work a 24-hour shift system. Crews are on station 24 hours a day and are divided into 4 watches. The system involves working 2 day shifts 08:00 – 18:00 followed by 2 night shifts 18:00 – 08:00 followed by 4 days off.

Whitby, Ripon, Malton, Tadcaster and Selby operate on the day-crewed system. This involves 2 watches working 4 day shifts of 08:00 – 18:00. The crew cover the night period following a day shift from their home and respond via an alerter. They are paid a retainer fee for being on call, in addition to a disturbance fee and hourly rate for any incidents between 18:00 and 08:00.

Richmond and Northallerton operate a self-roster system. Self-rostering for day crewed stations provides the same numbers of average hours (42 per week) and shifts worked but removes the set pattern of shifts.

Self-rostering as operated by the Service is consistent with the NJC Scheme of Conditions of Service 6th Edition 2004 (grey book) section 4 day crewing duty system. The Self Roster Crewing Procedure for Day Crewed Stations SOP gives full details on how the system operates.

What are we implementing?

We intend to implement a self-rostering duty system across all Shift and Day Crewed stations. Several options of self-rostering will be developed for further consideration.

Self-rostering duty systems are in use at Richmond and Northallerton and within the Control Room. The same or similar systems would be implemented at the remaining Day Crewed stations (Malton, Ripon, Selby, Tadcaster, and Whitby).

Self-rostering will also be introduced at our Shift system stations (2 fire appliances: Harrogate and Scarborough; one fire appliance – Acomb and York).

A change to a 12-hour shift pattern, aligned to the Service's incident demand profile, should be implemented.

Why are we implementing this?

Introduction of self-rostering systems across our Shift and Day Crewed stations presents several benefits to our staff and the Service as a whole. We have a proven system in operation which evidences the benefits of self-rostering systems. A change of shift time and duration will ensure that we are more productive and able to respond more effectively in line with our incident demand profile.

Incident activity demand

Our analysis of incident demand profiles has shown that our busiest times occur between around 09:00 and 22:00.

What's the benefits of the implementation?

- Alignment of shift patterns with the incident demand profile provides a greater immediate response capability
- Increased daytime shift duration will increase productivity across our range of service delivery
- Self-rostering facilitates greater flexibility for staff around their work/life balance.
- Expands the flexibility in duty systems available
- Supports Value for Money
- Potentially supports recruiting people into these locations which can lead to increased diversity
- Greater flexibility in work patterns and work/life balance may assist in recruiting a more diverse workforce

- The flexibility for staff is that there is a greater level of choice over which shifts they work, whilst the benefits to the Service include greater ability to balance crewing fluctuations and maintain crewing at optimum levels
- Self-rostering permits more local management of crewing arrangements to encourage a more team based flexible approach. This procedure provides guidance and general parameters to both managers and personnel following for local application
- Improved crewing resilience due to levelling of peaks and troughs
- Improved productivity due to single work plan rather than separate watch plans
- Sharing of knowledge and expertise through all station staff working with each other
- Cultural improvement due to more inclusive shifts worked improving morale due to single team ethos
- Improved staff wellbeing from ability to choose own shifts

What's the limitations and/or barriers to the implementation?

- Requires buy-in from staff to get most from system
- If the system is imposed, it may not realise the full benefits
- Resistance to proposal may lead to dispute with staff representative bodies
- Possibility that could be less family friendly where both partners work shifts

Conclusions

- Self-rostering duty systems, including a change of shift start/finish times and duration will better match our incident demand profile and support an increase in productivity
- Self-rostering duty systems deliver benefits to the individuals who operate them and to the Service as a whole

Recommendations

- That self-rostering is implemented across all full-time stations and consideration is given to a change of shift start/finish time and duration

Response Principles

Our current position

The Service does not currently have a standard to measure against how long it takes us to respond to emergency calls. This is commonly referred to as a 'response standard'. We are one of very few Fire and Rescue Services (FRSs) not to have declared a response standard. The absence of a response standard was highlighted during Her Majesty's Inspectorate for Constabulary and Fire and Rescue Services (HMICFRS) in 2018/19 which stated that:

"The service does not publish a standard response time, so the public doesn't know what level of service to expect".⁷

Why are we not providing a response standard?

The nature of our county in terms of its expanse and road network, coupled with a diverse range of duty systems, makes it difficult for us to determine a specific standard. Measuring against such a standard would be meaningless to the public. Providing specific response standards is our aspiration however, at this point we need to learn more about our data and any nuances created by our duty systems and geographical area. Therefore, we do not currently intend to implement a standard.

What's our approach in the meantime?

We have stated our response principles in favour of a specific response standard whilst we gain a better understanding of what a response standard may look like for our Service.

The Service Delivery Strategy⁸ contains the strategic aim to:

"...continually assess local risks to deliver the most appropriate emergency intervention service in the quickest time, whilst making the best and efficient use of our resources".

To achieve this aim, a key strategic objective is to

"...mobilise our resources to respond to emergency incidents with the correct strength and speed, yet safely at all times".

Fundamentally, this strategic objective forms our response principles; specifically, we will mobilise our resources with the correct **strength**, at **speed**, and **safely**:

- **Strength**

We will always mobilise the correct level of resources for the incident type which is initially reported to us. This is known as the weight of attack and is included in our predetermined attendance (PDA) which is programmed into the Control mobilising system to ensure the correct number of fire appliances, equipment and personnel are sent to the incident as the initial attendance. Control personnel also use discretion in deciding whether to send additional resources dependent upon the call information received.

- **Speed**

We will aim to arrive at the incident as quickly as we can from the point of being alerted to it. This includes the call handling, crew turn out, and drive time.

- **Safely**

We aim to respond as safely as we can by following our 'drive to arrive' policy. This ensures we tailor our response speed to the type of incident to which we are responding (sometimes we do not use blue lights and sirens for non-urgent calls e.g. person locked out of a property)

⁷ (Her Majesty's Inspectorate of Constabulary and Fire and Rescue Services, 2019)

⁸ (North Yorkshire Fire and Rescue Service, 2020)

How will we develop this?

Our Community Risk Profile identifies that there are three main types of risk most prevalent within our county, these being: fire; road; and water. A list of the incident types contained within each of the main categories can be seen at Appendix I. We measure our response times across these three incident categories.

We are now monitoring and measuring our performance against our stated response principles across the three principles using a range of different methods. These methods include analysis of a range of qualitative and quantitative data. We have a range of evaluation processes to measure and monitor our performance across all three principles including:

- Incident debriefing
- Operational response time dashboard data
- Accident reporting processes

This will inform our designation of a response standard in future. Adopting this approach will ensure that our response standard is considered fully, prior to our commitment to it and making this offer to the public.

We intend to include this in the RRM public consultation to gain feedback on our current approach.

Investment Pipeline

Based on the proposals set out within this document, we profiled the expected timelines for realisation of the efficiencies and savings in line with expected leavers/retirements. We aligned this against the proposed areas for investment to deliver an affordable plan over the medium term. Affordability is however, a recurring constraint, to both delivery timelines and sustainability over the longer-term, to all of the areas that we have identified as requiring investment.

What savings and efficiencies will be delivered?

We expect that the RRM proposals will deliver recurring savings and efficiencies of just over £1.5m per year. However, based on our current profiling we don't expect to be able to fully realise these savings, in cash terms, until 2025/26.

How will we invest these savings and efficiencies?

Ultimately, we expect to need to invest just over £1.6m per year to address the challenges of resilience referred to in the 'Global Resilience' section. This section sets out that, between 08:00 and 18:00, more than 20% of our On-call fire appliances can't be mobilised due to the unavailability of enough of our On-call staff to enable this to happen. This means that on average, for every day of the year, our 31 On-call fire appliances are not available to be mobilised for over 2 hours, out of this 10-hour period. This 10-hour period also coincides with the time of higher incident demand. We have mapped this proposed investment against the savings profile and therefore expect to be able to fully deliver this investment in 2025/26. Greater financial flexibility/resources would enable this risk to be reduced much quicker.

Investment beyond resilience

During both 2023/24 and 2024/25 we expect to be able release resources from their current roles more quickly than the current retirement/leavers profile would suggest. Should this materialise then we plan to utilise these resources to enhance our prevention activity. We currently forecast that we should be able to invest around £675k more than planned for 2022/23, in prevention activity during 2023/24, and £180k more than planned in 2022/23 in 2024/25. The financial profiling of these proposals are set out within Table 10 and include both revenue and capital. Reference to reserves within the table are to smooth the profiling across the 7 years shown and ultimately net to zero across both revenue and capital. Current profiling suggests that there is the potential capacity to maintain a higher level of investment within prevention in 2024/25 of £175k. To be able to permanently invest in Prevention, will need to be a key area for consideration within the next RRM.

Table 10 – Savings and investment profiles

RRM Revenue Savings and Investment Profiles	Y1 - 22/23 Revenue	Y2 - 23/24 Revenue	Y3 24/25 Revenue	Y4 25/26 Revenue	Y5 26/27 Revenue	Y6 27/28 Revenue	Y7 28/29 Revenue
Phased Savings from RRM proposals (phase 1)	£000s	£000s	£000s	£000s	£000s	£000s	£000s
Recruitment paused to deliver RRM proposals	(270)	(675)	(1,350)	(1,530)	(1,530)	(1,530)	(1,530)
Resource released for re-investment		(675)	(180)				
Investment in Prevention		675	180				
Revenue Investment Profiling							
On-Call Improvements	290	370	330	1,980	1,630	1,630	1,590
Use of Reserves	(20)	305	845	(450)	(100)	(100)	(60)
Overall Position after On-Call Investment	0	0	(175)	0	0	0	0
Average Whole-time FTEs in post	305	293	277	266	259	259	259
Average Whole-time FTEs in Establishment	311	278	273	266	259	259	259
RRM Capital Savings and Investment Profiles	Y1 Capital	Y2 Capital	Y3 Capital	Y4 Capital	Y5 Capital	Y6 Capital	Y7 Capital
RRM Phase 1 Capital	£000s	£000s	£000s	£000s	£000s	£000s	£000s
Investment in On-Call (Phased)	280	260	80	30	30	30	30
Capital Saving from 1 less Appliance		(320)					
Use of Reserves/Tfrs from Revenue	(280)	60	(80)	(30)	(30)	(30)	(30)
Overall Position after On-Call Investment	0	0	0	0	0	0	0

Implementation

Subject to the outcomes of the formal consultation, we will prepare the final RRM ready for implementation from September 2022. The investment pipeline outlines how this will be financially achievable and over what timescales.

The principle of operating with single fire appliance stations will be further analysed over the longer term within future RRM cycles. Historic and current evidence supports that this principle is appropriate, albeit with some variation to account for local risk and/or overall Service emergency response resilience. However, the Fire Transformation Programme is aimed at addressing some of the issues related to poor On-call fire appliance availability and improvements in this area are necessary to support the single fire appliance principle, the results of which will inform future RRM iterations.

In addition to the implementation of proposals following the consultation, the transformation programme will include several reviews which need to be instigated to ensure that the Service continues to operate in an effective and efficient way.

The current Fire Cover Model has been in place since the Fire Cover Review was undertaken in 2015. Stand-by and cover moves are made to ensure that our emergency response cover is evenly spread and/or aligned with the risk within the county. The way in which we currently move our resources around to account for shortfalls in fire cover is complex and outdated and requires reviewing. Implementation of the emergency response proposals will further require a change to our current approach. New technology is being implemented which will assist us in how we manage our emergency cover and it is important that we develop new ways of working in line with the opportunity this creates.

The Pre-Determined Attendances (PDAs) for incident types is outdated and complex. The introduction of TRV and LRP fire appliances required some amendments being made however, a fundamental review has not been completed for some time and needs to be undertaken.

A TRV/LRP fire appliance evaluation and review is required. The release of TRV fire appliances from Harrogate and Scarborough will provide an opportunity to maximise the value of this type of vehicle by locating them at additional On-call stations. They will operate as LRP fire appliances, but on those occasions when there are only 3 crew, they will operate as TRV fire appliances. The current and future locations for these vehicles require evaluating so that we can introduce/redistribute them to the best locations where they will give the most value.

We have a range of special appliances and vehicles positioned across our county. A special appliance review is overdue and requires progressing to ensure that we align these resources with the risks we know are present within the county.

Chief Fire Officer Recommendations

It is recommended that the following proposals are progressed to public consultation for implementation:

- The proposed Prevention operating model and its supporting structures should be implemented on a progressively phased basis as finances permit.
- The proposed Protection operating model and its supporting structures should be maintained as finances permit.
- The Automatic Fire Alarm proposal should be developed for implementation.
- The Huntington fulltime shift fire appliance is removed along with the associated staff, leaving a small core of staff to remain in place at the station.
- The TRV fire appliance at Harrogate is replaced by an ERP fire appliance, crewed during the daytime only.
- The TRV fire appliance at Scarborough is replaced by an ERP fire appliance, crewed during the daytime only.

The following implementation requires internal consultation/negotiation but does not require public consultation. However, we recommend that it is included in the public consultation to raise stakeholder awareness of this increase in capability:

- The implementation of a Craven based Swift Water Rescue capability.

The following implementation does not require public consultation however, it will require internal consultation/negotiation. It is recommended:

- That self-rostering is implemented across all full-time stations and consideration is given to a change of shift start/finish time and duration.

The following implementation does not require consultation but featuring it within the public consultation to gain feedback on our approach will assist us in developing it further. It is recommended:

- That our Response Principles and our method of measuring and monitoring is included in the public consultation.

It is recommended that the vast proportion of the efficiencies released by the RRM should be invested in On-call improvements in line with the On-call Review recommendations.

Appendices

- A Service Map
- B Emergency Response Resources
- C Gap Analysis
- D Strategic Framework
- E Prevention and Protection Proposed Model
- F Prevention and Protection Current Structure
- G Prevention and Protection Proposed structure
- H Effect on Attendance Times (Combined)
- I Incident Category Types

Service Map



Figure 32 – Service map

Emergency Response Resources

Table 11 – Emergency response resources

Station	Emergency response resources
Craven District	
Bentham	One On-call crewed Emergency Rescue Pump
Grassington	One On-call crewed 4x4 fire appliance
Settle	One On-call crewed Emergency Rescue Pump
Skipton	Two On-call crewed Emergency Rescue Pump All-terrain/wildfire vehicle
Harrogate District	
Boroughbridge	One On-call crewed Emergency Rescue Pump Water Bowser
Harrogate	One shift crewed Emergency Rescue Pump One shift crewed Tactical Response Vehicle Aerial Ladder Platform High Volume Pump
Knaresborough	One On-call crewed Emergency Rescue Pump
Lofthouse	One volunteer crewed Land Rover
Masham	One On-call crewed Emergency Rescue Pump
Ripon	One day crewed Emergency Rescue Pump One On-call crewed Emergency Rescue Pump Incident Support Unit Specialist Rope Rescue Swift Water Rescue Large Animal Rescue
Summerbridge	One On-call crewed Light Rescue Pump
Hambleton District	
Easingwold	One On-call crewed Emergency Rescue Pump
Bedale	One On-call crewed Emergency Rescue Pump
Northallerton	One day crewed Emergency Rescue Pump One On-call crewed Emergency Rescue Pump Incident Command Unit
Stokesley	One On-call crewed Emergency Rescue Pump
Thirsk	One On-call crewed Emergency Rescue Pump Welfare Unit
Richmondshire District	
Colburn	One On-call crewed Emergency Rescue Pump
Hawes	One On-call crewed Emergency Rescue Pump
Leyburn	One On-call crewed Emergency Rescue Pump
Reeth	One On-call crewed 4x4 fire appliance
Richmond	One day crewed Emergency Rescue Pump Swift Water Rescue High Volume Pump

Station	Emergency response resources
Scarborough District	
Danby	One On-call crewed 4x4 fire appliance
Filey	One On-call crewed Emergency Rescue Pump
Goathland	One volunteer crewed Land Rover
Lythe	One On-call crewed Emergency Rescue Pump
Robin Hoods Bay	One On-call crewed Emergency Rescue Pump
Scarborough	One shift crewed Emergency Rescue Pump One shift crewed Tactical Response Vehicle Aerial Ladder Platform Specialist Rope Rescue
Whitby	One day crewed Emergency Rescue Pump Swift Water Rescue
Ryedale District	
Helmsley	One On-call crewed Light Rescue Pump
Kirkbymoorside	One On-call crewed Emergency Rescue Pump
Malton	One day crewed Emergency Rescue Pump One On-call crewed Emergency Rescue Pump Incident Support Unit Swift Water Rescue Large Animal Rescue
Pickering	One On-call crewed 4x4 fire appliance
Sherburn	One On-call crewed Light Rescue Pump
Selby District	
Selby	One day crewed Emergency Rescue Pump One On-call crewed Emergency Rescue Pump Water Rescue Boat
Tadcaster	One day crewed Emergency Rescue Pump One On-call crewed Emergency Rescue Pump Incident Support Unit Water Bowser Specialist Rope Rescue Large Animal Rescue
York District	
Acomb	One shift crewed Emergency Rescue Pump One On-call crewed Emergency Rescue Pump Mass Decontamination Unit
Huntington	One shift crewed Emergency Rescue Pump One On-call crewed Emergency Rescue Pump
York	One shift crewed Emergency Rescue Pump Water Rescue Boat

Gap Analysis

Sociodemographic – lifestyle risk

Ageing population

Current state	Areas impacted
<p>All districts have an ageing population, with a 14% increase across the county in over 65s by 2025 (compared to 2018).</p> <p>National data shows over 65s are at greater risk of a serious outcome from a fire, including not being able to self-evacuate.</p> <p>Over 65s represent the largest group for fire fatalities and injuries. In North Yorkshire, we've had 14 accidental dwelling fire fatalities in the last 5 years.</p> <p>Ageing is linked to increased frailty, incapacity, and vulnerability.</p> <p>As a result of the Covid Pandemic, people are looking to move to rural areas, taking advantage of home working, increasing the risk due to homes becoming office environments.</p> <p>Statistically, we're in the bottom quartile for deliberate dwelling fires nationally and significantly under the national mean average. (average of 7 per quarter Vs 16.75 nationally).</p> <p>Residential fires are our 4th highest incident attendance type (3,647 over 5 years). We've included residential and building data sets into the Community Risk Profile.</p> <p>Overcrowding of dwellings can result in a fire risk. Those living in households with five or more members are more likely to experience a fire than those in smaller households and represents one of the top 5 risk categories for fire related fatalities nationally.</p> <p>We've had 42 Firefighter injuries at fires in the last 5 years at incidents. Incident demand cannot be explicitly linked to the number of injuries, but training must take account of societal risk and develop to meet the demands being faced.</p> <p>Overcrowding is an upward trend and can result in a fire risk. Those living in households with five or more members are more likely to experience a fire than those in smaller households.</p> <p>Whilst this is not identified as a significant risk to us, recent fatal fires have involved aged persons.</p>	<p>By 2025:</p> <p><u>Craven</u></p> <ul style="list-style-type: none"> • An additional 2,100 people aged 65+. • Currently 6,600 over 65s with limiting long term illness of which 43% report their illness limits their ability to carry our day-to-day activity. <p><u>Hambleton</u></p> <ul style="list-style-type: none"> • Additional 3,100 people aged 65+. • Currently 10,600 over 65s with limiting long term illness of which 43% (4,500) report their illness limits their ability to carry our day-to-day activity. • Hambleton district has health inequalities representing a 10-year life expectancy difference for men and 9 for women. Linked to circulatory and respiratory diseases. <p><u>Harrogate</u></p> <ul style="list-style-type: none"> • Additional 5,800 people aged 65+. • Currently 15,600 over 65s with limiting long term illness of which 42% (6,600) report their illness limits their ability to carry our day-to-day activity. • There is an 11-year gap in life expectancy between wards. <p><u>Richmondshire</u></p> <ul style="list-style-type: none"> • Additional 1,800 people aged 65+ • Currently 5,000 over 65s with limiting long term illness of which 40% (2,000) report their illness limits their ability to carry our day-to-day activity. <p><u>Ryedale</u></p> <ul style="list-style-type: none"> • Additional 2,000 people aged 65+ • Currently 6,300 over 65s with limiting long term illness of which 42% (2,600) report their illness limits their ability to carry our day-to-day activity. <p><u>Scarborough</u></p> <ul style="list-style-type: none"> • Additional 3,300 people aged 65+ • Currently 14,500 over 65s with limiting long term illness of which 46% (6,700) report their illness limits their ability to carry our day-to-day activity. <p><u>Selby</u></p> <ul style="list-style-type: none"> • Additional 3,300 people aged 65+ • Currently 8,600 over 65s with limiting long term illness of which 46% (4,000) report their illness limits their ability to carry our day-to-day activity. • Selby has the second highest health inequality in North Yorkshire with health expectancy varying by 9 years between wards. <p><u>York</u></p> <p>Has over 209,893 residents, with 15.3% (32,113) reporting report their illness limits their ability to carry our day-to-day activity.</p>

Gap Analysis

Desired future	Gaps
<p>Data led intelligence that facilitates a dynamic risk model, adaptable to the community, directing our resourcing to risk.</p> <p>Targeted community safety initiatives to proactively educate and make individuals/communities more resilient.</p> <p>Collaborative data and social activity partnerships to make every contact count, through increased partnership referrals and signposting.</p> <p>Crews and specialist staff understand their community and the changing demographics, through local knowledge, experience and data.</p>	<p>Lack of access to reliable, sustainable, and reliable local data.</p> <p>Shared data with Police and Health agencies would enable deeper understanding of risk and vulnerability, along with risk – demand profiles e.g. fire incident demand is linked to deprivation.</p> <p>Some data sets (e.g. Exeter) cannot be used for strategic planning, hindering our approach to targeted activity interventions.</p> <p>Partnerships for vulnerable groups need to be expanded, with joint outcome-based accountability.</p> <p>The current staffing model doesn't provide the flexibility to deliver the necessary preventative interventions evenly across the Service area.</p> <p>Where Fire cannot have a direct impact on a vulnerability issue, co-creation of local initiatives, will allow us to expand our positive influence in the community and with our partner agencies.</p> <p>Making every contact count through a 'whole systems approach' to prevention, protection and resilience.</p>

Solutions
<p>Better data for use in targeting locally and county wide, including partner agencies.</p> <p>Increase in partnership working and referral pathways for targeted community safety work.</p> <p>RRM embedded as BAU, with links to local and national databases for upstream identification of issues that lead to vulnerability.</p> <p>Increased Safe & Well activity, targeted at the most vulnerable.</p> <p>Change the current staffing models to increase capacity and capability across the Service, including upscaling the Public Safety Service.</p>

Gap Analysis

Deprivation - Index of Multiple Deprivation (IMD)

Current state	Areas impacted
<p>North Yorkshire has 373 Lower-layer Super Output Areas (LSOA's). The UK has 32,844 nationally. These are small areas designed to be of a similar population size, with an average of approximately 1,500 residents or 650 households.</p> <p>The 2019 IMD identifies 24 NY LSOAs as being in the 20% most deprived in England. This represents 36,000 people in NY.</p> <p>In 2019 NYs overall IMD score was 13.991, which is lower than the national mean of all fire authorities – 20.613, placing NYFR in the bottom quartile.</p> <p>The county has a wide spread of IMD scores including some of the lowest 20% in the country as well as some relatively affluent areas. Often affluent and deprived areas are in close proximity.</p> <p>Analysis of incident data and studies into what makes someone more likely to have a fire, shows a very strong link between fire and deprivation.</p> <p>The more deprived an area is, the more house fires there are likely to be. It's also likely those fires will be more severe, possibly resulting in someone being taken to hospital or resulting in a fatality.</p> <p>Some IMD scores as well as age, health and lifestyle factors impact on the severity and consequences of a fire should one occur.</p> <p>Areas that score high in the IMD are linked to our areas of highest incident demand. We've attended 4,326 deliberate fires across the county in 5 years.</p> <p>Fuel poverty is a national issue and has health impacts including increased risk of disease, death, poor mental health, circulatory and respiratory problems.</p> <p>Household groups in fuel poverty include private rented, over 60s and local authority.</p> <p>Off gas (mains) homes are heated by other means – back boilers, coal/wood burning stoves and electric heaters, which presents a risk of fire, particularly with other intersectional risks of age, frailty, and deprivation. (see also Chimney Fires)</p>	<p><u>Scarborough</u></p> <ul style="list-style-type: none"> • 20 of the 24 most deprived LSOAs are in the Scarborough district representing 30,000 people. • Scarborough's Eastfield, Woodlands and North Bay have high rates of overall deprivation. • North Bay and Eastfield have high rates of deprivation amongst older people. • Northstead ward has 41% of children living in poverty (after housing costs) compared to a national average of 30% <p><u>Harrogate</u></p> <ul style="list-style-type: none"> • Harrogate has eight wards where 1 in 5 children grows up in poverty. • Harrogate Bilton Woodfield has high deprivation amongst older people. <p><u>Deliberate Fires</u></p> <ul style="list-style-type: none"> • Deliberate fire incidents dropped by almost 2/3rds in 2021, possibly due to the lockdown periods of Covid-19. <p>Deliberate Fires by District (5 years data)</p> <ul style="list-style-type: none"> • York & Selby: 1,849 • Scarborough & Ryedale: 1,120 • Craven & Harrogate: 969 • Hambleton & Richmond: 380 <p>Total: 4,318</p> <p><u>Fuel Poverty Households (2017)</u></p> <ul style="list-style-type: none"> • Craven: 9% (2,394) • Hambleton 9% (3,394) • Harrogate 8% (5,703) • Richmondshire 9.5% (1,890) • Ryedale 10% (2,334) • Scarborough 12% (5,907) • Selby 7.1% (2,530) • York 8.9% (18,680)

Gap Analysis

Desired future	Gaps
<p>To have a full understanding of the way IMD, fire risks and incident demand interacts.</p> <p>NYFRS focus on the factors leading to fire related risk and provide targeted intervention and mitigation.</p> <p>Partnership working allows Fire to have a direct and indirect impact on risk and vulnerability.</p> <p>This would be measurable through evaluation of activity and where possible, quantified financially to understand the social return on investment of our direct activity and partnership work.</p> <p>Reduced incident demand on our service. The benefit of this reduction being used to increase community safety activity.</p>	<p>Data is at a LSOA level which makes it hard to identify the individual households at postcode level.</p> <p>Nationally, FRS do not have a standard definition of risk and consistent approach to risk reduction or Integrated Risk Management Plans, including data.</p> <p>End users must be the target for outcome driven activity, with evaluation of all activity and shared learning to promote good practice and avoid duplication of effort.</p>

Solutions
<p>Develop North Yorkshire Office of Data Analytics (nYODA) relationship and capability for access to credible and quality assured data.</p> <p>Intelligent data led, community fire safety interventions, targeting reduction in the likelihood of a fire occurring and the severity of any fire should it occur.</p> <p>Work alongside the National Fire Chief Council, through the Community Risk Project - understand the national definition of risk and align our strategic priorities.</p> <p>Enhanced Fire and Rescue Service Collaboration opportunities, promoting the use of consistent terminology and approach to risk management and vulnerability reduction.</p> <p>Increased Safe & Well activity, targeted at the most vulnerable, whilst also supporting and educating communities on risks and fuel poverty support.</p>

Gap Analysis

Smoking

Current state	Areas impacted
<p>We have around national average for levels of smoking.</p> <p>National statistics link smoking to 6-10% of accidental dwelling fires and 36% of fatalities.</p> <p>Smoking when combined with other risk factors such as immobility or health conditions increases the chances of a fire fatality.</p> <p>Smoking and smoking cessation is a key.</p>	<p>All districts in North Yorkshire have smoking rates that are statistically similar to the England rate, other than Craven which has a rate of 13%.</p> <p>For adults in routine and manual professions, rates are higher than for the general population and prevalence in North Yorkshire is similar to England (25.1% locally vs 25.4% nationally).</p> <p>Craven district has the highest rates of smoking in routine and manual professions in the county.</p> <p>Smoking prevalence is generally higher among disadvantaged groups. Lower socioeconomic groups often find it harder to quit.</p> <p>Low IMD scores correlate with higher incidents of smoking in districts, presenting risk of fire and fire injury to the public and firefighters.</p>

Desired future	Gaps
<p>Crews and community safety specialists use interventions and encourage referrals to work with Living well Smoke free (a supported smoking cessation service NYCC only)</p> <p>Reduce smoking before it links to other risk factors such as limited mobility.</p> <p>Behaviour changes to be prioritised over risk mitigation.</p>	<p>Access to reliable and credible data that actively supports and drives our partnership working and interventions.</p>

Solutions
<p>Increase the number of targeted Safe and Well visits in order to deliver smoking cessation advice and signposting to a greater number of people.</p> <p>Collate and analyse data on smoking and fire incident links locally.</p>

Gap Analysis

Alcohol

Current state	Areas impacted
<p>Nationally alcohol is a risk factor for fire, road and water fatalities.</p> <p>In a five-year period (2011-16) 30.9% of fire fatalities were people thought to be under the influence of alcohol and/or drugs at the time.</p> <p>Alcohol is a contributory factor leading to accidental dwelling fires and being under the influence of alcohol means people are less likely to escape from a fire safely.</p> <p>Alcohol presents a linked risk to deprivation, poor mental health and housing affordability problems.</p> <p>Road risk is increased with around 1 in 7 road deaths (nationally) being attributed to alcohol related incidents.</p> <p>Alcohol and open water or rivers are a combination that often result in accidental drownings or injuries.</p>	<p>Road safety - North Yorkshire Police/NYCC analysis of factors involved in Killed and Seriously Injured (KSIs) regularly identifies 'impairment and distraction' as one of the top 5 contributory factors for van and car drivers.</p> <p>Most intelligence relating to drink driving relates to rural areas.</p> <p>Water safety – York has a student population and is a popular destination for people from within North Yorkshire and surrounding counties to visit for celebrations.</p> <p>Many of the bars are situated along the riverfront and the mix of alcohol and flowing cold water can be fatal.</p>

Desired future	Gaps
<p>Behaviour changes of the public would be prioritised over risk mitigation.</p> <p>Reduce alcohol risk before it links to other risk factors which has an effect on vulnerability from fire and other incidents e.g. road traffic collisions.</p>	<p>Access to reliable and credible data that actively supports and drives our partnership working and interventions, along with training and equipment changes where necessary.</p>

Solutions
<p>Collate and analyse data on alcohol and fire incident links locally.</p> <p>Crews and community safety specialists use interventions and encourage partnership working through the York and North Yorkshire Road Safety Partnership and other schemes.</p> <p>Understanding national level research into how alcohol puts people at risk of requiring our key interventions.</p>

Gap Analysis

Suicide

Current state	Areas impacted
<p>Yorkshire and the Humber regions suicide rate is higher than the national average. We attend a large number of calls to suicides either to affect a rescue or support other services.</p> <p>England's average is 10.1 per 100,000 with Yorkshire and Humber having 12 per 100,000.</p> <p>The Fire Service attends suicides incidents of the following types: fire (e.g. in properties and vehicles); working at height (e.g. bridges); individual chemical exposure (Harmful and toxic substances); water rescues.</p> <p>Our staff receive no formal training in dealing with incidents involving suicide or support of vulnerable people at such incidents.</p> <p>This places a moral imperative on crews to respond appropriately, either directly when affecting a rescue, or providing an intervention whilst awaiting partner agencies.</p> <p>We have noted an increase in calls through the Covid period.</p>	<p>Districts within North Yorkshire have suicide levels around the national average except for Scarborough.</p> <ul style="list-style-type: none"> • Scarborough (16) is above the national average and for males (24.7) significantly above the national average of 15.5. • Hambleton (13.1) and Harrogate (13.2) • Richmond (11.1), Ryedale (11.7) and York (11.8) • Selby (8.7) and Craven (8.8) are slightly below average for England. • All areas may experience special service calls to affect rescues or support partner agencies.

Desired future	Gaps
<p>We are integral partner in local suicide prevention forums.</p> <p>Our work impacts on multiple areas of vulnerability which lead to suicide e.g., alcohol, drugs, mental health, and socioeconomic factors.</p> <p>We work with partner agencies and local communities to foster local support and interventions that reduce rate of suicides and demand on our resources.</p> <p>Our staff receive training to support individuals at incidents, with equipment that allows a safe system of work to be made when a resource is required.</p>	<p>Crews in Scarborough have started work in earnest to make interactions to prevent suicide, raise awareness of support and become active participants in local prevention groups.</p> <p>Access to reliable and credible data that actively supports and drives our partnership working and interventions, along with training and equipment.</p>

Solutions
<p>Training review for suicide incidents allowing safe systems of work and support for colleagues impacted by such incidents. Equipment suitable for intervention, where required, over and above the Gotcha resource etc.</p> <p>Mental Health First Aid training rolled out across the service and specialist training where required.</p> <p>Increasing our Service level awareness of suicide and causal factors and gaining a deeper awareness and understanding about suicide; the trends within the Service area.</p> <p>Working more closely with partners to develop the Service's approaches to safeguarding.</p>

Gap Analysis

Road risk

Current state	Areas impacted
<p>Fatal and serious injuries in North Yorkshire are higher than the national average.</p> <p>Killed and Seriously Injured statistics nationally are reducing but in North Yorkshire (2018/19) they have increased significantly across the county.</p> <p>The road network is predominantly rural however, we've attended 12,355 special service – Road Traffic Collision incidents over 5 years.</p> <p>The highest prevalence of RTCs being in the Scarborough, York, Harrogate, Acomb and Skipton areas respectively.</p>	<p>In 2019 45% of road fatalities occurred in Harrogate and Craven.</p> <p>Most KSIs occurred on rural A and B roads rather than on strategic road network.</p> <p>There are identifiable KSI routes, with higher-than-average incidents, across the county (often those popular with motorcyclists)</p> <p>It is important to note that people killed or seriously injured on our roads are often not residents of that district or North Yorkshire.</p>

Desired future	Gaps
<p>Nationally low Killed and Seriously Injured statistics - meeting 'Vision Zero'.</p> <p>Integrated working between partners to target those groups most at risk of being killed or seriously injured as well as those most likely to cause these incidents.</p> <p>Targeted data led interventions to target the routes and road users posing the highest risk.</p>	<p>Resources and capacity may not always be aligned to risk.</p> <p>Lack of intelligent data available.</p> <p>Cross border road users and risk need to be understood to enable work to be targeted at high-risk groups that come in from other counties.</p> <p>Loss of NYCC road safety officers.</p>

Solutions
<p>Targeted prevention work by crews.</p> <p>Enhanced partnership working to improve community resilience and education.</p> <p>Active partnership collaboration on 'Vision Zero' with the York and North Yorkshire Road Safety Partnership.</p> <p>Our fleet, equipment and training of staff matches the changes to vehicle technology and changes in road use and behaviour.</p>

Gap Analysis

Water related risk including flooding

Current state	Areas impacted
<p>Flooding sits on the national and local risk registers for sea river and spate conditions. The highest flooding risk is surface water flooding with significant often causing significant damage and destruction to people, homes, property, business, and infrastructure.</p> <p>1,279 incidents (including suicide attempts) involving water over 5 years</p>	<p>Across the Service area there's an ability to respond to water related incidents however, there's a higher propensity for these types of incident in certain parts of the county that are in predictable higher risk areas.</p>
Desired future	Gaps
<p>Reliable and credible data providing proactive and predictive intervention before flooding happens. Building community, business and individual resilience through education (i.e. stopping people entering flood water). Strengthening community partnerships to build community resilience, reducing demand on resources and impact on communities.</p>	<p>Distribution of our response capability needs to reflect the likelihood of incidents.</p>
Solutions	
<p>Undertake a review of our ability to respond to this incident type, including the location of our specialist teams/resources.</p>	

Gap Analysis

Climate and potential impact on spate conditions

Current state	Areas impacted
<p>Climate change is making the environment drier. - scientists predict there will be more heatwaves and longer periods of drought as temperatures increase, making the environment more susceptible to wildfires. Summer temperatures may rise to 5.4 degrees hotter than the current national average.</p> <p>Changes to land management may also impact e.g. reduction or banning of prescribed burning or more drainage of moorland.</p> <p>We have two Argo Cat off road vehicles as well as a wildfire equipped land rover in Goathland and a number of 4x4 Fire engines. We've attended 147 wildfire and moorland fires over 5 years.</p> <p>We have also recently been required to provide national resilience support to cross border incidents.</p> <p>New housing developments in flood plains will double by 2065, coupled with wetter winters leading to a 35% increase in precipitation by 2070.</p>	<p>Districts which cover the North Yorkshire Moors and Dales National Parks are at greatest risk of an increase in wildfires.</p> <p>This could be exacerbated if there is an increase in visitor numbers, BBQ, etc due to 'staycations' and day trips following Covid lockdown periods.</p> <p>Large scale wildfires often impact resources across the entire county due to the number of fire engines needed, especially where they are protracted and last a number of days requiring relief crews.</p> <p>New housing schemes will be built across the county, some in flood plan areas that may impact on our demand, resourcing requirements and cross border resilience requests.</p>

Desired future	Gaps
<p>Resourcing to risk for Wildfire provision, linked to current and predicted future demand.</p> <p>Flexible regional and national statutory agreements to bolster our resources in times of high demand.</p> <p>Appropriate training for crews on wildfire, flooding and climate change, plus local capability training with partner agencies.</p> <p>Partnership working with agencies and communities to build resilient communities that respond and adapt to situations as a result of climate change.</p> <p>Public recognise the dangers of climate issues and actively avoid dangerous situations that have the potential to impact life and local economy e.g. Driving through flood water and moving livestock away from flood areas.</p>	<p>Current specialist resources are split between moors and dales.</p> <p>Both specialist resources are based at on call stations with the potential to cause crewing issues for protracted incidents or use.</p> <p>Community resilience and education needs developing.</p> <p>Local knowledge of current and potential future issues to begin raising community resilience and awareness for crews.</p> <p>Strategy for local implementation, linked to National Fire Chiefs Council lead work.</p>

Solutions
<p>Improved data recording/analysis to assess trends and ability to predict climate impact locally.</p> <p>Link to national climate change work and resilience forums</p> <p>Targeted education/intervention for landowners, visitors and national parks to reduce the incidents.</p> <p>Review of wildfire capability and equipment.</p> <p>Improved risk information and wildfire pre-plans.</p> <p>Joint training with partners and landowners.</p>

Gap Analysis

Unwanted Fire Signals (UwFS)

Current state	Areas impacted
<p>48% of all calls are classed as Unwanted Fire Signal (UwFS) from Automatic Fire Alarms (AFAs) which represents a significant amount of physical and financial resources for the organisation. Further, the risk to the community is increased due to road risk from the appliance(s) travelling through the county and appliances being unavailable whilst committed to the UwFS call.</p> <p>We have a policy for mobilisation and management of UWFS:</p> <ul style="list-style-type: none"> • UwFS are made up of calls to commercial business premises – offices, factories, etc. • Residential premises – flats, care homes, sheltered accommodation, etc. • Single domestic premises with telecare linked smoke alarms going through to a call centre. <p>The risk and response of the different alarm types varies as will the actions needed to reduce demand.</p> <p>Automatic Fire Alarm activations in domestic properties may be another sign of an ageing population and changes to the care sector as more people are remaining in their home with additional telecare, as opposed to moving into supported accommodation or a residential care home.</p> <p>UwFS due to food left cooking can be a valuable indicator of potential future fires, especially where the person also has dementia or other health issues.</p>	<p>Over 5 years we've attended over 20 thousand false alarm incidents:</p> <ul style="list-style-type: none"> • York and Selby: 7,531 • Craven and Harrogate: 5,734 • Scarborough & Rydale: 4,558 • Hambleton & Richmondshire: 2,145

Desired future	Gaps
<p>Significantly reduced number of calls, especially repeat calls to single premises.</p> <p>A greater understanding of which UwFS are domestic and which are commercial in order to target and manage these different areas appropriately.</p>	<p>There has been creep since the policy was put in place which needs revitalising to ensure that there is consistency across the county.</p>

Solutions
<p>A root and branch review of the UwFS, mobilising and associated policies.</p> <p>Training for Control, crews, and specialist officers to ensure calls are challenged and appropriately resourced.</p> <p>Data driven approach for targeted interventions.</p> <p>Review of application of national arrangements for AFAs and best practice to reduce calls, with appropriate capabilities attending incidents.</p>

Gap Analysis

Infrastructure

Road, housing, and population increases

Current state	Areas impacted
<p>As populations increase the housing, road network and infrastructure needed to support increases in population.</p> <p>North Yorkshire can see large fluctuations in temporary population and road users over holiday periods especially with an increase in 'staycations' and day trips.</p> <p>As a result of the Covid Pandemic, people are looking to move to rural areas, taking advantage of home working.</p> <p>Modern building regulation and hard-wired smoke detection have provided a downward trend in terms of fire deaths but increasing populations may have other upwards trends e.g. in terms of road incidents and risk resulting from using the home as office/workspaces.</p>	<p>York has the fastest growing population and has recently seen a large increase in residential accommodation being built/converted within the heart of the city.</p> <p>A number of relatively new high-rise residential buildings are (above 18m high) flats and mixed commercial and residential blocks.</p> <p>Due to planning constraints and having two National Parks in our county, much of the additional housing expansion is around existing towns and cities, increasing the pressure on existing road networks.</p>

Desired future	Gaps
<p>To understand future changes locally and county wide, ensuring we're able to adapt and maintain appropriate resourcing to risk, based on risk profiling and modelling.</p>	<p>Data on housing type (e.g. high rise, timber framed, etc) and impact on fire fighting and severity.</p> <p>Assessment of any developments built on flood plains and potential impacts of spate conditions.</p>

Solutions
<p>Improve data collection and analysis from building plans.</p> <p>Work with partners to understand medium and long-term housing strategies.</p> <p>Improved links with local authorities to achieve early risk identification from new/increased infrastructure and development.</p> <p>Improved data sharing agreements that facilitate combined access to real time data and future plans.</p> <p>Having a complete picture of building type and use across the county by accessing the national gazetteer (address-based premium).</p> <p>Our information risk information management system will be linked using Unique Premises Reference Numbers (UPRNs) and Basic Land Premises Unit (BLPU).</p>

Gap Analysis

Commercial and industrial

Current state	Areas impacted
<p>North Yorkshire is not a particularly industrial county. It has significantly less heavy industry than our regional neighbours</p> <p>We've attended 976 incidents over 5 years.</p> <p>We have two COMAH sites, two power stations and a variety of other sites which pose a potential risk to society, firefighters, environment, and the economy should an incident occur.</p> <p>These higher risk sites are visited by crews for familiarisation and to gather information that might be needed if an incident occurred.</p> <p>Being a popular tourist destination there is a high number of premises used as holiday accommodation and the service industry features heavily in popular areas.</p> <p>Business fire safety has a risk-based inspection programme and premises</p>	<p>Most districts have a mixture of high, medium and low risk commercial premises in their station areas.</p>

Desired future	Gaps
<p>All stations have a station risk profile which includes both domestic and commercial risk information.</p>	<p>Current systems need to be improved and upgraded to allow improved recording, risk rating and reporting on the types and levels of risk in order to confirm these match the resources in the area.</p>

Solutions
<p>Ensure that all new supervisory managers complete L3 Fire Safety qualification to increase knowledge, understanding and capacity to complete audits and offer advice.</p> <p>Closer working between Business Fire Safety and operational crews to ensure new risks are identified, rated and recorded.</p> <p>Embed National Operational Guidance and focus on firefighting in the built environment and the associated risks, to include risk information improvement.</p> <p>Our information risk information management system will be linked using Unique Premises Reference Numbers (UPRNs) and Basic Land Premises Unit (BLPU).</p>

Gap Analysis

Heritage

Current state	Areas impacted
<p>North Yorkshire has a significant number of heritage buildings ranging from stately homes and buildings of national importance through to smaller business premises, churches, and individual houses. 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.</p> <p>The term 'heritage risk' relates to historic buildings, stately homes, monuments, museums, historic parks and other attractions.</p> <p>We've over 823 new Grade I and II* listed buildings, monuments, archaeological sites, landscapes and conservation sites at risk across the Yorkshire region.</p> <p>North Yorkshire is home to a number of national heritage sites and although the number of these sites in comparison to domestic dwellings is few, we recognise the unique risk they pose if involved in fire. For obvious reasons, this type of risk rarely changes.</p>	<p>There is a reasonably even spread of heritage sites across the county.</p>

Desired future	Gaps
<p>We know most important heritage buildings in the county have salvage plans should a disaster occur. The plans will form part of the Incident Commanders Tactical Plan to enable us to mitigate the damage in the event of fire, flooding, or any other emergencies. Crews will understand the heritage risk in their area and have carried out familiarisation visits and have operational pre-plans in place to mitigate risk.</p>	<p>Local knowledge of heritage risk, salvage plans and response requirements.</p>

Solutions
<p>Review of resourcing to risk for heritage sites and buildings.</p> <p>Capability review of equipment required for fire intervention, with robust response plans available on MDTs.</p> <p>Embed National Operational Guidance and focus on firefighting in heritage buildings and the associated risks, to include risk information improvement.</p>

Gap Analysis

Marauding Terrorist Attacks (MTA)

Current state	Areas impacted
<p>Fortunately, North Yorkshire has not experienced an MTA event.</p> <p>However, we still have statutory obligations and none statutory guidance that we must adhere to in relation to MTA Joint Operating Protocols and Joint Emergency Service Interoperability Principles (JESIP).</p> <p>Currently, if an incident occurred, we would rely on resources attending from neighbouring Metropolitan services to resource an MTA event.</p> <p>To ensure our staff are aware of such risks and national protocols, we've provided awareness training to all staff.</p> <p>However, we don't have specialist PPE or 'specialist responders' that could operate in a warm zone or co-locate with other responders as required in JESIP.</p> <p>The response from neighbouring services (if available and released by the Chief Fire Officer) would take over 1 hour to attend, due to their mobilising protocols and travel distance.</p>	<p>York has a number of buildings with significant historical and heritage status.</p> <p>The city centre attracts large volumes of visitors across the year and in significant numbers at times of events e.g. Christmas.</p>

Desired future	Gaps
<p>If required, our staff have the training and PPE required to fully resource an MTA event in the county, being able to co-locate with partner agencies and fulfil our statutory and none statutory obligations.</p>	<p>Intelligence led approach though close links with North Yorkshire Police. Clear risk/threat methodology in line with and advised by NYP.</p> <p>PPE review for MTA light/full team</p> <p>Review of requirements against JESIP and Kerlake report.</p>

Solutions
<p>Review of MTA capability in service and across the region.</p> <p>Review of statutory resilience arrangements through the Fire Service Act 2004 sections 13 & 16.</p>

Gap Analysis

Chimney fires

Current state	Areas impacted
<p>We have the third highest number of chimney fires nationally. These amount to 1015 calls over 5 years.</p> <p>Community safety initiatives are aligned to national initiatives around chimney fire safety week. Crews carry out targeted initiatives – e.g. working with coal and wood merchants and chimney sweeps.</p> <p>Whilst most chimney fires result in relatively minor consequences there are occasional fires where poor work, blocking old fireplaces or old, complex buildings can lead to a more serious fire spreading sometimes undetected for some time.</p> <p>This high incidence of chimney fires may also potentially link to other factors such risks from carbon monoxide and hot ashes being incorrectly disposed of.</p> <p>A new generation of people using log burners, etc may not have the related fire safety knowledge.</p>	<p>Many properties in rural North Yorkshire cannot access mains gas supplies and have historically relied on open fires and back boilers.</p> <p>There has also been an upward trend in the number of people fitting woodburning and multifuel stoves partly for heat and partly for the effect.</p> <p>This applies not only in domestic settings but also a number of hotels, pubs and restaurants.</p>

Desired future	Gaps
<p>To reduce numbers of chimney fires and the resulting financial, health and demand impact this has on the public and service.</p>	<p>Data led approach to targeted interventions.</p>

Solutions
<p>To understand the link to fuel poverty and chimney fires and where fire risks overlap and interlink.</p> <p>To research approaches to fighting fires at height to ensure appropriate resources are available to crews.</p> <p>To embed National Operational Guidance for fighting fires in chimneys.</p> <p>Support and information for residents on chimney fires and approved contractors</p>

Strategic Framework

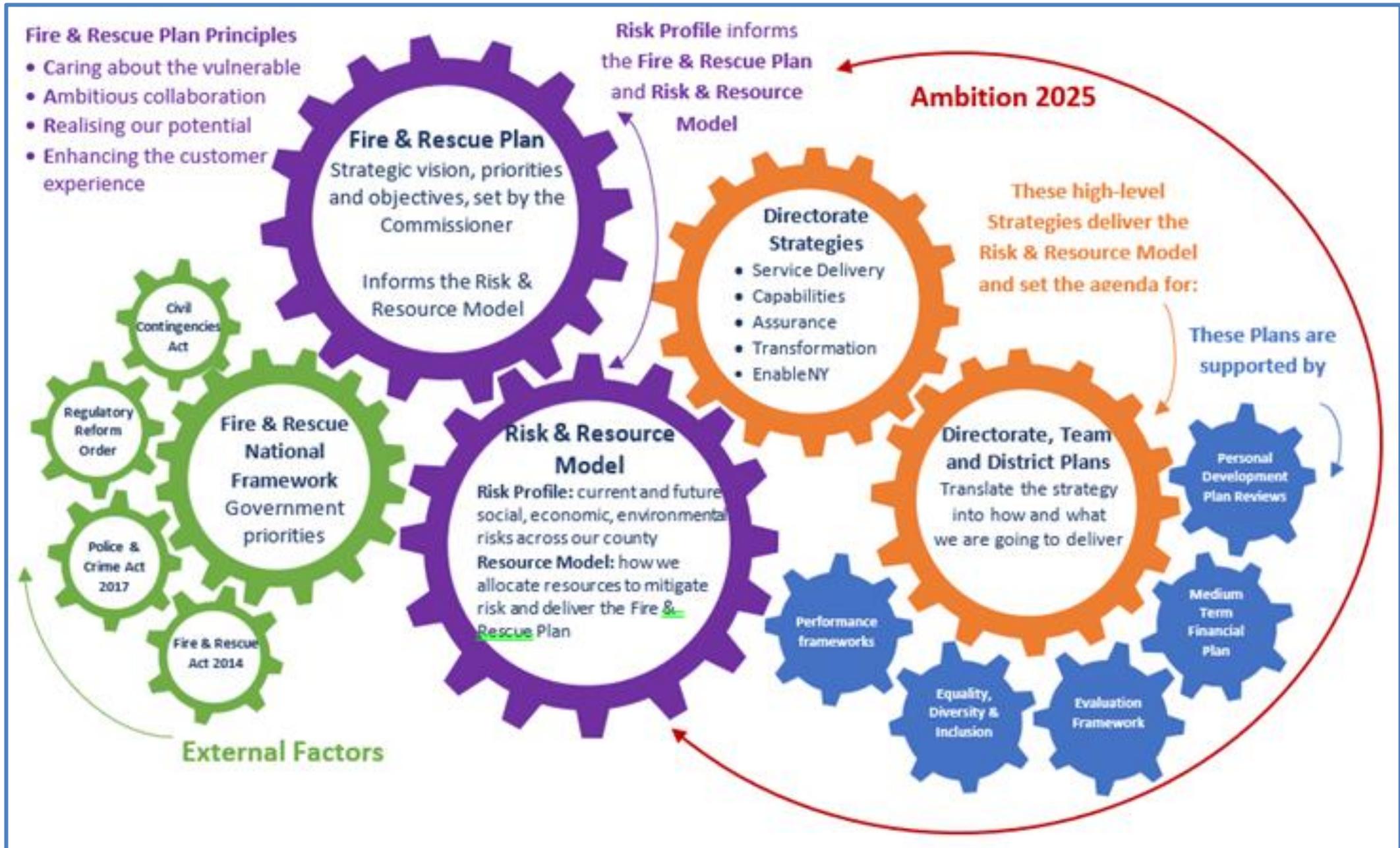


Figure 33 – Strategic framework

Prevention and Protection Proposed Model

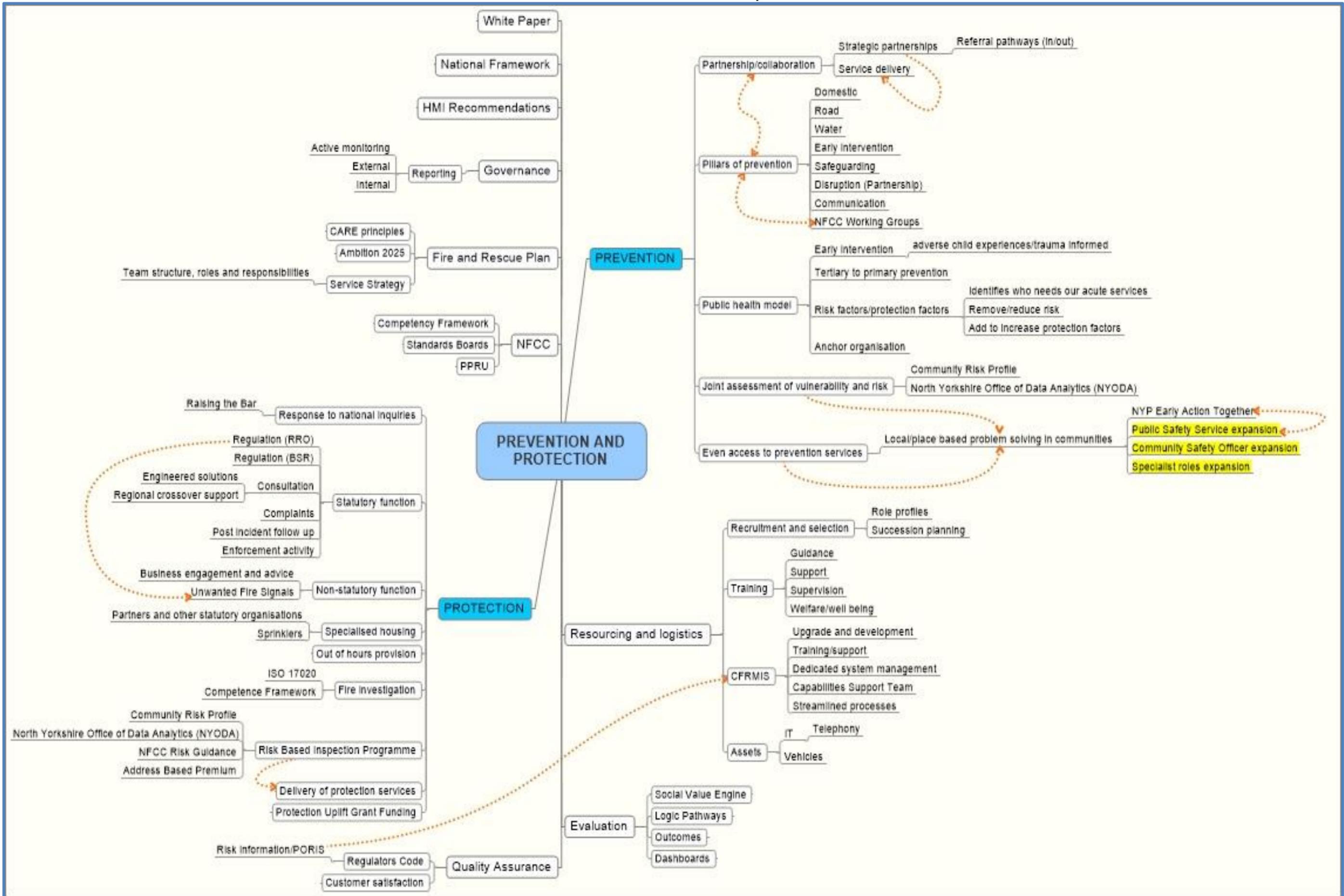


Figure 34 – Prevention and Protection proposed model

Prevention and Protection Current Structure

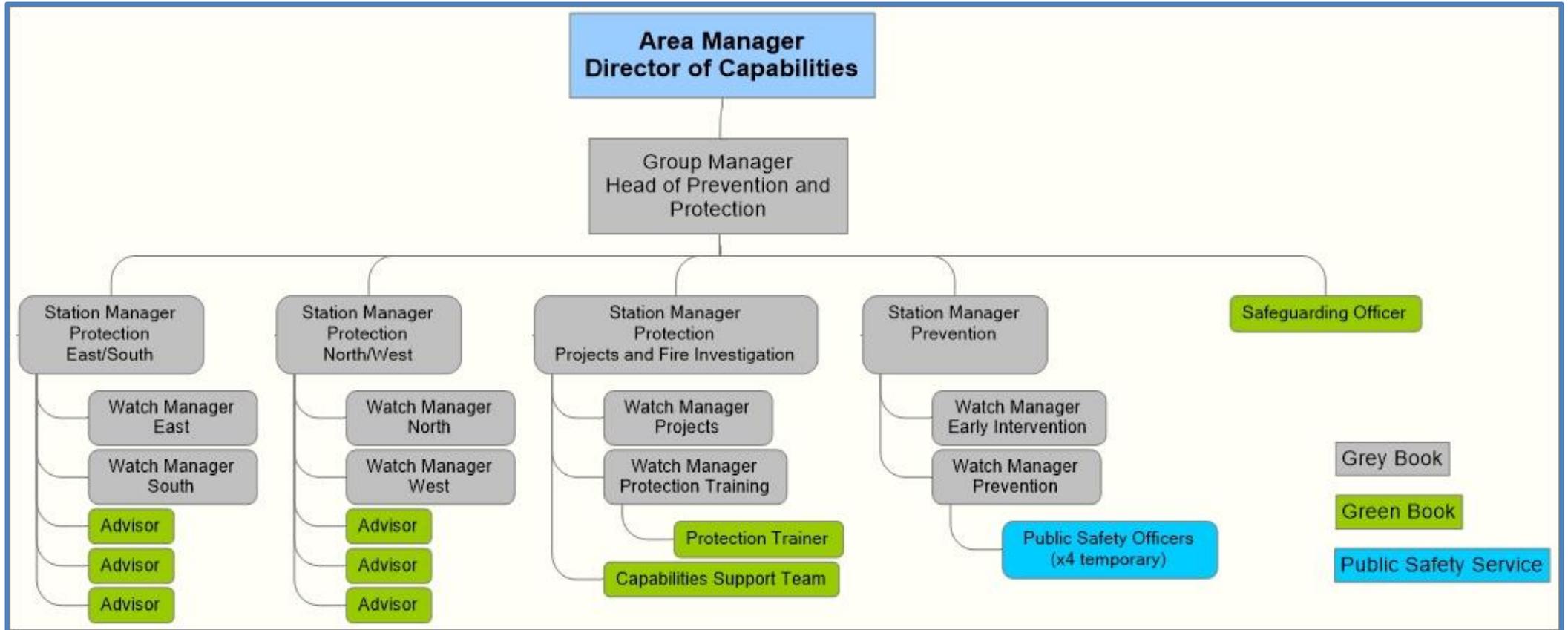


Figure 35 – Prevention and Protection current structure

Prevention and Protection Proposed Structure

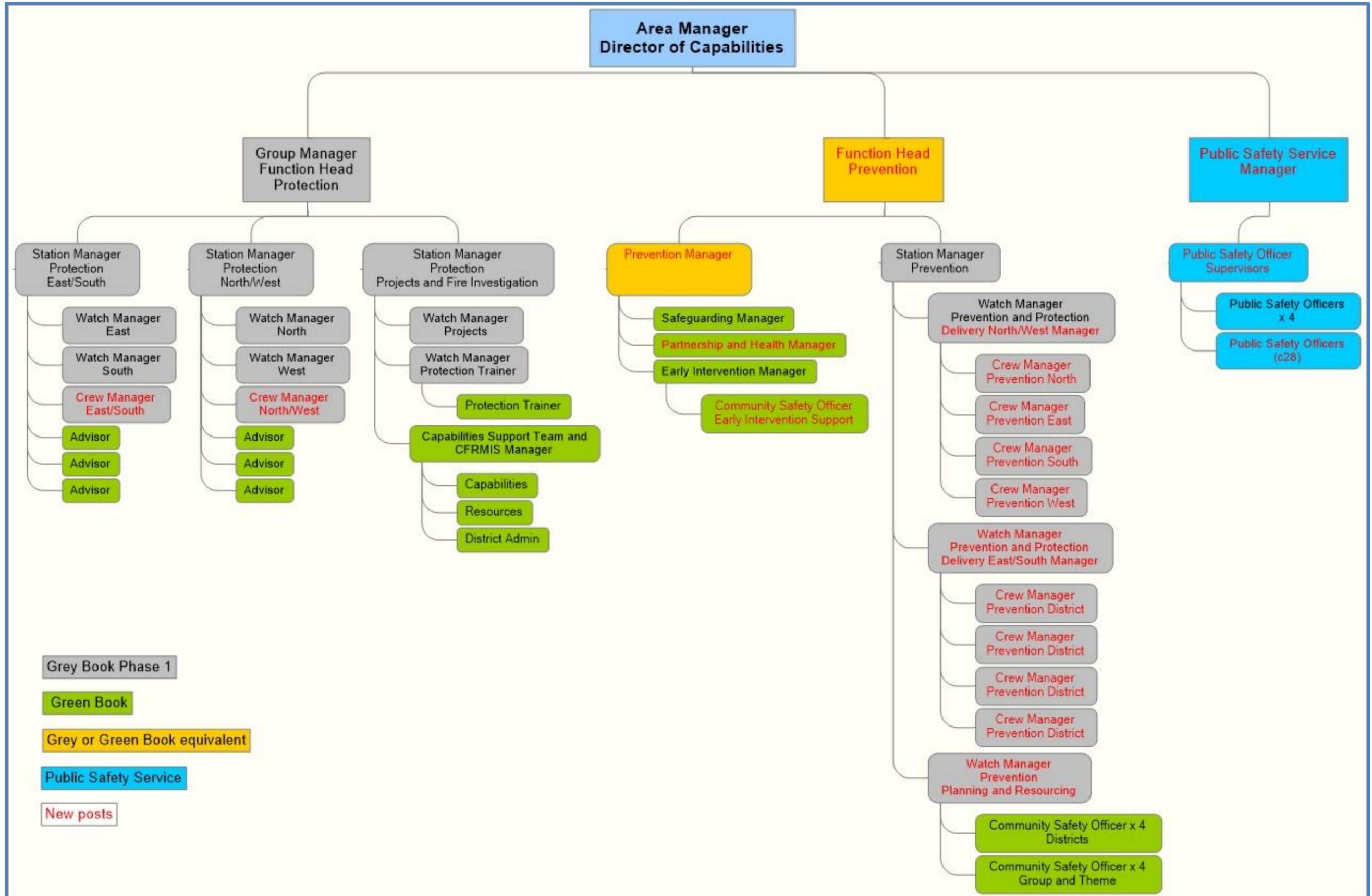


Figure 36 – Prevention and Protection proposed structure

Effect on Attendance Times (Combined)

Effect on attendance times of the **first** arriving appliance during the **day** (08:00-18:00)

Effect on attendance times of the **first** arriving appliance during the **night** (18:00-08:00)

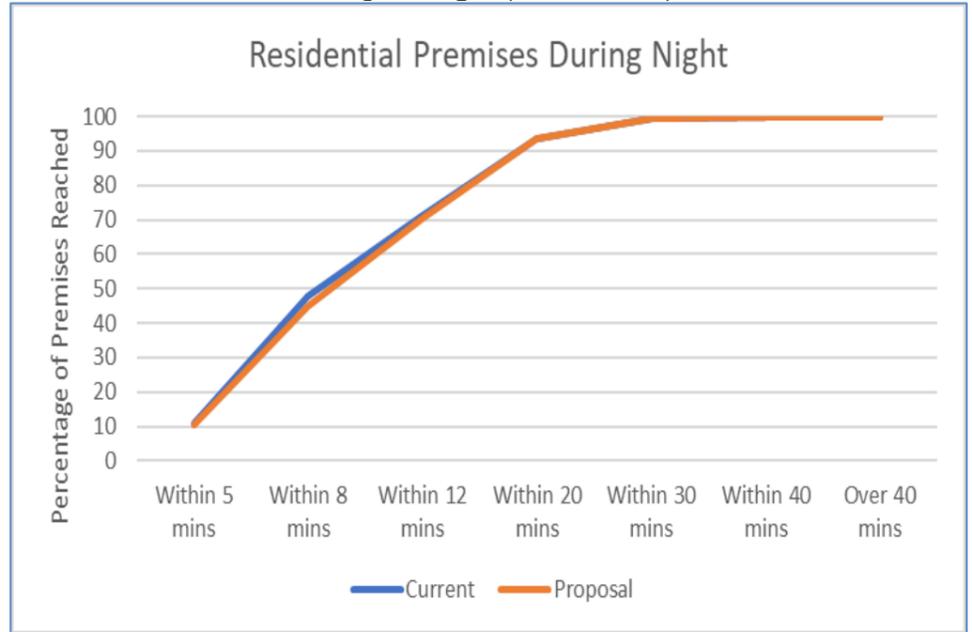
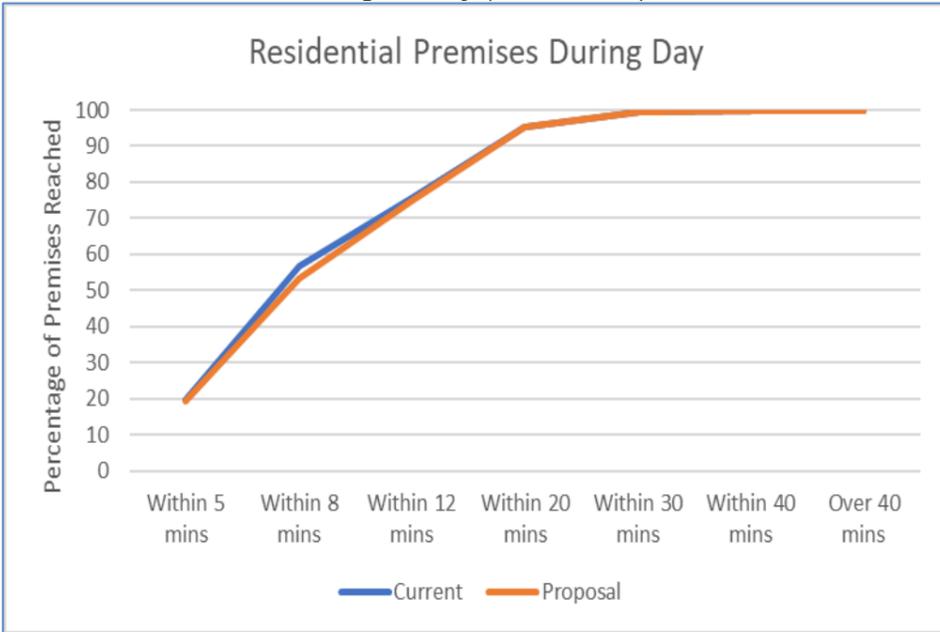


Figure 37 – First appliance (day) attendance times for residential premises

Figure 38 - First appliance (night) attendance times for residential premises

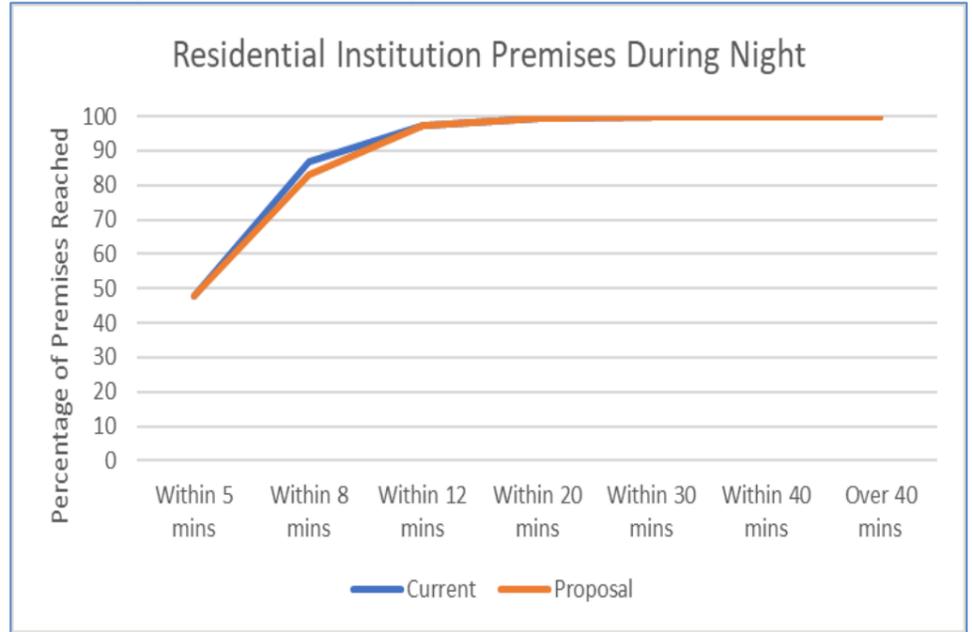
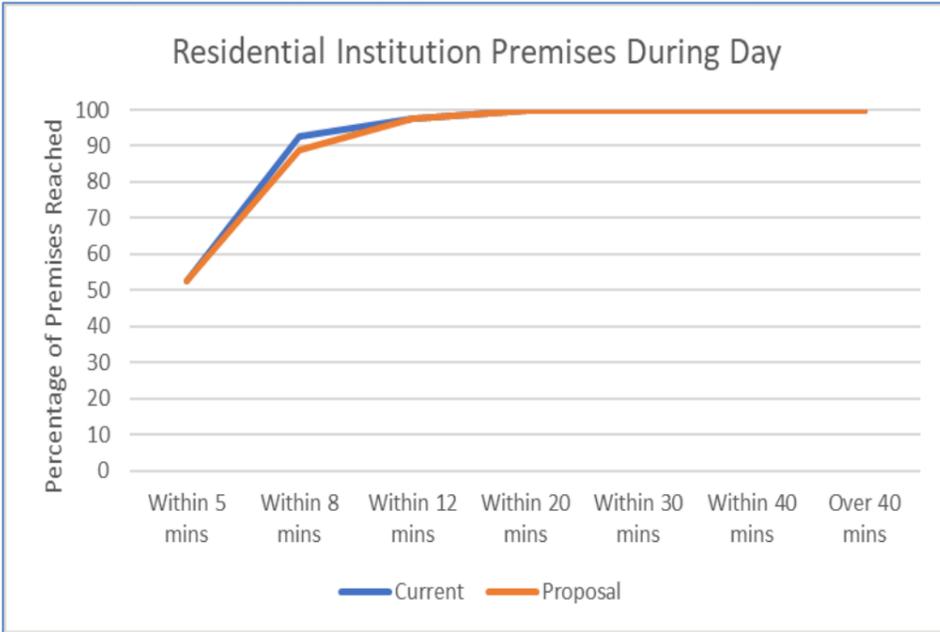


Figure 39 - First appliance (day) attendance times for residential institutional premises

Figure 40 - First appliance (night) attendance times for residential institutional premises

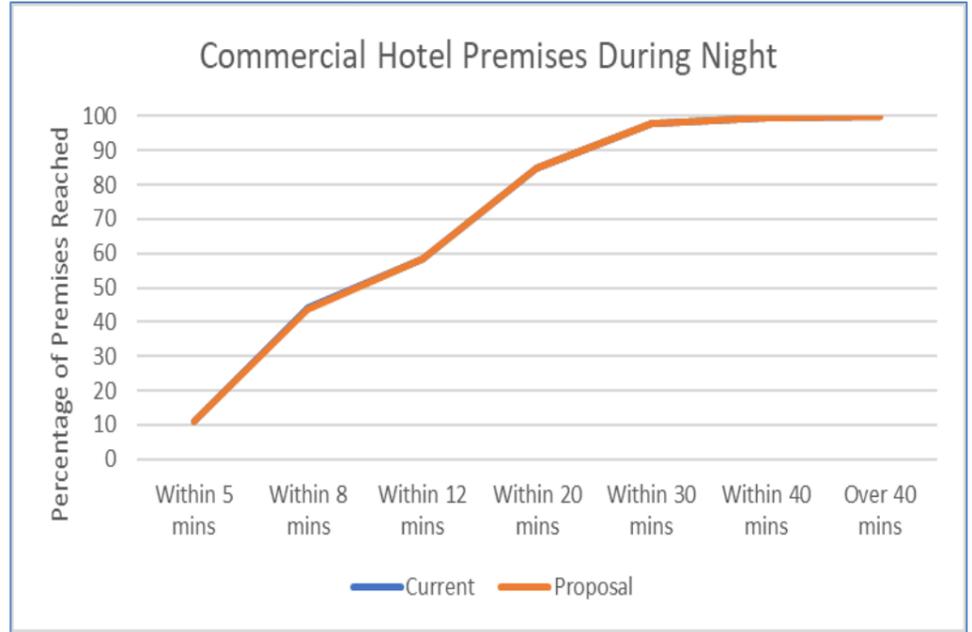
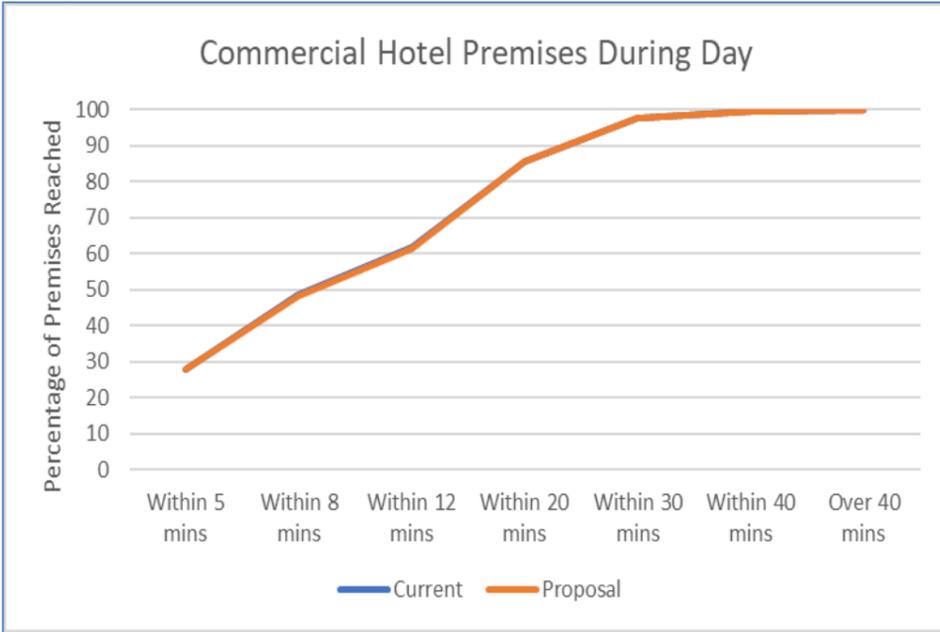


Figure 41 - First appliance (day) attendance times for commercial hotel premises

Figure 42 - First appliance (night) attendance times for commercial hotel premises

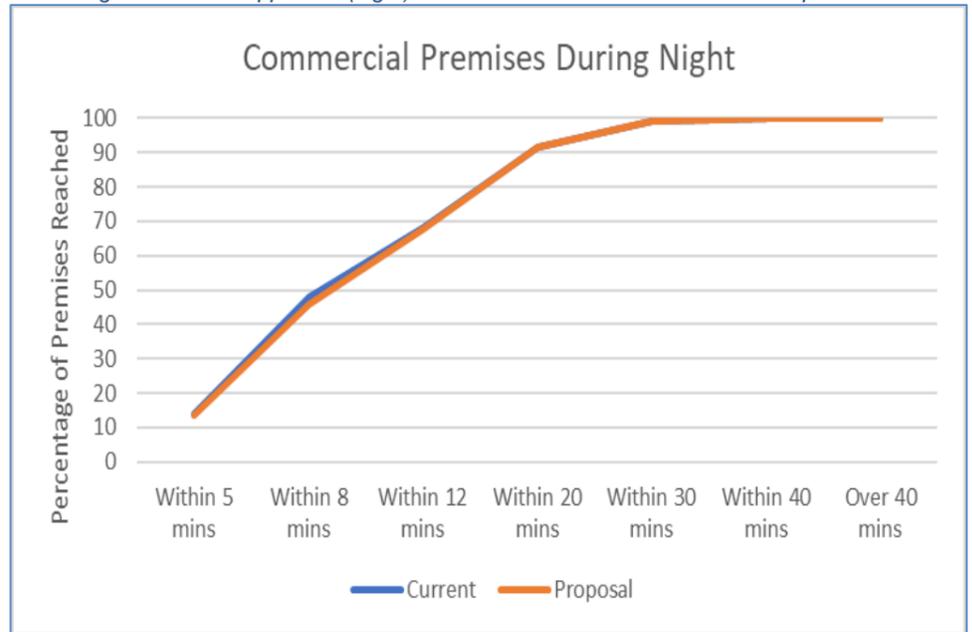
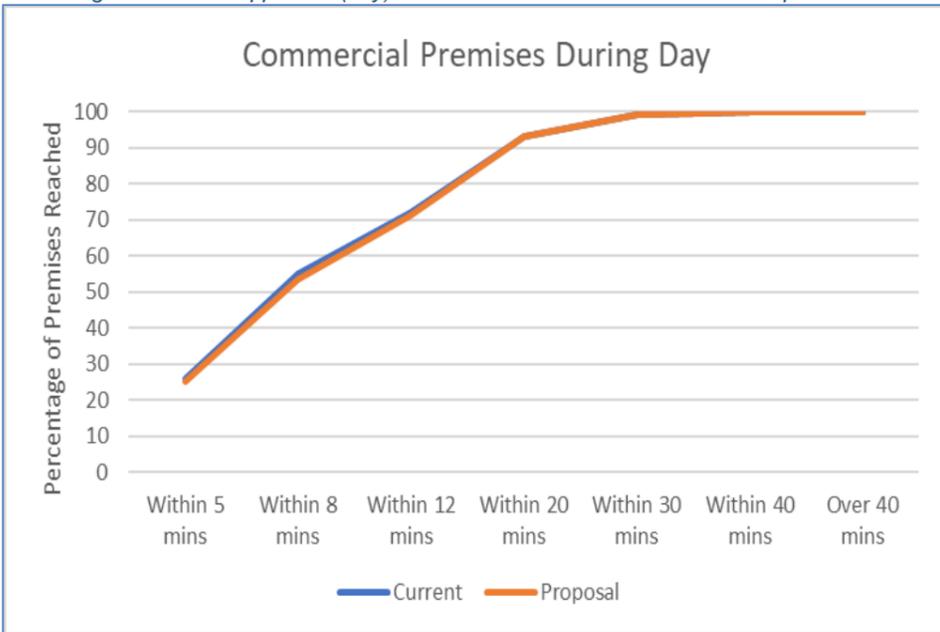


Figure 43 - First appliance (day) attendance times for commercial premises

Figure 44 - First appliance (night) attendance times for commercial premises

Effect on Attendance Times (Combined)

Effect on attendance times of the **second** arriving appliance during the **day** (08:00-18:00)

Effect on attendance times of the **second** arriving appliance during the **night** (18:00-08:00)

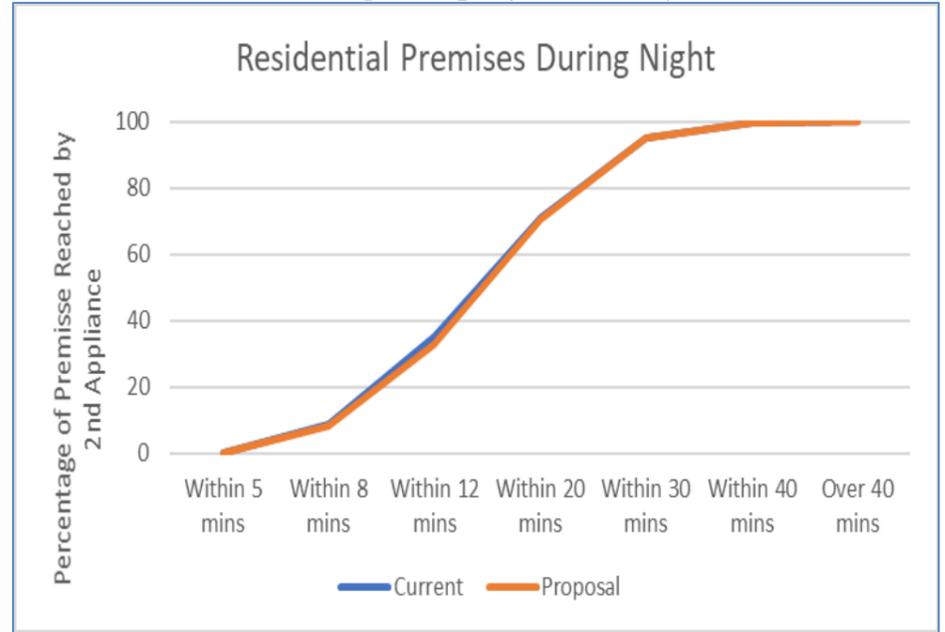
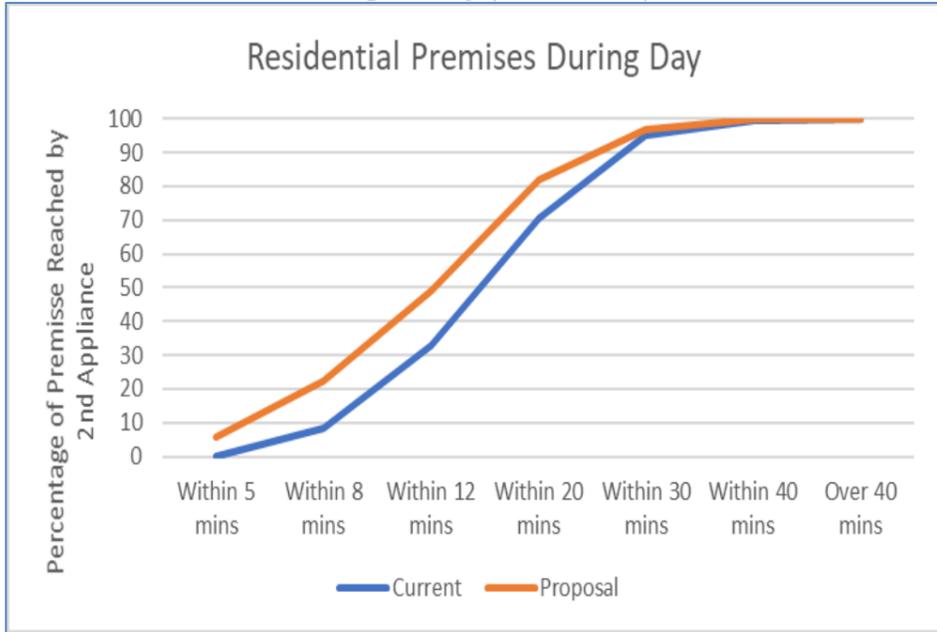


Figure 45 – Second appliance (day) attendance times for residential premises

Figure 46 – Second appliance (night) attendance times for residential premises

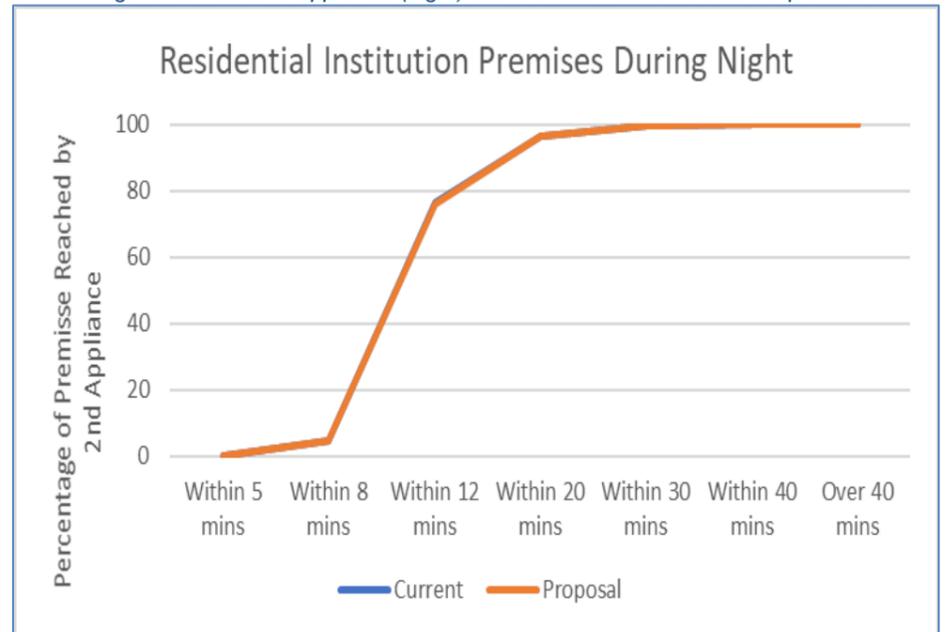
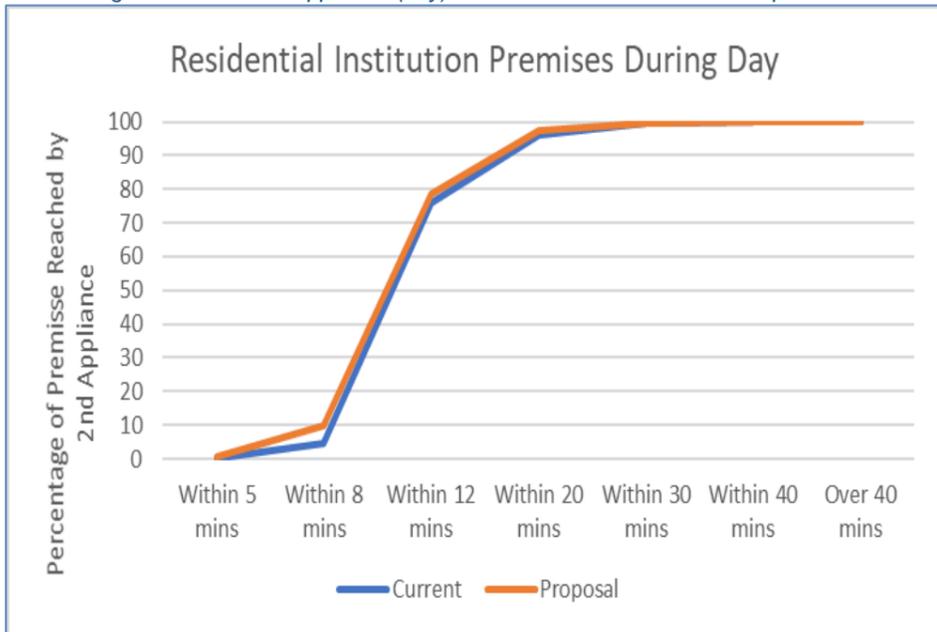


Figure 47 – Second appliance (day) attendance times for residential institutional premises

Figure 48 - Second appliance (night) attendance times for residential institutional premises

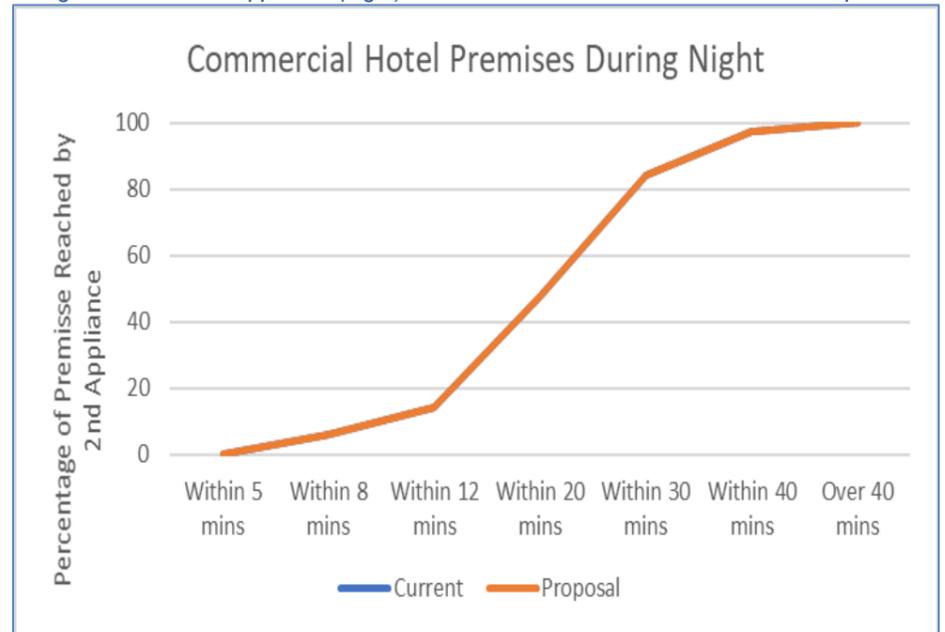
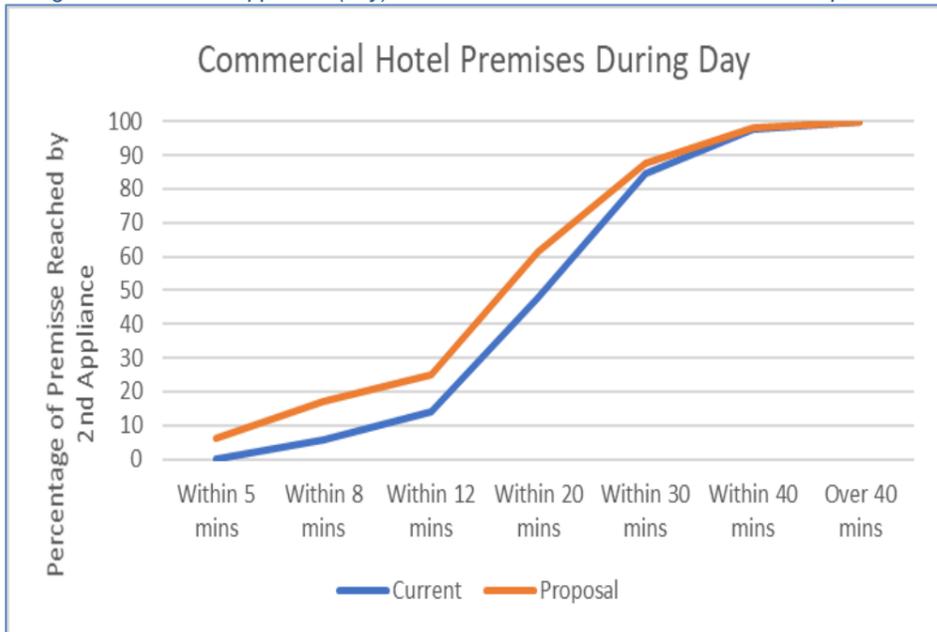


Figure 49 – Second appliance (day) attendance times for commercial hotel premises

Figure 50 - Second appliance (night) attendance times for commercial hotel premises

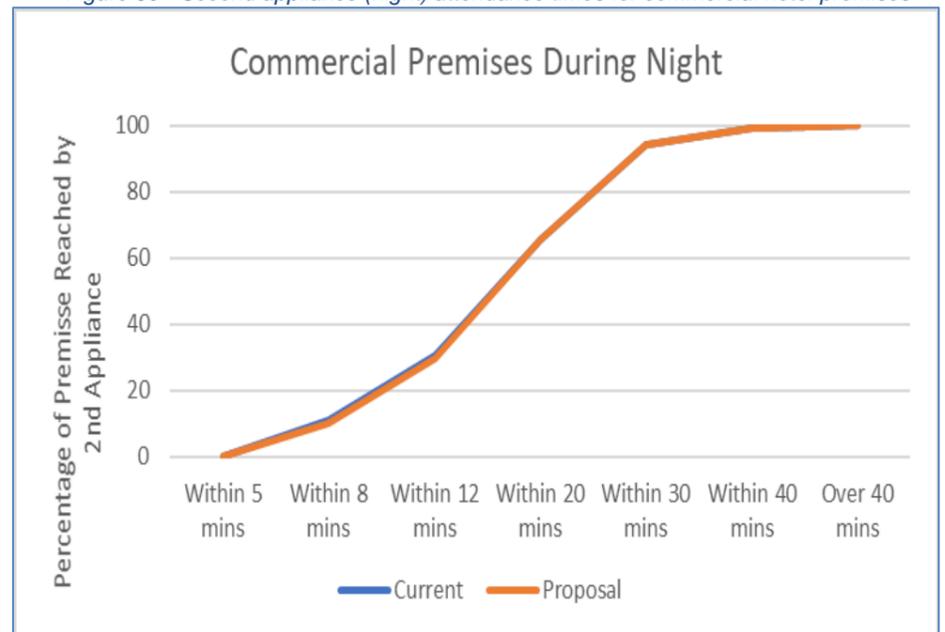
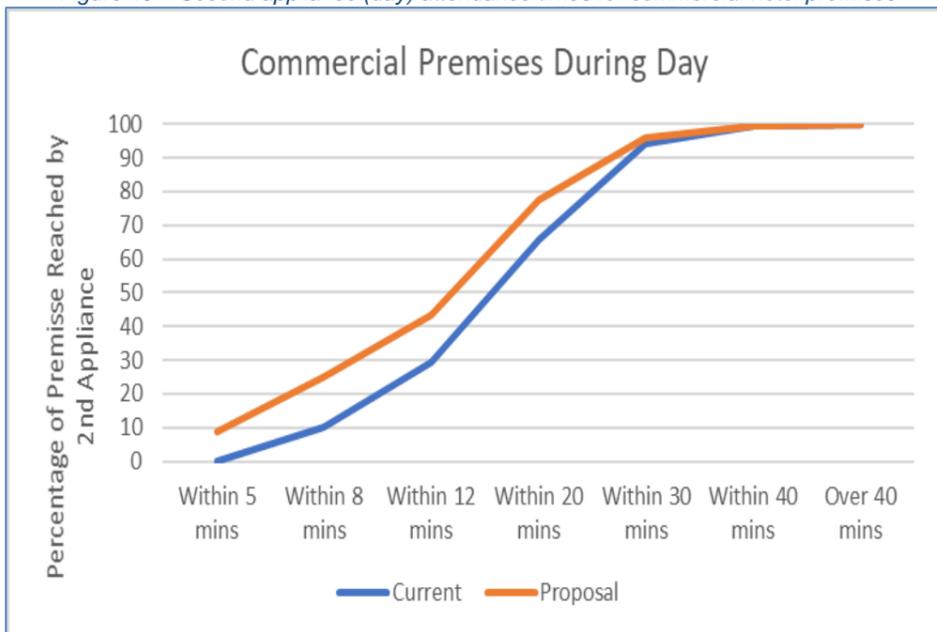


Figure 51 - Second appliance (day) attendance times for commercial premises

Figure 52 - Second appliance (night) attendance times for commercial premises

Incident Category Types

Fire Emergency

Automatic Fire Alarms

Industrial/Commercial Building
Retail/Public Assembly Building
Residential Building
Residential Building - Multiple
Residential No Response
Domestic Smoke Alarm

Fires

Persons Reported
Single Person On Fire
Industrial/Commercial
Retail/Public Assembly
High Rise
Prison
Residential
Residential - Flats
Agricultural Building
Silo/Grain Dryer
Building Other
Roof
Thatched Building
Chimney (Not Occupier)

Chimney (Occupier)

Chimney (Thatched)

Derelict Building
Vehicle Large
Vehicle LPG Fuelled
Vehicle Small
Caravan/Camping - Off Site
Caravan/Camping - On Site
Standing Crops
Confined Space
Late Fire Call - Less Than One Hour
Aircraft Fire
Ship Fire - Inshore
Boat Fire
Train Fire - Goods
Train Fire - Passenger

Road Traffic Collision Life Risk

Persons Trapped Large Vehicle
Persons Trapped Multiple Vehicle
Persons Trapped Small Vehicle

Water Rescue Life Risk

Moving/Open
Still/Shallow
York Rivers
Unstable Ground/Mud and Ice