



Essex County
Fire & Rescue Service

Strategic Assessment of Risk

2024-2025

Contents

Chapter 1: Introduction	6
Executive Summary.....	6
Purpose	9
Scope.....	9
Risk Management	10
References	11
Chapter 2: Political Risk.....	12
National Political Context	12
Fire Sector Reports.....	13
Local Political Context.....	14
Local Government Structure and Elections	14
Essex Police Fire and Crime Commissioner.....	15
Representative Bodies	15
Fire Brigade Union	15
Fire Officers Association	16
Fire and Rescue Service Association	17
UNISON	18
Industrial Action.....	18
Essex County Fire & Rescue Governance Model	19
Service Leadership Team	19
Service Leadership Team – Direct Reports	20
Essex County Fire & Rescue Service Governance Structure	21
Police Fire and Crime Commissioner Governance Structure.....	22
References	24
Chapter 3: Economic Risk.....	26
National Economic Context	26
Government Grants Income	26
Pension Schemes	27
Future Pay Awards.....	27
Non Pay Costs	28
Local Economic Context.....	28
Local Government Finance Settlement	28
Council Tax and Business Rates Collection	29
Essex County Fire & Rescue Service Financial Model	30
Productivity and Efficiency Board	30

Strategic Assessment of Risk

Essex County Fire & Rescue Service Funding Priorities	30
Fire Protection	30
Prevention	31
Response and Resilience	31
Workforce	31
Workplace	32
References	33
Chapter 4: Societal Risk.....	34
Population Demographics.....	34
Population Changes	34
Ethnicity and Languages	39
Religious Beliefs	42
Deprivation	44
Housing	46
Fuel Poverty	48
Health and Wellbeing	50
Care and Support Needs	50
Mental Health	52
Disability.....	54
Obesity	55
Smoking.....	57
Infectious Diseases.....	58
Crime Trends and Analysis.....	59
Crime and Antisocial Behaviour	59
Terrorism.....	62
Organised Immigration Crime, Human Trafficking and Modern Slavery.....	63
References	65
Chapter 5: Technological Risk	66
Cyber	66
Cyber Security	66
Information Security	68
Emerging Technologies	68
Alternative Fuel Fleet Vehicles.....	68
Electric Vehicles	69
Green Infrastructure	72
Communications	73

Strategic Assessment of Risk

Emergency Services Network.....	73
Telecommunication Upgrades	73
Control Systems and Mobilisation	74
References	75
Chapter 6: Environmental Risk.....	76
The Built Environment and Infrastructure.....	76
Air Transport and Aerodromes	76
Road Networks.....	77
Rail Networks	80
Rivers, Canal Networks and Ports	81
COMAH Sites	84
Large Capacity Public Venues	85
Heritage Buildings	86
High Rise Buildings	87
Penal Establishments	88
Utilities	88
Hospitals and Universities.....	91
Climate Change and Environmental	92
Climate Change	92
Extreme Weather Events	95
Flooding.....	96
Water Shortages and Drought	98
Sites of Special Scientific Interest (SSSI).....	98
Future Developments	100
Future Infrastructure Risk Team	100
Essex Planning Authorities.....	101
National Significant Infrastructure Projects.....	102
Battery Energy Storage Sites.....	104
References	105
Chapter 7: Legislative Risk	106
Prevention.....	106
Protection	107
Response	109
People	111
References	116
Chapter 8: Organisational Risk.....	117

Strategic Assessment of Risk

Our Service.....	117
Our Area.....	117
Our People	117
Our Resources	122
Our Strategy.....	124
Our Mission.....	125
Our Incidents.....	126
National Incident Statistics	126
Local Incident Statistics.....	129
Dwelling Fires.....	130
Fatal Fires.....	132
Road Traffic Collisions.....	133
Water Rescue.....	135
Cross Border Incidents.....	138
Response Times	141
Public Inquiries.....	142
Manchester Arena and Grenfell Tower Fire	142
Partnerships and Collaboration	144
Response Partnerships.....	144
Essex Resilience Forum	144
Emergency Services Collaboration.....	145
Cross Border Working	147
National and Joint Operational Learning	147
Engagement with Representative Bodies.....	148
Stakeholder and Public Engagement	149
Monitoring Performance	151
HMICFRS Inspection Outcomes	151
Fit For the Future	152
Fire Standards	153
Internal Audits.....	155
References	156

Chapter 1: Introduction

The priorities within the Fire and Rescue National Framework for England (2018) to:

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

Place upon all fire and rescue services the requirement to strategically assess their delivery against each of these areas on a regular basis. Essex County Fire & Rescue Service undertakes its Strategic Assessment of Risk annually in line with the financial year to ensure it is aligned to these priorities.

Executive Summary

The Strategic Assessment of Risk for 2024-2025 has been reviewed and updated to reflect the Fire Standard recommendations for the Community Risk Management Plan, to which this document provides the basis for its further analysis and commitments to resourcing Essex County Fire & Rescue Service over the next 4 years.

To align this document with the recommendations as set out by the National Fire Chief's Council through the Fire Standards Board the Strategic Assessment of Risk 2024-2025 includes both a single complete version of the Strategic Assessment of Risk in one document as well as 8 separate documents providing the chapters of the Strategic Assessment of Risk 2024-2025. This format has been designed to enable greater interaction and ease of use when referring to this document for specific areas of interest. The new Strategic Assessment of Risk 2024-2025 will also be made available through SharePoint under the Community Risk Management Plan site for all within the Service to view and access as required.

To support the alignment with both the Fire Standard and the Service's use of PESTELO risk analysis, the Strategic Assessment of Risk 2024-2025 has been structured into 8 separate chapters, each aligned to an element of the PESTELO risk model as well as providing an introductory chapter. Each chapter contains key themes which are then broken down into detailed sections highlighting the risk analysis of that area of interest within Essex. Where relevant, sections have also been provided on the national risk picture to provide context to the statistics and analysis of data found within Essex.

Strategic Assessment of Risk

Throughout the Strategic Assessment of Risk 2024-2025, where reference is made to Essex this incorporates all districts, boroughs, and cities within the County of Essex as well as both Southend and Thurrock Unitary Authorities and their combined areas of responsibility.

Key considerations for the Service in relation to the political landscape include the upcoming general election, whilst all parties continue to keep safe and secure communities at the heart of their messaging this could be delivered through different practices under each of the main parties. Following consultation on the Fire Sector Reform paper and a decision to pause the progress of a proposal for devolution made by the combined authorities of Essex, the Service can be assured that the governance structure within Essex will not change. However there remains a risk of Industrial Action due to continued economic pressures and an uncertain political landscape.

Within the current economic climate of high inflation rates, supply chain uncertainty and a cost of living crisis, financial pressures are being exerted on the Service to provide the agreed increases to pension funds and pay awards whilst balancing this against an uncertain income. Whilst the council tax and business rate precept was increased last year, this has not been replicated this year and with business and societal patterns changing following COVID-19 cannot be depended upon for mid to long term financial planning.

Known risk factors in the population in Essex have been shown through the 2021 Census to remain a continuing trend and projection into the future. These risk factors include an aging population, an increasing number of people with mental health and obesity conditions and an increase in those requiring paid for supportive care. What is also shown to have remained consistent is the areas of Essex with the highest concentration of risk factors known to lead to incidents, including household overcrowding linked to fuel poverty which links to crime and antisocial behaviour. Part of the changing societal picture of Essex highlights the increase in alternative gender and sexual identities, an increase in non-UK languages predominantly European and Asian and an increase in the variety of religious beliefs held by the people of Essex. Each of these characteristics contribute to the changing needs of people and how they engage with the Service.

An area of considerable pace of change is that of technology, boosted by restrictions placed upon organisations during COVID-19, technology and its use within the Service has increased significantly over the past few years. Whilst technological change can be positive, the speed at which it is occurring is outstripping the skills and knowledge of users with a greater need for individual data control. The Service has recently implemented a new Control software system which provides greater resilience and usability; however, this should be considered in relation to the ongoing telecommunications upgrades within the UK and specifically to emergency service communication devices and channels. Alongside this, the continued development of

Strategic Assessment of Risk

green infrastructure and vehicle fuels poses both opportunities and challenges to the Service as legislation and regulation attempt to keep pace.

Another key consideration for the Service is the impact of climate change on the environment and how this will likely impact the resourcing and requirements of the Service in the future. Met Office data shows that average ground temperatures will increase by 35% over the next 50 years whilst simultaneously the precipitation rate will decrease by 99%. Within the built environment the landscape of Essex will change through the increasing development of infrastructure and housing, including the incorporation of green infrastructure to support carbon zero policies such as large scale Battery Energy Storage Sites. Consideration should also be given to how significant an impact COVID-19 has had on societal behaviours and the knock on impact these have upon transport use and supply chain provision.

The Service delivers departmental strategies which incorporate how they are aligned with relevant legislation and provide assurance of compliance against the requirements placed upon a fire and rescue service in the delivery of its duties. The Service is also able to strongly evidence how it is responding to the public inquiry recommendations following the Grenfell Tower Fire and Manchester Arena Bombing. These are progressing along with the introduction of Fire Standards and the Fit for the Future programme, both of which the Service is fully invested in engaging with and delivering best practice for.

In comparison to Essex population data the Service remains under-represented by certain demographics, including females, non-White ethnicities, and those of religious beliefs other than Christianity. Whilst the Service is committed to improving its equality there is considerable work to be done to closer resemble the community it serves. Incident data in comparison to national figures show Essex to have a higher prevalence of incidents to the English mean, although there is an understandable increase of incidents in Essex during 2022 due to the hot weather, the figures for 2023 did not drop back to pre-2022 levels.

Overall, the Strategic Assessment of Risk 2024-2025 highlights those areas which continue to pose a consistent level of risk as well as those which pose an increasing or emerging risk to be considered when delivering the Community Risk Management Plan.

Purpose

The Strategic Assessment of Risk is designed to identify the risks likely to impact Essex County Fire & Rescue Service in delivery of its strategic objectives.

The content of the Strategic Assessment of Risk is used as the foundation to inform the planning requirements of the Community Risk Management Plan.

Scope

Within the Strategic Assessment of Risk, the following chapters will break down the detail of risks categorised using the PESTELO analysis model. These are Political, Economic, Societal, Technological, Environmental, Legislative and Organisational.

Chapter 2 – Political Risk considers the national and local political context in which fire and rescue services operate, taking into account sector reports and the governance under the Police, Fire and Crime Commissioner. It also considers the Service engagement with the Representative Bodies who support our employees and the Service’s overall governance model.

Chapter 3 – Economic Risk considers the national and local economic context in which fire and rescue services operate, taking into account pay awards and financial contributions such as council tax collection. It also outlines the Service financial model and how this is broken down to deliver funding across our portfolio of activity delivery.

Chapter 4 – Societal Risk explores the demographics of the population of Essex, Thurrock and Southend utilising census data and the Essex Joint Strategic Needs Assessment to understand their health and wellbeing. It also considers aspects of crime and antisocial behaviour that has a direct impact on fire and rescue services.

Chapter 5 – Technological Risk looks at emerging technologies, including green infrastructure and alternatively powered vehicles, as well as the myriad ways of communicating effectively and the potential impacts of cyber related attacks on the Service infrastructure.

Chapter 6 – Environmental Risk reviews the built environment of Essex, Thurrock and Southend, considering the risks inherent in different institutions and infrastructure requirements for populated areas. It also looks at the projected impact of climate change on Essex and Service engagement with future infrastructure developments.

Strategic Assessment of Risk

Chapter 7 – Legislative Risk considers how each of the main themes of delivery for a fire and rescue service is held to account by legislation, and what Essex County Fire & Rescue Service is doing to ensure it is compliant.

Chapter 8 – Organisational Risk explores the Service, the people and resources which support the delivery of its activities, the partnership and collaboration engagement and how the Service monitors its performance.

Risk Management

Essex County Fire & Rescue Service engages with enterprise risk management to develop a risk aware culture that ensures risk-based decision making is embedded in all processes across the Service, allowing the Service to plan for, anticipate and manage risks which may impact upon service delivery and the achievement of its objectives.

Within the Service, all employees have a responsibility towards identifying, assessing and mitigating risks, these are assessed and allocated against the levels detailed below:

- Strategic risks are owned and managed by the Service Leadership Team, where the consequences of the risk materialising will be felt 3-5 years after the event.
- Departmental risks are owned and managed by Departmental Managers, where the consequences of the risk materialising can be felt immediately or up to 3 years after the event.
- Programme and Project risks are owned and managed by the Portfolio Management Team, where the consequences of the risk materialising will be felt in the variability of outcome and failure of project delivery.
- New and emerging risks are identified at the Departmental level and escalated to the Strategic Risk Register if deemed to be of sufficient threat to the Service.

Risks are managed through a hierarchy of boards and committees which are responsible for one of the following and detailed in Figure 1 below:

- Setting risk standards.
- Implementing risk standards.
- Monitoring risk performance.

Strategic Assessment of Risk

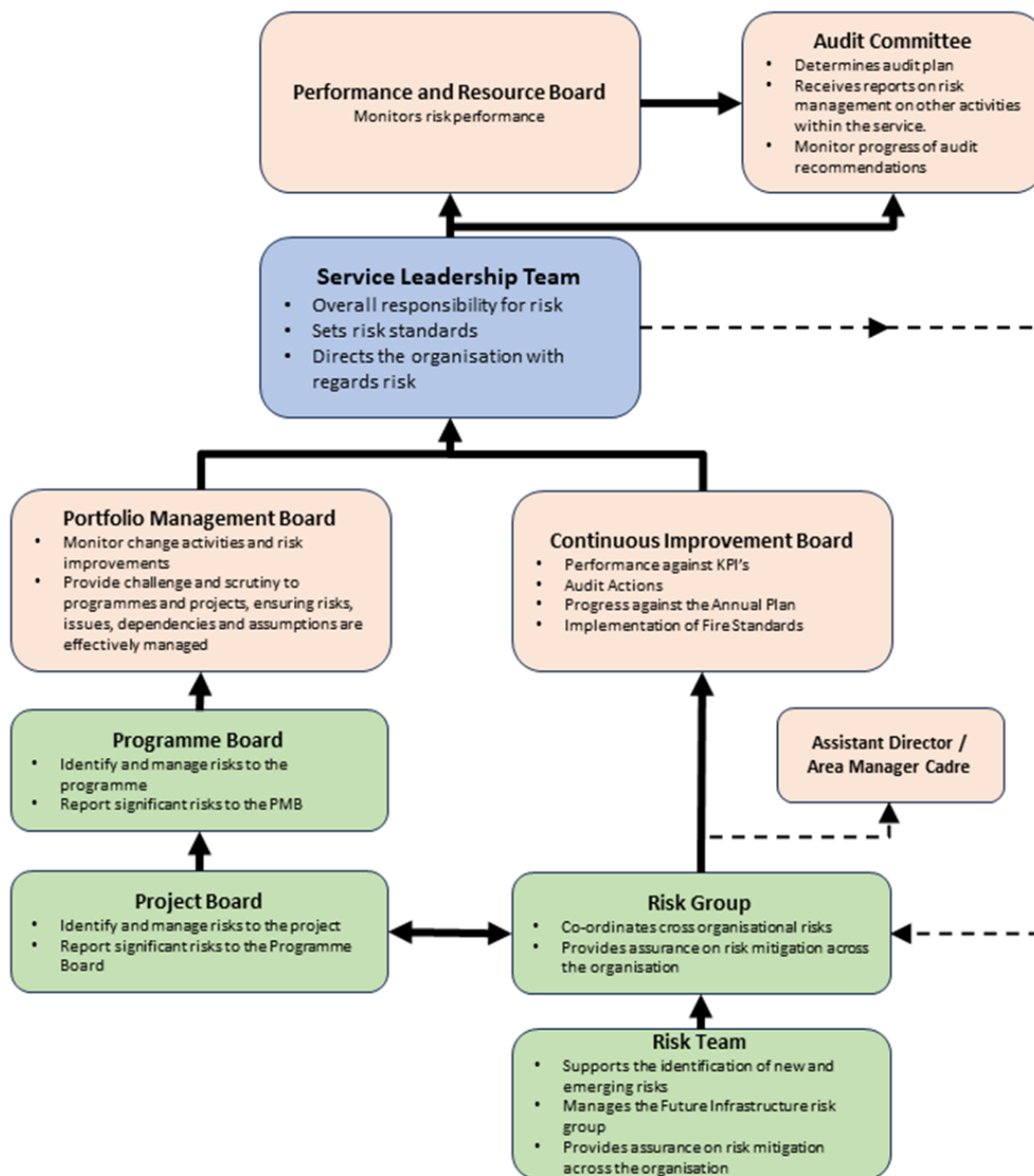


Figure 1

References

Fire and Rescue National Framework for England (2018)
 Risk Management Strategy 2024

Chapter 2: Political Risk

There is a continual national drive for reform within the fire sector, which focuses on increasing the diversity of the workforce, improving professionalism, accountability, productivity, delivering value for money, and increasing innovative working practices.

Key political factors to consider for the future of the fire sector include fire safety, the role of local fire and rescue services in the national resilience context and in the predicted increase in extreme weather events and UK security incidents.

Within this chapter of the Strategic Assessment of Risk, the following areas will be considered:

- National Political Context
- Local Political Context
- Representative Bodies
- Essex County Fire & Rescue Service Governance Model

National Political Context

The Conservatives have been in power since the coalition government with the Liberal Democrats in 2010, which became a single party Conservative government following the 2015 general elections.

Throughout their time in office the Conservatives have maintained a key theme of localism within their policies which directly affect the Fire and Rescue Service. An integral part of their manifesto since 2005 the Conservatives introduced the Police Reform and Social Responsibility Act 2011 which was aimed at strengthening local accountability and making forces more responsive to local needs through the role of the Police and Crime Commissioner. In 2015 the government extended this through consultation to introduce a Police Fire and Crime Commissioner which Essex adopted in 2017.

The Fire Reform White Paper (May 2022) has been developed to enable fire and rescue services to perform and fulfil their core functions of prevention, protection, response and resilience effectively in a way which responds to the local needs. After consultation (December 2023), the areas below were clarified as the vision for reform:

- People
 - Talent and Inclusion
 - Pay and Role
- Professionalism
 - Creating a College of Fire and Rescue
 - Raising Standards
- Governance
 - Governance Change

Strategic Assessment of Risk

- Operational Independence

Key in these proposals is the governance section, whereby there will be no mandatory requirement for a Fire and Rescue Authority to be provided through a set model and by providing a framework to clearly identify the area of responsibility between the Authority and the Chief Fire Officer.

The Strikes (Minimum Service Levels) Act 2023 received Royal Assent in Parliament in July 2023 with further details around the implementation of the Act to follow. This Act was introduced to ensure that the public can continue to access services that they rely on during industrial action, including fire and rescue services. The full impact of this new legislation is still to be fully explored and understood by the Service. However, it presents a risk to how the Service will continue to deliver its statutory duties should industrial action be realised.

Following the last general election in December 2019, the Labour party leadership changed from Jeremy Corbyn to Keir Starmer who has campaigned to reconnect with the British public. In the lead up to the next general election (2024/2025) Labour have begun publishing their Stronger Together campaign which includes the priorities for Safe and Secure Communities, and Public Services that Work from the Start. The indication is that Community Safety will remain important to both Labour and Conservative parties.

Fire Sector Reports

Following the cultural review into the London Fire Brigade, published November 2022, and the Casey Review of the Metropolitan Police Force, there has been strong public interest in seeing improvements in the Emergency Services.

Essex County Fire & Rescue Service has previously been the subject of a similar cultural review in 2015, since which the Service has made progress in incorporating improvements to the organisational culture and behaviours as recommended through the report.

Most recently, an independent report into the culture and values of South Wales Fire and Rescue Service led to the Welsh Government removing the governance functions of the Fire Authority and transferring them to four appointed Commissioners. This poses the risk of a precedence being set for interventions of engagement being set should any Fire and Rescue Service be recommended for special measures following His Majesties Inspectorate inspections or other governance reviews.

His Majesties Inspectorate release a State of Fire Report each year with recommendations which influence government and public discussions and decisions, this influence is increasing through the changing role and stakeholder positioning of His Majesties Inspectorate within central government. The most recent report

Strategic Assessment of Risk

(released in 2022) recognises that most recommendations are captured in the Fire Reform Paper, however the speed at which these recommendations will be acted upon could be held up by governmental processes.

The National Fire Chief's Council Fit for the Future (see chapter 8 Organisational Risk) incorporates recommendations for Local Government Association, the National Fire Chief's Council and the National Employers to work collaboratively to reform and improve the fire and rescue sector with centralised support, this could provide greater stability in realising the recommendations of the State of Fire Report and Fire Reform Paper.

The Service must also be cognisant of the impacts of Climate Change and the potential for future reports or recommendations to incorporate more elements in respect of this global agenda.

Local Political Context

Local Government Structure and Elections

Essex is represented by 18 MPs, made up of a combination from 1 County Council, 2 Unitary Councils, 7 Districts, 3 Boroughs and 2 Cities which provides it with a strong lobbying position for progressing areas of importance to their constituents. Although the dominant political party as a county is Conservative, there are a lot of parties represented at a more local level. The political situation at a district, borough and city level is often finely balanced or formed through coalitions. Two areas which are worth more consideration are Uttlesford and Thurrock.

Uttlesford are currently governed by the Residents for Uttlesford party who won the 2023 local election, being re-elected for a second term. Residents for Uttlesford launched in 2014 promoting a local agenda with member representation at district, county, town and parish level. The relative inexperience of a newly formed political party can create challenges with Service engagement to deliver partnership working.

Thurrock has had a significant financial loss which has led to the administration increasing council tax collections (up to 8%) and selling off assets that are no longer cost effective for them to maintain. This increase in council tax collections could leave residents with less financial independence and with the current cost of living exacerbate their risk taking. The duration of these special measures will have a significant impact on Prevention activities delivered by the Service.

Greater Essex (Essex County, Thurrock and Southend Unitary Authorities) have explored and developed a proposal for devolution, focusing on forming a combined county authority to deliver political direction as agreed at the local level through the principle of subsidiarity. However, this was not universally supported across Greater Essex and the progress of the proposal for devolution has been paused.

Strategic Assessment of Risk

In addition to the bid for devolution, central government concluded their Periodic Review of Westminster constituencies with boundary changes coming into effect from May 2024 for Basildon, Brentwood, Castle Point, Epping Forest and Harlow districts. The impact on the overall party representation at a local level will not be known until following the general election.

Essex Police Fire and Crime Commissioner

In 2017 following a formal public consultation the Home Office approved the Joint Governance of Police and Fire & Rescue Services in Essex.

The Essex Police, Fire and Crime Commissioner provides overall governance responsibility for Essex County Fire and Rescue Service. Their roles and responsibilities at our Service are:

- Provide a connection between the Fire and Rescue Service and local communities.
- Set a budget and calculate the council tax requirement.
- Maintain an efficient and effective Fire and Rescue Service for the County.
- Approve a Community Risk Management Plan.
- Develop a Fire and Rescue Plan and Fire and Rescue Statement.
- Scrutinise, support and challenge performance against the Plan.
- Appoint a Chief Fire Officer / Chief Executive to lead and manage the Service.

Representative Bodies

Building and maintaining a healthy working relationship with our recognised unions is crucial to us being able to deliver our service. We are committed to a relationship with our employee representative bodies that is built on trust and respect.

At Essex County Fire & Rescue Service we support union membership and have four recognised unions – Fire Brigades Union (FBU), Fire and Rescue Services Association (FRSA), Fire Officers' Association (FOA) and UNISON – with which we work closely. These are recognised for collective bargaining in different parts of our business.

Fire Brigade Union

The Fire Brigade Union was founded in 1918. Their aims are to:

- Provide a leading, independent voice for firefighters that helps improve fire and rescue services.

Strategic Assessment of Risk

- Ensure the expertise and experience of their members is heard locally, nationally, and internationally within government and beyond.
- Protect the safety and interests of the public and their members, enabling them to enjoy a good quality of life, including by preventing cuts or damaging changes to fire and rescue services.
- Improve the working conditions of their members and protect them from discrimination and unfair or illegal treatment by representing them in the workplace.
- Help their members develop professionally by developing new and existing skills.

The Fire Brigade Union covers employees from Wholetime, On-Call and Control Room roles.

As detailed in the Fire Bridge Union Executive Council Report 2023, Essex County Fire & Rescue Service has 580 members with a wholetime role, 177 members with an on call role and 23 members with a control room role (statistics as at 31st December 2022). This equates to 94.2% wholetime employees, 34.2% on call employees and 51.1% control room employees equivalent to 31st December 2022 workforce numbers.

Fire Officers Association

The Fire Officers Association provides individual and collective representation to members locally. Their member's interests come first, and they believe that these are best served through constructive consultation and negotiation rather than traditional trade union muscle flexing. In this way they can play a constructive role in the changes that are inevitable taking place within the service.

The Fire Officers Association strives to ensure that:

- Members are directly consulted on matters that affect them.
- Real openness and accountability is seen in all fire and rescue service affairs.
- Inclusion is promoted in all areas of the fire and rescue service.
- Concerns about pressures and stressors placed upon managers in the workplace are addressed.
- The role managers in delivering service objectives are fully recognised and will fight for this to be reflected by appropriate rewards.
- The Association has an agenda focused solely on fire and rescue service matters.
- The Association is non-judgemental so that all members receive equal representation.

Strategic Assessment of Risk

The Fire Officers Association covers employees from Wholetime, On-Call, Dual Role, Support and Control Room roles.

Fire and Rescue Service Association

The Fire and Rescue Service Association is a certified and independent trade union not under the control of an employer(s) and free from outside interference. They have no political affiliation and prefer to use the power of argument rather than the argument of strike action.

They are led by the views of their members not by a political ideology. They always seek to create policy that is representative of the majority of their membership. They are an outward-looking organisation that seeks to create innovative ways of working to the benefit of their members.

The Fire and Rescue Service Association cover employees from Wholetime, On-Call, Dual Role, Support and Control Room roles.

UNISON

UNISON represents and acts for members working in a range of public services and utilities. They represent members, negotiate and bargain on their behalf, campaign for better working conditions and pay and for public services.

UNISON cover employees from Support roles.

Industrial Action

Essex County Fire & Rescue Service has previously received ballots to take Industrial Action from UNISON and the Fire Brigade Union.

Between 2012 and 2015 The Fire Brigade Union were successful in returning a Yes vote for Industrial Action three times, both at a local and a national dispute level. Over the course of these disputes a total of 788.5 hours were active periods of Industrial Action.

Most recently in 2021-2022 both UNISON and the Fire Brigade Union undertook a ballot to their members in relation to national pay awards. Whilst the Fire Brigade Union secured support from their members to undertake Industrial Action, this was never realised as further negotiations resulted in an agreed pay offer.

Currently the risk of Industrial Action remains present due to continued economic pressures and an uncertain political landscape over the next 12 months.

The main impacts upon the Service and its ability to deliver its critical activities during periods of Industrial Action were:

- Reduction in standard operational cover across the county.
- Reduction in specialisms and specialist appliances across the county.
- Disruption to critical training.
- Disruption to implementation of systems i.e., Control.
- Disruption to Prevention and Protection activities.
- Reduction in National Resilience Assets availability.

Strategic Assessment of Risk

The Service has developed a plan that enables it to fulfil the legal duties stated within the Civil Contingencies Act (2004) and the Fire and Rescue Services Act (2004) through a period of Industrial Action, with two overarching principles maintained:

- Have robust plans to continue to provide a response to the people of Essex in the event of any Industrial Action.
- Encourage and maintain good relations between all affected parties to minimise any cultural impact.

This planning provides assurance that the Service can meet the requirements of the legislation and can be implemented as necessary should the risk of Industrial Action increase.

Essex County Fire & Rescue Governance Model

Service Leadership Team

The Service Leadership Team is charged with the leadership of Essex County Fire & Rescue Service under the direction of the Chief Fire Officer and Chief Executive. The corporate management of the Service is vested in the members of the Service Leadership Team.

The Service Leadership Team assists the Essex Police and Fire Crime Commissioner to meet their responsibilities to establish and oversee the corporate governance arrangements of the Service.

The Service Leadership Team itself is a core element of the Essex Police, Fire and Crime Commissioner Fire and Rescue Authority's corporate governance arrangements.

The Service Leadership Team is formed through the combination of the following roles:

- Chief Fire Officer
 - The Chief Fire Officer/Chief Executive has delegated authority and ultimate responsibility for the running of the Fire and Rescue Service in Essex.
- Deputy Chief Fire Officer
 - To lead organisational learning and continuous improvement in policy and practice; derived from reviewing performance.
- Assistant Chief Fire Officer Director of Operations
 - To deliver activities against organisational policy which support our core mission of making Essex a safer place to work, live and travel.

Strategic Assessment of Risk

- Director of People Services
 - To lead people and organisational strategy, enabling a diverse competent and motivated workforce while managing best in class HR and workforce development.
- Director of Corporate Services
 - To enable the organisation in its public duties by providing the infrastructure which supports activities and to ensure the organisation complies with statutory responsibilities.
- Chief Finance Officer
 - To ensure the appropriate financial administration of the Authority and prudent financial management across the organisation. To balance service needs with corporate interests whilst ensuring compliance with all statutory requirements.
- Assistant Director Corporate Communications and Marketing
 - To lead the organisation to deliver effective internal and external communication strategies and plans that promote our core values and mission and enhance the brand of the Service.

Service Leadership Team – Direct Reports

Our Service Leadership Team's Direct Reports are responsible for the day-to-day running of our Service and the delivery of our Continuous Improvement Plan. They work alongside our Service Leadership Team who set the strategic direction of our Service and the vision around our future state.

The Direct Reports of our Service Leadership Team incorporates the following roles:

- Deputy Finance Director
- Area Manager Assurance
- Area Manager Prevention and Protection
- Area Manager Response
- Assistant Director of Human Resources
- Assistant Director of Asset Management
- Assistant Director for Performance and Improvement
- Group Manager Operational Training
- Head of ICT
- Head of Corporate Communications, Marketing and Brand
- Head of Collaboration
- Category Procurement Manager
- Information Governance Manager
- Executive Support Team Manager

Essex County Fire & Rescue Service Governance Structure

The governance structure within the Service is the responsibility of the Chief Fire Officer / Chief Executive. This is discharged through the Service Leadership Team and a series of governance boards including:

- Continuous Improvement Board
 - Which provides oversight and management of continual improvement identified within the Service's Annual Plan.
- Portfolio Management Board
 - Which initiates and oversees changes programmes.
- Productivity and Efficiency Board
 - Which provides oversight and management of capital spend against the budget.

Each of these boards is chaired by a member of the Service Leadership Team and attended by a representative of the Police, Fire and Crime Commissioner.



Figure 2

The Community Risk Management Plan sets out the activities that the Service needs to undertake to deliver against the priorities within the Fire and Rescue Plan to ensure the continued safety of communities following a comprehensive understanding of risk as outlined in this document.

The Portfolio of Change is designed to ensure the Service has a clear view of what projects and programmes it is investing in. It is aligned to the key themes defined in the Fire and Rescue Plan and the Community Risk Management Plan.

Strategic Assessment of Risk

The Capital Programme aligns to the Community Risk Management Plan. In support of longer-term planning there are a number of associated plans in place (e.g., Property, ICT, Fleet).

The Annual Plan sets out the key activities that need to be delivered within any financial year aligned to our in-year budget. This includes responses to any recommendations deriving from audits and inspections, together with activities required to deliver core objectives and priorities.

Police Fire and Crime Commissioner Governance Structure

To ensure the effective administration of Essex County Fire & Rescue Service, several boards have been created to provide advice and recommendations to the Commissioner including:

- Performance and Resources Board
 - Which reports on Service performance.
- Fire and Rescue Strategic Board
 - Which establishes the policy and direction of the Service.
- Independent Audit Committee
 - Which provides independent assurance to the Service in accordance with the Financial Management Code of Practice.

These boards have no decision-making powers, a relevant decision report as signed by the Commissioner, or their Deputy is required before any action may be taken. Each decision, unless subject to security restrictions, is published for transparency on the Commissioner's website.

The decisions and actions of the Commissioner are scrutinised by the Essex Police, Fire and Crime Panel which is made up of elected representatives from each district, borough, city, and unitary authority in Essex plus two independent members.

Strategic Assessment of Risk

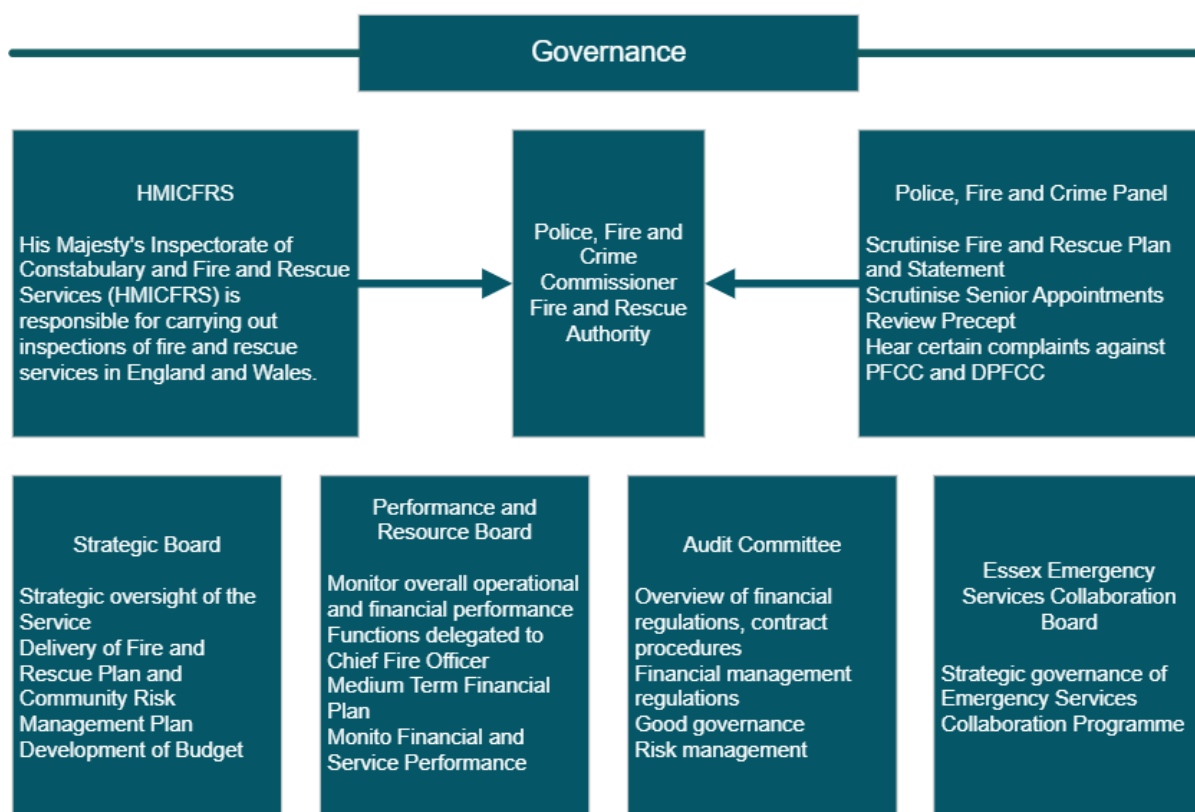


Figure 3

Essex County Fire & Rescue Service is required to comply with the CIPFA / SOLACE Delivering Good Governance in Local Government Framework which recommends the following principals of good governance:

- Principle A – Behaving with integrity, demonstrating strong commitment to ethical values, and respecting the rule of law.
- Principle B – Ensuring the openness and comprehensive stakeholder engagement.
- Principle C – Defining outcomes in terms of sustainable economic, social, and environmental benefits.
- Principle D – Determining the interventions necessary to optimise the achievement of the intended outcomes.
- Principle E – Developing the Police, Fire and Crime Commissioner’s capacity, including the capability of its leadership and the individuals within it.
- Principle F – Managing risks and performance through robust internal control and strong public financial management.
- Principle G – Implementing good practices in transparency, reporting, and audit to deliver effective accountability.

Strategic Assessment of Risk

The Police, Fire and Crime Commissioner (the Authority) uses the framework below to review the effectiveness of the governance framework:

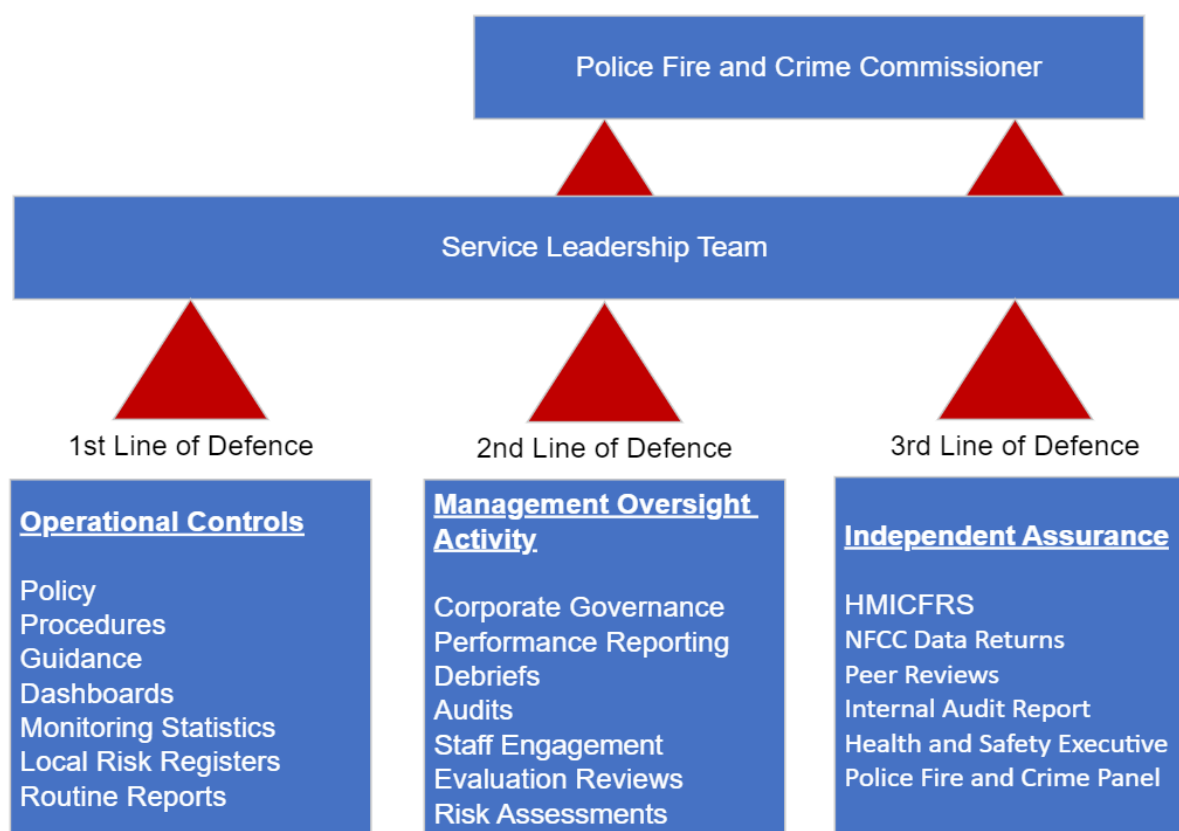


Figure 4

The Police Fire and Crime Commissioner has responsibility for conducting, at least annually, a review of the effectiveness of their governance framework including the system of internal control. The findings of this review are set out in the Annual Governance Statement.

In addition, the Internal Auditor (see Chapter 8 Organisational Risk) has a responsibility to review and report to the independent Audit Committee annually, to provide assurance on the adequacy and effectiveness of the Authority's arrangements for governance, risk management and control.

References

Consultation document (accessible) - GOV.UK (www.gov.uk)

Minimum Service Levels: issuing work notices, a guide for employers, trade unions and workers - GOV.UK (www.gov.uk)

Governance Annual Plan Portfolio of Change SLT Report 2022

Governance Statement 2022-2023

Police and crime commissioners | Institute for Government

Strategic Assessment of Risk

Strikes Bill becomes law - GOV.UK (www.gov.uk)

Chapter 3: Economic Risk

Following on from the COVID-19 pandemic, the Authority is under financial pressure as a result of the current economic and cost of living pressures. The budget is being set during a period when there has been a continued period of high inflation in the UK.

Within this chapter of the Strategic Assessment of Risk, the following areas will be considered:

- National Economic Context
- Local Economic Context
- Essex County Fire & Rescue Service Financial Model

National Economic Context

The quarterly Bank of England Monetary Policy Report, published on 2nd November 2023 ([Monetary Policy Report - November 2023 | Bank of England](#)) sets out the economic analysis and inflation projections that the Monetary Policy Committee uses to make its interest rate decisions. The key points from the report are:

- Inflation has fallen from a peak of 11% in 2022 to 6.7% in September 2023.
- The UK inflation target remains at 2% and is being targeted by the end of 2025.
- The interest rate remains at 5.25% and these higher rates are reducing inflation.

Government Grants Income

The total income from government grants is budgeted at £6.1m for 2024-2025.

The Business Rate Relief Support grant has been budgeted at £4.0m in 2024-25. This has increased by £1.1m from the 2023-24 budget as a result of the government compensating the Service for freezing the business rate multiplier.

As announced in the provisional local government finance settlement:

- The £3.51m has been rolled into baseline funding within the Revenue Support Grant for 2024-25.
- A reduction in the Services Grant of £0.5m. The Services grant was originally created in 2022-23 (£1.1m) and was reduced to £0.7m in 2023-24.
- A funding guarantee grant of £0.6m awarded for 2024-25. This is awarded to Authorities to ensure at least a 3% increase in Core Spending Power before (any council tax precept or reserve decisions).

Strategic Assessment of Risk

The Home Office has confirmed that the Firelink Grant will be phased out by 2026-2027 by equal instalment each year. Additionally, the Service anticipates a decision in 2024-2025 around the continuation of funding within the Urban Search and Rescue (USAR) Capability Grant, which is also expected to include a decision on the funding of the capital refresh associated with USAR assets.

All other grants are expected to continue although no formal confirmation has yet been received.

Pension Schemes

National changes in employer contribution rates for firefighters' pension schemes came into effect from April 2019, following a revaluation of firefighters' pension schemes. The national average increase was material at 12.6% of pensionable pay, which equated to an additional cost burden to the Service of £3.8m.

The government has provided annual Section 31 grants of £3.5m to cover most of the additional cost pressure and from 2024-2025 this has been rolled into baseline funding through the Revenue Support Grant.

There remains uncertainty around the financial impacts resulting around the remedies on the firefighter's pension scheme (McCloud/Sergeant), which includes an increase in Employer Contributions.

There is currently no information on what the cost of the remedy will be, and how this will be funded. The employer's contribution rates are expected to increase to take account of the cost of remedy. The next adjustment is expected on 1st April 2024, in line with the latest actuarial valuation. No details have yet been provided on what the increase in employers contributions will be, but it is expected that the increase will be fully funded through an additional grant.

Future Pay Awards

The Authority produced a balanced budget for 2023-2024, which included funding the following pay costs

- 5% Pay Award for 2022-2023 for Operational Staff.
- £1,925 Scale Point Award for 2022-2023 for Non-Operational Staff.
- 4% Pay Award for 2023-2024 for all staff.

Within the 2023-2024 financial year, the Authority has been faced with a £1.2m pressure on its pay budget, which is a result of the final agreed pay award for both its Operational and Non-Operational staff being in excess of budgeted amounts. An in

Strategic Assessment of Risk

year savings plan was developed in 2023-24 to offset this financial pressure and this has also been taken into account during the 2024-25 budget setting.

Pay cost for 2024-25 are budgeted based on a 3% pay award. Negotiations on the pay settlement will take place at the NJC and will take place after the approval of the 2024-25 budget. Any agreements made in excess of this amount would create unfunded year on year pressures. A 1% increase in the pay award would create a £0.7m unfunded pressure.

Non Pay Costs

In addition to our Pay Costs, there are inflationary impacts and potential supply chain issues that are impacting upon Non Pay Costs.

The Non Pay Budget for 2024-2025 is £22.78m. The prior year budgeted baseline non pay cost budget were £21.6m, and therefore is an increase of £1.18m. The key movements are:

- (£0.7m) increases in premises and equipment costs. This includes a £0.2m investment in ICT Systems and Licensing costs, £0.3m contractual ICT pressures and £0.2m facility management contractual pressures.
- (£0.26m) increase in other costs and services. This is driven by contractual pressures in External Audit, insurance and Consultancy Costs.
- (£0.2m) increase in Support Costs which is driven by an investment in Operational Training.

Although the Service is continuing to monitor its Non Pay Costs closely, there are risks that ongoing pressures within the supply chain could impact future pricing.

Local Economic Context

The Authority is under financial pressure as a result of the current economic and cost of living pressures. The budget is being set during a period when there has been a continued period of high inflation in the UK and challenging financial environment.

The current economic conditions have also created uncertainty on council tax and non-national domestic rate collections within the County. The billing authorities across Essex have submitted provisional council tax figures for both the tax base and collection account. These have been shared with the Service and have been used to inform the budget process.

Local Government Finance Settlement

Strategic Assessment of Risk

On 18th December 2023, the Government announced the provisional local government finance settlement agreement for 2024-2025. The headlines from this announcement were:

- Fire and Rescue Authorities will be able to increase council tax bills by up to 3% without the need to hold a referendum for 2024-2025.
- The Settlement Funding Assessment will be £31.75m for 2024-2025 (compared with £26.81m for 2023-2024). This increase of £4.94m is a result of:
 - An increase of £4.61m in the Revenue Support Grant resulting from:
 - An inflationary increase being applied to the Revenue Support Grant which amounted to £0.65m.
 - The Pension Grant of £3.51m being rolled into the revenue support grant. This was previously included as a S31 Grant and was classified within government grants. This was rolled into the Revenue Support Grant after inflation has been applied (i.e. no inflationary increase was applied to the pension grant within 2024-2025). This will be subject to any such inflationary increases in future years.
 - An increase in the Baseline National Non-Domestic Rates (NNDR) funding of £0.78m, resulting in the Baseline Funding level being set at £17.9m in 2024-2025.
 - A reduction in the Services Grant of £0.5m. The Services Grant was originally created in 2022-2023 (£1.1m) and was reduced to £0.7m in 2023-2024.
 - A funding guarantee grant of £0.6m awarded for 2024-2025. This is awarded to Authorities to ensure at least a 3% increase in Core Spending Power before (any council tax precept or reserve decisions).

The short-term nature of this settlement means that there is uncertainty and risk in the medium term over funding levels.

Council Tax and Business Rates Collection

The Commissioner's Precept Survey was live between 31st October 2023 and 5th December 2023. A total of 2,128 residents responded to the questions relating to the Fire and Rescue Precept. Of those who responded and gave a view, 64% were prepared to pay an increase of £5 or more, to ensure the Service can manage its Cost Increases, continue its improvement work and to maintain the level of service.

33% of respondents who gave a view, were prepared to pay an increase of £7.50 which would allow the Service to continue to invest more in its improvement programme and improve the level of service.

Strategic Assessment of Risk

The budget for 2024-2025 includes an increase in the precept of £2.35 (2.91%) for a Band D property. The precept payable for a Band D Council Tax property will increase from £80.28 to £82.62. This generates additional council tax funding of £2.31m which comprises of £1.5m from additional council tax receipts resulting from the precept increase and £0.58m from an increase in the council tax base.

Council tax income would normally grow year on year as a result of an increase in the tax base. The 2024-2025 council tax base has increased by 1.05% as compared to the prior year budget and based on the latest information provided by the districts.

Essex County Fire and Rescue Service has aligned itself with the County Council and agreed with the billing authorities to share the precepting authorities' gains from resourcing a dedicated team to improve council tax collection performance.

Essex County Fire & Rescue Service Financial Model

Productivity and Efficiency Board

The Service savings and efficiencies plan is tracked through its Productivity and Efficiency Board. Since 2020-21, the Service has driven budgetary savings of £5m and has generated £7m of capital receipts from the sale of surplus assets.

The board will produce an annual productivity & efficiencies plan (may cover multiple years) and report on progress of this plan.

Essex County Fire & Rescue Service Funding Priorities

Essex County Fire & Rescue Service is making good progress on delivering against the Fire and Rescue Plan priorities and, in acknowledgement of the considerable work still to do, has set the following as the improvement and investment areas for 2024-2025.

Within the context of closing out the activity required to make the improvements detailed in our current plans the Service is focussed upon the following priority areas.

Fire Protection

The Service has over the past 3 years invested heavily in the resources, skills and competencies required to ensure it can meet increases in demand on legislative fire safety.

The Service has a commitment to embed the investment made in Fire Protection to ensure it has sufficient resources to meet the needs of the Risk Based Inspection

Strategic Assessment of Risk

Programme, support businesses and take proportionate enforcement action where required.

Prevention

Analysis of fire deaths indicates that older people living alone with long term mobility issues are most at risk of being fatally injured in a fire. The Service continues to increase the amount of Prevention activity it undertakes, specifically the number of home safety checks it delivers to the most vulnerable by operational crews. This activity is likely to increase over the course of 2024-2025 in response to the risk within the county, in addition to maintaining our commitments to reduce road and water related injuries and deaths.

Response and Resilience

To respond to a range of emergencies when called upon, requires the Service to actively manage the resources it has available to meet not only the day-to-day demand of incidents, but also the ability to respond to prolonged and sustained periods of high demand as was seen in the summer of 2022. This has resulted in the Service making better use of the resources it has at its disposal on a risk basis. This movement of appliances has an increased cost to the Service.

Resourcing this demand is key. The current economic situation alongside planned retirements creates a pressure on the Service to be able to recruit ahead of time, and then have sufficient time to develop the skills of new staff to replace those that have been lost.

Workforce

The Service is required to recruit around 150 firefighters in the next year. Recruitment is a significant pressure in terms of cost and time. This skills and risk critical specialisms of our emergency responders can take years to train for and can be costly to develop. As those officers may apply to any other Service in the Country, we need to work hard to be an employer of choice to attract and retain in this field.

Employment Costs equate to approximately 75% of the Service's core budget, with the numbers of firefighters employed being the most significant element.

In addition to the numbers of staff employed, several other elements influence the overall employment costs. This includes pension costs which are mentioned below:

- Firefighter Pension Schemes

Strategic Assessment of Risk

- The budget for firefighters' pension costs is based on the current run rates of contribution. These average at 27.20% for whole time firefighters and 25.5% for on call firefighters.
- The employer's contribution rates are expected to increase from 1 April 2024, in line with the latest actuarial valuation. No details have yet been provided on what the increase in employers contributions will be, but it is expected that the increase will be fully funded through an additional grant.
- Local Government Pension Scheme (LGPS)
 - The LGPS pension contribution rate is based on the current run rate of contribution, which is 20.6%.

Changes to the firefighter's pension scheme is resulting in a growing demand for the Service to respond to and deal with changes in legislation. This is resulting in the need to invest another role within our pensions team.

Workplace

Investment in our property portfolio to ensure that it is fit for purpose and meets the support and wellbeing needs of our workforce is crucial. The Service is looking to make an investment in Fire Training Facilities at its headquarters in Kelvedon Park which will deliver crucial safety critical, specialist training. This is expected to progress to full business case within 2024-2025.

The Authority has updated its Capital Plan to reflect its share of investment it will be making in the creation of a new joint fleet workshop in Boreham with Essex Police. Both organisations currently have separate workshops which are deteriorating and in need of significant investment. This is expecting to progress within 2024-2025.

The Service will continue the delivery of its Digital and Data Strategy. This investment in systems and hardware will improve productivity and connectivity. There are some cost pressures arising within the year which resulted from this transformation programme, which relate to additional licensing and costs associated with using modern technology. This includes the rollout of a new workforce management system and a new financial system.

Following the new control system which went live in 2023-2024, an additional capital investment of £0.95m which will form part of the control room phase 2 project. This will see the replacement of critical station end equipment, ensuring that the 999 mobilising infrastructure is modern and able to deliver the increasing data requirements and security protection against cyber-attacks.

The proposed Capital Budget for 2024-2025 includes the following significant projects:

Strategic Assessment of Risk

- £4.0m investment in 12 new fire appliances.
- £1.1m investment in Information Technology, this includes £0.95m for the replacement of station end equipment and mobile data terminal's which are now approaching end of life status.
- £1.0m investment in Operational Equipment, which includes £0.75m of the first of a 3-year programme for the rollout of new hydraulic cutting equipment.
- £0.8m investment in asset protection works, this includes investment in wholetime station modernisation works and an essential maintenance programme of the estate.

The proposed budget also shows the allocation of £1.27m of Earmarked Reserves planned to be utilised in 2024-2025.

This includes investment of £0.65m from the innovation and transformation reserve which includes:

- £0.3m investment in implementation of the Finance System and in the Data and Digital Strategy.
- £0.3m for the next delivery phase relating to the progression of a combined fleet workshop with Essex Police.
- £0.1m in relation to consultancy costs for Property transformation projects.

Other investments from Earmarked Reserves include:

- £0.15m in a digital upgrade to the Authorities OCAT suite (rephased from 2023-2024).
- £0.15m investment in continued Learning and Development.

References

Essex County Fire & Rescue Service Proposed Budget 2024-2025

Fire and Rescue Precept Proposal 2024-2025

Chapter 4: Societal Risk

We must continuously improve our understanding of our communities to keep people as safe as possible. The publication of the 2021 census data helps to inform our understanding of the changes in population makeup, age distribution and population growth rates.

Vulnerable or disadvantaged individuals will often have issues that are linked, making them vulnerable to fire, crime, anti-social behaviour and health inequalities. We continue to work on improving our engagement with underrepresented and minority groups, whilst improving our inclusive workplace, challenging discrimination, and addressing existing inequalities.

Within this chapter of the Strategic Assessment of Risk, the following areas will be considered:

- Population Demographics
- Health and Wellbeing
- Crime Trends and Analysis

Population Demographics

Essex, Thurrock and Southend have a combined population of 1.86 million people, which is 3.3% of the population of England, and an increase of 6.8% since the 2011 census.

The Office for National Statistics projects an increase in the populations of Essex, Thurrock and Southend of 298,700 between 2016 and 2036. This growth is predicted to occur disproportionately, with the greatest growth in population occurring in Colchester, Basildon and Thurrock. Whilst Maldon and Castlepoint are anticipated to have the smallest growth in population.

Population Changes

The following graphs (Figures 6 to 13) provide an overview of key areas of population demographics within Essex, Thurrock and Southend, and how these have changed in the past 10 years. These provide indicative data of how the population may continue to change in the future and how the Service may need to adapt to respond to the evolving needs of the population.

Strategic Assessment of Risk

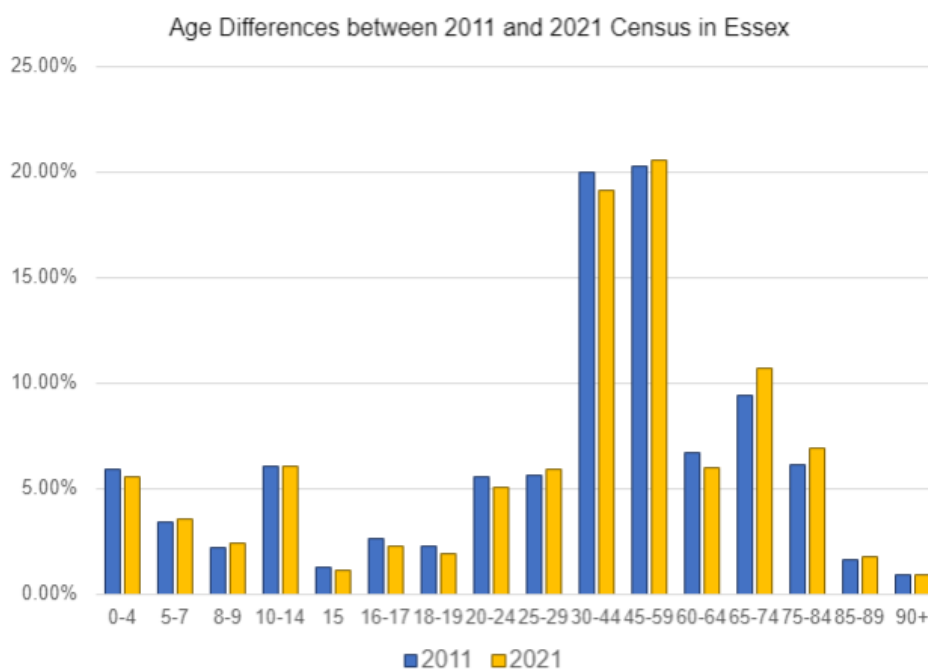


Figure 5

In Figure 5 above, we can see that the largest population increase in age is for those aged 65-74. This is followed by those aged 75-84 and in conjunction with other population increases in age categories shows that those aged 45 to 89 are the predominant population across Essex.

Whilst there is a slight increase in those aged 5-9, the number of people of secondary school and further education age are lower than previous which will lead to a reduction in working adults over the next 10 years. This will be compounded by the current level of people aged 30-44 which is the greatest decrease since the 2011 census.

Strategic Assessment of Risk

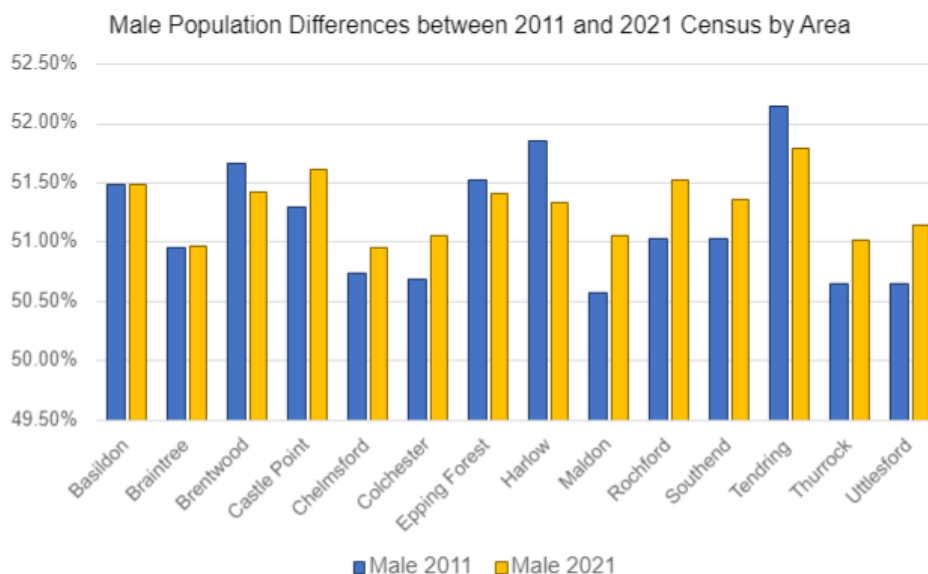


Figure 6

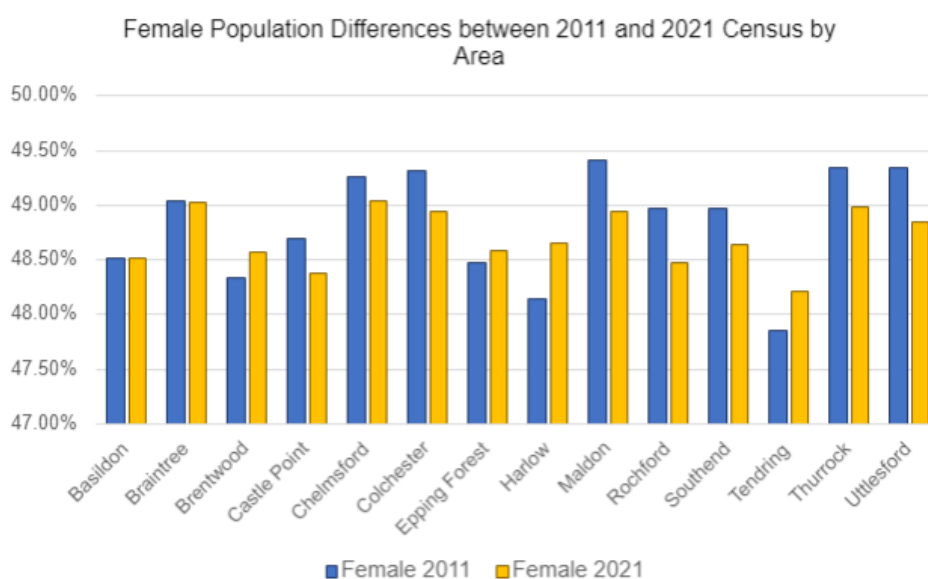


Figure 7

In Figures 6 and 7 above, there is consistent representation of male to female ratios in the population figures. Where Brentwood, Epping Forest, Harlow and Tendring have seen an increase in the female population this is countered by a decrease in the male population. Accordingly in Castle Point, Colchester, Maldon, Rochford, Southend, Thurrock and Uttlesford the reverse is true. Whilst in Basildon and Braintree both male and female population figures have remained consistent.

Strategic Assessment of Risk

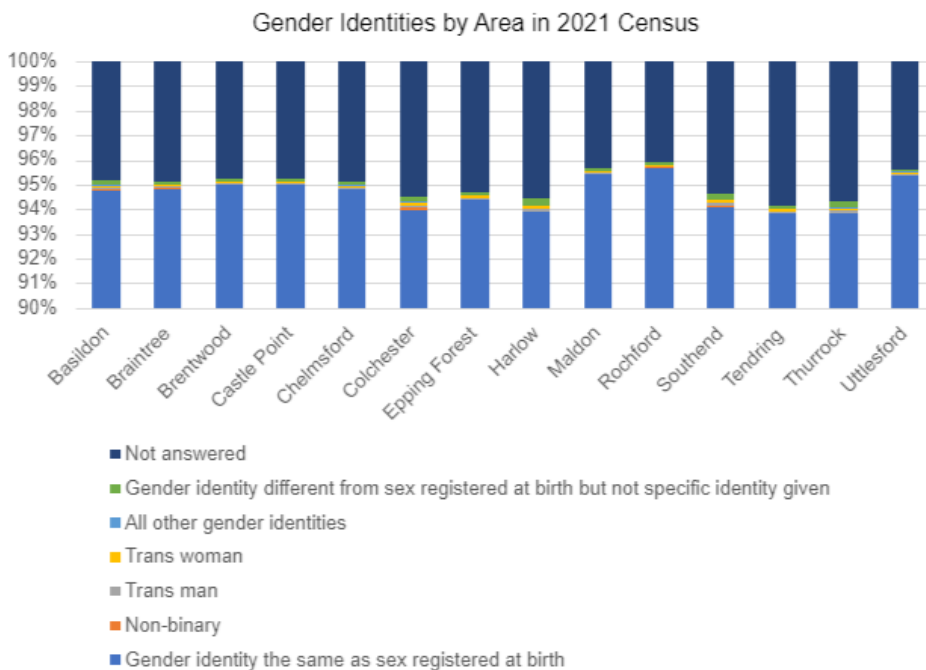


Figure 8

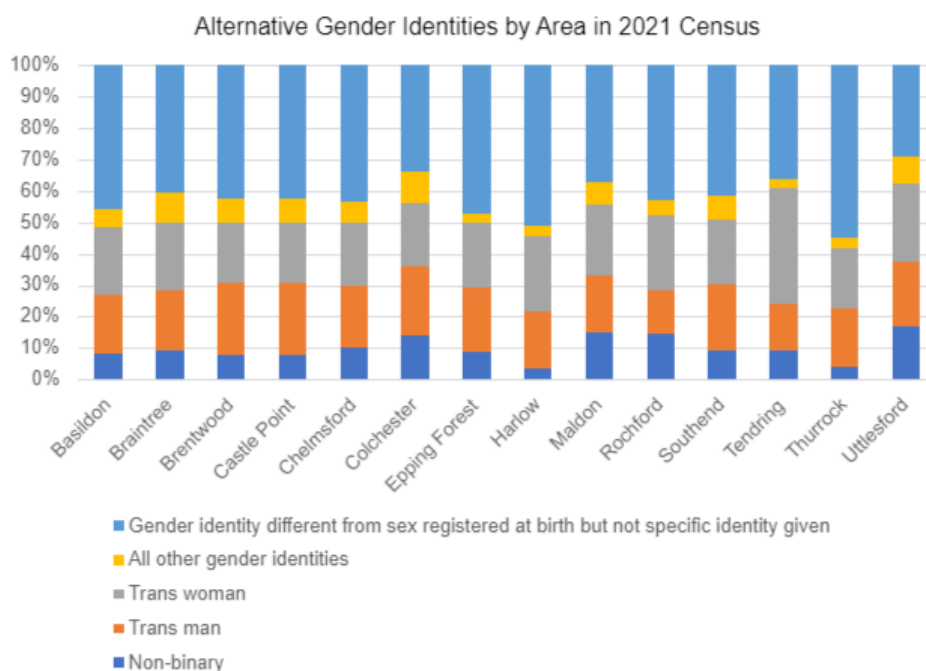


Figure 9

New to the 2021 Census is the category for gender identities, taking into consideration some of the major gender identities in use at the moment. As can be seen in Figure 8 the majority of people within Essex have either maintained the same gender identity as assigned at birth or have chosen not to answer. Whilst in Figure 9 taking both these top two answers out of the graph shows the variation in

Strategic Assessment of Risk

alternative gender identities where these have been selected. What this shows is a relatively even divide between trans identities and a wide range of other gender identities.

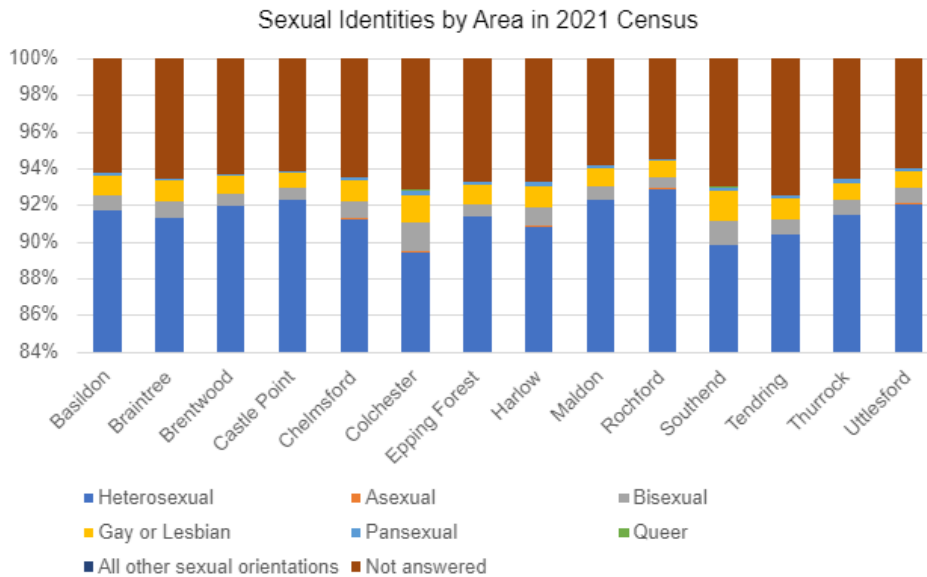


Figure 10

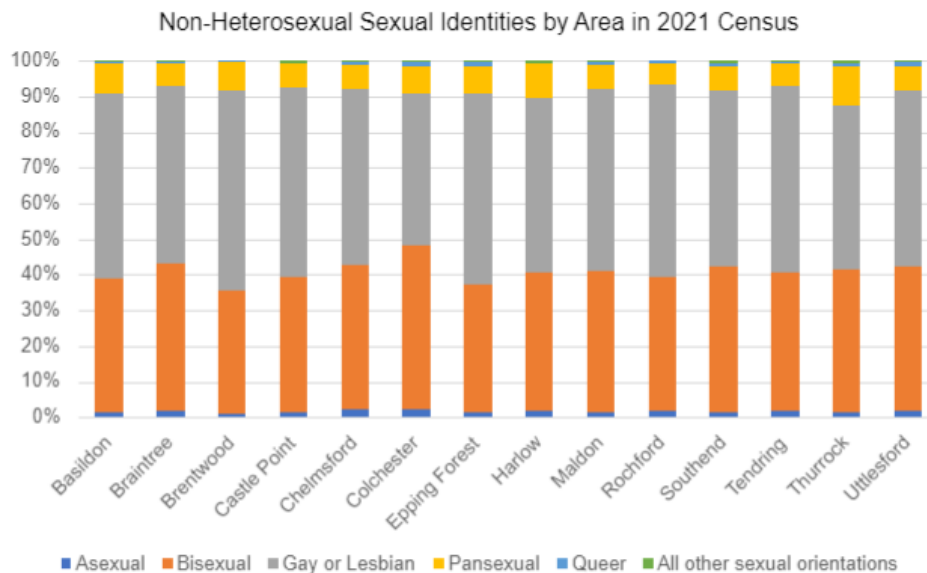


Figure 11

In Figure 10 above we can see that similar to the data for gender identities, sexual identities have two main answers returned, one for heterosexual and one for not answered. In Figure 11, having taken away both these top two responses it is clear

Strategic Assessment of Risk

that the majority of people who have selected another choice for sexual identity are predominantly gay, lesbian or bisexual.

Whilst in Figure 12, below, we can see the predominant shift in lifestyle choices has been from marriage or civil partnership to cohabiting or single. The number of formal partnership arrangements which have been dissolved remain relatively consistent although with slight reductions indicative of the impact of those choosing not to enter into formal agreements.

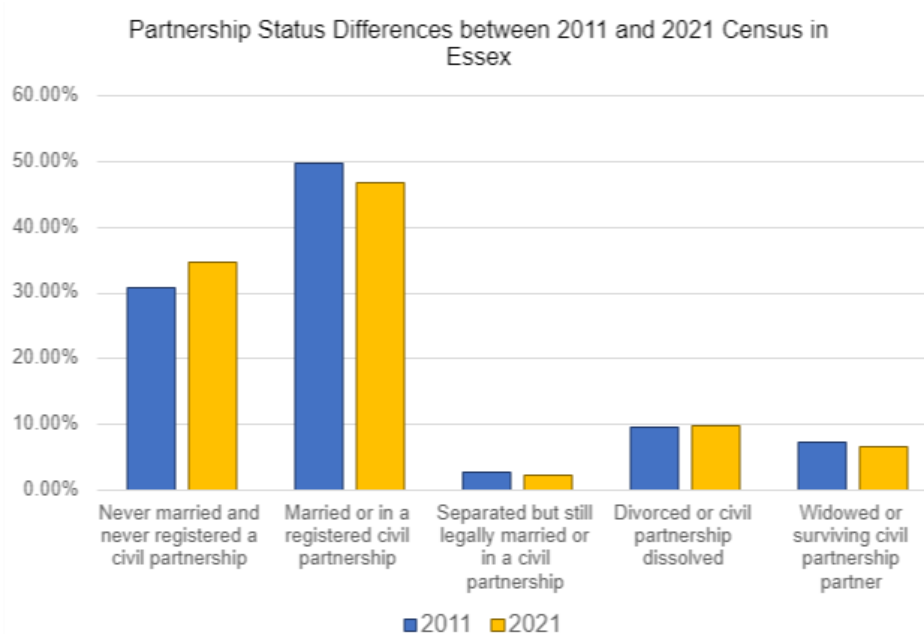


Figure 12

Further analysis could be carried out to understand the likely changing household compositions where all of the above demographic data is taken into consideration to determine what impact this may have on lifestyle behaviours and therefore requirements to resource the Service accordingly.

Ethnicity and Languages

Within the Figures 13 to 18 comparative graphs show the changes in population ethnicity across Essex between the 2011 census and the 2021 census. The graphs also show the changes in main languages spoken across Essex between both census dates.

In the first two graphs below (Figures 13 and 14) the main ethnicity groups are shown in comparison to one another and against both census counts. Figure 13 shows that between 2011 and 2022 the number of people of a non-white ethnicity

Strategic Assessment of Risk

within Essex has increased in comparison to those of a white ethnicity. Figure 14 breaks down the non-white category into the top 4 ethnic categorisations, showing a marked increase across all categories in the past 10 years whilst maintaining the distribution between each of these.

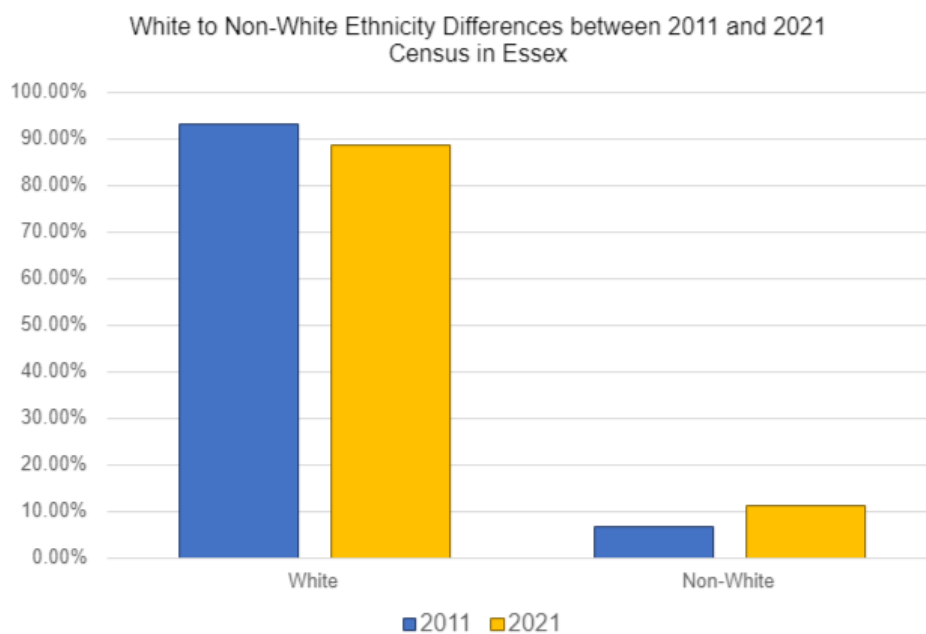


Figure 13

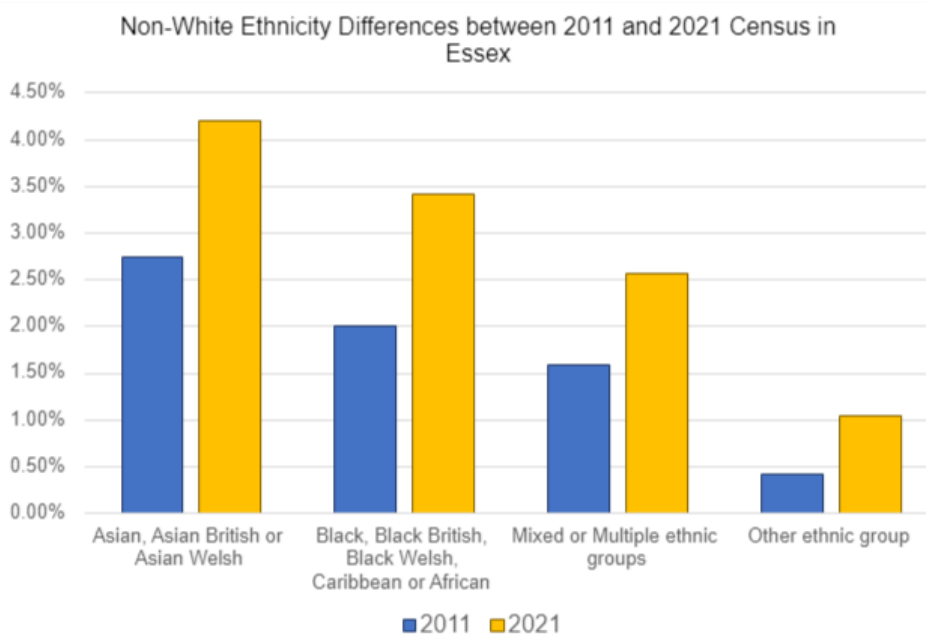


Figure 14

Strategic Assessment of Risk

Figures 15 and 16 show the comparison between first languages spoken within Essex. Figure 15 shows that the majority of people in Essex speak a UK based language as their first language in comparison to non-UK languages. Whilst this has changed between the census counts it is a marginal difference. Figure 16 highlights that the majority of first languages spoken after a UK based language are those from within the EU, followed by those from South Asia. As can also be seen by this graph, both these language areas have increased significantly over the past 10 years with European (EU) languages almost doubling in use.

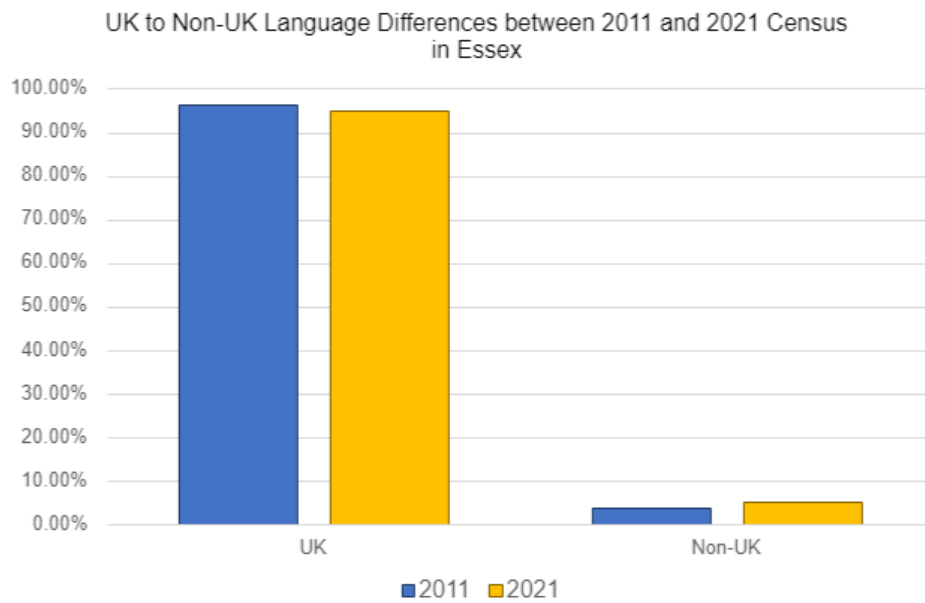


Figure 15

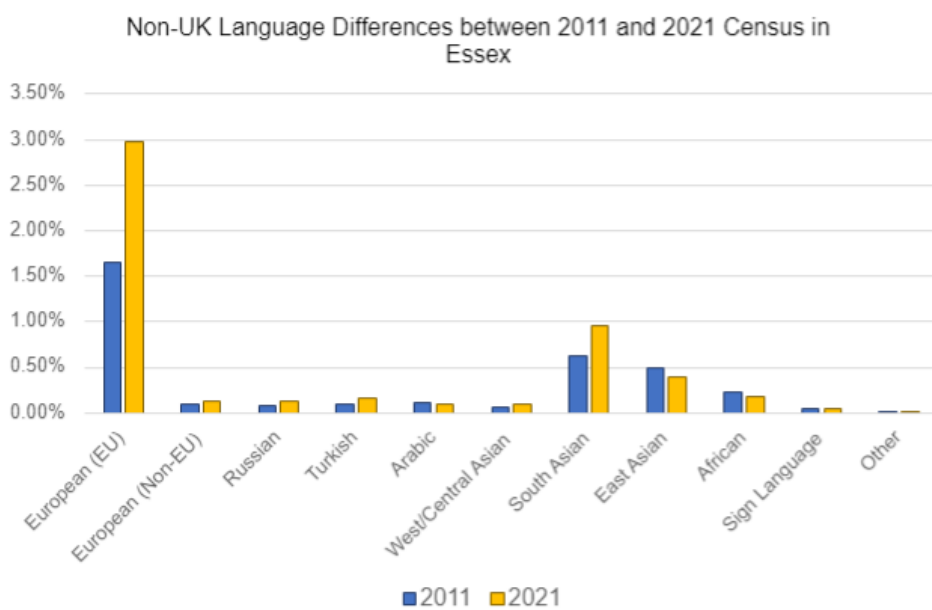


Figure 16

Another new addition to the 2021 Census is the more detailed break down of language categories. As can be seen in Figure 17 the top 15 languages spoken in Essex after English include 7 East European languages, 3 West European languages and 5 South Asian languages. The most dominant of these languages are Romanian and Polish. Consideration should be taken by the Service to ensure that it has the appropriate resources available to communicate and engage with people of non-UK ethnicities and where English is not their first language.

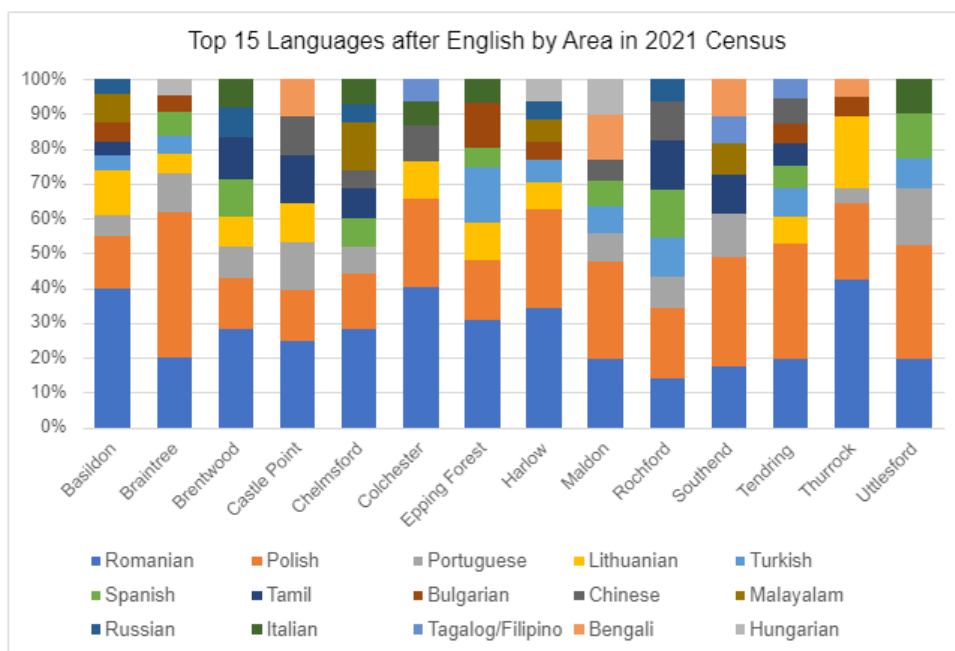


Figure 17

Religious Beliefs

Religious beliefs influence lifestyle behaviours which can create different risk patterns that the Service should consider when engaging with people. In the graphs below the dominant religious beliefs held within Essex are shown in comparison to the 2011 and 2021 census data. Figure 18 shows the reduction in followers of Christianity over the past 10 years, alongside the increase in people with no religious belief, and those with a religious belief other than Christianity.

Strategic Assessment of Risk

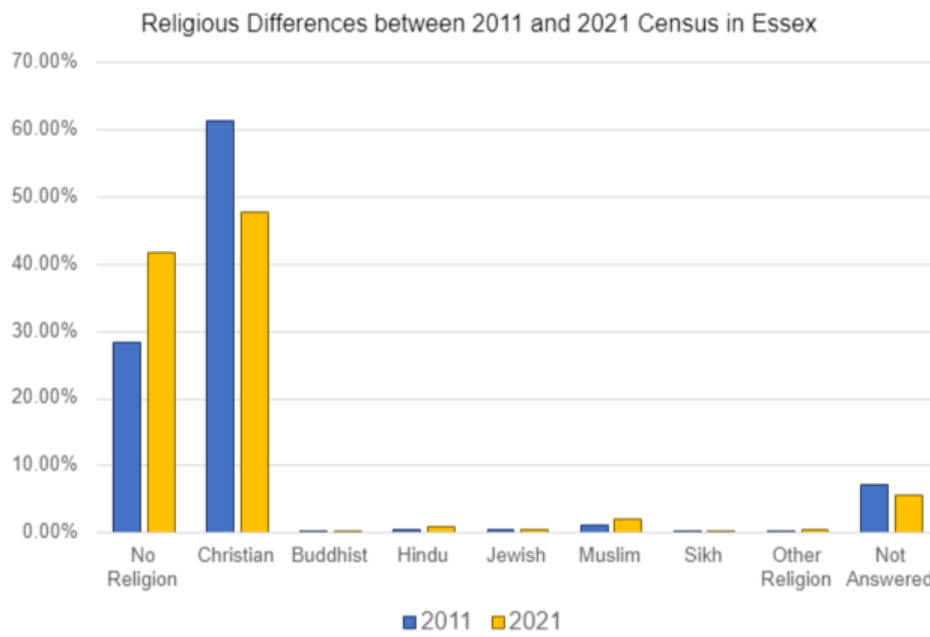


Figure 18

Figures 19 and 20 show the break down of religious belief by area within Essex in the 2021 census. As can be seen in Figure 19 the predominant religious belief remains Christianity across all areas, followed by no religious belief and not answered before all other religious beliefs. In Figure 20 we can see that the highest proportion of other religious beliefs are Muslim and Hindu, followed by Judaism significantly in Castle Point and Epping Forest.

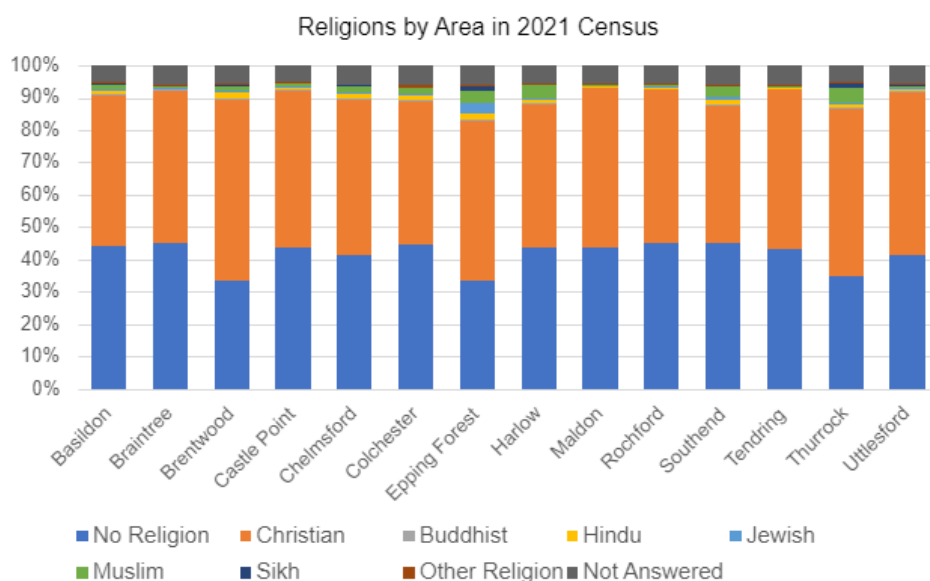


Figure 19

Strategic Assessment of Risk

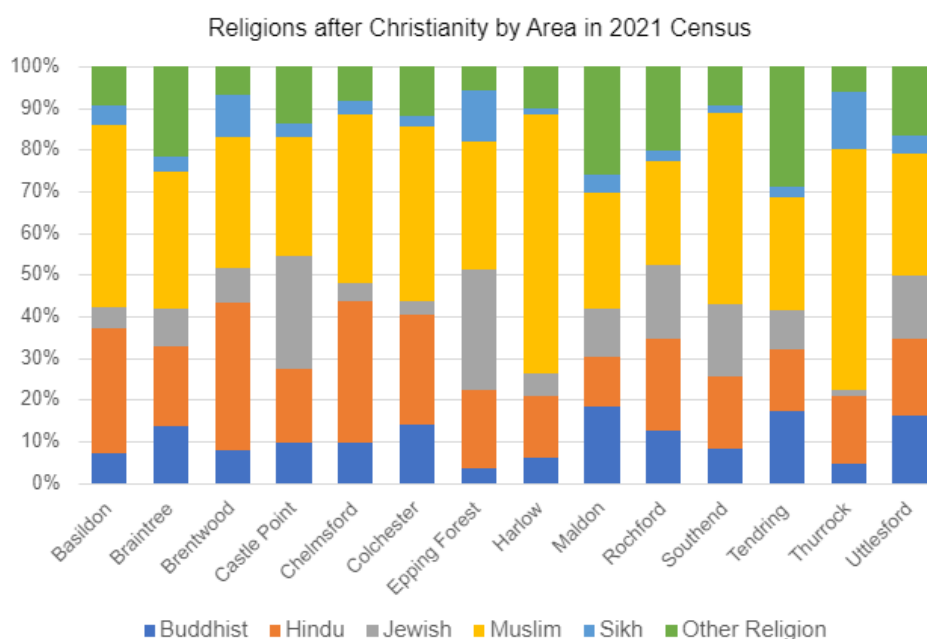


Figure 20

Further analysis could be carried out to understand which areas within the District and Unitary Authority locations have higher proportions of those with different religious beliefs, and considerations may need to be taken by the Service when engaging with those communities.

Deprivation

The Ministry of Housing, Communities and Local Government calculate areas of deprivation utilising an established methodology which considers seven distinct domains of deprivation, which when combined and appropriately weighted form the Index of Multiple Deprivation. These encompass a wide range of an individual's living conditions and as such people can be regarded as deprived if they lack any kind of resources to meet their needs. The seven areas considered are:

- Income (weighted at 22.5%)
- Employment (weighted at 22.5%)
- Health Deprivation and Disability (weighted at 13.5%)
- Education, Skills Training (weighted at 13.5%)
- Crime (weighted at 9.3%)
- Barriers to Housing and Services (weighted at 9.3%)
- Living Environment (weighted at 9.3%)

The Service utilises these Indexes of Multiple Deprivation, and in conjunction with Essex County Council and the University of Essex have combined these factors

Strategic Assessment of Risk

alongside known contributors to accidental dwelling fires to divide Essex into four areas of ratings, known as:

- Cluster 1: Deprived urban centres with significant challenges (shown in red)
- Cluster 2: Deprived town centres and outskirts (shown in yellow)
- Cluster 3: Suburban communities (shown in dark green)
- Cluster 4: Small towns and rural settings (shown in light green)

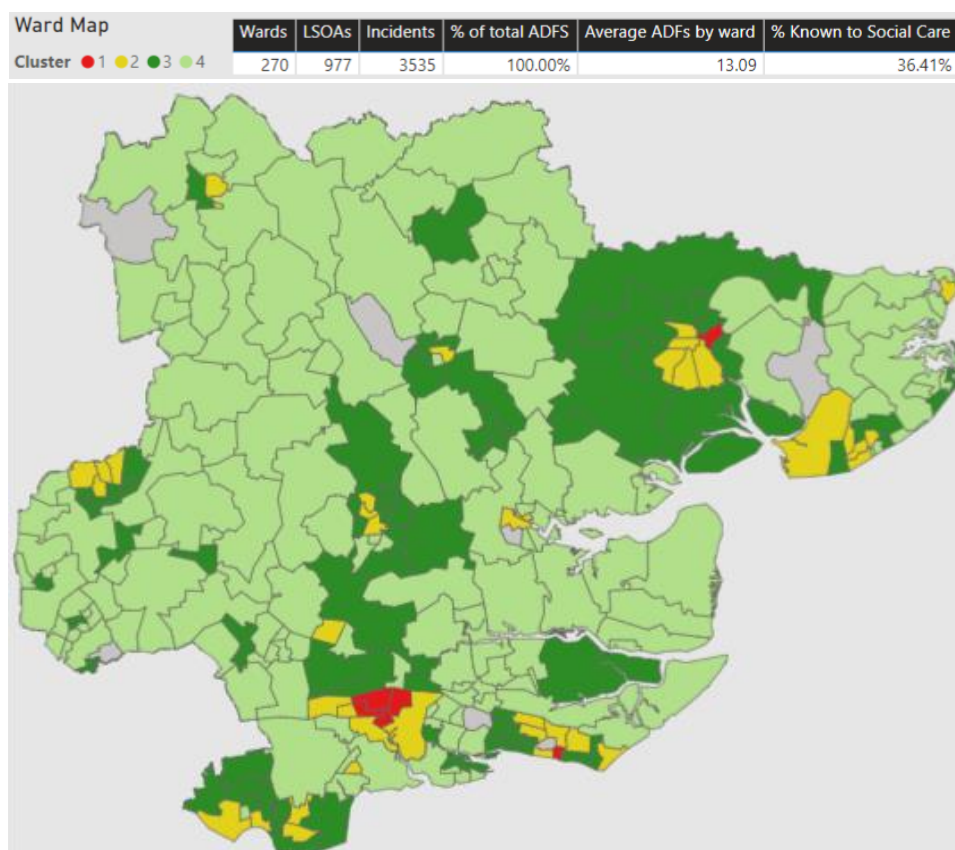


Figure 21

As can be seen in Figure 21, a large proportion of Essex is formed of Cluster 4. These areas have the lowest prevalence of accidental dwelling fires and the second highest proportion of accidental dwelling fires occurring in buildings where someone is known to adult or children social care. This area also has the lowest proportion of accidental dwelling fires where alarm systems are present.

Figure 22 provides further detail to support how each of the four clusters have been calculated using the average scores from the Index of Multiple Deprivation. Understanding how each of these factors contribute to behaviours which increase the risk to individuals of fire within the home enables the Service to provide targeted support and engagement through its Prevention activity delivery.

Strategic Assessment of Risk

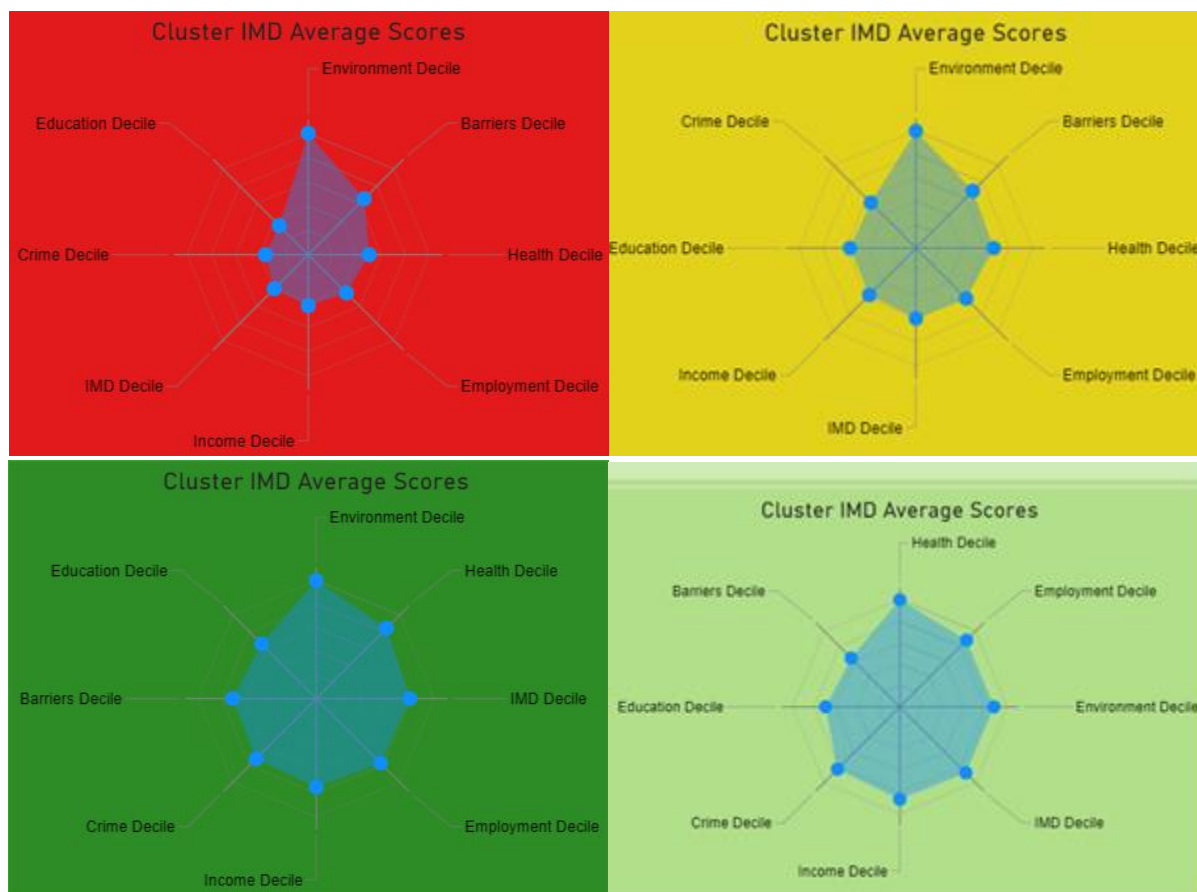


Figure 22

Housing

The Essex Strategic Joint Needs Assessment conducted by Essex County Council provides current statistical analysis of the health and wellbeing aspects of the residents of Essex. Part of this analysis includes the quality of housing in relation to overcrowding. Figure 23 depicts the overcrowding proportional percentages by area in 2022.

Using this data in conjunction with the insights provided through the areas of deprivation and accidental dwelling fires as previously depicted in Figures 21 and 22 provides the Service with evidential support for the delivery of targeted Prevention activities. As can be seen in Figure 24 households with children and more than 5 people living in the home have been shown to be at greater risk of accidental dwelling fires.

Quality of Housing - Overcrowding 2022

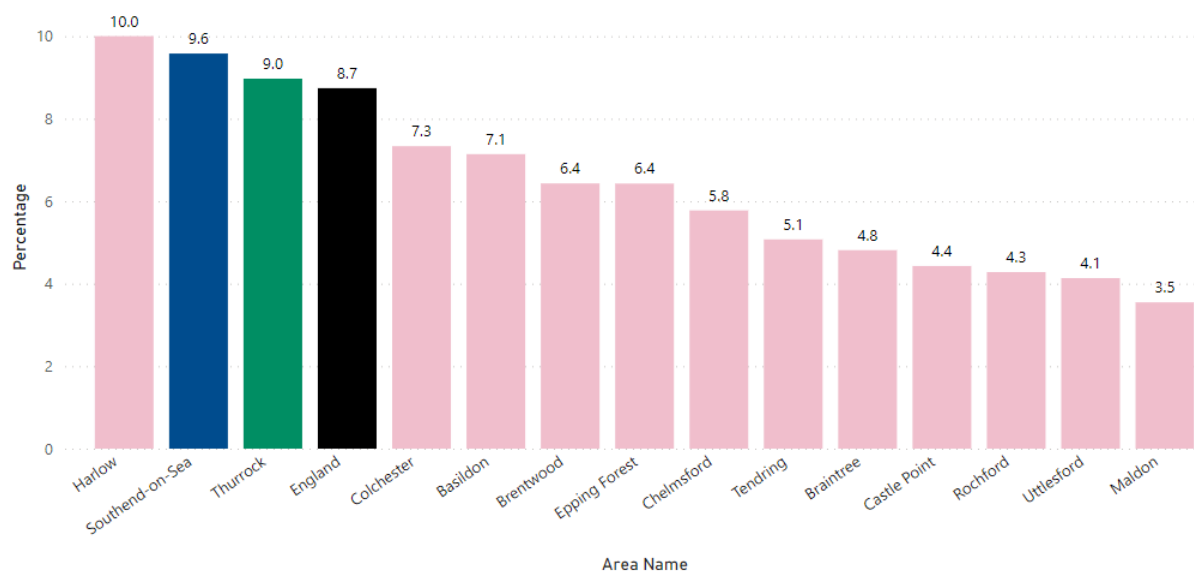


Figure 23: Households with overcrowding based on overall room occupancy levels – proportion %

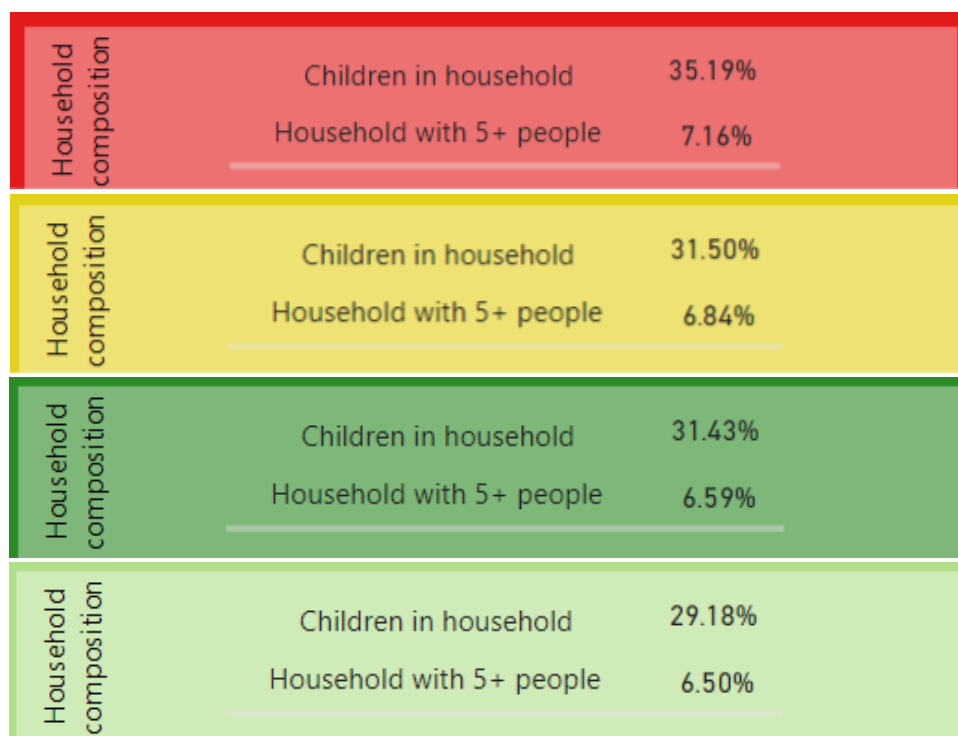


Figure 24

Fuel Poverty

Fuel poverty in England is measured using the Low Income Low Energy Efficiency (LILEE) indicator. Under this indicator, a household is considered to be fuel poor if:

- They are living in a property with a fuel poverty energy efficiency rating band D or below

and

- When they spend the required amount to heat their home, they are left with a residual income below the official poverty line.

With the current cost of living crisis, which according to the office for national statistics has seen a period of increasing prices from 2021 to 2023 caused principally by a combination of:

- Economic recovery from the COVID-19 pandemic and subsequent supply chain constraints.
- Sharp increases in both food and energy prices, following Russia's invasion of Ukraine.

Individuals are making cost saving decisions which may be a direct cause of higher risk in other areas.

Looking at Figures 25 and 26 we can see that the household fuel poverty level is currently higher than the English mean in Tendring and Southend. We can also see that this has been increasing in Tendring, Harlow, Colchester and Basildon over the years 2019 to 2021.

Strategic Assessment of Risk

Household Fuel Poverty 2021

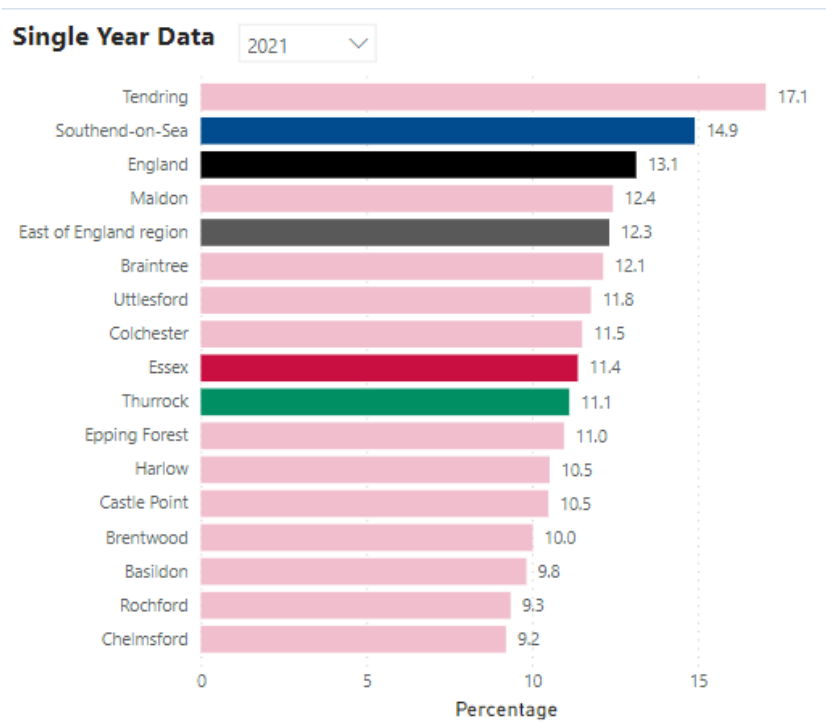


Figure 25: The percentage of households in an area that experience fuel poverty based on the low income, low energy efficiency (LILEE) methodology 2020

Household Fuel Poverty 2019 to 2021

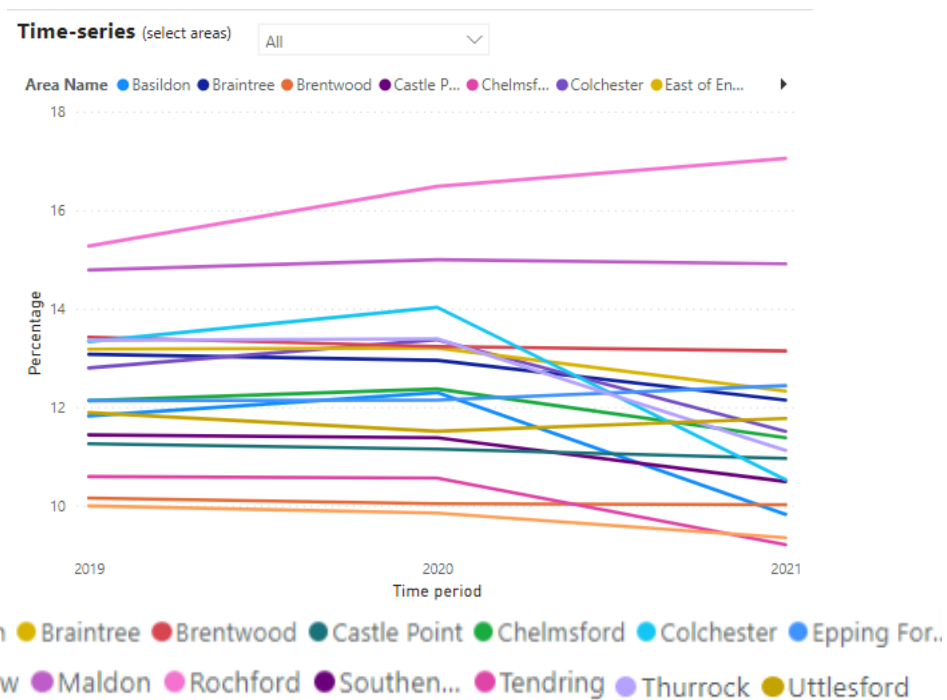


Figure 26: The percentage of households in an area that experience fuel poverty based on the low income, low energy efficiency (LILEE) methodology 2019-2020

Strategic Assessment of Risk

Viewing this data in association with the insights provided through the areas of deprivation and accidental dwelling fires, we can see that those areas most at risk of accidental dwelling fires also have the highest level of fuel poverty. The Service should continue to monitor the trends in fuel poverty and how these correlates to other known risk factors to ensure that Prevention activities are appropriately resourced and delivered.

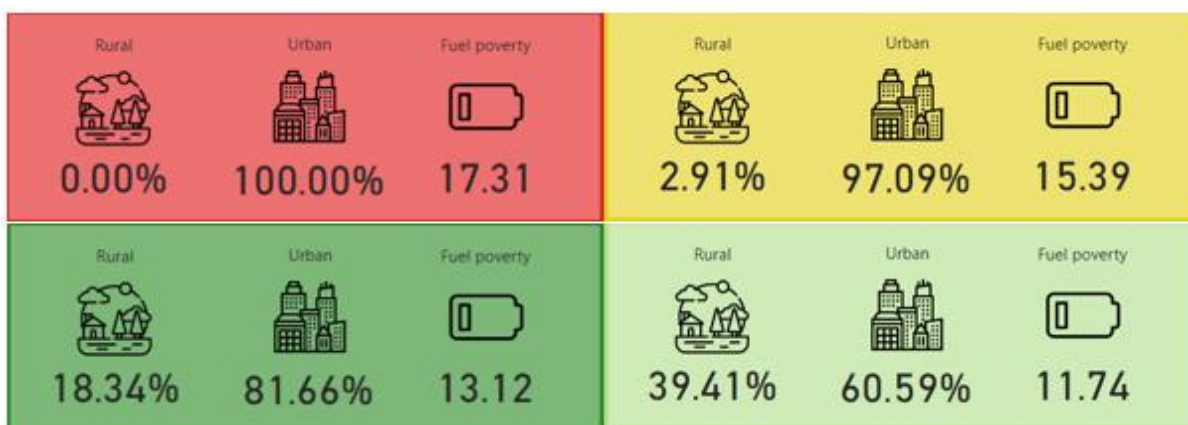


Figure 27

Health and Wellbeing

Care and Support Needs

The graphs below (Figures 28 and 29) show the percentage of palliative or supportive care as provided in 2020 to 2021 and 2021 to 2022 respectively, as detailed in the Essex Strategic Joint Needs Assessment. These year on year comparisons show us that care provision increased in Tendring, Castle Point, Epping Forest, Rochford and Southend. In Figure 30 we can see that the majority of people who receive care do so through paid services, whilst those who do provide unpaid care for others predominantly spend up to 19 hours a week doing so. This remains relatively consistent across all areas with an equal increase in paid care provision across all areas as well. Further analysis of care needs in relation to other contributing factors which increase an individual's risk of fire incidents occurring should be undertaken to ensure the Service provision of Prevention activities are resourced appropriately.

Strategic Assessment of Risk

Palliative/Supportive Care

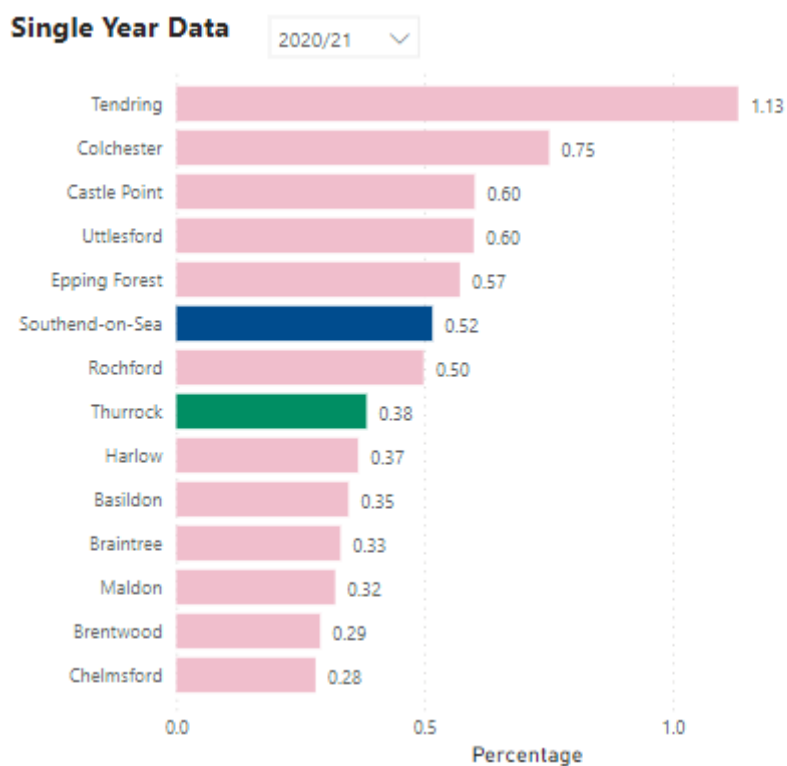


Figure 28: The percentage of patients in need of palliative care/support, as recorded on practice disease registers, irrespective of age, 2020-2021

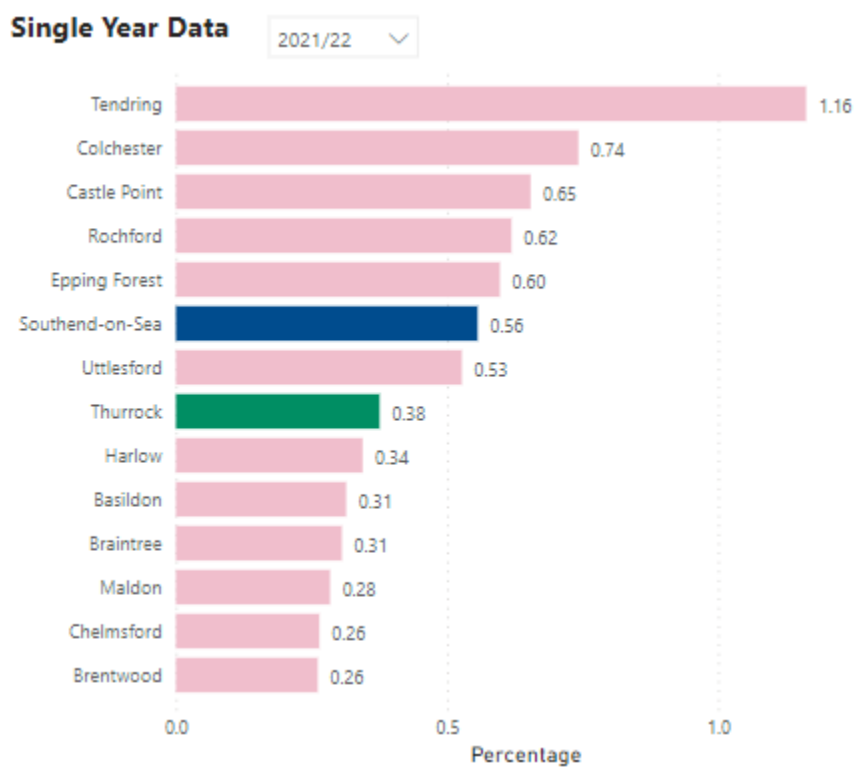


Figure 29: The percentage of patients in need of palliative care/support, as recorded on practice disease registers, irrespective of age, 2021-2022

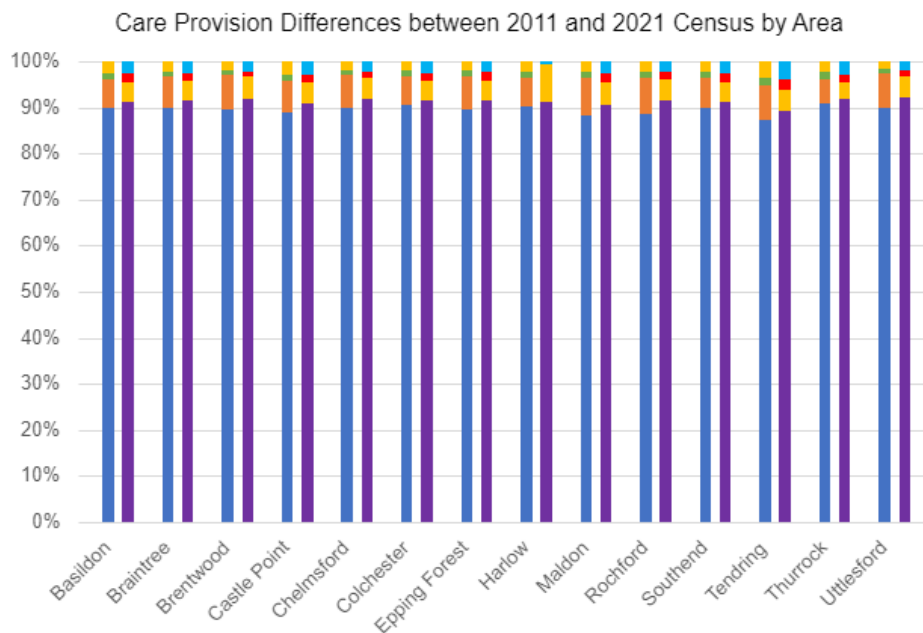


Figure 30

Mental Health

Figures 31 and 32 provide the percentage of patients recorded as having a diagnosed mental health condition by area for 2020 to 2021 and 2021 to 2022 respectively. These show us that over the two year period the number of patients with mental health conditions increased in Southend, Tendring, Colchester, Braintree, Chelmsford, Maldon, Castle Point, Thurrock, Brentwood, Rochford and Uttlesford, whilst they decreased in Harlow and remained the same percentage for Basildon and Epping Forest. Whilst the changes in these percentages are relatively small, further trend analysis could be conducted to determine if these are long term trend patterns and how they relate to other societal factors contributing to an individual's overall risk of involvement in a fire or other incident.

Strategic Assessment of Risk

Mental Health Prevalence – All Ages

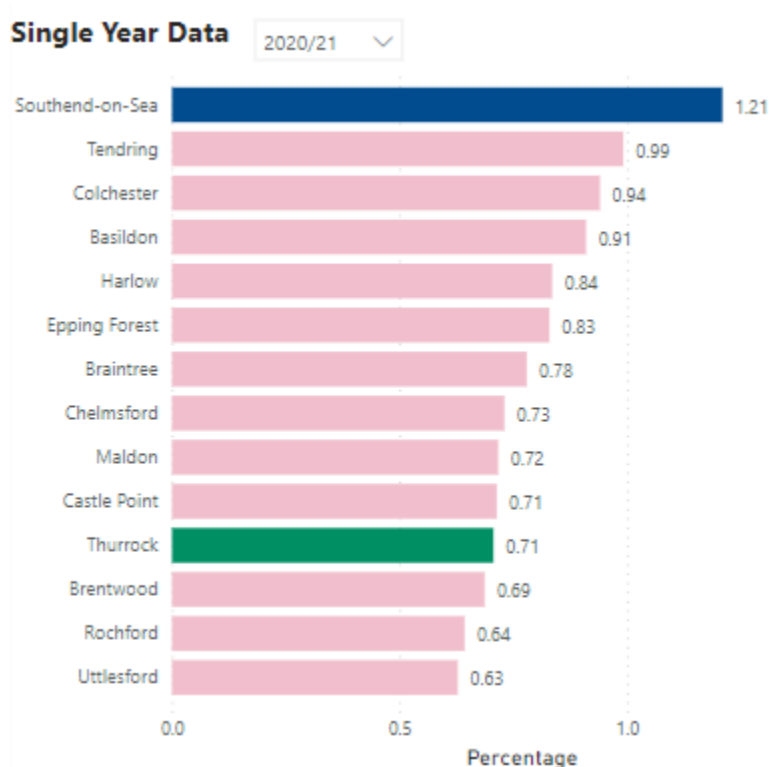


Figure 31: The percentage of patients with schizophrenia, bipolar affective disorder and other psychoses as recorded on practice disease registers 2020-2021

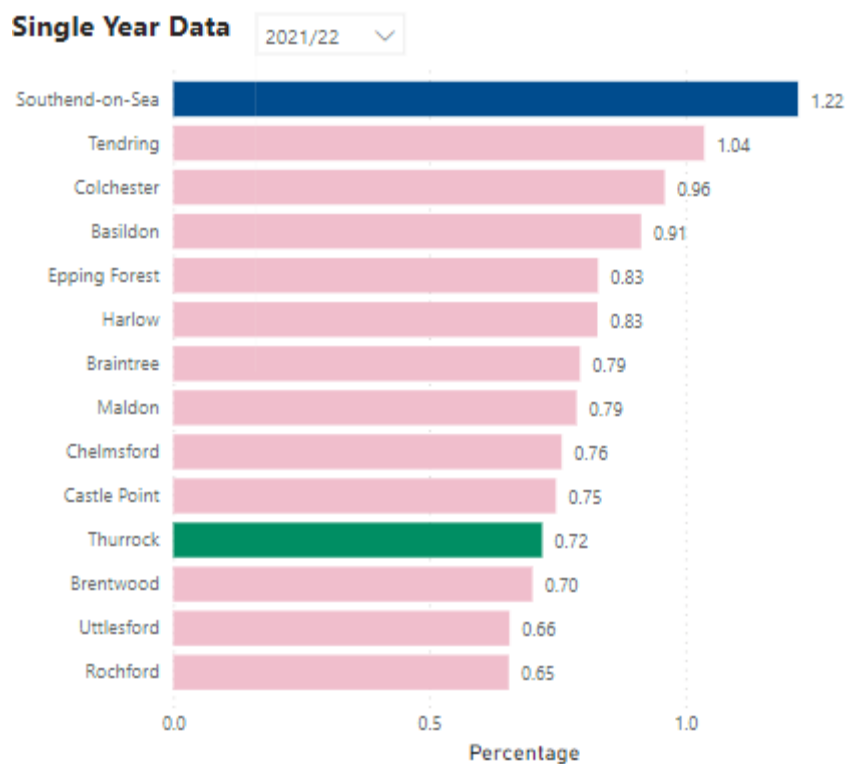


Figure 32: The percentage of patients with schizophrenia, bipolar affective disorder and other psychoses as recorded on practice disease registers 2021-2022

Whilst the graph below (Figure 33) shows the significant impact that COVID-19 has had on the mental wellbeing of school pupils, as the graph indicates the sharp rise in mental health needs in school aged children is not unique to Essex but follows a similar pattern across England. Continuing research into this area will enable the Service not only to provide appropriate Prevention based activities to support these children, but also to understand the long-lasting impact of these on their behaviour patterns as they become adults.

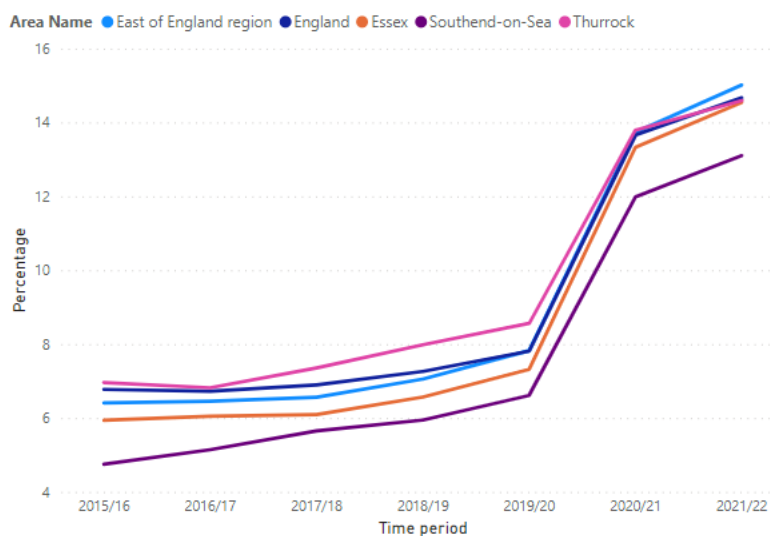


Figure 33: School pupils with social, emotional, and mental health needs 2015-2022

Disability

As can be seen by the graph in Figure 34, the percentage of the population within most areas of Essex who are registered as having a disability has decreased consistently between the 2011 and 2021 census. Braintree and Colchester are the exceptions where the number of registered disabled people has increased between the census dates, whilst Tendring has remained the area with the highest proportion of disabled people. Further understanding of the range of disabilities represented and the impacts they have on an individual’s mobility and home support needs will enable the Service to ensure its Response activities are appropriately considered and adjusted to ensure effective resolution of incidents.

Strategic Assessment of Risk

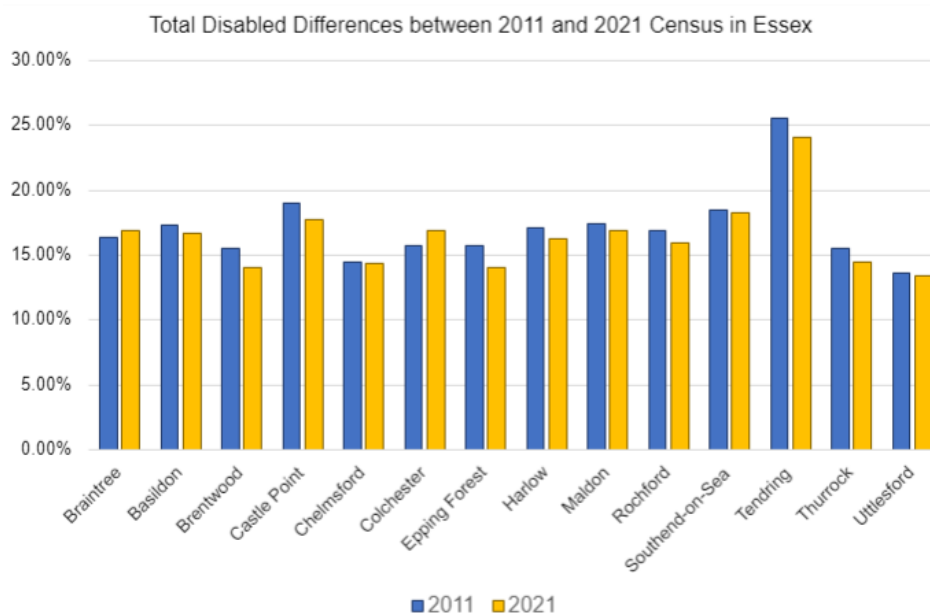


Figure 34

Obesity

Following the behavioural changes incurred during the restrictions imposed through the UK response to COVID-19, the graphs below show how these have impacted upon the general health and weight of the population. There is a gradual increase shown in the percentage of adults who are classed as overweight or obese across all areas of Essex between 2015 and 2021 (as shown in Figure 35) which is matched by a similar trend pattern in the percentage of children aged 10-11 classified as living with obesity or severe obesity (Figure 36). As challenges to physical health are known to be a contributing factor to fire fatalities (source Fatal Fire Key Findings Presentation 2021), the Service should constantly review its Safe and Well delivery activities and how these can be improved to address all known risk factors.

Strategic Assessment of Risk

Adults

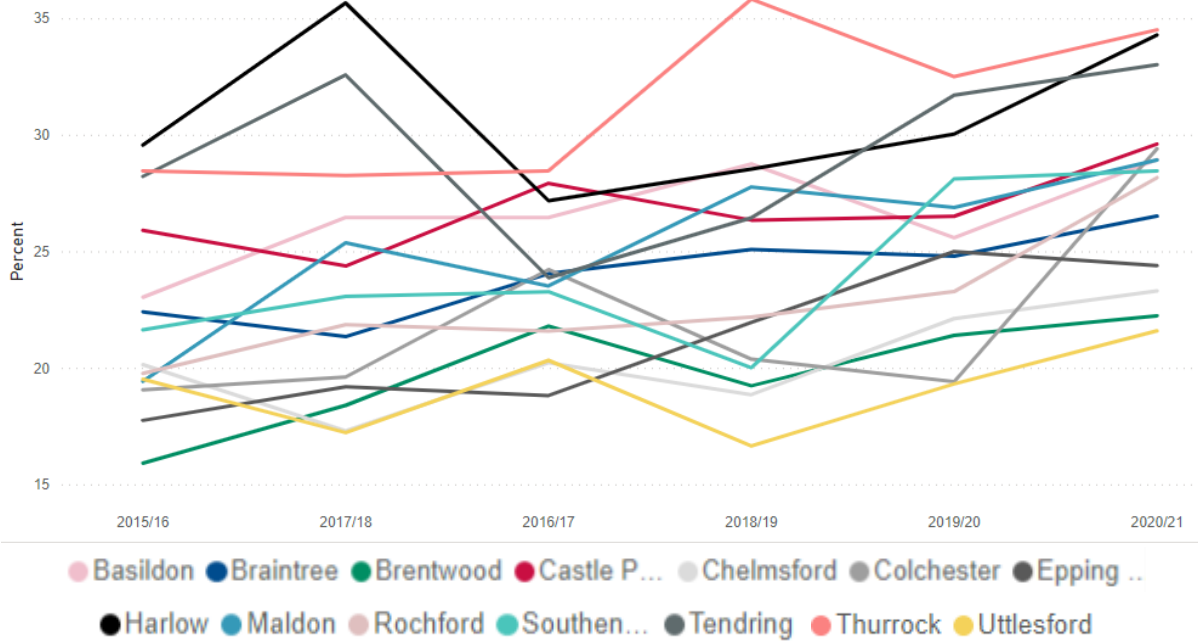


Figure 35: Percentage of adults aged 18 and over classified as overweight or obese 2015-2021

Children Aged 10-11

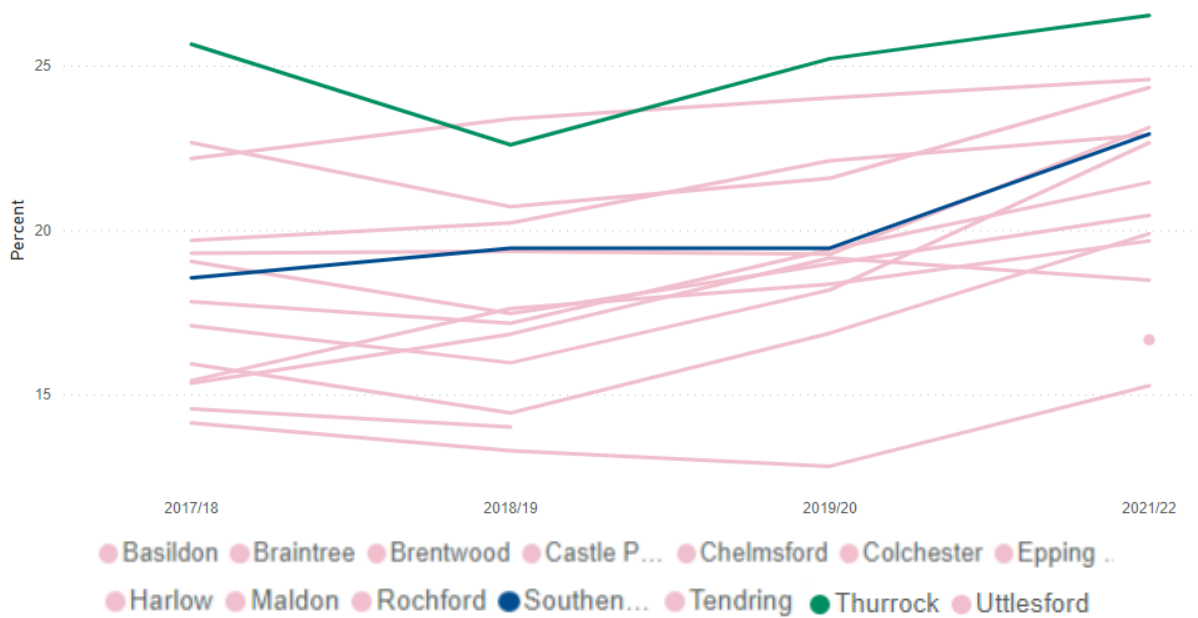


Figure 36: Proportion of children aged 10-11 years classified as living with obesity or severe obesity. 2017-2022

Smoking

Figure 38 indicates the percentage of people who identified themselves as smokers to their doctor between 2017 and 2022 across Essex. This shows the number of declared smokers reduced significantly for most areas in 2018, returned to similar numbers in 2019 and has remained relatively consistent since. Some areas have more variation year on year in the percentage of smokers, however when taken in consideration with Figure 37 and the overall percentage of smokers as declared in 2021 to 2022, it suggests that this is not a high risk factor. In contrast, Figure 39 shows the higher percentage of smokers who are also diagnosed with a mental health condition. Further analysis could be undertaken to correlate the relationship between the percentage of smokers and the percentage of smoking related incidents by area and also in correlation to mental health conditions to understand the risk factor smoking currently has on incidents occurring.

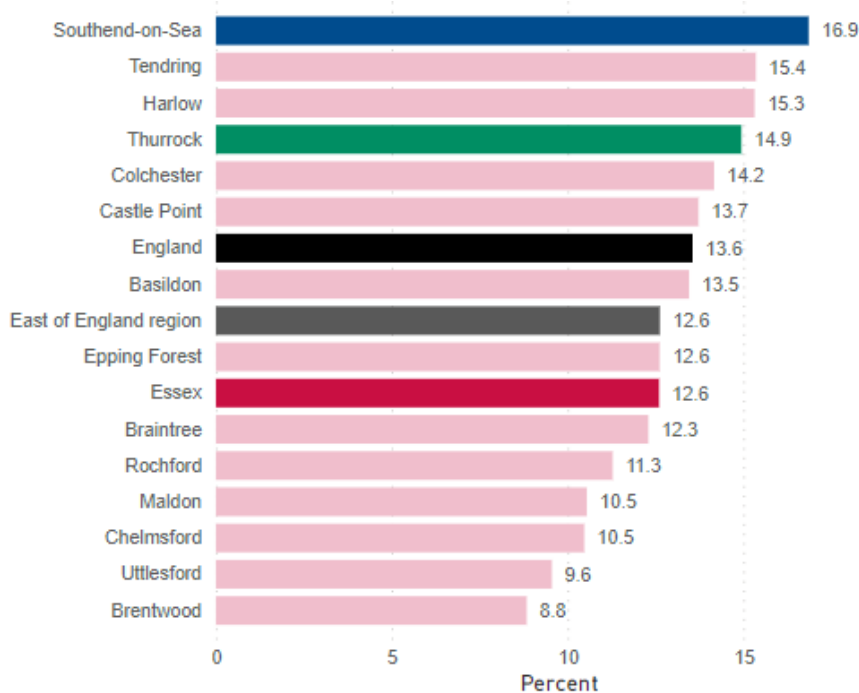


Figure 37: Percentage of the population who classify themselves as either occasional or regular smokers according to the GP Patient Survey, 2021-2022

Strategic Assessment of Risk

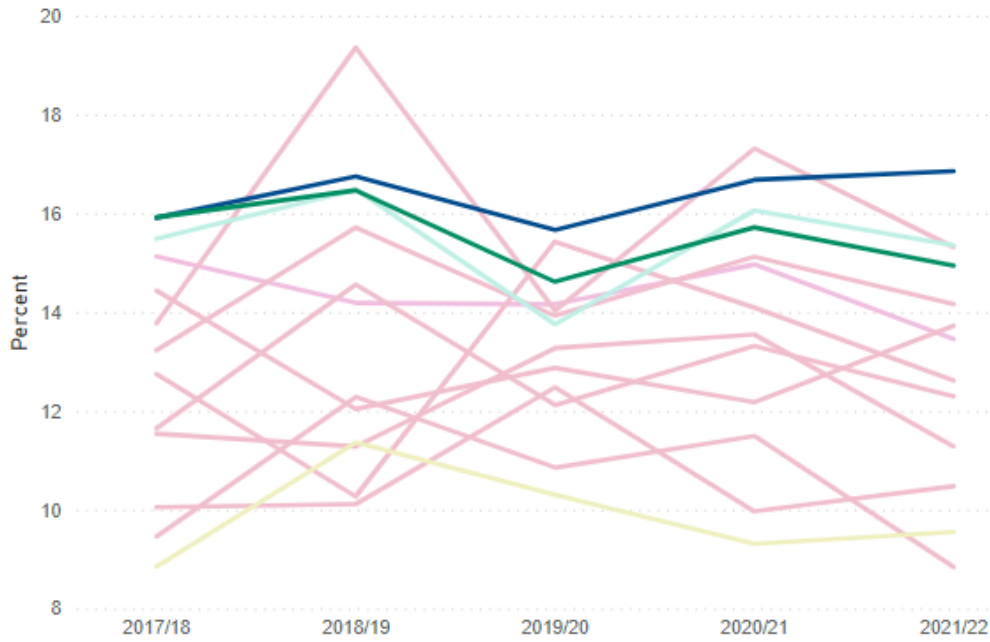


Figure 38: Percentage of the population who classify themselves as either occasional or regular smokers according to the GP Patient Survey. 2017-2022

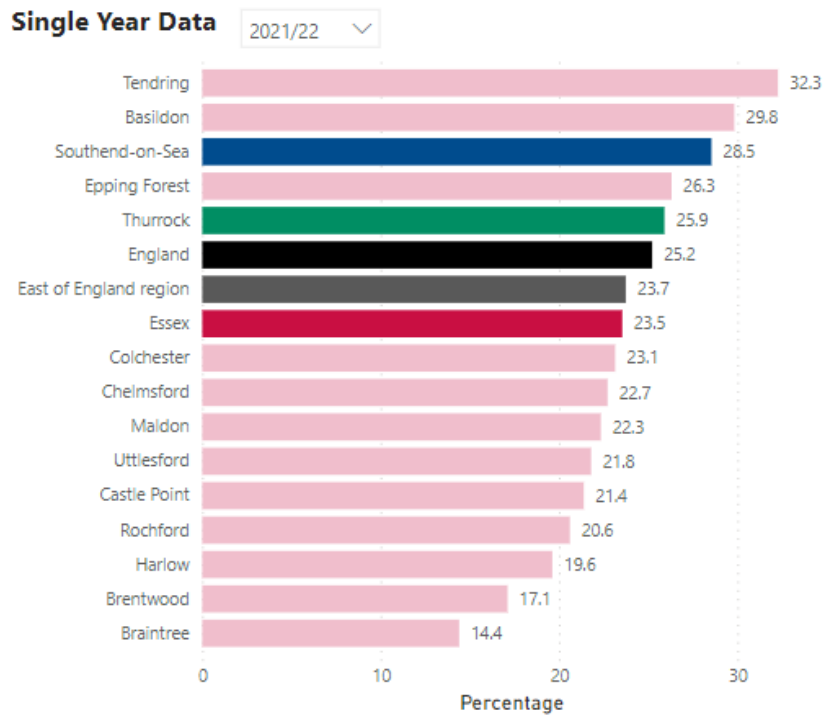


Figure 39: Smoking prevalence in adults with a long term mental health condition 2021/2022

Infectious Diseases

Emerging infectious diseases occur frequently and planning assumptions rely on the health service to effectively respond and contain the outbreak. Failure to contain the

Strategic Assessment of Risk

outbreak would result in a large epidemic in the UK or a pandemic which could become global. The specific characteristics of a novel emerging infection may vary and the long term impacts will not be fully understood until several months, or even years, of follow up have taken place.

Each pandemic is different and the characteristics of the pathogen, its transmission route, where and the time of year it emerges, and its impact on society cannot be known in advance. Socioeconomic deprivation, ethnicity, pre-existing health conditions and age will factor in the impacts felt by newly emerging infectious diseases through both increased exposure and the more severe effect of exposure.

It is impossible to predict the timing of a future pandemic and the probability of one occurring in the next five years is highly uncertain. The interval between previous pandemics is variable and there are no known markers that suggest the start of a new one. Based on historical evidence within the UK of the 1918/1919 flu and the COVID-19 pandemic which started at the end of 2019 it is judged that the average annual probability of a pandemic similar to reasonable worst case scenario planning occurring is 2%, or approximately 10% over the next 5 years. It is possible that a pandemic worse than the reasonable worst case scenario planning could occur, it is also likely that milder pandemics will occur more frequently than the figures quoted above.

Recovery from the COVID-19 pandemic will take several years as the disease reaches a stable endemic state and for the UK to fully recover from the health, social, and economic impacts. As a key responder to the COVID-19 pandemic and the combined work through tri-service agreements, the Service should be cognisant not only of the long term implications of COVID-19, but also the potential for future infectious diseases to emerge during the ongoing recovery and the impacts that may have on Service delivery and critical activities.

Crime Trends and Analysis

Crime and Antisocial Behaviour

The Service supports the delivery of the Serious Violence Duty in accordance with The Police, Crime, Sentencing and Courts Act 2022. Through its engagement with Community Safety Partnerships, Essex County Fire & Rescue Service collaborates in a multi-agency forum, providing data analysis to support the understanding of the causes and consequences of serious violence, and contributing to local plans for the prevention and risk reduction services to those identified as vulnerable and at risk from exploitation or abuse.

Incorporating the Office for National Statistics published crime statistics on reported crimes per 100,000 households, the Essex Strategic Joint Needs Assessment

Strategic Assessment of Risk

provides a Crime and Community Safety dashboard which shows us that 8 areas of Essex had a higher proportion of crime compared to England and the East of England region in 2021 (Figure 40). Breaking this total crime rate down to focus on criminal damage and arson we can see that 6 areas of Essex had a higher proportion of these particular crimes reported compared to England and the East of England region in 2021 (Figure 41). Specifically, Harlow, Basildon, Southend, Tendring, Thurrock and Colchester area in both high crime rate categories.

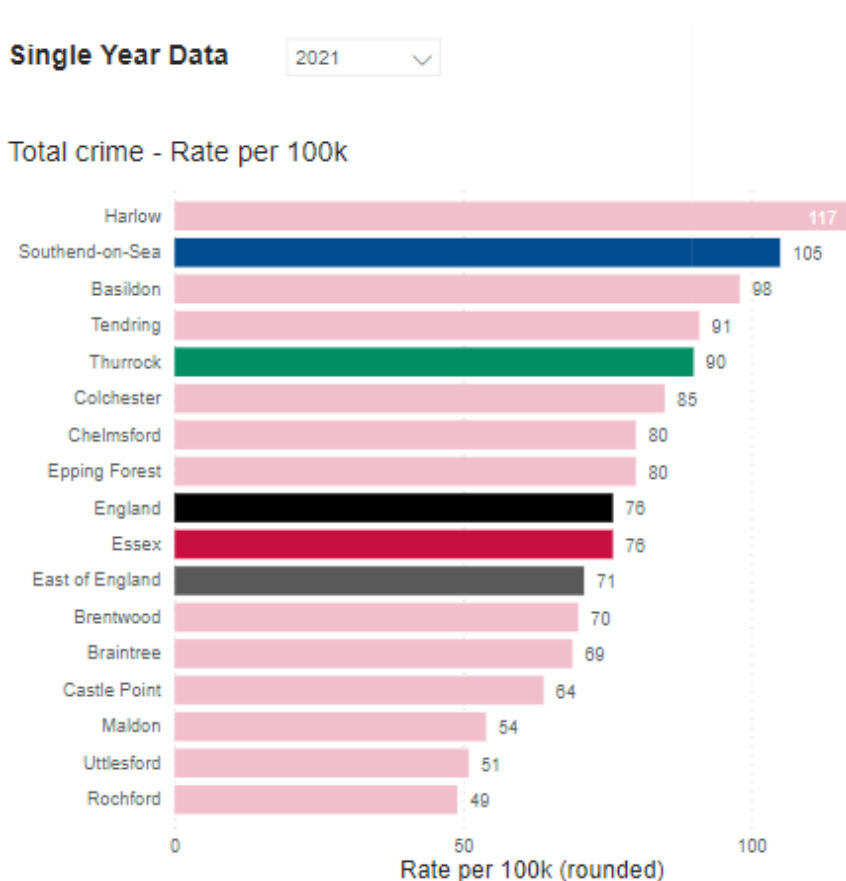


Figure 40

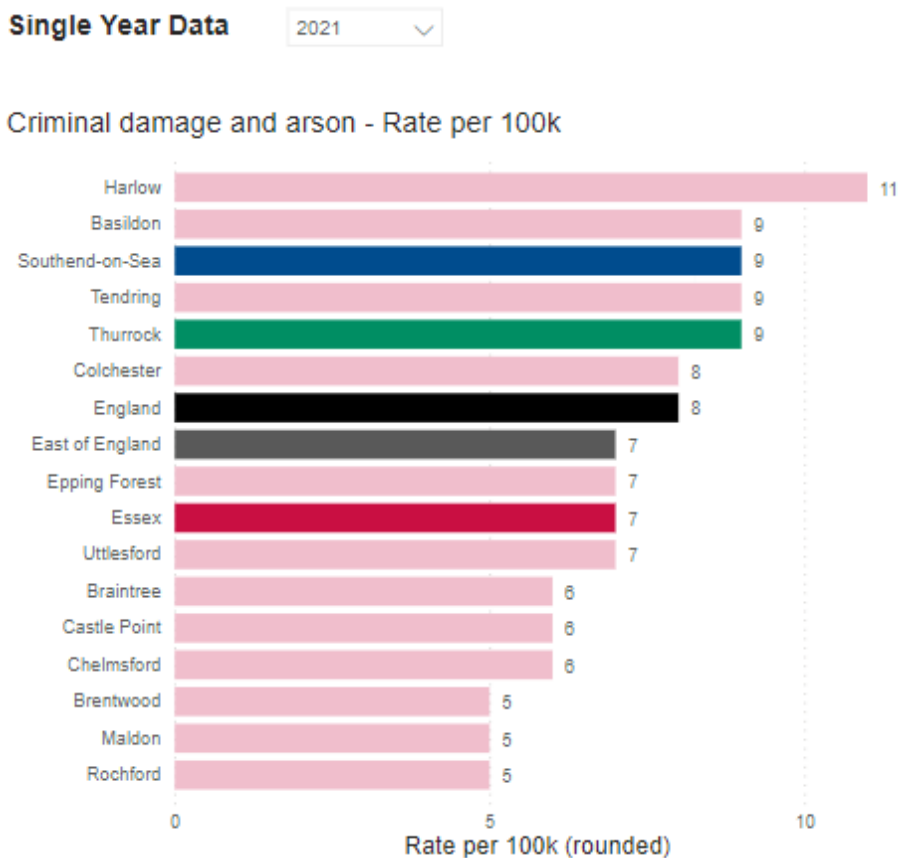


Figure 41

Looking at the crime statistics over a 6 year period from 2015 to 2021 we can see that the number of reported crimes increased significantly between 2018 and 2019 and has remained relatively consistent since (Figure 42). Whilst in comparison the rate of criminal damage and arson has not changed significantly within this time period. There is a corresponding spike for 2019, although for most areas this has reduced at a greater percentage than overall crime into 2021 (Figure 43). Further analysis could be undertaken by the Service to understand why arson maintains a relatively stable crime rate and what contributing factors lead an individual to commit arson so that Prevention activities can be resourced appropriately.

Strategic Assessment of Risk

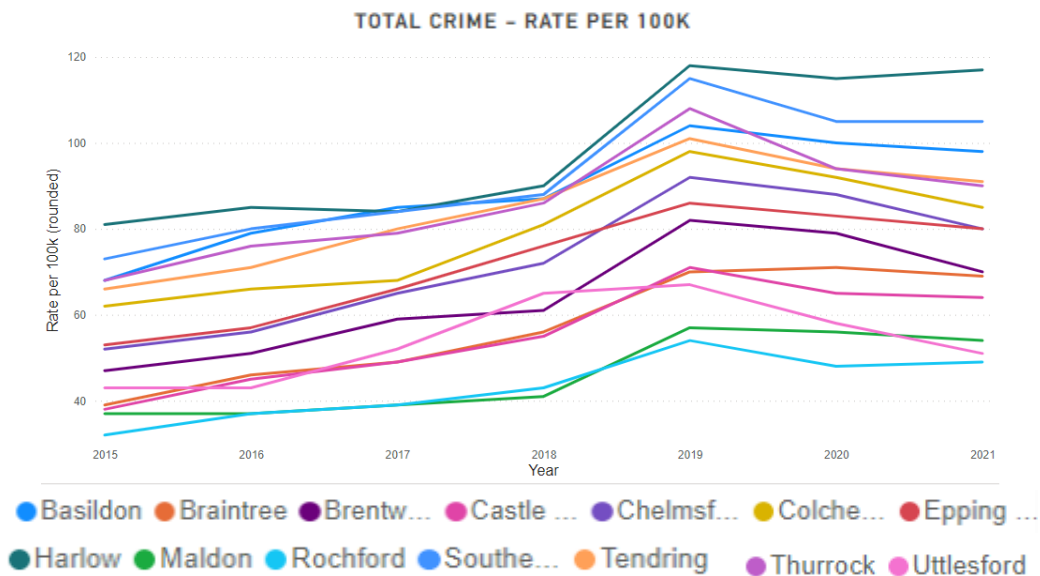


Figure 42

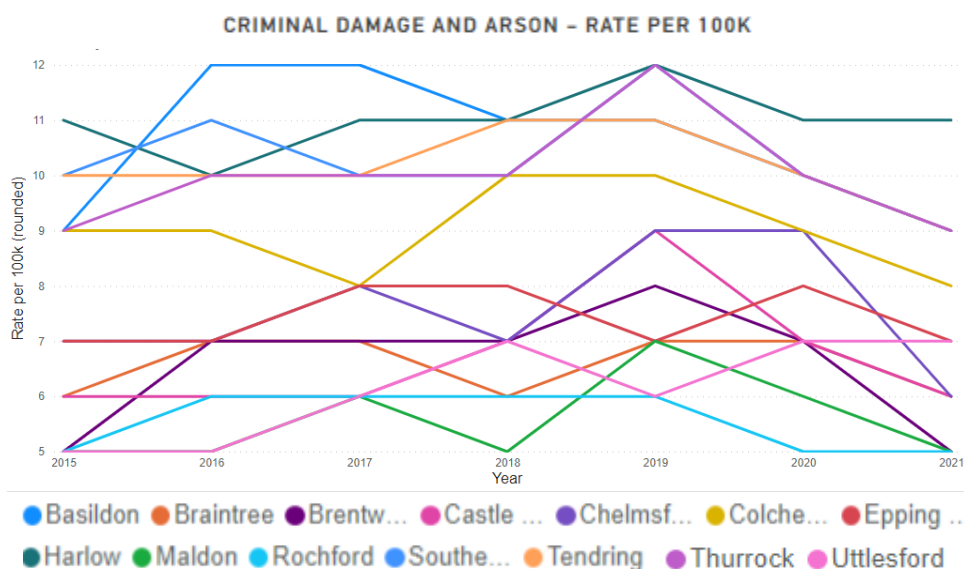


Figure 43

Terrorism

The UK has suffered a number of terrorist attacks using person-borne or emplaced Improvised Explosive Devices including the London bombings in 2005, Manchester Arena in 2017 and Parsons Green in 2017. The use of a Person-Borne Improvised Explosive Device as an attack methodology has stayed relatively stable over the last 20 years with explosives remaining a weapon of choice for terrorists across a range of ideologies. The nature of Person-Borne Improvised Explosive Device attacks (body worn/carried) and the substances used may change as policy adapts but at the moment, it is unlikely this will fundamentally impact the reasonable worst case scenario.

In addition to a Person-Borne Improvised Explosive Device, a Vehicle Borne Improvised Explosive Device as an attack methodology has also stayed relatively stable over the last 30 years and is expected to change little over the next 5 years. However, barriers to successful implementation of a Vehicle Borne Improvised Explosive Device are now higher than in the 1990/2000s, therefore a Vehicle Borne Improvised Explosive Device attack is less likely than a Person-Borne Improvised Explosive Device attack.

In contrast, low sophistication marauding terrorist attacks present a new risk and therefore there are some uncertainties regarding the impacts these may have. An attacker who uses only one form of weaponry as opposed to the reasonable worst case scenario of multi-methodology presents a higher likelihood of occurrence but also a lower likelihood of casualties and fatalities. Overall, the UK threat remains diverse, volatile and complex and as such the risk assessment associated with terrorism is unlikely to remain stable over the next 2 years.

Learning from the emergency services response to the Manchester Arena attack and how the Service is responding to the relevant recommendations is covered in greater detail in Chapter 8 – Organisational Risk.

Organised Immigration Crime, Human Trafficking and Modern Slavery

Organised Immigration Crime is the illegal movement of persons (known as people smuggling); usually Clandestinely and/or abuse of legitimate means and false or fraudulently obtained genuine travel documents.

Human Trafficking involves the recruitment or movement of people for exploitation by the use of threat, force, fraud, or the abuse of vulnerability, this movement does not require the victim to cross borders.

Modern Slavery is the exploitation of another holding them in slavery or servitude or in circumstances that the person ought to know amounts to slavery or servitude, this includes Human Trafficking. This exploitation includes but is not limited to Criminal Exploitation, Sexual Exploitation, Forced/Compulsory Labour and Domestic Servitude.

Within Essex the majority of human trafficking incidents are identified along the main arterial transport routes such as those from the Thames Estuary, M25, M11 and significant A roads which connect these to other parts of the county or UK. Around 70% of Organised Immigration crime comes into Essex via Kent following a crossing from Europe into Dover and then onto wider UK destinations.

In previous years there has been an average of 11 human trafficking incidents per month, however in the past year this has decreased to an average of 7 incidents per month. This is reflected nationally as people are choosing to attempt these journeys

Strategic Assessment of Risk

by boat rather than lorry. Whilst the risks are greater to those who travel by boat, the cost is much lower.

Following the lorry incident in Grays in 2019 Essex Police have identified that organised crime gangs engage in human trafficking alongside other crimes as it provides greater profits than guns and drugs trafficking. They also identified that previous Police processes moved people who were being trafficked to immigration services and did not follow up with any criminal proceedings.

Essex Police have trialled working practices with the Service's Urban Search and Rescue team and their live person detection dogs. Further collaboration between the two emergency services with Essex County Fire & Rescue Service providing safety and risk management support to incidents could reduce the risks of fatalities occurring.

The graphs below show the number of modern slavery investigations carried out by Essex Police over the previous 5 years. What these indicate is that modern slavery occurs in similar areas to that of human trafficking, that is along the main road and transport corridors within Essex, predominantly along the Thames Estuary. As can be seen in Figure 45 the number of non-crime related investigations associated with modern slavery have decreased significantly in all areas except Southend since 2019. Whilst in Figure 44 we can see that crime related investigations have been increasing steadily in most areas since 2019.

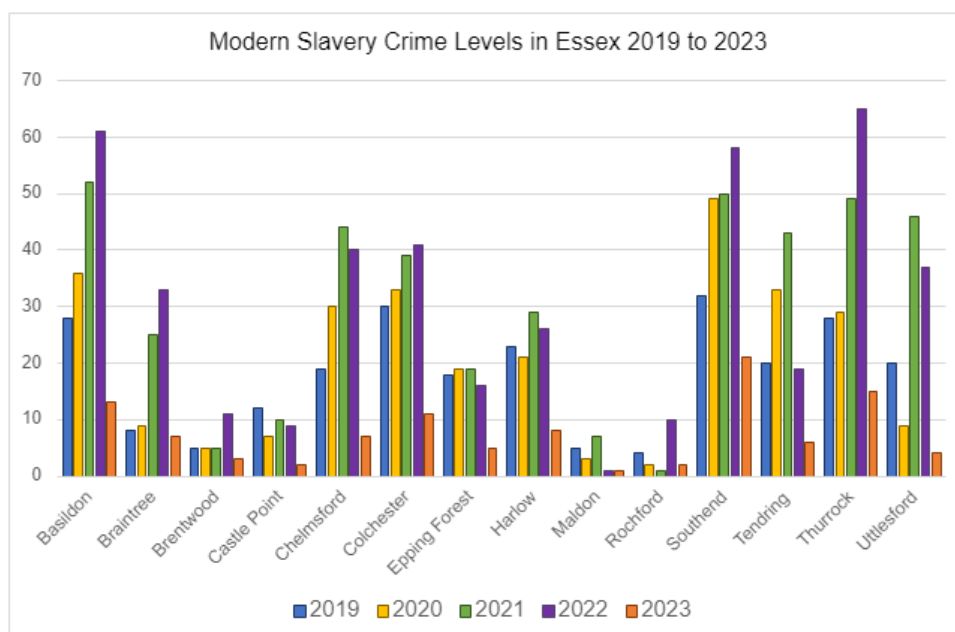


Figure 44

Strategic Assessment of Risk

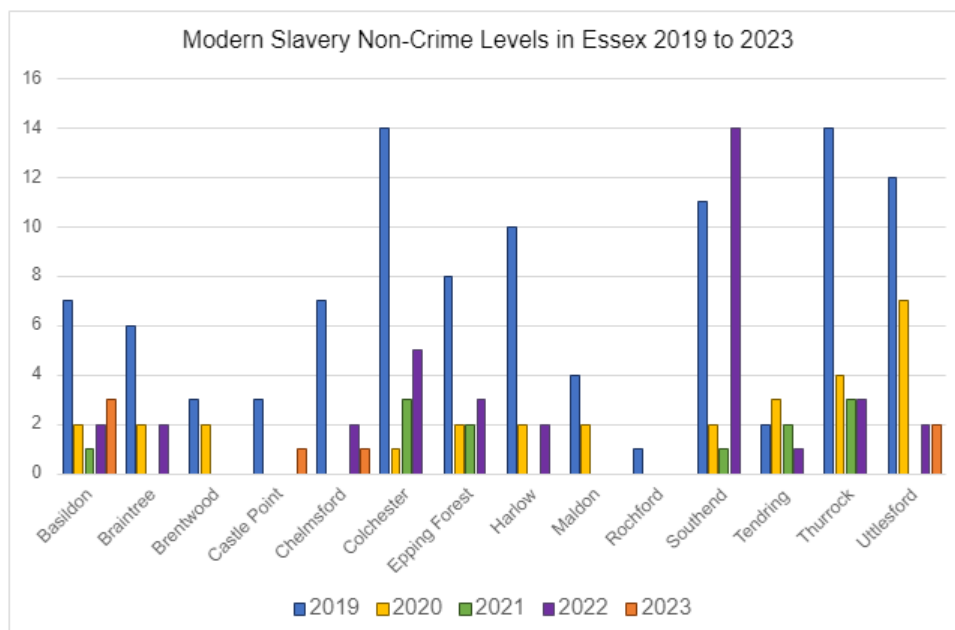


Figure 45

References

2011 Census - Office for National Statistics (ons.gov.uk)

ADF_Project_1_2_0 - Power BI

Census 2021

Essex's Joint Strategic Needs Assessment | Essex Open Data

Fatal Fire Key Findings Presentation 2021

Fuel poverty statistics - GOV.UK (www.gov.uk)

Human trafficking | Essex Police

Modern slavery | Essex Police

Serious Violence Duty - Statutory Guidance (publishing.service.gov.uk)

The English Indices of Deprivation 2019 (publishing.service.gov.uk)

Chapter 5: Technological Risk

Digital transformation and changes to communication methods have accelerated due to changed working practices in the advent of the COVID-19 pandemic. These have provided opportunities, whilst also challenging how we deliver core services, and considering how vulnerable we are to cyber-attacks.

Emerging ICT solutions and devices offer the opportunity to deliver better outcomes for our staff and communities. Technology can provide smarter, more effective ways for us to operate. This can be through streamlined management systems that enable effective, efficient communication, document management and creation and tools that securely record data. ICT solutions are now also enhancing operational capability at incidents with emergency technologies developing to improve firefighter safety and reduce the risk to members of the public.

Within this chapter of the Strategic Assessment of Risk, the following areas will be considered:

- Cyber and Information Security
- Emerging Technologies
- Communications

Cyber

Cyber Security

The Service is aligning with the National Cyber Security Centre's Cyber Essentials in conjunction with guidance from the National Fire Chief's Council which is conducting an assessment of all fire and rescue services against the National Cyber Security Centre's Cyber Assessment Framework.

The Service is subject to multiple malicious outsider attacks on a daily basis. To date none of these malicious attacks have been successful in breaching the control measures in place. These controls are a network topology which includes firewalls, restrictions, malicious software identification and malware detections. Whilst such threats remain a risk to the Service's ICT network, for compromise to be achieved, individual users would need to facilitate by clicking on malicious links.

Top Attack Vectors 2021 vs 2020

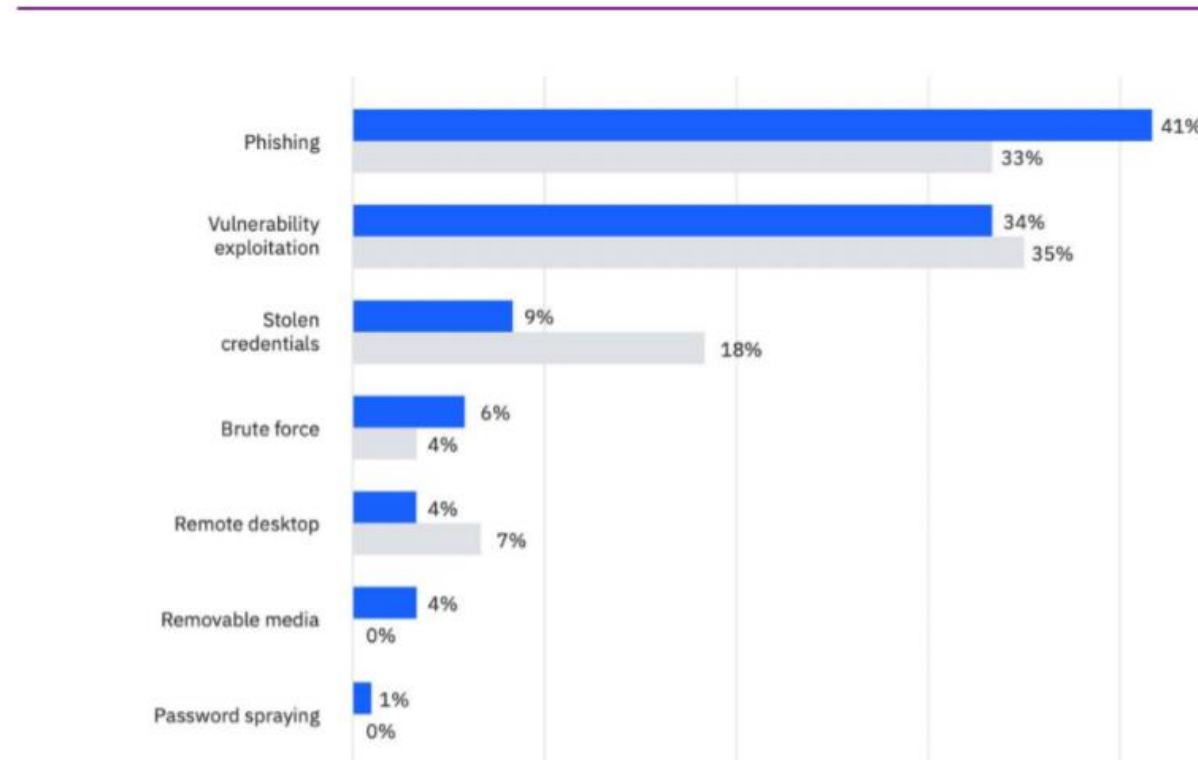


Figure 46: Source IBM Security X-Force 2023

As shown in Figure 46, IBM’s Security X-Force assessment for 2023 shows the top attack vectors over a two year period. Malicious outsider attacks are only successful if both the Service user clicks on a suspect link such as a phishing or spear phishing email *and* the Service security patches are out of date, unless the threat is brand new and unknown to ICT providers.

Alongside technical controls, the Service’s ICT Department works to ensure that attacks directed at system users are mitigated through training, education and support. In conjunction with this, the threat of a malicious insider attack is mitigated through the restriction of administrator access.

When the Service invests in new technology ICT staff must be continually skilled to manage the solutions. The increasing pace at which technology is evolving in conjunction with the Service need to change provision to maintain effective service delivery leaves staff with a continual requirement for training and support both as end users and ICT staff.

Additionally, staff utilise non-ICT managed consumer technologies such as WhatsApp for daily processes and procedures. Whilst these may be viewed as the simplest solution for effective communications, consideration must be taken of the inability of any ICT Department to support these personal user technologies, provide any backup or restore facilities, or control access to the data held or shared through them.

Information Security

As the Service continues to develop its use of the applications available through Microsoft Office 365, the potential for malicious or accidental exposure of data is a risk with a changing profile. This is due to the nature of platforms that give individual users greater control and flexibility in what they are able to achieve, although mitigations continue to evolve alongside this to protect data in other ways, such as sensitivity labelling and user interface warnings / guidance. The governance for these applications is an area which sees continued collaboration between the ICT and Information Governance Departments to determine best practice going forward.

Individuals using available solutions for new purposes now have some responsibility for information control and governance, and they may have little to no ICT or Data Security knowledge. One example of this is the diverse use of Microsoft Planner to capture, record and provide auditable evidence for action driven tasks. For some time this platform had no backup or restore ability although now a solution has been implemented. Where a solution does not have the appropriate recovery from deletion or corruption, data owners rather than ICT must take responsibility for this potential failure or consult with ICT prior to engaging a piece of work to determine the best solution available.

As part of the new model for users to be data owners, there needs to be greater engagement between data owners and ICT to ensure a full awareness of the risks associated with each new application. ICT Business Partners are available to provide advice and identify solutions.

Emerging Technologies

Alternative Fuel Fleet Vehicles

The UK Governments strategy intends to end the sale of new petrol and diesel vehicles by 2035 and for all new cars and vans to be fully zero emission at the tailpipe by 2035. The Service must constantly monitor and adapt its fleet purchases to ensure a compliant, yet effective fleet is maintained within budget allocations.

As part of the Fleet Strategy (2021) the commitment to not purchase diesel vehicles where possible has provided the opportunity for the Service to review and consider alternatively powered vehicles for its purposes.

Under review by the Fleet Management Team is the newly emerging use of hydrogen fuelled vehicles, with JCB developing a 7.5 tonne vehicle using hydrogen fuel. The application of this technology could be beneficial to future fire appliance

models. Currently in production are a hybrid diesel and electric appliance by Rosenbauer, a fully electric appliance by Emergency One being trialled by London Fire Brigade and a hydrogen powered appliance by ULEMCo Ltd being trialled by Oxfordshire County Fire & Rescue Service. Consideration will need to be taken to the cost of the new appliances (approximately £1M for an alternative fuel versus £300k for a diesel fuel) and the lifespan of ordering in new fleet vehicles (6 years replacement scheme for cars and vans, and 15 years replacement scheme for appliances).

In addition, the Fleet Management Team are reviewing the equipment and training required for working on alternatively fuelled vehicles. The current fleet team are trained to Level 2 but will need to be trained at Level 3 with the appropriate tools and equipment to match in order to maintain an alternatively fuelled fleet. A user needs assessment should be undertaken to ensure the makeup of fleet vehicles is efficient and effective, ensuring the fuel type, range and capacity of each vehicle is suitably matched to the job it is required for.

The Service has 20 Plug-In Hybrid vehicles within its Fleet for use by Officers and to be used under Blue Light driving conditions, with 14 charge points being installed at strategic sites across the estate as a first phase to support further purchase and use of EV vehicles within the Service. Consideration should also be taken in regard to the potential risks associated with introducing electric vehicle charging points to the Service infrastructure and its electricity supply.

It is also noted that the current Blue Light Driving training and qualification is done through a manually operated vehicle, whereas all alternatively powered vehicles are automatics. This alternative transmission system leads to a change in driving style which could pose a risk when driving at high speeds.

Where the Service has a requirement under the National Emergency Fuel Plan to be self sufficient with fuel supplies for up to 10 days in a national shortage, consideration will need to be taken in relation to storing and providing appropriate alternative fuels. Both electrical and hydrogen based vehicles require electricity to maintain the fuel supply. Hydrogen would be required to be stored under pressure or produced locally. The current diesel bunkers would not be suitable for storing either alternative fuel source.

Electric Vehicles

SMMT provide monthly and annual data sets on vehicle ownership within the UK. The tables below provide visual representations of the changing landscape of vehicle ownership in relation to fuel type. The tables include reference to:

- MHEV – Multi Hybrid Electric Vehicles
- BEV – Battery Electric Vehicles

Strategic Assessment of Risk

- PHEV – Plug-In Hybrid Electric Vehicles
- HEV – Hybrid Electric Vehicles

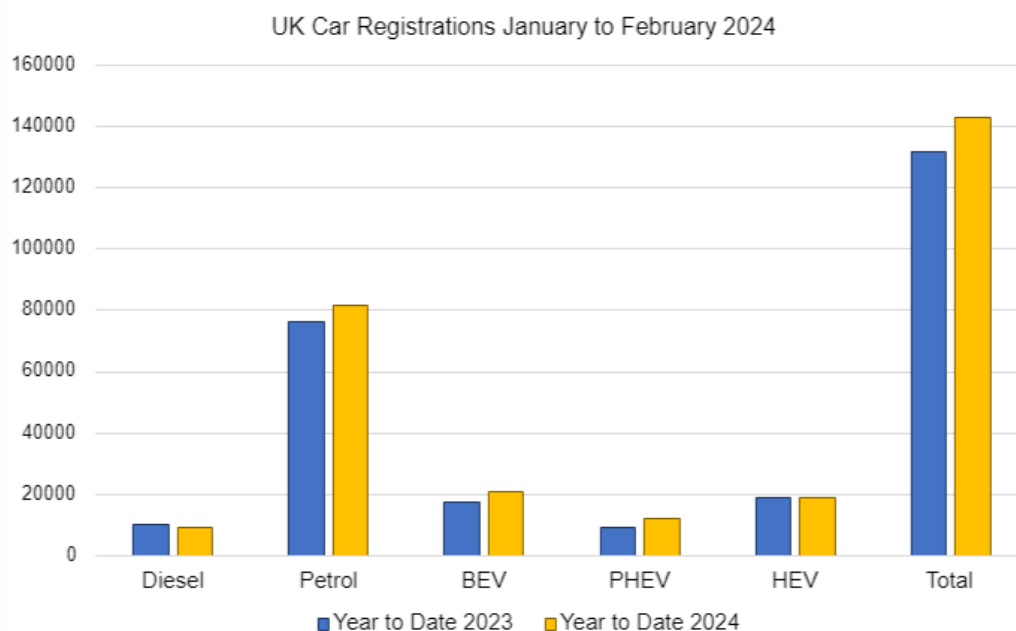


Figure 47 Source: UK new car registration data, UK car market - SMMT

There is evidence that new car ownership is transferring from traditional fuel types of diesel and petrol to alternative, electrically powered vehicles. There are known risks related to electrical vehicle fires, including:

- Requiring considerably more water to extinguish an electric vehicle fire than a traditional fuel vehicle fire.
- The release of toxic and flammable gases when water is applied to the Lithium-Ion battery cell.
- The Lithium-Ion salts within the battery cell release toxic gases as their temperature increases.
- The batteries are sealed units with firefighters unable to view the internal combustion process, potentially leading to pockets of undetected pressure.
- High pressure, flammable jets are known to piece through the battery shell.
- Water used to extinguish the battery fire will become contaminated with toxins and cannot re-enter the natural water table.
- Batteries need to be submerged and monitored for up to 72 hours following extinguishing the primary fire to prevent reignition. Although reignition has been recorded 5 days after the initial fire.

Reviewing the table below, with data supplied by SMMT, there is evidence that the choice of vehicle fuel is continuing to change and develop into a predominantly

alternative fuel based economy. The projections for 2024 and 2025 highlight the decreasing use of diesel vehicles compared with electric based models.

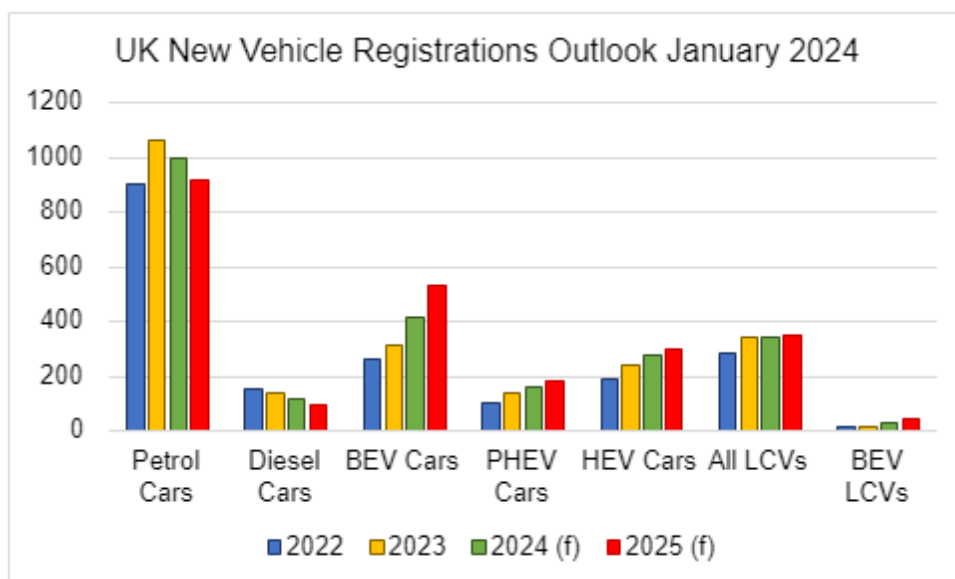


Figure 48

The Service is proactively engaging with vehicle manufacturers to understand the technological advances and the risks inherent with them. Technical advice and guidance are being sought in relation to size and scale of alternatively powered vehicles when firefighting or responding to a road traffic collision.

The Service is also considering other forms of alternatively powered vehicles such as e-scooters and e-bicycles which are more likely to be charged in the home without specialist charging facilities creating a risk to households.

These devices, along with a number of other everyday household items such as mobile phones, laptops and vapes use rechargeable Lithium-ion batteries which in general pose no risk. However, if stored, used, or charged incorrectly, or if they are damaged, or not made to UK safety standards, they can pose a major risk to life. Overheating batteries can violently combust, quickly setting fire to surrounding materials, and are particularly difficult to extinguish.

The Service is constantly exploring new research and data in these fields to not only support the Response to incidents involving Lithium-ion batteries, but also to help inform our Prevention messaging to provide advice and guidance to communities.

Green Infrastructure

The Service established an Environment Hub in 2007 to discuss environmental issues and technological changes. The Environment Hub is a collaboration between Property, Fleet and Technical Services, Essex Police and external consultants. It remains an open forum for all employees who have an interest in Environmental Issues.

The objectives of the Environment Hub are to identify likely technologies to enable the Service to reduce its environmental impact, decide upon suitable sites to trial, evaluate performance after installation and make recommendations. Examples of these technologies include:

- Solar Panels
- Fire Station Cavity Wall Installation
- Sustainable Heating and Hot Water Provision
- Building Management Systems for heating and hot water
- LED lighting

Not all recommendations are technological advancements, the Environment Hub has also recommended and implemented a wild meadow environment at Service Headquarters.

Current workstreams of the Environment Hub include:

- Electric Vehicle charging points.
- Hand dryers to replace paper towel dispensers.

The Environment Hub utilises an evaluation process which focuses on the key sustainable development goals which are balanced against criteria relating to value for money, carbon savings and Service delivery, they are:

- Clean water and sanitation
- Affordable and clean energy
- Industry, innovation, and infrastructure
- Waste
- Climate action
- Life below water
- Life on land

The successful technologies are either developed into larger projects where funding is available or incorporated into the Property Services Design Guide to ensure incorporation into future capital works. It should be noted that there are many challenges when retrofitting existing estates with green infrastructure to meet net zero by 2050.

Engagement with other Emergency Services through the Emergency Services Environment & Sustainability Group and the National Fire Chief's Council Environment & Sustainability Group is pivotal to share best practices in technological advancements coupled with the processes involved in Government grants and incentives.

Communications

Emergency Services Network

The Home Office has taken the lead in delivering the Emergency Services Network which is being designed to replace the current Airwave (radio) voice and data service which all Category One Responders use to communicate during incidents. The Airwave network utilises terrestrial trunked radio networks whereas the Emergency Services Network will use 4G and 5G capabilities along with air to ground contact.

The Emergency Services Network intends to deliver:

- Secure and resilient mission critical communications the emergency services and other first responder communities can trust to keep them safe.
- A modern voice and data platform which will enable the emergency services to improve front-line operations.
- A common platform to enable emergency services to work more closely together for data sharing in emergencies.

Whilst the move to the Emergency Services Network has been seen as strategically positive, there has been significant delay in the implementation of the project. The Home Office has secured an extension to the provision of Airwave radio communications until 2026, however they have put a tender out for delivery of the Emergency Services Network and have no clear indication that this will be achieved within the required timescale. Therefore, the Service, alongside all UK Fire and Rescue Services, faces the risk of uncertainty in the longevity of its current communication methods, and the understanding of what future communication methods will be available for emergency service personnel.

Telecommunication Upgrades

The UK is in the process of upgrading its core telecommunication network from a copper based analogue system to a fibre based digital system. The move from the public switched telephone network (PSTN) is due to complete in 2025 and the Service is upgrading its telecommunication lines to align with this government requirement. Once the Control Systems replacement project has been completed,

Strategic Assessment of Risk

the only remaining copper lines in the Service network will be those connected to the Red Phones at stations and the Control non-emergency integrated services digital network (ISDN). Plans to remove these are being developed, however there is potential that other departments currently use devices requiring a PSTN connection.

Copper lines provide up to 5 days resilience and connectivity following a power outage where the handset is not dependent upon an additional power source to operate. Fibre lines will provide up to 1 hour resilience and connectivity following a power outage which creates a significant risk to how the public will be able to contact the Service in an emergency coinciding with a power outage.

The BT 999 system is the only formal mechanism for the public to make emergency contact with the Service. In June 2023 the 999 service failed for a short period of time. During this period there was significant activity to stand up alternative contact mechanisms. Following the incident there has been investigation by other services considering using social media channels as a means of emergency contact.

There is a risk of divergent approach across the Emergency Services if a centralised approach is not developed nationally. Controls such as message blocking of nuisance callers through filtering and validation processes needs to be addressed to prevent additional demands of our technology and Control room.

Control Systems and Mobilisation

The Service is in the final stages of delivering a large-scale Control system replacement project which improves the capabilities and resilience compared to previous technology. However, whilst this is in progress the Service has limited operational resilience from other Fire and Rescue Services to support a move from Primary Control to Secondary Control should that be necessary.

Currently, in the event that all Control Operators need to evacuate from the Primary Control Room at once, they will need to use a single mobile phone to receive emergency calls from BT and use a radio to mobilise and communicate with crews whilst travelling to Secondary Control. If the nature of the incident causing evacuation allows, this can be mitigated by at least two Control Operators remaining in Service at Primary Control until the travelling Control Operators have arrived and successfully logged into the systems at Secondary Control.

Plans are being created for resilience with two other Fire and Rescue Services. The first stage is human led resilience through diverting of phone calls to a remote Control room, with a number of options for mobilisation when necessary. As a second stage, technology led resilience will be implemented, most likely by providing access to control systems across all 3 parties.

Strategic Assessment of Risk

The new Control System has built in redundancy at both Essex County Fire and Rescue sites, with data travelling through two separate wires into the Control Room infrastructure. This is supported by dual resilience built into each stage of the communication process. Should there be an inability for data to travel through the primary route at any stage it will automatically divert to the secondary route.

References

Emergency Services Network: overview - GOV.UK (www.gov.uk)

Guidelines (smtt.co.uk)

UK new car registration data, UK car market - SMMT

Chapter 6: Environmental Risk

Whilst building development and urban growth is ongoing across the county, Essex also continues to see growth in renewable energy production. These emerging technologies and risks, such as wind and solar farms, and the increasing use of alternatively fuelled vehicles, require assessment and, in an emergency, a safe operational response.

Increasingly we are seeing the impact of climate change, often felt during meteorological events such as heavy rain and storms. This is predicted to increase with more intense rainfall, more extreme weather and wetter winters projected with surface water flooding continuing to present as one of the more likely risks within the National Risk Register risk assessment matrix.

This is changing the types of incidents we attend; hot summers can lead to increased forestry and outdoor fires, wetter weather is leading to more localised and wide-scale flooding and therefore an increasing risk of rescue from water, and storms can lead to damage to structures and properties.

Within this chapter of the Strategic Assessment of Risk, the following areas will be considered:

- The Built Environment and Infrastructure
- Climate Change and Environmental
- Future Developments

The Built Environment and Infrastructure

Air Transport and Aerodromes

Essex has two major airports and a number of smaller airfields and air strips for local clubs, military and private use. The tables below show the number of commercial and non-commercial movements at London Stansted and London Southend, Table 1 and 2 respectively. What these show us, is that both airports experienced an impact due to COVID-19 travel restrictions in 2020, with numbers increasing close to pre-pandemic levels by June 2023.

London Southend was able to recover quicker as it has a higher volume of non-commercial movements than London Stansted which it has capitalised on over the past two years. With airport movements making such a quick rebound from the impacts of COVID-19 further review and analysis of future flight data will provide insight on air travel behaviours. This in turn will have an impact on the surrounding road and rail infrastructure as passengers travel to and from airports within Essex.

London Stansted Airport	Commercial Movements	Non-Commercial Movements	Total Movements
*2023	165,431	15,156	180,587
2022	159,531	17,383	176,914
2021	77,648	15,668	93,316
2020	73,476	12,631	86,107
2019	183,514	16,411	199,925
2018	184,485	17,129	201,614

*Table 1 *Data incorporates 11 of 12 months currently published.*

London Southend Airport	Commercial Movements	Non-Commercial Movements	Total Movements
*2023	1,255	28,889	30,144
2022	1,478	25,146	26,624
2021	2,480	31,634	34,114
2020	5,306	13,095	18,401
2019	20,108	16,219	36,327
2018	17,613	14,918	32,531

*Table 2 *Data incorporates 11 of 12 months currently published.*

Road Networks

There are ten major road networks running through Essex, Thurrock, and Southend, comprising of two motorways and eight A roads. The section of the M25 within Essex boundaries includes the junction with the M11 which provides access to London Stansted Airport, as well as the Dartford Crossing, connecting Essex and Kent across the river Thames, whilst the A12, A127 and A13 all connect into London. In

Strategic Assessment of Risk

2021 8.51 billion vehicles miles were travelled on roads in Essex, 0.35 billion on roads in Southend and 1.00 billion on roads in Thurrock.

Looking at the Figures below (49, 50 and 51) we can see the impact of COVID-19 on road users, which by 2021 was starting to increase, however remains equivalent to 2011 held data in Essex, below 1993 held data in Southend and equivalent to 2013 data in Thurrock. Expansion of the A12 to A120 and the development of the Lower Thames Crossing are both National Significant Infrastructure Projects in Planning to address the anticipated increase in road use prior to COVID-19. Whilst these developments will progress, continued review and analysis of road traffic data will be required to ensure the Service is resourced appropriately to changing vehicle behaviours.

Annual traffic by vehicle type in Essex

Traffic in Great Britain from 1993 to 2021 by vehicle type in vehicle miles (millions)

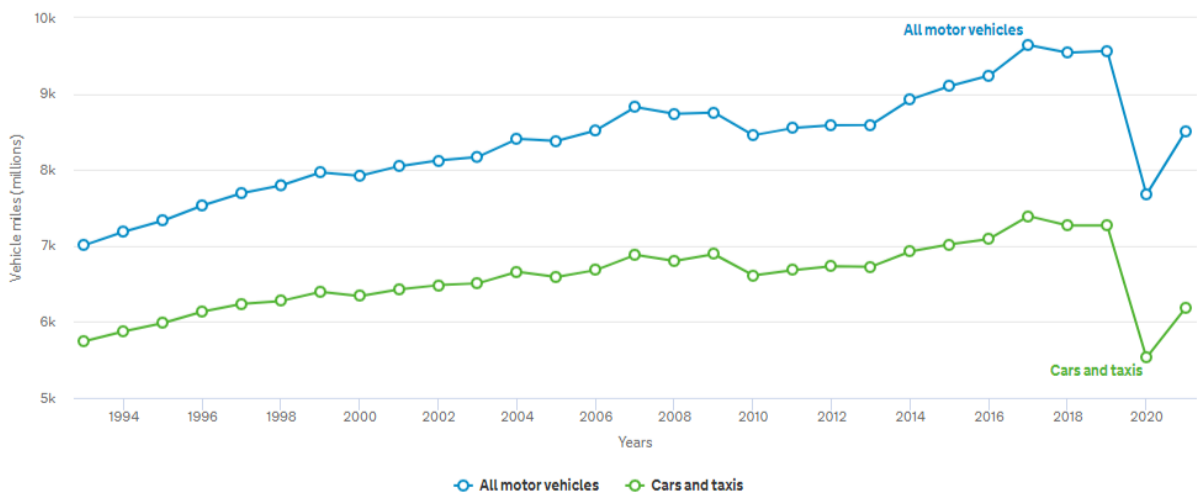


Figure 49

Strategic Assessment of Risk

Annual traffic by vehicle type in Southend-on-Sea

Traffic in Great Britain from 1993 to 2021 by vehicle type in vehicle miles (millions)

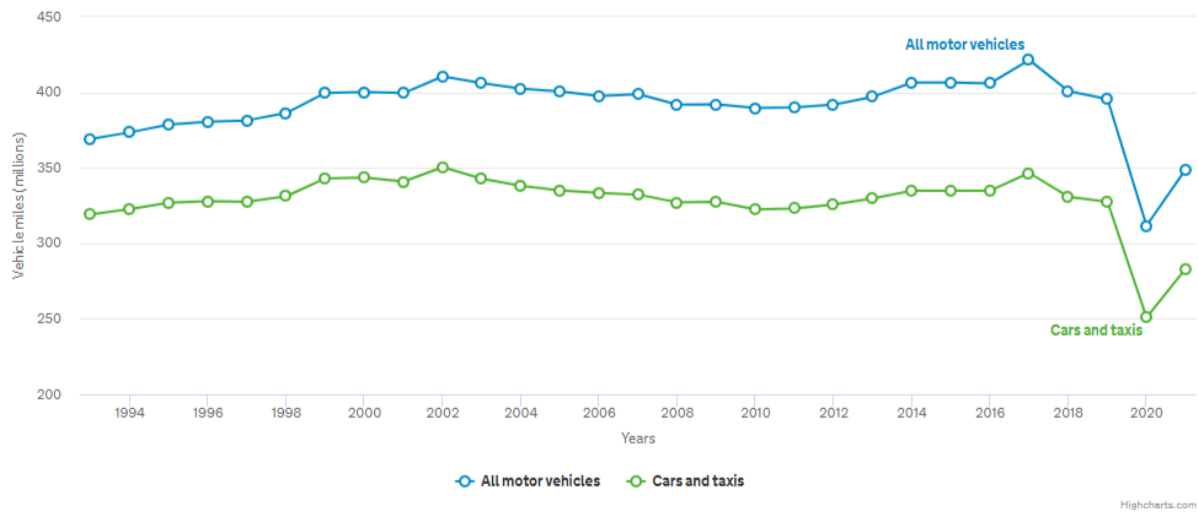


Figure 50

Annual traffic by vehicle type in Thurrock

Traffic in Great Britain from 1993 to 2021 by vehicle type in vehicle miles (millions)

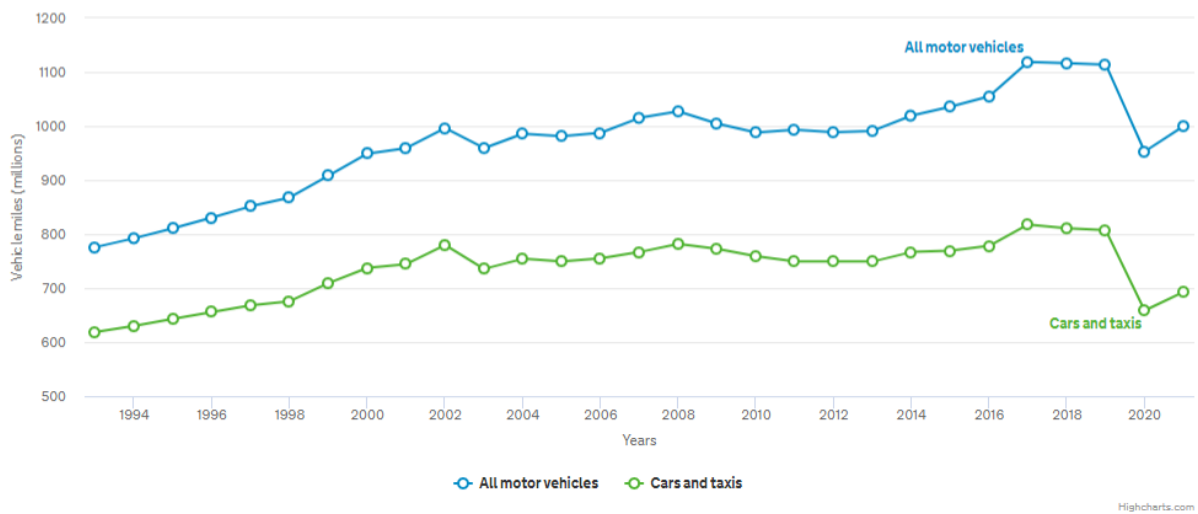


Figure 51

Rail Networks

There are three main railways and two tube lines traversing Essex, Thurrock and Southend. All of these intersect with or terminate at a central London station, predominantly London Liverpool Street and London Fenchurch Street (see Figure 53). The opening of the Elizabeth line was a principal contributing factor in the almost 80.4 million entries and exits to Liverpool Street between 1st April 2022 and 31st March 2023, an increase of around 50 million. Whilst in the year ending March 2022 London Fenchurch Street had 7,795,346 entries and exits recorded.

Since March 2020, public transport has been heavily impacted by the COVID-19 pandemic. At the lowest point in April and May 2020, passenger rail journeys were 96% less than an equivalent day in the previous year. Since then, passenger rail journeys began to steadily increase again, at its peak in March 2022, passenger rail journeys were 73% of an equivalent day in pre-COVID-19.

As can be seen in Figure 52) the number of rail journeys following COVID-19 within the East region have been increasing, with 92% of those journeys going to or from London. The Service should continue to monitor and review the use of rail transport following COVID-19 to determine if rail use will continue to increase to pre-pandemic trends and allocate resources appropriately.

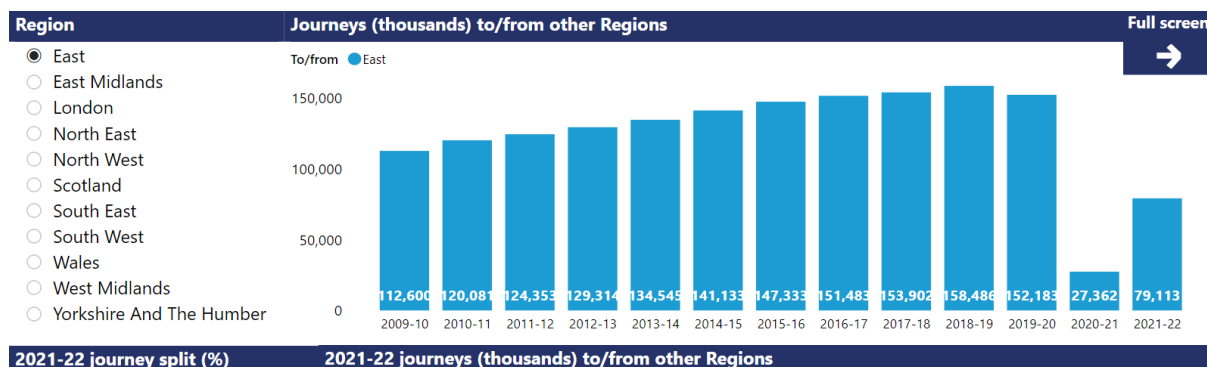


Figure 52

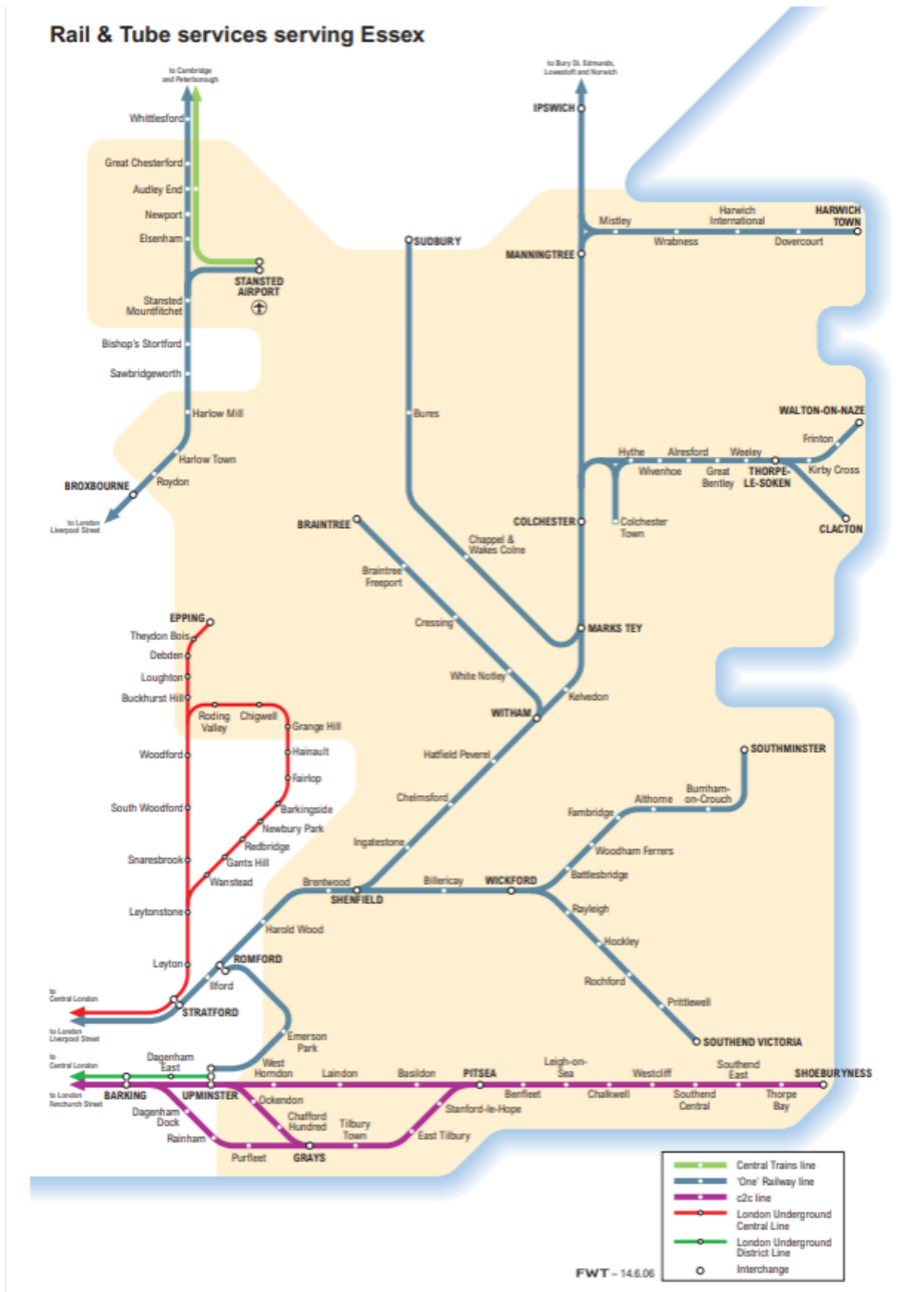


Figure 53 Source: *Essex Rail Diagram (essexhighways.org)*

Rivers, Canal Networks and Ports

Essex has an extensive network of rivers and canals as can be seen in Figure 54, the majority of which are interlinked and form pathways to the river Thames and the English Channel. Each waterway presents its own risks through ease of access, depth, width, as well as any tides or currents which have influence its movement.

Strategic Assessment of Risk

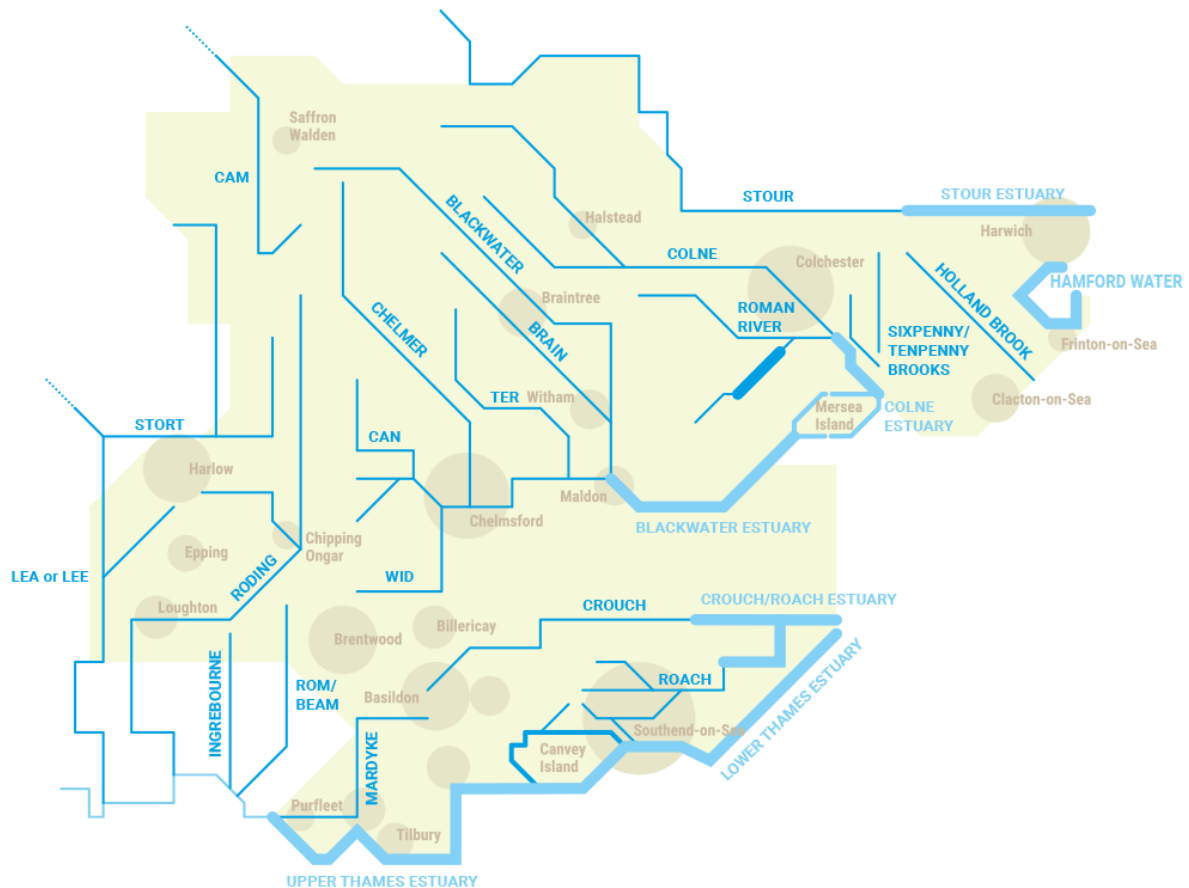


Figure 54 Source: Essex Rivers Hub - Home

As detailed in Figure 55, information provided by the Royal Lifesaving Society UK provides an overview of water related fatalities in the UK during 2022. What this shows is the majority of water related fatalities occur at inland river and coastal beach locations with a relatively even distribution between accidental and intentional incidents. This is supported by our data of water incidents attended since 2017 (shown in Figure 56) and taken alongside the quantity of coastal areas and associated rivers within Essex, consideration should be given to appropriate resourcing of water incident responses and Prevention based activities.

Strategic Assessment of Risk

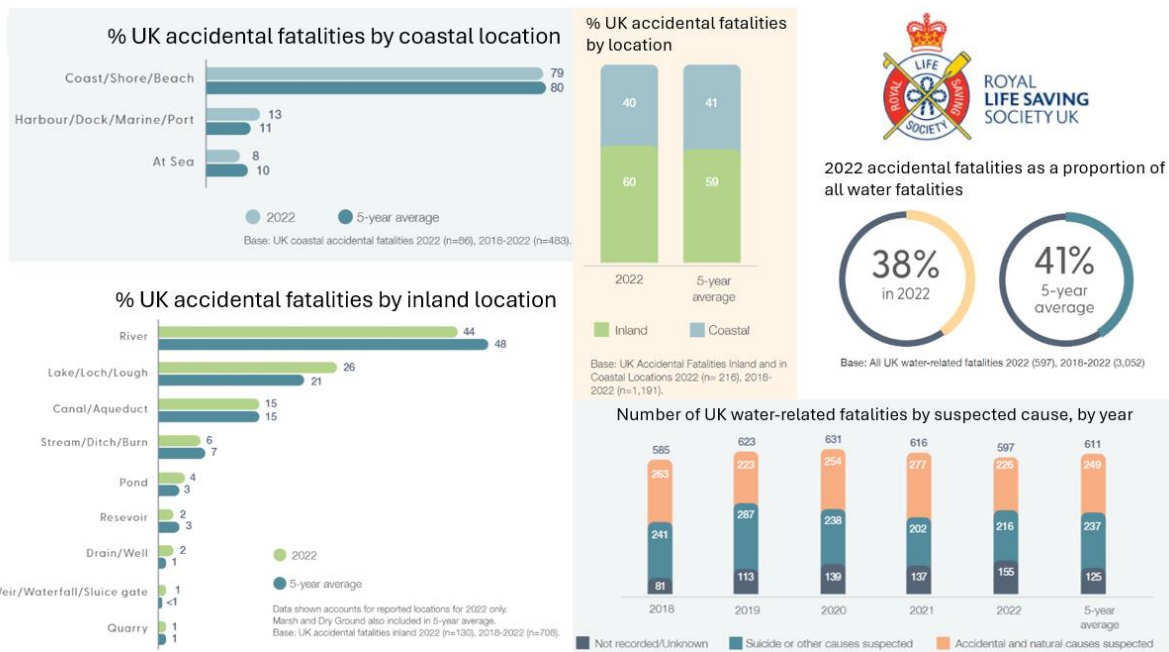


Figure 55 Source: Royal Lifesaving Society UK

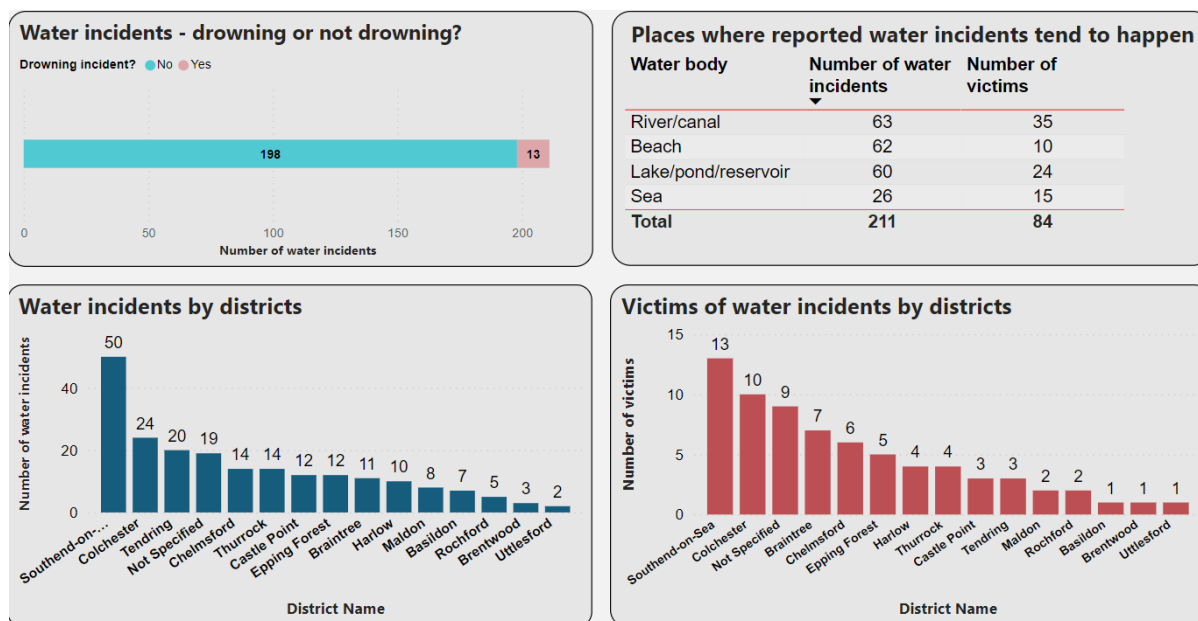


Figure 56

Essex has three major ports situated along its coastline. The Port of Tilbury (London) is the largest multi-modal port in the South East with an annual throughput of 16 million tonnes per annum. In 2019 it expanded its premises incorporating a new port Tilbury2, which is built on the former Tilbury Power Station and which acts as a satellite of the main port. DP World London Gateway is situated further East along the Thames in Corringham providing the largest port rail terminal with three mounted gantry cranes to move cargo into and out of the UK through local transport links. Whilst in the North East of the county, Harwich International Port provides both

freight and passenger transit to and from Scandinavia and the Benelux nations, with land transit links to the Midlands, London and the South East.

COMAH Sites

Control of Major Accident Hazard (COMAH) Sites are designated to prevent and mitigate the effects of major accidents involving dangerous substances which can cause serious damage/harm to people and/or the environment. Within the scope of the COMAH designation are two tier levels measured on the quantities of dangerous substances identified in the regulations are kept or used.

Lower tier operators are required to:

- Prepare a major accident prevention policy.

Whilst in addition to this upper tier operators are required to:

- Prepare a safety report.
- Prepare and test an internal emergency plan.
- Supply information to local authorities for external emergency planning purposes.
- Provide certain information to the public about their activities.

Essex County Fire & Rescue Service is a statutory consultee for upper tier emergency plans and the Service engages with all COMAH sites within Essex to support them in testing and exercising their plans according to regulatory standards.

As can be seen from Tables 3 and 4 below the majority of upper tier COMAH sites in Essex are situated in the South East and South West Command Areas (see Chapter 8 – Organisational Risk), whilst the majority of lower tier COMAH sites are situated in the North West Command Area.

Upper Tier COMAH Sites	
Company	Location
Calor Gas Limited	Canvey Island
Calor Gas Limited	Stanford Le Hope
EPC United Kingdom Plc	Harwich
Esso/Exxon Petroleum Company Ltd	Purfleet

Strategic Assessment of Risk

Industrial Chemicals Ltd	Grays
Inter Terminals Ltd	Grays
Oikos Storage Ltd	Canvey Island
Haltermann Carless UK Ltd	Harwich
Procter & Gamble Product Supply (UK) Ltd	Grays
QinetiQ Limited	Southend
Shell UK Oil Products Limited	Stanford Le Hope
Navigator Thames Terminals BV Limited	Grays

Table 3

Lower Tier COMAH Sites	
Company	Location
CLH Pipeline System (CLH-PS) Ltd	Saffron Walden
O-I Manufacturing UK Ltd	Harlow
Robert Stuart Plc	Harlow
Synthomer (UK) Limited	Harlow
S & J D Robertson North Air Ltd	Stansted
Coryton Advanced Fuels Ltd	Stanford Le Hope

Table 4

Large Capacity Public Venues

Tactical Fire Plans are created for all built environments which are rated at a level 4 on the Provision of Risk Information System scale. These are sites which offer high

Strategic Assessment of Risk

levels of risk and/or the incident is likely to be protracted or escalate. Within Essex, the following locations (Table 5) not only have a Tactical Fire Plan associated with them but are large venues likely to attract and hold large numbers of people at any one time, therefore posing a higher risk of mass casualties should an incident occur.

Venue	Capacity	Location
Eastgate Shopping Centre	30,000 Daily Visitors	Basildon
Cressing Temple	200 Visitor Capacity	Braintree
Clacton Pier	2,600 Daily Visitors	Clacton
Colchester Castle	29,499 Visitor Capacity	Colchester
Colchester United Weston Homes	10,105 Visitor Capacity	Colchester
Colchester Zoo	2,700 Daily Visitors	Colchester
Lakeside (Intu)	70,000 Daily Visitors	Grays
Layer Marney Tower	200 Daily Visitors	Colchester
Harvey Centre	17,500 Daily Visitors	Harlow
Ingatestone Hall	1,500 Daily Visitors	Ingatestone
Audley End House	10,000 Visitor Capacity	Saffron Walden
Southend Pier	1,500 Daily Visitors	Southend
Southend United Football Stadium	12,392 Visitor Capacity	Southend

Table 5

Heritage Buildings

Fires in heritage buildings present a unique set of challenges, hazards and risks to operational personnel. Built in different eras, these were constructed using traditional methods and materials. Some of these buildings will have complex layouts with

mezzanine floors, basements, tunnels and attics that have been designed with no regards for fire safety regulations. Buildings opened for public access will have been modified to meet existing fire safety regulations with some used as museums or galleries.

Heritage buildings are predominantly found in rural communities where the local planning authorities wish to maintain the historic nature of the village or town. Essex has a high rural population, out of the 270 wards 143 of these are within small towns and rural settings, predominantly in the North West of the county. Where local planning encourages the conservation of heritage properties, there are a number of challenges for firefighters when responding to an incident, these include:

- Fire spread due to building design, including chimney compartmentation.
- Fire spread due to non-compliant, potentially flammable, materials.
- Staircase height, width and structural integrity.
- Access through narrow streets, gated, or arched entrances and over unconventional paving materials.
- Road surface weight restrictions due to tunnels or subsurface compartments.
- Local bridges weight or width restrictions.
- Complicated building layouts with hidden access points or blocked sections of the property.
- Environmental considerations where water run-off from firefighting becomes contaminated with toxins.

High Rise Buildings

Tall buildings may be residential, commercial, or mixed use. The use of the building and its occupancy type will affect the evacuation strategy and means of escape provisions. Residential buildings are unlikely to have fire alarm sounders in common areas and have smaller stair capacity and widths. External firefighting or rescue operations may not be possible because of the height, position or design of floors. Appliances, ladders, lines and hose will be of limited use externally on the upper storeys of tall buildings. Therefore, additional firefighting facilities should be provided within the building.

To ensure consistent risk management planning for tall buildings, the following terms have been designed to categorise buildings by their overall height:

- Medium-rise buildings
 - Between 11m and 18m to the highest occupied floor.
- High-rise buildings
 - Between 18m and 30m to the highest occupied floor.
- Supertall buildings
 - Any building over 30m.

Strategic Assessment of Risk

Within Essex, there are 211 buildings which fall under the definition of high-rise, these are predominantly found in Chelmsford, Southend, Colchester and Thurrock.

Penal Establishments

HMP and YOI Chelmsford is currently the only penal establishment in Essex. A category B prison housing a total of 745 adult and youth males it requires a minimum attendance of two appliances for each incident.

A planning proposal has been issued for public consultation in regards to redeveloping part of the land at Wethersfield Airfield into a category B and category C prison. The Service responded to this planning application both independently and as part of a Tri-Service response through its Future Infrastructure Risk team (see page 94). Due to the location of the proposed prisons in relation to existing Service estate allocation of facilities and/or funding to create additional facilities to support the Service providing a two appliance attendance within our agreed timescales (10 minutes to life threatening and 15 minutes to non-life threatening incidents) was highlighted as a key consideration for the applicant in the Services initial response to consultation.

Utilities

Essex receives water supply from four companies, Essex & Suffolk Water, Anglian Water, Affinity Water and Thames Water. Essex & Suffolk Water provides approximately 41,8416,000 litres of water to 794,000 properties across Essex and Suffolk on a daily basis. The water is drawn from reservoirs, rivers and groundwater sources. Within Essex their main areas of distribution are within Chelmsford and Southend. Anglian, Affinity and Thames Water companies also provide sewage water services alongside water supply.

Hanningfield Reservoir in Billericay and Abberton Reservoir in Chelmsford are owned and managed in conjunction with Essex Wildlife Trust by Essex & Suffolk Water. In addition to being a key source of water supply for the provision of housing in Essex, these sites are also recognised nature reserves of scientific importance.

Essex is provided with electricity by UK Power Networks, which is distributed via the National Grid load block divisions as detailed in Table 6. UK Power Networks also provide electricity to London, the South East and East of England regions. This equates to 8.4m sites and 19m people, providing 13,150MW of power at peak demand. As can be seen in Table 6, should a localised power outage occur affecting only one load block, the maximum impact it would have on Service delivery would be to reduce building facilities at 6 Service sites. Each site has at a minimum sufficient

Strategic Assessment of Risk

battery backup supply to enable a safe evacuation of the building, more details can be found in the Power Outage Plan.

Site	Postcode	Electricity Load Block
Basildon	SS14 1EH	A
Harlow Central	CM20 1DU	A
Old Harlow	CM17 0DR	A
Manningtree	CO11 1AU	A
Rayleigh Weir	SS7 3TR	B
Orsett	RM16 3DU	C
Maldon	CM9 6SH	C
Kelvedon Park	CM8 3HB	D
Hawkwell	SS5 4EG	D
Loughton	IG10 4PE	D
Rochford	SS4 1BL	D
Witham	CM8 1EW	D
Leaden Roding	CM6 1QB	E
Stansted	CM24 8AE	E
Billericay	CM12 9LL	G
Great Dunmow	CM6 1DA	G
Great Baddow	CM2 7EZ	H
Halstead	CO9 1EZ	H
Sible Hedingham	CO9 3NU	H

Strategic Assessment of Risk

Wethersfield	CM7 4BN	H
Wethersfield Training Centre	CM7 4AZ	H
Lexden (USAR)	CO3 9AA	J
Corringham	SS17 9BN	K
Southend	SS2 5PX	K
Tollesbury	CM9 8RG	K
West Mersea	CO5 8QT	K
Colchester	CO1 1XT	L
Dovercourt	CO12 4JE	L
Thaxted	CM6 2LP	L
Coggeshall	CO6 1SX	M
Epping	CM16 4AF	M
Shoeburyness	SS3 9AR	M
Frinton	CO13 9NG	N
Burham-on-Crouch	CM0 8DZ	P
South Woodham Ferrers	CM3 5XH	P
Wivenhoe	CO7 9EU	P
Braintree	CM7 3JD	Q
Grays	RM17 5QS	Q
Waltham Abbey	EN9 1PA	Q
Brightlingsea	CO7 0BP	R
Ingatstone	CM4 9EY	R

Strategic Assessment of Risk

Newport	CB11 3RU	R
Saffron Walden	CB10 1EH	R
Tiptree	CO5 0SU	R
Weeley	CO16 9ED	R
Ongar	CM5 9DT	S
Canvey	SS8 0JD	T
Chelmsford	CM1 2QS	T
Clacton	CO16 8DB	T
Tillingham	CM0 7SQ	T
Brentwood	CM14 4UZ	U
Leigh	SS9 4AA	U
Wickford	SS12 0QG	U

Table 6

Oil and gas pipelines transporting products including petrol, diesel, aviation fuel, crude oil and biofuels travel through Essex from refineries, shipping terminals and storage terminals to their destinations. Predominantly these facilities are located along the Thames Estuary and deliver their products through high-pressure underground pipelines connecting to East London, North London, the Midlands and North West of England via the North West of Essex. Each site is a designated Control of Major Accident Hazard (COMAH) Sites (see page 78) which the Service works with to support their safety requirements.

Hospitals and Universities

Hospitals and Universities pose similar risks in relation to large numbers of people staying overnight for potentially long periods in specially built accommodation units and away from the known safety routes of their own homes.

Within Essex there are five hospitals:

Strategic Assessment of Risk

- Princess Alexandra Hospital in Harlow with 474 beds.
- Broomfield Hospital in Chelmsford with 800 beds.
- Basildon University Hospital with 637 beds.
- Colchester University Hospital with 763 beds.
- Southend University Hospital with 737 beds.

Essex is home to three universities, each attracting students from national and international locations. With the highest number of students, the University of Essex is spread out over three campuses in Colchester, Southend and Loughton. Their students are from more than 140 countries, with a total of 17,800 students 12.8% (2278 students) from the European Union and 21.5% (3827 students) from overseas.

Within Chelmsford there are two university campuses, one is a campus from the East Anglia Ruskin University which provides accommodation for 511 students, whilst the second, Writtle University College provides accommodation for 382 students. The annual change to the local populations of Chelmsford, Colchester, Southend and Loughton should be taken into consideration when reviewing the risk profile of these areas and the resources required to provide appropriate support.

Climate Change and Environmental

Climate Change

Climate change is the result of human production of greenhouse gases at extreme levels to create a warming effect on the planet. Whilst greenhouse gases are beneficial to the planet and maintaining a temperature to sustain life, the impact of human production of greenhouse gases is increasing this level beyond a stable temperature causing the planet to heat up.

The Met Office projections for climate change in a high emission scenario anticipate that the UK will experience:

- Warmer and wetter winters.
- Hotter and drier summers.
- More frequent and intense weather extremes.

By 2070, the Met Office projects:

- Winters will be between 1 and 4.5°C warmer and up to 30% wetter.
- Summers will be between 1 and 6°C warmer and up to 60% drier.

The impacts of climate change are likely to include:

- Rising ocean levels.

Strategic Assessment of Risk

- Ocean acidification.
- Extreme weather events.
- Flooding of coastal regions.
- Food insecurity.
- Conflict and climate migrants.
- Damage to marine ecosystems.

As can be seen in Figures 57 and 58, taking Met Office observation and projection data for temperatures for Essex show us that the annual average surface temperatures are expected to increase by approximately 35% by 2079 with the hottest areas remaining closest to built up areas of Essex which neighbour London. Whilst the lowest temperature ranges closer to Cambridgeshire will still be a 34% increase on the annual averages between 1981 and 2010.

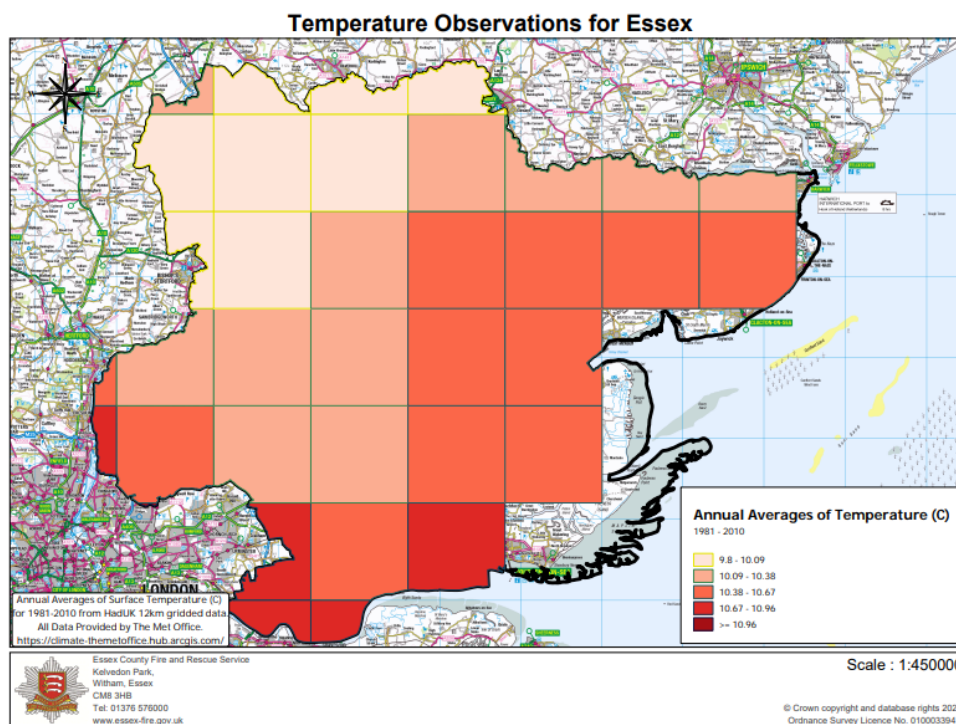


Figure 57

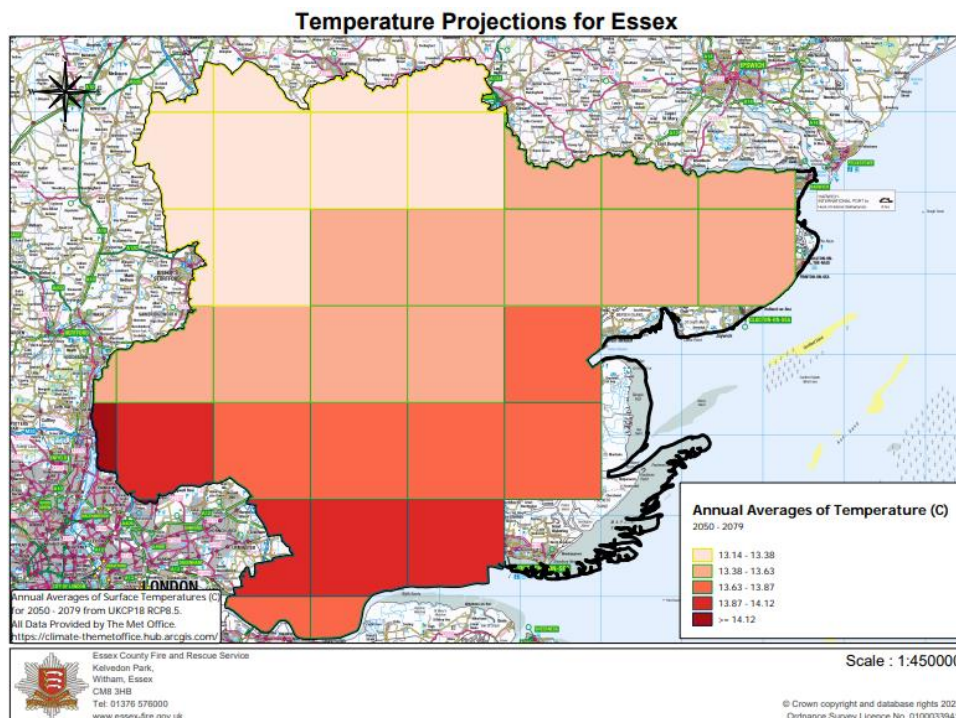


Figure 58

In Figures 59 and 60, we can see that alongside the increase in annual surface temperatures across Essex, the annual averages of precipitation are due to decrease by approximately 99%. These projected figures indicate that Essex will experience extreme weather conditions of predominantly hot, dry weather. Where wetter weather does fall, this is likely to be onto surfaces which are too dry to absorb the water and lead to localised flooding.

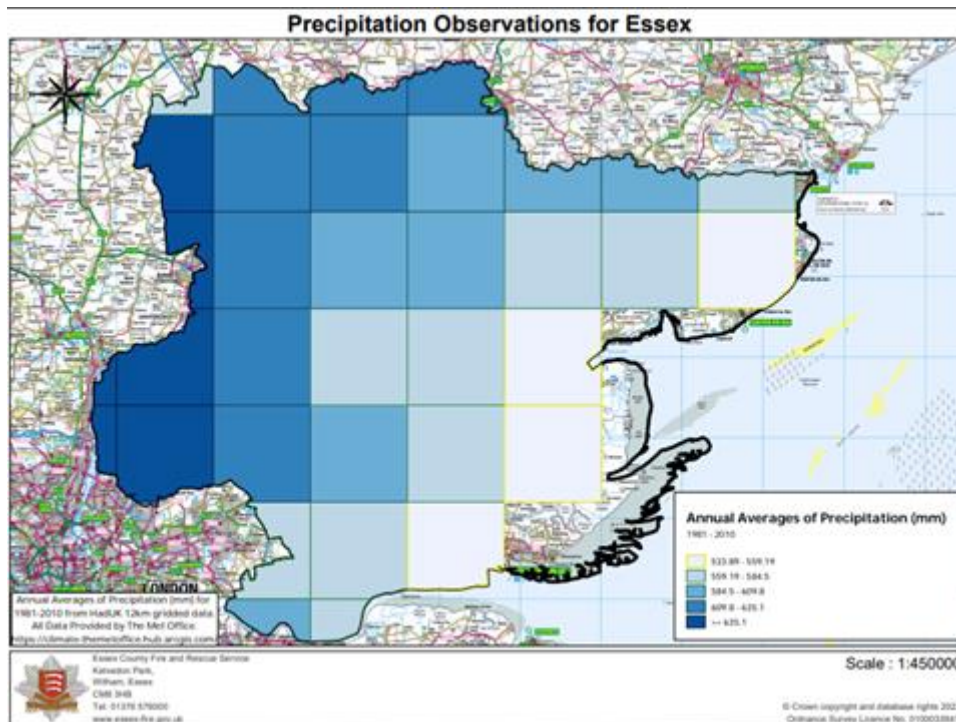


Figure 59

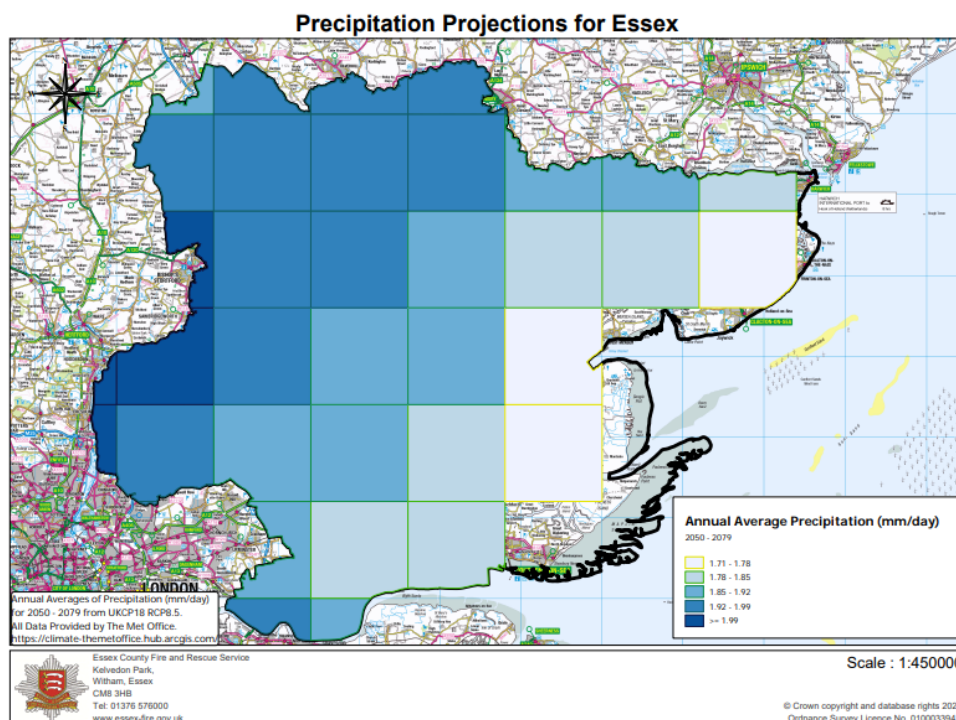


Figure 60

Extreme Weather Events

During July and August 2022 national heatwave weather warnings were issued by the Met Office which impacted Essex County Fire & Rescue Service. Red weather

warnings for extreme heat were issued with temperatures exceeding 40°C over multiple days. During this time period the Service saw a spike increase in mobilisations, with a 46% increase on the five year average in July and a 60% increase on the five year average in August for calls received by the Control room. This equated to 3,916 mobilisations and 2,325 reported incidents for July and 3,674 mobilisations and 2,285 reported incidents in August.

For both months, 82% of fires reported were outdoor fires, and cross border mobilisations were also high with 87 appliances travelling out of Essex and 134 appliances travelling into Essex in July, and 56 appliances travelling out of Essex and 216 appliances travelling into Essex in August. In between the ongoing responses to hot weather related outdoor fires, there were 70 flood related incidents on 17th August when the weather changed for a brief period.

With the weather predictions as outlined in the above section Climate Change (see page 92), anticipation of future extreme weather events should be considered by the Service. Utilising the learning from the 2022 heatwave debrief alongside National Operational Learning and Joint Organisation Learning to ensure that the Service is effectively resourced for future extreme weather events.

Flooding

Essex is primarily within Flood Zone 3 which means it has a high probability of flooding from rivers and the sea. Flood defences have been built primarily within the Thurrock and Southend areas to protect against flooding from the river Thames and the English Channel. These defences reduce, but do not completely stop the chance of flooding because they can be overtopped or fail. The map in Figure 61 shows the flood risk from rivers and seas only, it represents data based on present day flood risk and doesn't take into account future changes or the effect fully functional flood defences could have.

Strategic Assessment of Risk



Figure 61 Source: Flood risk information for this location - Flood map for planning - GOV.UK (flood-map-for-planning.service.gov.uk)

In addition to flooding by rivers and seas, flooding can also be caused by surface water, ground water and reservoirs. The Service has a number of stations which are in either directly affected by or situated near to road networks affected by fluvial, pluvial, tidal and reservoir related flooding, these are:

- Brightlingsea Fire Station
- Canvey Island Fire Station
- Halstead Fire Station
- Manningtree Fire Station
- Old Harlow Fire Station
- Ongar Fire Station
- Rochford Fire Station
- Rayleigh Weir Fire Station
- Saffron Walden Fire Station
- Sible Hedingham Fire Station
- South Woodham Ferrers Fire Station
- Thaxted Fire Station
- Tiptree Fire Station

Strategic Assessment of Risk

- Waltham Abbey Fire Station
- West Mersea Fire Station
- Wickford Fire Station

Water Shortages and Drought

Data provided by the Met Office has been incorporated into the map in Figure 62 which shows the drought severity projections for Essex. This has been calculated by using 12 month rainfall deficits provided as a percentage of the mean annual climatological total rainfall (1981-2000) for that location. Higher values (darker shades of red) indicate more severe drought.

This indicates that Essex will increasingly suffer from droughts in the future which will in turn create an increased risk of wildfires occurring coupled with a reduced availability of water for firefighting. Further analysis should be conducted to determine the combined impact of water shortages on incidents and firefighting technologies to determine alternative options to resolving incidents, as well as effective resourcing into appropriate Prevention activity delivery.

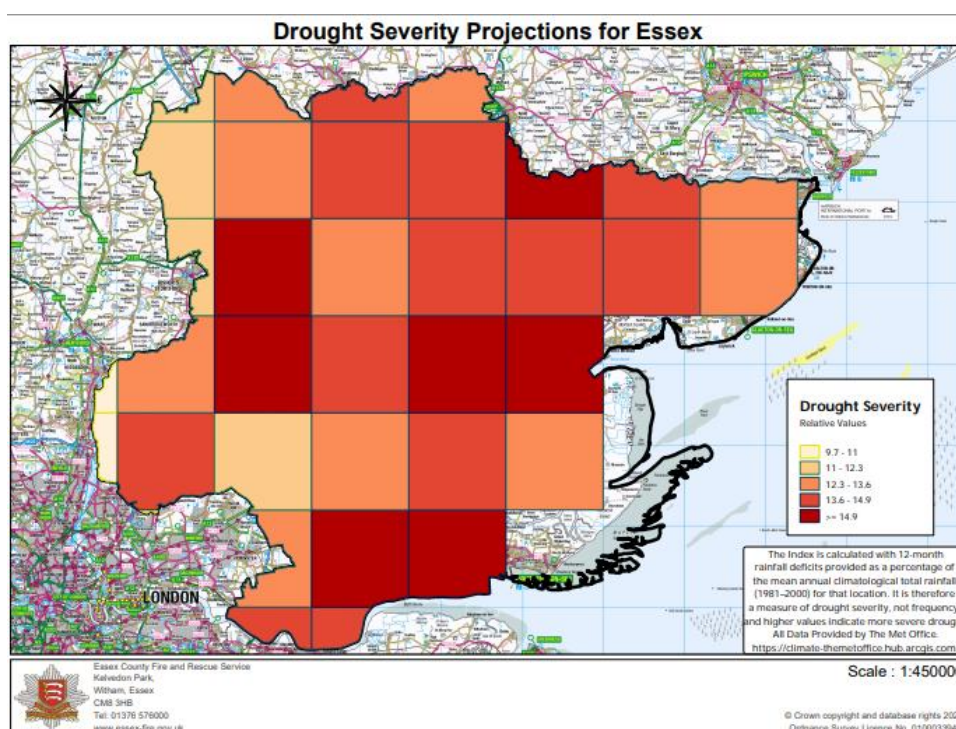


Figure 62

Sites of Special Scientific Interest (SSSI)

Essex, Thurrock and Southend are home to multiple Sites of Special Scientific Interest (SSSI), these sites support plants, animals, protected species or natural habitats that find it more difficult to survive in the wider countryside. There are over

Strategic Assessment of Risk

4,100 Sites of Special Scientific Interest in England, covering 8% of the country's land area. Over half of these locations are internationally important for their wildlife and designated as Special Areas of Conservation, Special Protection Areas or Ramsar sites. Many Sites of Special Scientific Interest are also National Nature Reserves or Local Nature Reserves.

Essex County Fire & Rescue Service must protect land and bodies of water designated as Sites of Special Scientific Interest, under the Environmental Damage (Prevention and Remediation) Regulations 2009 the Service must take steps to prevent or reduce environmental damage.

Sites of Special Scientific Interest include:

- Wetlands
- Rivers
- Heathlands
- Meadows
- Beaches
- Moorlands
- Peat Bogs

Each Site of Special Scientific Interest has its own citation and associated environmental risk. Figure 63 shows the Sites of Special Scientific Interest in Essex.

Strategic Assessment of Risk



Figure 63 Source: *Magic Map Application (defra.gov.uk)*

Future Developments

Future Infrastructure Risk Team

The Levelling-Up and Regeneration Act (2023) came into effect in October 2023. Whilst the initial ambition to make emergency services statutory consultees has not been progressed, there is further support for encouraging greater engagement between emergency services and their local planning authorities.

With the projected increase in housing developments across Essex currently detailed at an additional 187,331 dwellings by 2040 (see Table 7) and 14 National Significant Infrastructure Projects (see Table 8) currently ongoing across Essex, Thurrock and Southend the Service has established the Future Infrastructure Risk team.

Strategic Assessment of Risk

This team works in alignment with the Protection and Prevention departments, triaging and responding appropriately to all new developments from a strategic perspective, incorporating Prevention, Protection, Response and Corporate considerations in its submissions, identifying areas to reduce risk and improve emergency service provision.

The Future Infrastructure Risk team is also designed to work collaboratively with partners and has formed part of a Tri-Service engagement team with Essex Police's Strategic Planning team and East of England Ambulance Trust's Planning Notifications team. As part of the collaborative approach the three Service leads are working proactively with the Essex Developers Group to improve the relationship between the emergency services and local developers.

From this the Essex Developers Guide has been updated and the Essex Design Guide Emergency Services information sections is being reviewed. Work has also been completed to create an Emergency Services Planning Protocol to support planning authorities to develop and approve applications which incorporate safer building designs.

Essex Planning Authorities

Within Essex there are 14 separate planning authorities, comprised of 12 districts and 2 unitary authorities, the table below highlights the total number of dwellings identified as required in each of their current local plans and the likely population increase associated with that based on 2.4 persons occupying a dwelling.

Planning Authority	Local Plan Timescales	Number of Dwellings	Population Increase
Basildon	2020 – 2040	20,820	49,968
Braintree	2013 – 2033	14,320	34,368
Brentwood	2016 – 2033	7,752	18,605
Castle Point	2020 – 2033	4,576	10,982
Chelmsford	2013 – 2036	21,843	52,423
Colchester	2017 – 2033	14,720	33,856

Strategic Assessment of Risk

Epping Forest	2011 – 2033	11,400	27,360
Harlow	2011 – 2033	9,200	22,080
Maldon	2014 – 2029	4,650	11,160
Rochford	2019 – 2040	8,700	21,750
Southend	2020 – 2040	23,600	54,280
Tendring	2013 – 2033	11,000	24,200
Thurrock	2020 – 2040	23,620	59,050
Uttlesford	2023 – 2038	11,130	27,825
Total	Up to 2040	187,331	447,907

Table 7 Source: Essex Growth Horizon Planning – Essex Blue Light Update – JLP 27.3.23

From these local plan housing considerations, we can anticipate the change in risk levels within each District or Unitary Authority. Detailed analysis by the Protection and Future Infrastructure Risk teams will enable the Service to identify future resourcing requirements to be allocated across Essex.

National Significant Infrastructure Projects

National Significant Infrastructure Projects are major infrastructure projects such as new harbours, roads, power generating stations (including offshore wind farms) and electricity transmission lines, which require a type of consent known as ‘development consent’ under procedures governed by the Planning Act 2008. Following the Localism Act 2011 the Planning Inspectorate became the government agency responsible for operating the planning process for Nationally Significant Infrastructure Projects who make a recommendation to the Secretary of State, who will make the decision on whether to grant or to refuse development consent.

By their nature, the size and scale of National Significant Infrastructure Projects take years to progress through the application, construction, delivery and in some cases decommissioning processes. As such, the Future Infrastructure Risk team coordinates the capture of all information pertaining to the Service engagement with projects to ensure an effective and consistent approach.

Strategic Assessment of Risk

Table 8 outlines the 14 National Significant Infrastructure Projects currently ongoing within Essex.

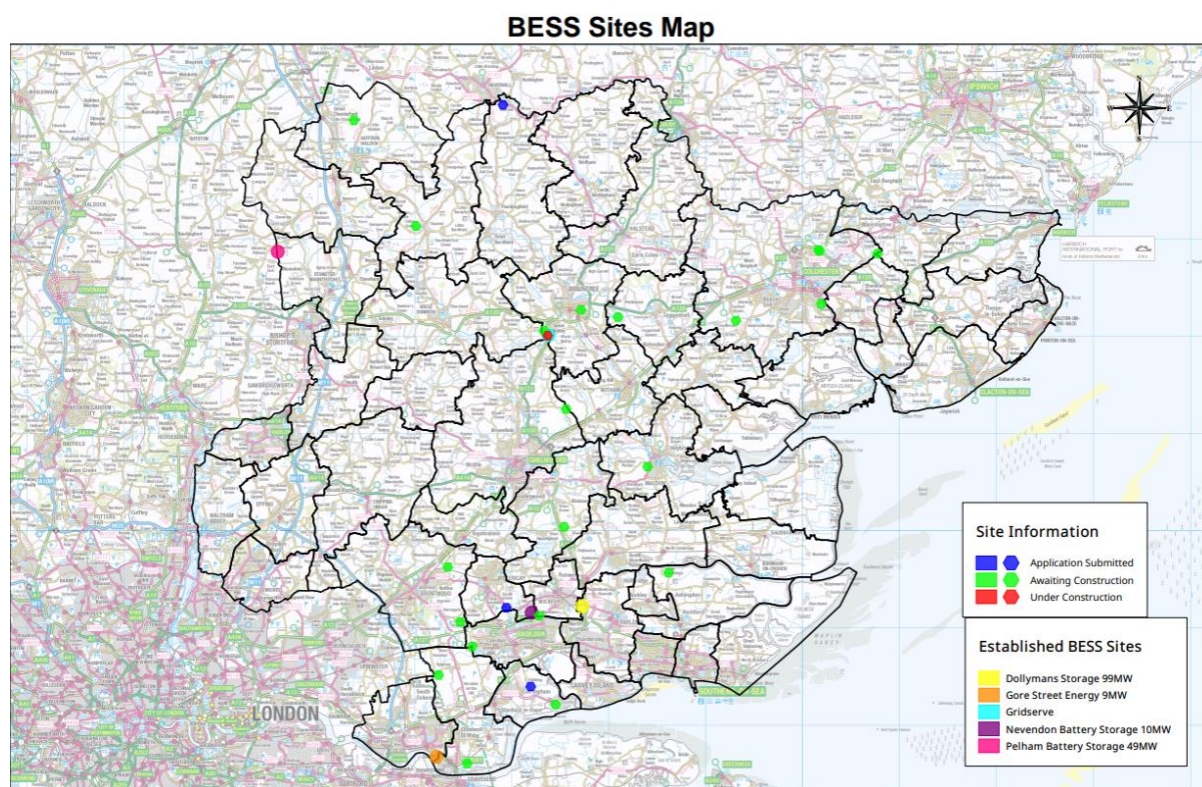
Projects In Essex	Planning Stage
North Falls Offshore Wind Farm	Pre-Application
Galloper Offshore Wind Farm	Decided
Bramford to Twinstead	Examination
Bradwell B new nuclear power station	Pre-Application
Rivenhall IWMF and Energy Centre	Pre-Examination
A12 Chelmsford to A120 Widening Scheme	Decided
Longfield Solar Farm	Decided
M25 Junction 28 Improvements	Decided
Oikos Marine & South Side Development	Pre-Application
Lower Thames Crossing	Examination
Tilbury 2	Decided
Thurrock Flexible Generation Plant	Decided
East Anglia Green Energy Enablement (GREEN) Project	Pre-Application
Five Estuaries Offshore Wind Farm Ltd	Pre-Application

Table 8

Battery Energy Storage Sites

Battery Energy Storage Sites are designed to store the energy created by green infrastructure such as solar photovoltaics and wind turbines. This energy is then transferred into the National Grid through a series of substations.

As can be seen in the map below (Figure 64), the number of operational sites across Essex has the potential to increase by 400% within the short term based on those with applications submitted, awaiting or under construction.



Whilst the technology to deliver these sites remains an emerging field there are limited regulations for developers, although the National Fire Chiefs Council have provided guidance to both fire services and developers to advise of safety measures which can be incorporated into the design of these sites.

Consideration should be taken of the learnings from the fire at the Orsted Battery Energy Storage System, Carnegie Road, Liverpool on 15th September 2020, captured below:

- Operational risk information specific to the Liverpool site and to the fire risks from Battery Energy Storage Sites available to responding crews was inadequate.
- Remote management of the Liverpool site failed to alert Merseyside Fire and Rescue Service of the automatic fire alarm system being actuated.
- An automatic fire suppression system failed to actuate.

Strategic Assessment of Risk

- The fire caused a significant blast event, with debris being propelled between 6m and 22m from the point of origin.
- The presence of residential premises adjacent to the Liverpool site raises concerns regarding potential fire spread into the local community.
- Water run-off from the incident contained Hydrofluoric Acid which was contained on site.
- Bureau Veritas identified the potential for the smoke plume to contain Hydrofluoric Acid and Hydrochloric Acid.

References

About the Port | DP World London Gateway

BESS-Solar Data Sheet

Control Of Major Accident Hazards Regulations 2015 (COMAH) (hse.gov.uk)

Debrief – Heatwave 2022

ECFRS Operations - N.O.G - 01-11 Heritage Buildings.pdf - All Documents (sharepoint.com)

ECFRS Operations - N.O.G - Sites of Special Scientific Interest (SSSI).pdf - All Documents (sharepoint.com)

Essex Growth Horizon Planning – Essex Blue Light Update – JLP 27.3.23

Essex Rail Diagram (essexhighways.org)

Essex Rivers Hub - Home

Flood risk information for this location - Flood map for planning - GOV.UK (flood-map-for-planning.service.gov.uk)

Harwich International Company Profile

Magic Map Application (defra.gov.uk)

National Infrastructure Planning (planninginspectorate.gov.uk)

Rail factsheet: 2022 - GOV.UK (www.gov.uk)

Regional rail usage | ORR Data Portal

Road traffic statistics - GOV.UK (www.gov.uk)

Severe Weather Plan 2023

SLT Report Major Infrastructure & NSIPs Report February 2023

table-1410-passenger-entries-and-exits-and-interchanges-by-station.ods (live.com)

Tilbury (London) | Forth Ports

UK airport data | Civil Aviation Authority (caa.co.uk)

Water Incidents and drownings - Power BI

Weather and climate change - Met Office

Chapter 7: Legislative Risk

Amendments to primary legislation bring significant change for the sector and for the way we deliver our services. Following the Grenfell Tower fire there is also key legislation that will impact our service delivery of fire protection and business support. Failure to comply with legislation could lead to financial, reputational, workforce or productivity implications. Serious failure could lead to criminal investigations.

Within this chapter of the Strategic Assessment of Risk, the following areas will be considered:

- Prevention
- Protection
- Response
- People
- Public Inquiries

Prevention

Essex County Fire & Rescue Service aims to prevent fires and other emergencies from occurring by taking a person centred approach to prevention through our four workstreams:

- Live Safe
- Be Road Safe
- Be Water Safe
- Safeguard

Underpinning the Prevention Strategy are a number of legislative documents which include:

- The Road Traffic Act, Section 39
- Home Safety Act
- Housing Act
- Children's Act
- Working Together to Safeguard Children
- Safeguarding Vulnerable Groups Act
- Protection of Freedoms Act
- United Nations Human Rights Convention on the Rights of the Child
- Mental Capacity Act
- Mental Health Act
- Police & Crime Act
- Modern Slavery Act
- Crime and Disorder Act
- Counter Terrorism and Security Act

Strategic Assessment of Risk

- The Care Act
- Homelessness Reduction Act
- Anti-social Behaviour Crime & Policing Act
- Serious Violence Duty Act

We recognise the importance of harnessing data, partnership working, and taking an intelligence-led approach to targeting our prevention activities to those identified at the highest risk of harm from fire, road, water and safeguarding. We focus our efforts on creating a person centred approach, targeting those most at risk. As a Service we deliver and develop a range of innovative interventions to tackle social issues and lead to safer, healthier, and more resilient communities. We will seek opportunities to share both data and intelligence with wider partnerships to achieve shared goals.

We believe by adopting a person centred approach we will influence behavioural changes and patterns which will positively impact future generations, and in turn reduce the risk of harm.

To achieve our goals, we will use local, regional and national forums, be a key member of community safety partnerships, develop new and existing partnerships and harness the resources available to us, including the enhanced use of volunteers across Essex.

Essex County Fire & Rescue Service is a key stakeholder in local Community Safety Partnerships where we undertake the role of a responsible authority as outlined in the Crime and Disorder Act. Through this we attend all local Community Safety Partnerships, facilitating information sharing to support the development and implementation of Community Safety Agreements. Within Essex, the Community Safety Agreement is prepared through the Safer Essex Partnership to which the Service is a key member. The Service uses these partnership platforms to engage with people who live and work in each area to promote road safety, water safety and home safety measures.

Safeguarding is overarching across the Service and our Safeguarding Team consider how we can support people living in the local community who are experiencing safeguarding issues. We have produced a signposting directory so that we are aware where and how to refer people for help. We have developed a number of products for our staff to raise awareness about hoarding and the actions we need to take. The group also supports mental health campaigns.

Protection

Essex County Fire & Rescue Services Protection Department's primary role is to reduce the risk and impact of fire in the business community, safeguarding firefighters, heritage buildings and the environment, and therefore reducing the loss of life, injuries, and commercial, economic, and social costs.

Strategic Assessment of Risk

The Protection Strategy is informed and guided by statutory legislation, mainly:

- The Fire and Rescue Services Act 2004
- The Regulatory Reform (Fire Safety) Order 2005
- The Building Safety Act 2022
- The Fire Safety (England) Regulations 2022

Under the above legislation, the Essex Police, Fire and Crime Commissioner, as the Fire and Rescue Authority, is the enforcing authority for regulated premises, but also aligns itself with a number of legislative guidance and advisory documents, including:

- The Health and Safety at Work etc. Act 1974
- The Environment and Safety Information Act 1995
- The Petroleum (Consolidation) Regulations 2014
- The Explosives Regulations 2014
- The Fire and Rescue National Framework for England (May 2018)
- Construction (Design and Management) Regulations 2015
- Fire Safety and Safety of Places of Sport Act 1987
- Police and Criminal Evidence Act 1984
- The Regulators Code (April 2014)
- Criminal Procedures and Investigations Act (CPIA) 1996
- Regulatory Enforcement and Sanctions Act 2008
- The Housing Act 2004
- The Licensing Act 2003
- The Essex Act 1987
- The Town and Country Planning Act 1990

The primary focus of the Protection Strategy is to support business such that all employers and places of community access meet their legal duties and maintain the safety of all those who may be present and in doing so assist the economic growth of Essex. To minimise audit and inspection burdens for regulated entities, we will continue to seek to develop, engage in and foster partnership working with other enforcers and other stakeholder groups, particularly through the Primary Authority Scheme and the Safer Essex and Local Strategic Partnerships. This will encourage joint working relationships, raise awareness, and foster engagement.

Premises that are identified in our Risk Based Inspection Programme (RPIB) of presenting the highest risk will be audited and visited most frequently. Premises that are considered to be a lower risk will be audited primarily in response to complaints, following incidents or on a randomly sampled basis to verify their lower risk classification and to confirm that the responsible person is complying with their statutory duties and requirements of fire safety legislation.

When considering risk, the RPIB concentrates on the risk to life safety of relevant persons, which is the focus of the Regulatory Reform (Fire Safety) Order 2005.

Strategic Assessment of Risk

As an organisation we proactively engage with building owners to understand the built environment that we are working in. Some buildings may not behave the way that we previously expected them to do. As part of our inspection programme, we need to resource sufficiently to understand and communicate any risk across our Prevention, Protection and Response functions.

Our operational personnel will be trained sufficiently to engage in risk reduction work appropriate to their role and level of expertise. All our personnel will collect risk data about premises as part of their normal role under section 7iid of the Fire and Rescue Services Act 2004. This data will be used to enable us to further target our Prevention, Protection and Response activities in an effective and efficient manner.

All Protection activities including training will be delivered in line with the Competency Framework for Business Fire Safety Regulators and delivery of these activities will include:

- Risk Based Inspection Programme
- Informal and Formal Enforcement
- Fire Engineering
- Business Engagement
- High Rise Task Force
- Rural Engagement
- Consultation and Licensing Agreements
- Primary Authority Partnerships
- Fire Protection Training and Development
- Fire Protection Monitoring and Assurance

Response

There are a number of legislative documents that form the framework for the Response Strategy of Essex County Fire & Rescue Service. These documents include but are not limited to:

- Civil Contingencies Act (2004)
- The Fire and Rescue Services Act (2004)
- Fire and Rescue Service (Emergencies) (England) Order 2007
- The Fire and Rescue Service National Framework for England (2018)
- Health & Safety at Work Act (1974)

Essex County Fire & Rescue Service is a Category 1 responder under the Civil Contingencies Act (2004) meaning we must assess the risk of emergencies happening (ranging from widespread flooding to terrorist attacks) and use this to inform contingency planning, including business continuity management arrangements.

Strategic Assessment of Risk

The Fire and Rescue Services Act (2004) and the Fire and Rescue Services (Emergencies) (England) Order (2007) give Fire and Rescue Authorities mandatory functions to respond to emergencies ranging from smaller incidents such as fires and road traffic collisions through to those of a far greater nature such as terrorist incidents which require Chemical, Biological, Radiological or Nuclear (CBRN) response.

The Fire and Rescue National Framework for England (2018) makes the expectations clear with regard to collaboration, intra-operability and interoperability to ensure fire and rescue services like ours are working closer with other Category 1 and 2 responders.

Clear emphasis is also placed on authorities to not solely focus on local risk but also to be aware of the impact that more significant incidents which would require a greater level of response may have. In these circumstances, services should provide or seek support through mutual aid agreements with other services. In addition, the framework details the expectations for services to implement safeguarding, business continuity arrangements and the planning for foreseeable risk and completion of a Community Risk Management Plan.

As well as this, the Policing and Crime Act (2017) part 1, places a duty on police, fire and rescue and ambulance services to collaborate. The Service's Response Strategy looks to explore opportunities to collaborate with emergency services and other partners wherever possible to support its effective delivery.

Finally, the Health and Safety at Work Act (1974) outlines statutory duties of employers and colleagues in relation to health and safety in the workplace. The nature of the work carried out as part of an operational response is recognised to have an increased amount of risk and the Service's Response Strategy aligns to our Health and Safety Policy and its associated responsibilities.

The Response Strategy enables the Service to achieve its strategic priorities in consideration of legislative requirements, national guidance and the strategic direction of the Service. Delivering a resilient, timely, safe and effective response through the following objectives:

- Objective 1
 - We will assess the operational risk within Essex to make sure that we have the right people, in the right places, with the right equipment and training. Response standards are met, response readiness is assured, and we learn as an organisation.
- Objective 2
 - We will improve the management and use of data to ensure optimum availability and support our people to do their jobs. We will improve how we measure, record and share our achievements.
- Objective 3

Strategic Assessment of Risk

- Develop Group Delivery Plans that target operational community risk, working with our partners to make Essex a safe place to work, live and travel.

People

Essex County Fire & Rescue Service proactively identifies and engages through its People Strategy with key legislation essential for the effective functioning of a public sector organisation. Through its scheduled consultation process with representative bodies (see Chapter 8 Organisational Risk for more detail) the Service regularly reviews and updates our People Policies to reflect any legislative, statutory, or other changes. The table below details how each of our People Policies corresponds with the required legislation.

Theme	People Policy	Legislation
Resourcing	<ul style="list-style-type: none"> • Agency Workers • Job Evaluation • Job Sharing • Off-Payroll Working - IR35 	<ul style="list-style-type: none"> • Agency Worker Regulations 2010 • Employment Rights Act 1996 • Equality Act 2010 • Part-Time Workers (Prevention of Less Favourable Treatment) Regulations 2000 (Amendment) Regulations 2002 • Income Tax (Earnings and Pensions) Act 2003
Talent Acquisition	<ul style="list-style-type: none"> • Recruitment • Market Supplements • Relocation Expenses • Probation 	<ul style="list-style-type: none"> • Employment Rights Act 1996 • Employment Protection (Continuity of Employment) Regulations 1996 • Transfer of Undertakings (Protection of Employment) Regulations 2006 • National Minimum Wage Act 1998 • Contracts (Rights of Third Parties) Act 1999 • Working Time Directive (2003/88/EC) • Working Time Regulations 1998

Strategic Assessment of Risk

<p>Pay, Progression & Performance</p>	<ul style="list-style-type: none"> • Acting Up and Temporary Promotion • Additional Responsibilities • Transfer Policy • Pay Protection • Performance Appraisal 	<ul style="list-style-type: none"> • The Finances Acts • Protection from Eviction Act 1977 • Social Security Contributions and Benefits Act 1992 • Employment Rights Act 1996 • Income Tax (Earnings and Pensions) Act 2003
<p>Talent Management</p>	<ul style="list-style-type: none"> • Learning & Development 	<ul style="list-style-type: none"> • Health and Safety at Work etc Act 1974 • Trade Union and Labour Relations (Consolidation) Act 1992 • Pension Schemes Act 1993 • Employment Rights Act 1996 • Teaching and Higher Education Act 1998 • Learning and Skills Act 2000 • Employment Act 2002 • Apprenticeships, Skills, Children and Learning Act 2009 • Safety Representatives and Safety Committees Regulations 1997 (SI 1977/500) • Health and Safety (Consultation with Employees) Regulations 1996 (SI 1996/1513) • Right to Time Off for Study of Training Regulations 2001 (SI 2001/2801) • Right to Time Off for Study of Training (Scotland) Regulations 1999 (SI 1999/1058) • Employee Study and Training (Procedural Requirements) Regulations 2010 (SI 2010/155) • Employee Study and Training (Eligibility, Complaints and Remedies) Regulations 2010 (SI 2010/156)

Strategic Assessment of Risk

Absence	<ul style="list-style-type: none"> • Annual Leave • Attendance • Career Break • Flexible Working • Special Leave 	<ul style="list-style-type: none"> • Codified Working Time Directive (2003/88/EC) • Working Time Regulations 1998 (SI 1998/1833) • Social Security Contributions and Benefits Act (1992) • Social Security Administration Act 1992 • Social Security (Incapacity for Work) Act 1994 • Statutory Sick Pay (General) Regulations 1982 (SI 1982/894) • Employment and Support Allowance Regulations 2008 (SI 2008/794) • Social Security Benefits Up-Rating Order 2022 (SI 2022/292) • Employment Rights Act 1996 • Acas (Flexible Working) Arbitration Scheme (Great Britain) Order 2004 (SI 2004/2333) • Flexible Working Regulations 2014 (SI 2014/1398)
Health & Wellbeing	<ul style="list-style-type: none"> • Aids to Vision (Glasses) • Substance Misuse • Smoking in the Workplace • Wellbeing Matters • Attacks on Fire Service Personnel • Transitioning at Work Guidance • Lone Working • Secondary Employment 	<ul style="list-style-type: none"> • Working with Display Screen Equipment, the Health & Safety Executive (HSE) • Health and Safety at Work etc Act 1974 • Working Time Regulations 1998 (SI 1998/1833) • Employment Rights Act 1996 • Personal Protective Equipment at Work Regulations 1992 (SI 1992/2966) • Health and Safety (Consultation with Employees) Regulations 1996 (SI 1996/1513) • Management of Health and Safety at Work Regulations 1999 (SI 1999/3242) • Human Rights Act 2004

Strategic Assessment of Risk

Employee Relations	<ul style="list-style-type: none"> • Code of Conduct (incl. Core Code of Ethics) • Grievance • Disciplinary • Equality & Diversity • Organisational Change • Social Media • Trade Union Facilities • Redeployment • Performance Management 	<ul style="list-style-type: none"> • Trade Unions and Labour Relations (Consolidation) Act 1992 • Employment Rights Act 1996 • Employment Relations Act 1999 • ACAS Code of Practice on Disciplinary and Grievance Procedures • Equality Act 2010 • Collective Redundancies and Transfer of Undertakings (Protection of Employment) (Amendment) Regulations 1995 (IS 1995/2587) • Fixed-Term Employees (Prevention of Less Favourable Treatment) Regulations 2002 (SI 2002/2034) • Information and Consultation of Employees Regulations 2004 (SI 2004/3426) • Employment Equality (Age) Regulations 2006 (SI 2006/1031) • Gender Pay Gap Information Regulations 2017 • Strikes (Minimum Service Levels) Act 2023 • The Trade Union (Deduction of Union Subscriptions from Wages in the Public Sector) Regulations 2023
Exit	<ul style="list-style-type: none"> • Leavers Policy • Abatement 	<ul style="list-style-type: none"> • Employment Rights Act 1996 • Employment Relations Act 1999 • Pension Schemes Act 1993
Family Friendly	<ul style="list-style-type: none"> • Maternity Leave • Paternity Leave • Parental Leave • Adoption Leave • Time Off for Dependents 	<ul style="list-style-type: none"> • Employment Rights Act 1996 • Employment Act 2002 • Adoption and Children Act 2002 • Work and Families Act 2006 • Paternity and Adoption Leave Regulations 2002 (SI 2002/2788) • Social Security (Paternity and Adoption) Amendment Regulations 2002 (SI 2002/2689) • Intercountry Adoption (Hague Convention) (Scotland) Regulations 2003 (SSI 2003/19)

	<ul style="list-style-type: none"> • Intercountry Adoption (Hague Convention) Regulations 2003 (SI 2003/118) • Employment Rights Act 1996 (Application of Section 80B to Adoptions from Overseas) Regulations 2003 (SI 2003/920) • Paternity and Adoption Leave (Adoption from Overseas) Regulations 2003 (SI 2003/921) • Paternity and Adoption Leave (Amendment) Regulations 2004 (SI 2004/923) • Maternity and Parental Leave etc and the Paternity and Adoption Leave (Amendment) Regulations 2006 (SI 2006/2014) • Maternity and Parental Leave etc and the Paternity and Adoption Leave (Amendment) Regulations 2008 (SI 2008/1966) • Paternity and Adoption Leave (Amendment) Regulations 2014 (SI 2014/2112) • Shared Parental Leave and Paternity and Adoption Leave (Adoption from Overseas) Regulations 2014 (SI 2014/3092) • Equality Act 2010 • Workplace (Health, Safety and Welfare) Regulations 1992 (SI 1992/3004) • Maternity and Parental Leave etc Regulations 1999 (SI 1999/3312) • Management of Health and Safety at Work Regulations 1999 (SI 1999/3242) • Parental Leave (EU Directive) Regulations 2013 • Parental Bereavement (Leave and Pay) Act 2018
--	---

Table 9

References

Prevention – Fire Standards Board

Prevention-Strategy-2020-2024.pdf (essex-fire.gov.uk)

Protection – Fire Standards Board

Protection-Strategy-2020-24.pdf (essex-fire.gov.uk)

Response Strategy

Chapter 8: Organisational Risk

Nationally, there continues to be a drive for reform within the fire sector, analysis from His Majesty's Inspectorate of Constabulary and Fire & Rescue Services (HMICFRS) highlighting the need for more diversity within the workforce, increased accountability and productivity, and a greater ability to demonstrate value for money and innovation.

Under the remit of the National Fire Chiefs Council, they have picked up the mantle for sector reform through its 'Fit for the Future' programme, highlighting the themes of Service Delivery; Leadership, People, Culture; and National Infrastructure and Support.

In addition to the work being driven forward by the Fire Standards Board, the public inquiries into the Manchester Arena Bombing and the Grenfell Tower Fire (both in 2017) present significant findings and recommendations for the fire and rescue sector to address.

Within this chapter of the Strategic Assessment of Risk, the following areas will be considered:

- Our Service
- Our Incidents
- Partnerships and Collaboration
- Public Inquiries
- Monitoring Performance

Our Service

Our Area

Essex County Fire & Rescue Services is one of the largest fire and rescue services in the country, serving 1.8 million residents. Essex is home to two airports Stansted and Southend, and Harwich seaport, Lakeside shopping centre, Coryton oil refinery, power stations, docks at Tilbury and along the Thames, seven underground stations and parts of the M25 and M11 motorways.

Alongside this, our county contains many ecologically important areas, one of the largest sections of coastline (320 kilometres) in the country, various conservation areas and over 14,000 listed buildings. We are a county of real contrasts, made up of people who have differing needs.

Our People

As of 31st December 2023, the Service employed 628 whole time firefighters, 511 on call firefighters, 42 control firefighters and 353 support staff (with the number of on call firefighters including those with additional contracts elsewhere in the Service).

Strategic Assessment of Risk

In addition to maintaining an appropriate distribution of Level 1, 2, 3 and 4 Incident Commanders across the operational workforce, the Service also maintains a number of specialist officer roles including:

National Roles:

- Detection, Identification and Monitoring Officer
- Urban Search and Rescue Tactical Advisor
- High Volume Pump Tactical Advisor
- Flood Water Rescue Tactical Advisor
- Waste Fire Tactical Advisor
- Wildfire Tactical Advisor
- Chemical, Biological, Radiological, Nuclear and Explosive Tactical Advisor
- Chemical, Biological, Radiological, Nuclear and Explosive Tactical Commander
- Chemical, Biological, Radiological, Nuclear and Explosive Strategic Commander
- Airwave Tactical Advisor
- UK International Search and Rescue Lead Coordinator

The Service does not have a national requirement for fulfilling these roles, with the exception of the Detection, Identification and Monitoring Officers, and the Urban Search and Rescue Tactical Advisors. However, it would put the Service at risk not to ensure Officers were trained in these specialisms.

Officers who undertake a nationally required specialism must attend all training and events as this is a mandatory requirement for international deployments. This can lead to pressure on the duty rota and other officers to ensure an appropriate level of cover is maintained within Essex to support all mobilising offers.

Local Risk Based Roles:

- National Inter Agency Liaison Officer
- Hazardous Materials Advisor
- Fire Safety Officer
- Water Incident Management Officer
- Level 2 Fire Investigation Officer
- Petrochemical Officer
- Drone Pilot
- Monitoring Officer
- Duty Officer
- Executive Officer
- Principal Officer
- Control Duty Officer

Strategic Assessment of Risk

For our local requirements a Health and Safety risk assessment has been completed to develop our mobilising offers to ensure that all incident types have the appropriate resourcing allocated. Without appropriate resource there is a risk both to the public and to the Service.

Currently the Service does not identify key performance indicators for the locally required specialisms, this is being considered as part of the Response modelling contributing towards our next Community Risk Management Plan.

Additionally, specialisms, other than Incident Command roles, do not form part of the terms and conditions of firefighter role maps and therefore no individual is required to undertake the additional training and duties associated with specialisms. This poses a persistent risk to the Service should an individual choose to rescind their specialism offer, or as part of natural workforce turnover no new officers choose to take up the additional role. Due to this, key performance indicators and minimum requirements for duty rotas must be carefully negotiated with the representative bodies.

The Service also has a legal requirement to employ a Section 151 Officer, Data Protection Officer and Health and Safety Advisor.

The graphs below show how Essex County Fire & Rescue Service (ECFRS) Employees compare to the population of Essex.

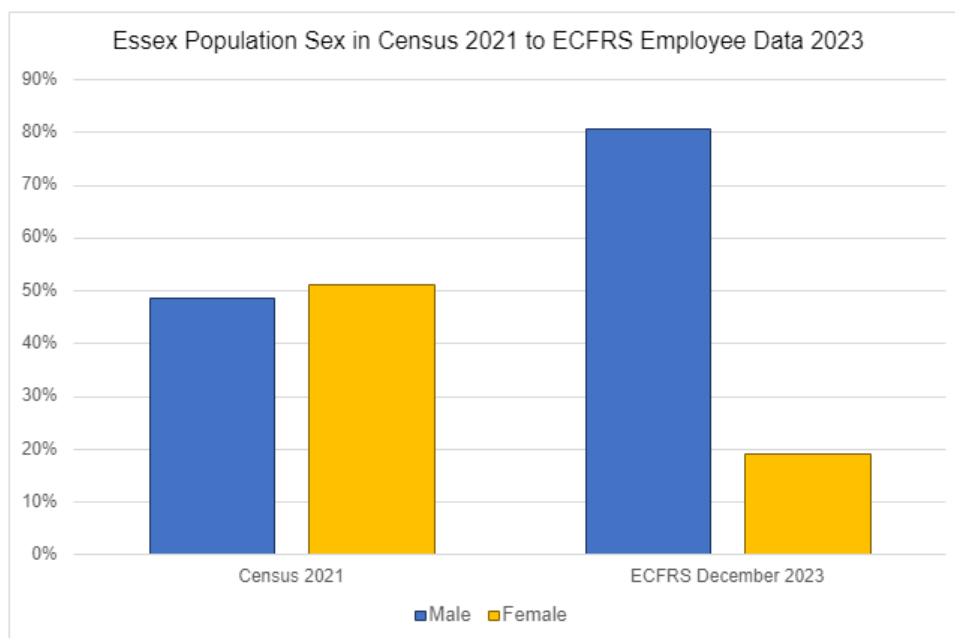


Figure 65

Strategic Assessment of Risk

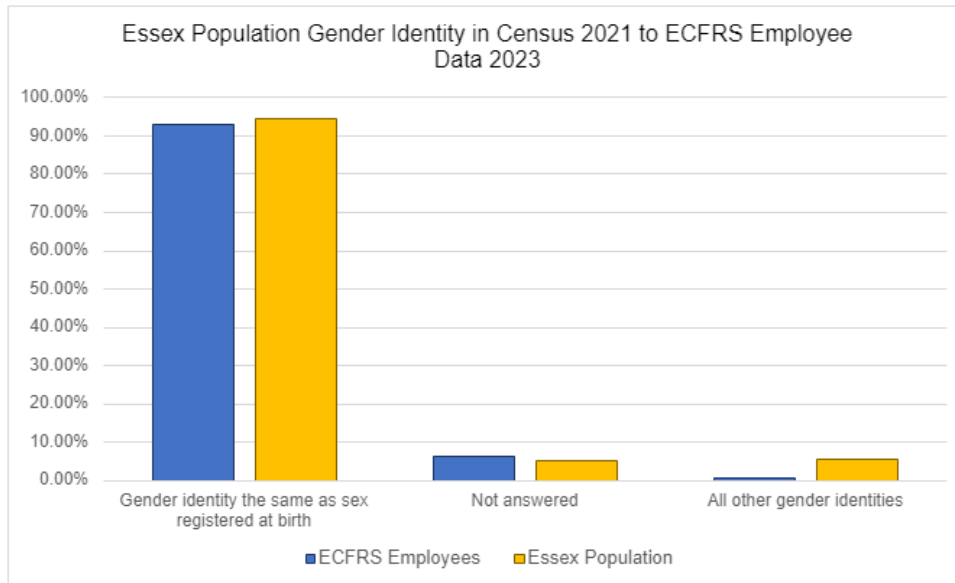


Figure 66

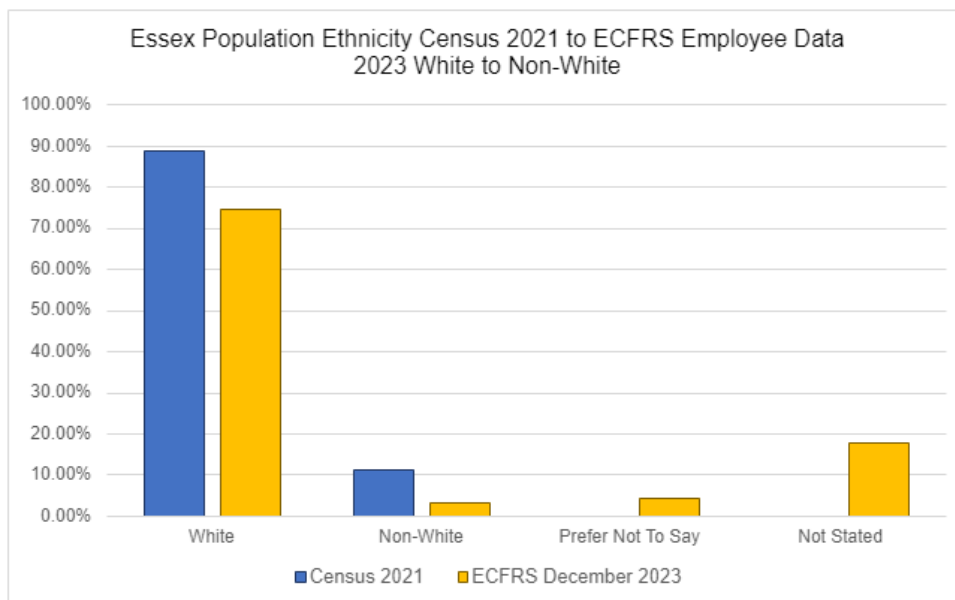


Figure 67

Strategic Assessment of Risk

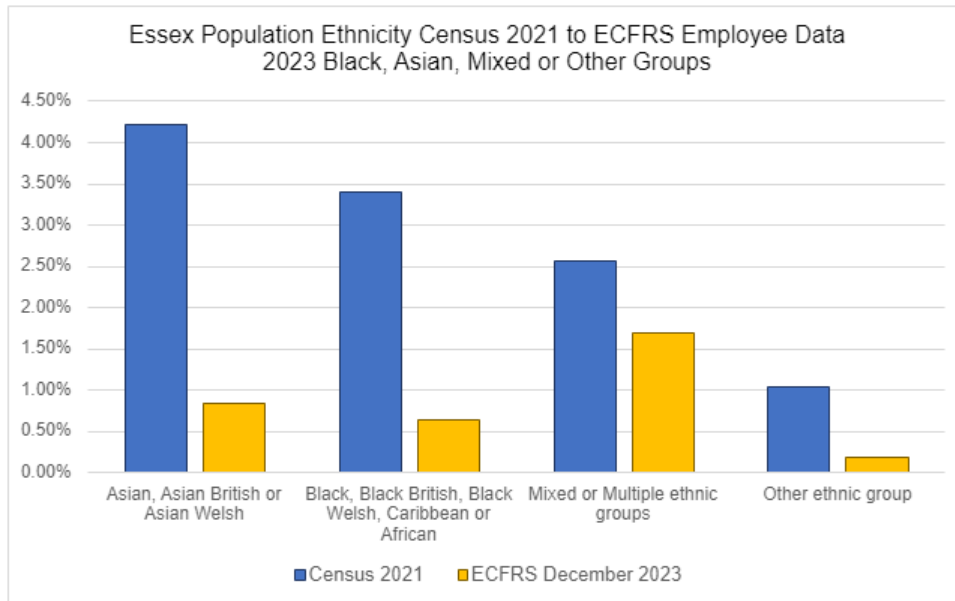


Figure 68

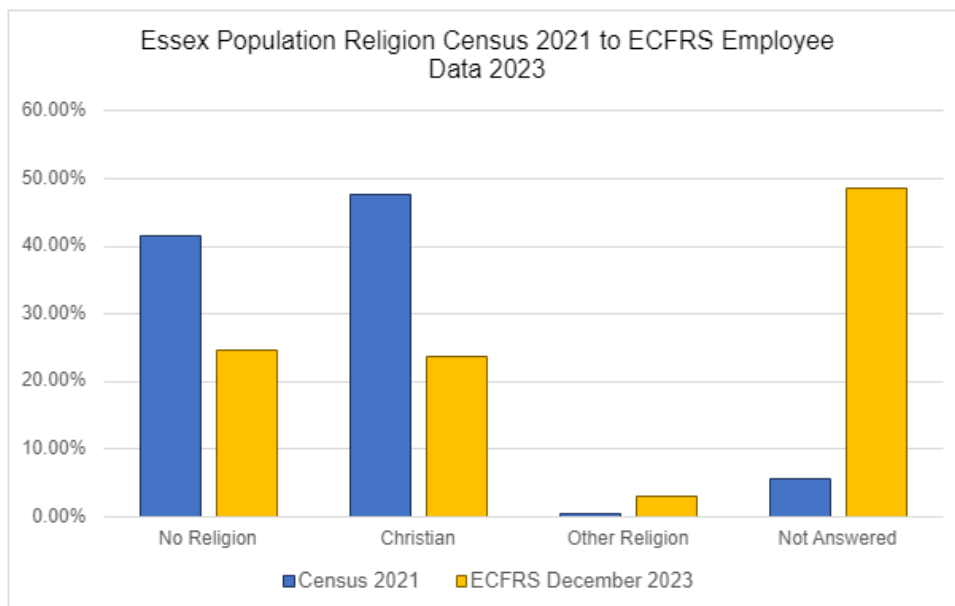


Figure 69

Strategic Assessment of Risk

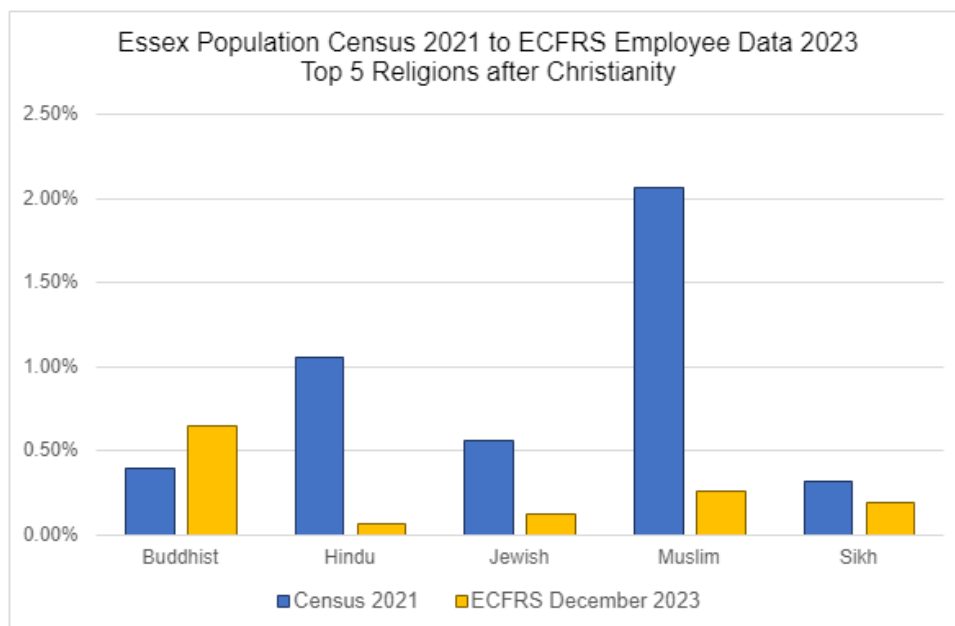


Figure 70

These graphs depict how the Service is doing against its Equality commitment to be an inclusive employer, that delivers inclusive services and takes proactive steps to recruit a diverse workforce. Figures 65, 68 and 70 highlight areas where the Service is not truly representative of the general population of Essex and where it could consider focusing future recruitment drives.

This disparity between the workforce of Essex County Fire & Rescue Service and the people of Essex also identifies areas where the Service may need to develop the knowledge and understanding of its current workforce to ensure they are able to effectively engage with the public.

Our Resources

The Service currently has 10 whole time stations, 38 on call stations, 2 mixed crewed stations and an Urban Search and Rescue station situated across Essex, Thurrock and Southend as depicted in Figure 71.

These are divided into 4 Command Areas each sitting under the responsibility of a Group Manager.

Stations in Green are identified core stations, these are determined by the high level of risk in the surrounding area and must maintain operational fire cover at all times.

Strategic Assessment of Risk

North West Command	South West Command	North East Command	South East Command
Braintree	Basildon	Burnham-on-Crouch	South Woodham Ferrers
Coggeshall	Billericay	Maldon	Hawkwell
Halstead	Wickford	Tillingham	Leigh
Witham	Brentwood	Tollesbury	Rochford
Dunmow	Ongar	Colchester	Southend
Leaden Roding	Ingatstone	Tiptree	Shoeburyness
Newport	Grays	Brightlingsea	Canvey Island
Stansted	Corringham	Manningtree	Rayleigh Weir
Harlow Central	Orsett	Wivenhoe	Chelmsford
Old Harlow	Epping	West Mersea	Great Baddow
Saffron Walden	Loughton	Dovercourt	
Sible Hedingham	Waltham Abbey	Clacton	
Thaxted		Frinton	
Wethersfield		Weeley	
<i>Table 10</i>			

Strategic Assessment of Risk

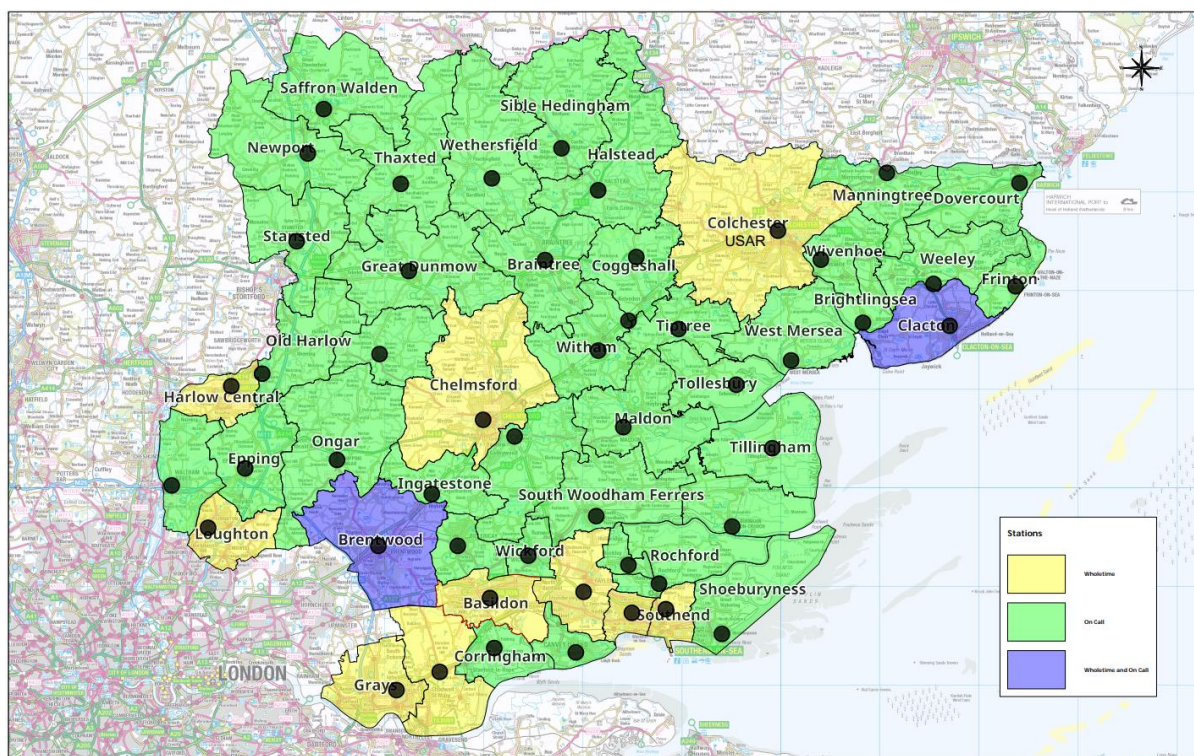


Figure 71

In addition to standard pumping appliances, the Service also maintains a fleet of specialist vehicles, including:

- Aerial Ladder Platform
- Animal Rescue Unit
- Ballistic Van
- Bulk Foam Module
- Detection, Identification and Monitoring Unit
- Environment and Salvage Module
- HazMat Unit
- Heavy Rescue Pump
- High Volume Pump
- Hose Laying Lorry
- Incident Command Unit
- Off Road Vehicles
- Water Bowser
- Welfare Module
- Water Rescue
- Decon Ranger

Our Strategy

Launched in 2019, our Fire and Rescue Plan is the first of its kind produced by a Police, Fire and Crime Commissioner, and is consequently a landmark for fire governance, not only for Essex, but for the whole country.

Strategic Assessment of Risk

It sets out the Police, Fire and Crime Commissioner's vision and priorities for the delivery of fire and rescue services in Essex. The plan will run from 2019 to 2024 and will be the basis on which the Commissioner holds the Service to account for our performance.

The eight priorities are:

- Enhance prevention, protection, and response.
- Promote a positive culture in the workplace.
- Develop and broaden the roles and range of activities undertaken by our Service.
- Help the vulnerable to stay safe.
- Collaborate with our partners.
- Be transparent, open and honest.
- Improve safety on our roads.
- Make best use of our resources.

Beneath the Fire and Rescue Plan sits the Community Risk Management Plan which in turn feeds into the Service's key strategies.



Figure 72

Our Mission

Our mission is to make Essex a safe place to live, work and travel.

Our values are:

- We are open, honest and trustworthy.
- We are courageous in everything we do.
- We work as one team.
- We are always professional.
- We value the contribution of all.

Our 10 priorities are the things we've committed to improving and want to excel at as a Service.

- Equality

Strategic Assessment of Risk

- To be an inclusive employer, that delivers inclusive services and takes proactive steps to recruit a diverse workforce.
- Technology
 - Improve our systems and hardware to enhance productivity and connectivity.
- Fire Protection
 - Deliver our role as part of the Building Safety Regulations and embed the outcomes of the Building Risk Review into our Inspection Programme.
- Leadership Development
 - Introduce a Service wide programme for the leaders of today and the potential ones for the future, to support workforce planning.
- Prevention
 - To reduce fire deaths to zero and contribute towards the Safer Essex Road Partnership vision zero.
- Fire Standards
 - Implement national standards to ensure best practice, support cooperative working and provide greater efficiencies.
- Operational Training
 - Provide quality training and facilities, to respond to the risks we face with assurance of competence.
- Property and Facilities
 - Develop our property portfolio to meet and support the wellbeing needs of our workforce as well as our communities.
- On-Call Firefighters
 - Increase our recruitment and retention; exploring flexible crewing models to improve response times.
- Risk
 - Adopt a performance and data driven approach to best use our resources to respond to new and changing risks more appropriately.

Our Incidents

The following section has been updated to provide incident statistics for local incident data, however the release of national incident data is not available at the time of reviewing this document and therefore certain aspects will remain as written for the 2023-2024 Strategic Assessment of Risk.

National Incident Statistics

The Home Office collects detailed information on incidents attended by fire and rescue services in England. The Service uses this data to benchmark its

Strategic Assessment of Risk

performance against the other fire and rescue services within the country. This benchmarking allows the Service to identify areas for further improvement.

The following graphs depict some of the key statistics in relation to incident responses for the past two financial years. (Figures 73, 74, 75 and 76).

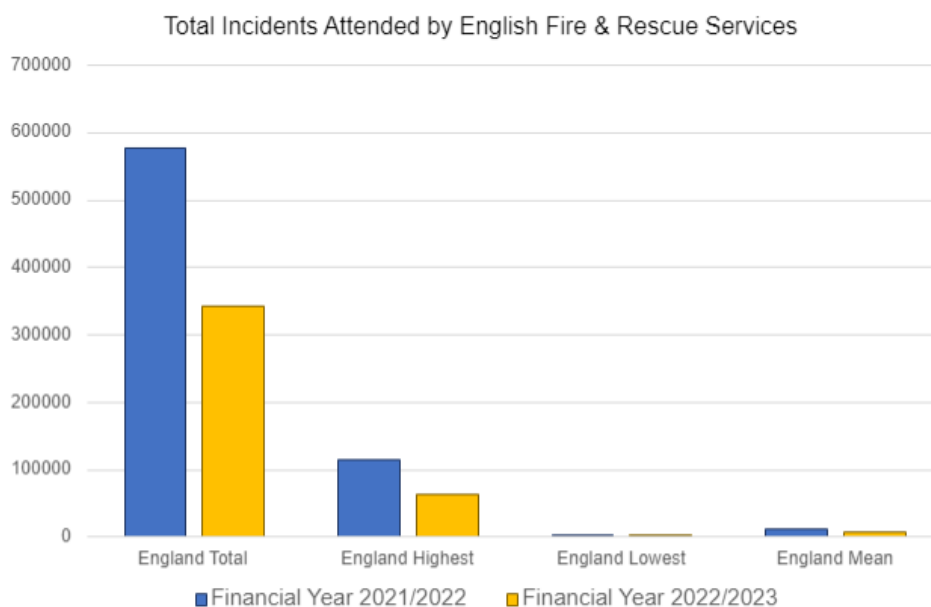


Figure 73

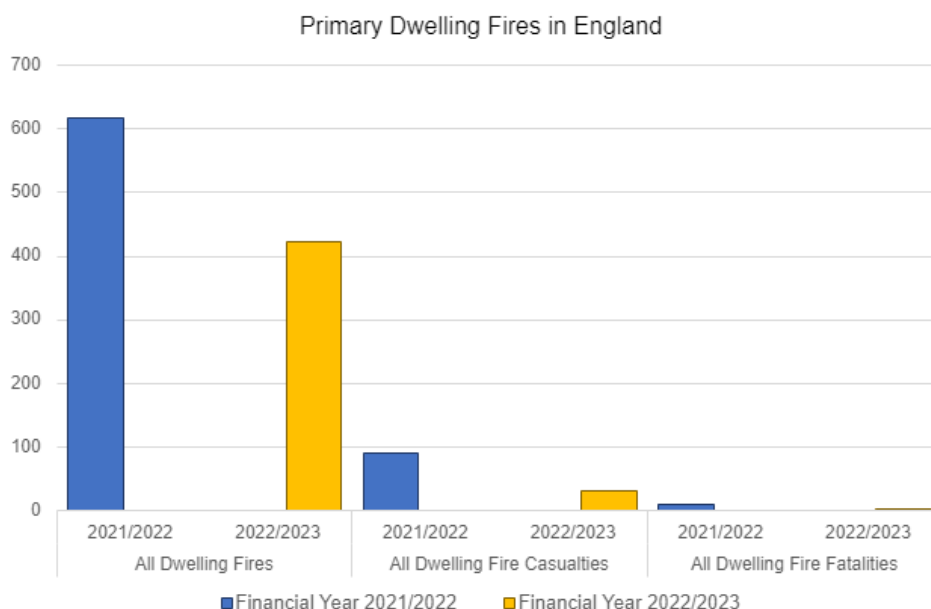


Figure 74

Strategic Assessment of Risk

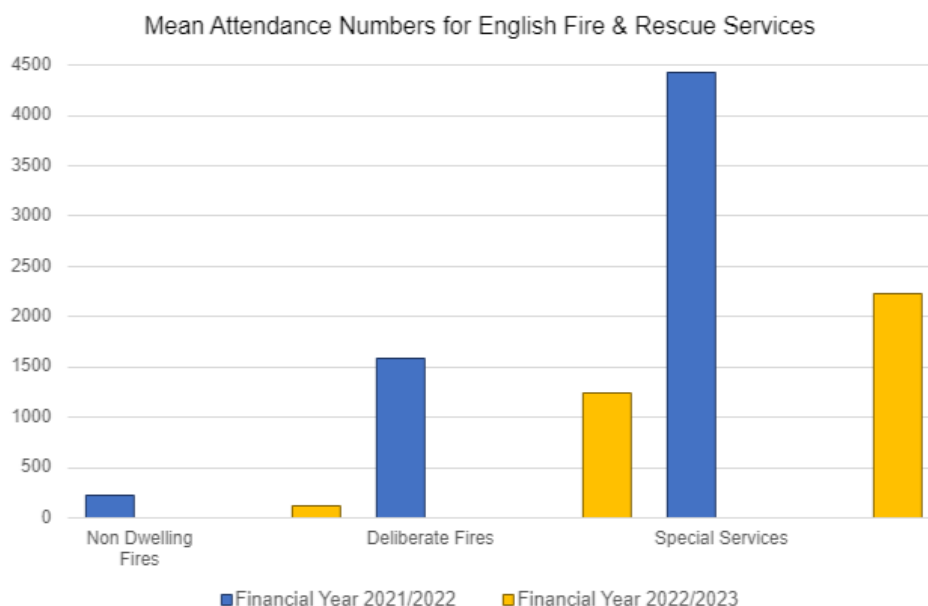


Figure 75

The above three graphs (Figures 73, 74 and 75) show a reduction in incidents across the main areas of Service delivery – primary dwelling fires, non-dwelling fires, deliberate fires and special services. This data should be reviewed against a longer-term picture and Prevention and Protection activity delivery to identify if this is a continuing trend with evidence to suggest it is supported by those additional areas of Service delivery.

However, the graph below (Figure 76) shows an increase in response time to all incident types. Additional analysis to map the locations of incidents to fire stations, cross referenced with resourcing availability could provide greater insight into the reasons for this. Consideration should also be taken in relation to the continuing impact of COVID-19 on incident statistics and societal behaviour.

Strategic Assessment of Risk

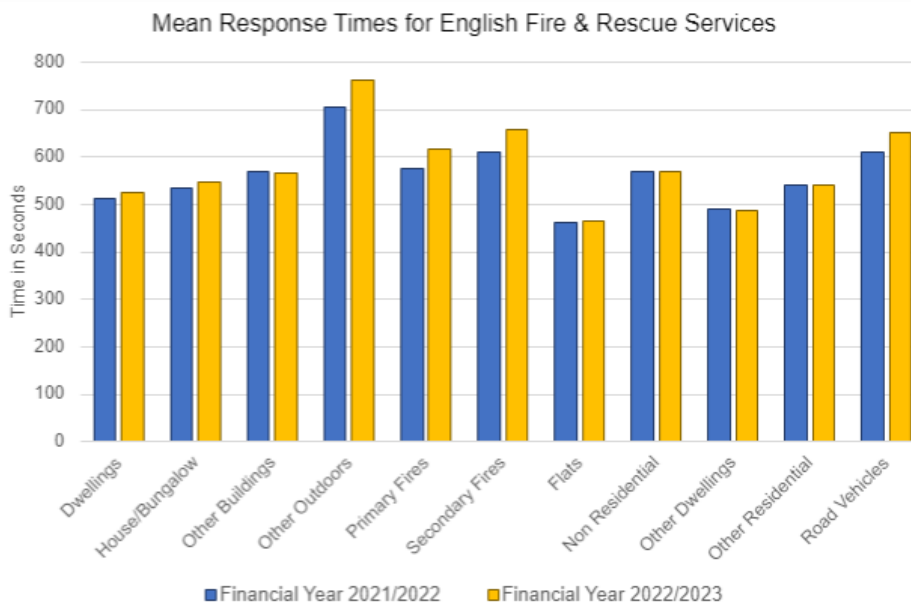


Figure 76

Local Incident Statistics

Within Essex County Fire & Rescue Service the total number of incidents decreased during across 2020 and 2021 due to the societal impacts of COVID-19. As the UK recovered from the initial impacts of COVID-19 incident levels increased above pre-pandemic levels in 2022 and began to settle down again in 2023. Specifically, there was a marked increase in fires in 2022 and a continuing trend of increased false alarms across both 2022 and 2023, whilst road traffic collision incidents stayed relatively consistent. Whilst there is no national drive to report on the wide range of incident types collected together within the special services category the Service does not analyse the data further to understand if any changes could be made to resourcing requirements.

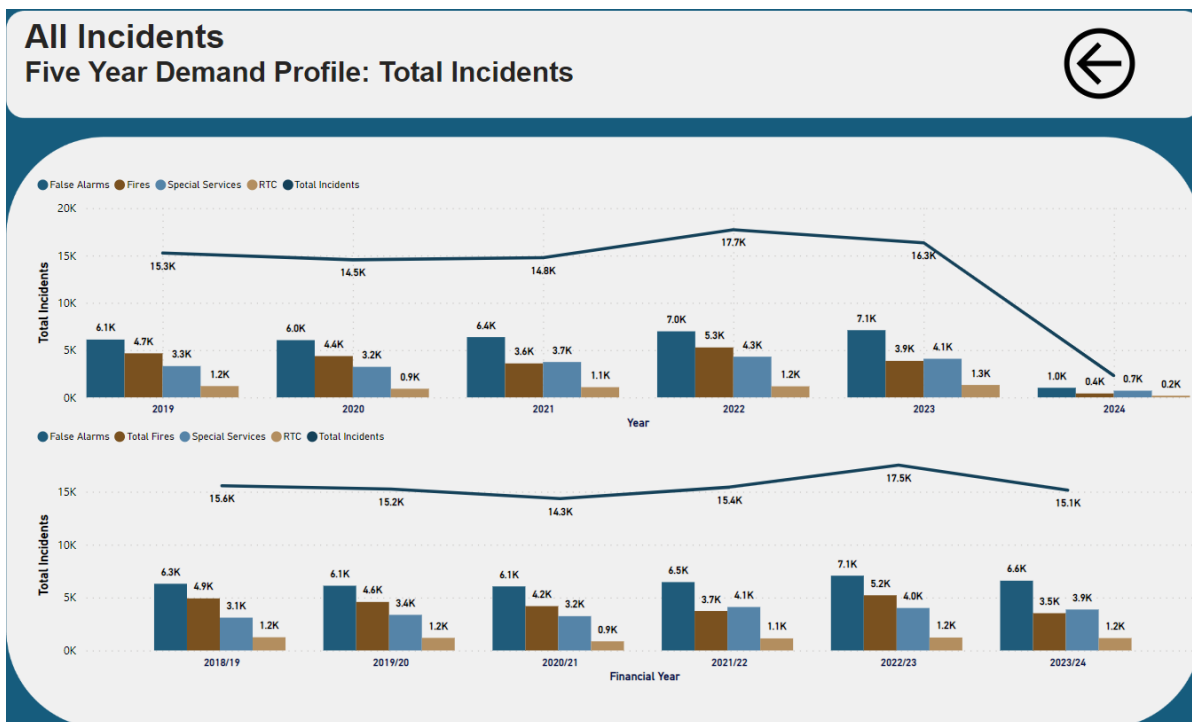


Figure 77

Dwelling Fires

In contrast to the national mean for dwelling fires over the past two financial years, the Service has attended a higher number of this incident type. The greatest difference is for accidental dwelling fires (Figure 78) whilst Essex is slightly below the average in relation to deliberate dwelling fires. Consideration should also be given the fact that whilst the overall number of dwelling fires in the financial year 2022/2023 was below the English average, the number of accidental dwelling fires was still greater. Further analysis of these figures should identify areas where the Service could do more to prevent accidental dwelling fires from occurring.

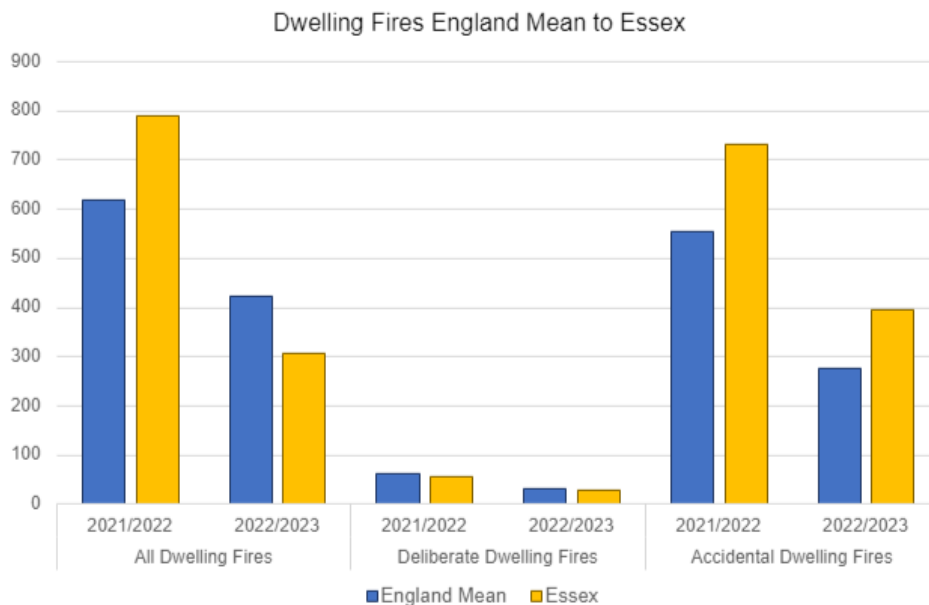


Figure 78

However, whilst the number of accidental dwelling fires in comparison to the English average is not favourable to Essex, the following graph (Figure 79) shows that over the past 5 years the Prevention and Protection work with domestic properties and the people of Essex are having a positive impact. There is a clear trend of a year-on-year reduction in all dwelling fires within Essex, with a slight discrepancy in 2022 which could be interpreted as an impact of COVID-19 restrictions being lifted.

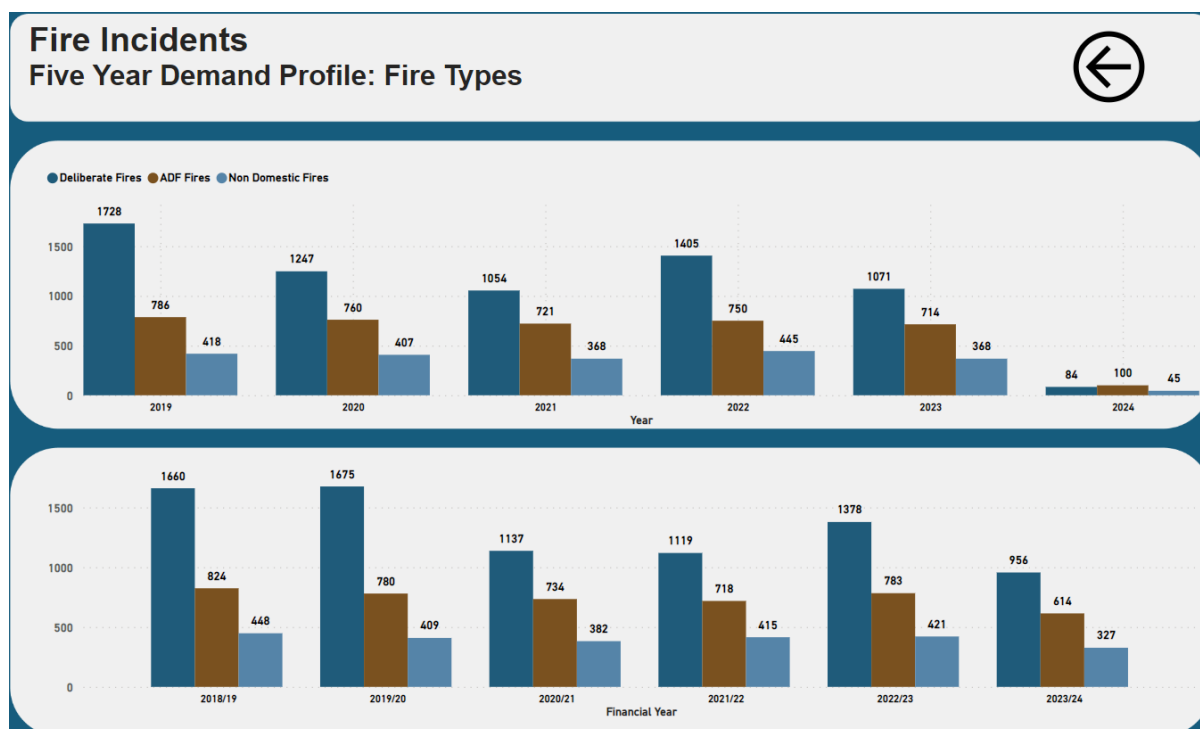


Figure 79

Fatal Fires

The graphs below (Figures 80 and 81) show the number of fire related fatalities against the English mean and over the past 5 years to occur in Essex. As can be seen in Figure 79 Essex has been below or equivalent to the English average in the financial years 2021/2022 and 2022/2023, however in contrast Essex has had a higher number of accidental dwelling fire fatalities than the English average during this same time period. What this shows is the need for the Service to understand where, when and why these accidental dwelling fire fatalities are occurring and take appropriate measures to engage with the public and responsible persons to work to reduce these.

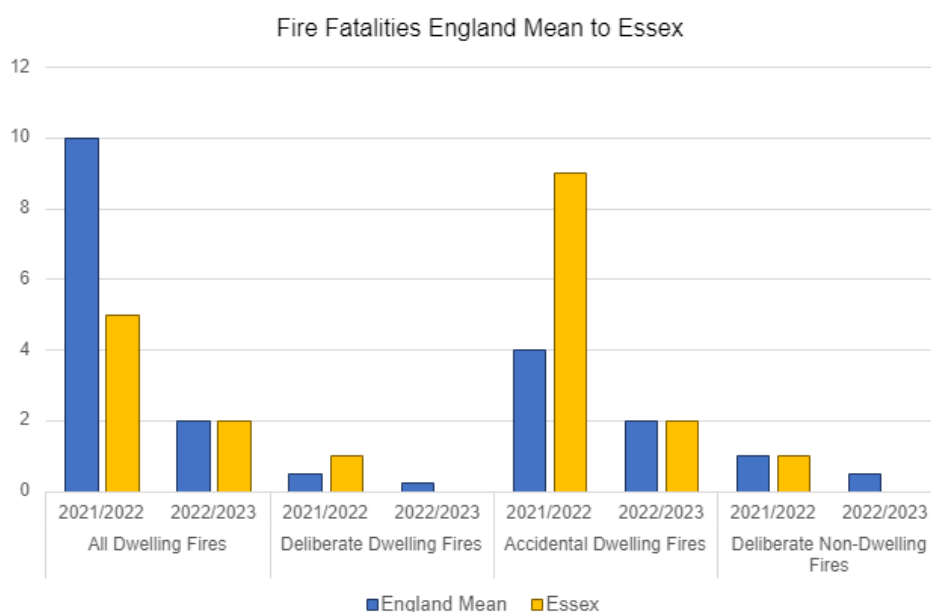


Figure 80

Further analysis of the past 5 years of fatal dwelling fires in Essex shows a peak in 2021, with a second, lower peak in 2023 (Figure 81). Whilst the number of deliberate fire fatalities has remained consistently low, further analysis to understand the causes of the accidental dwelling fire fatalities in conjunction with any changes to Service delivery activities, such as Prevention and Protection work, over the past year will enable the Service to ensure its resources are being best utilised to address this area of concern.

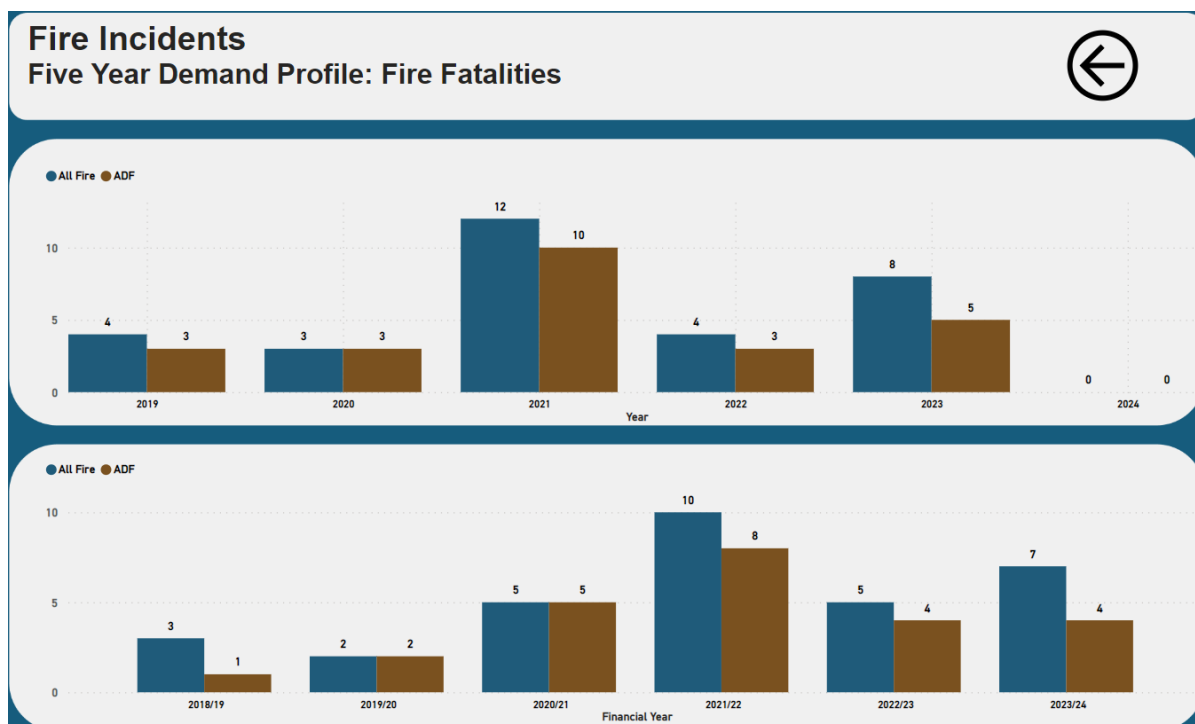


Figure 81

Road Traffic Collisions

In contrast to the Service statistics for dwelling fires (see above) the number of road traffic collisions in Essex compared to the English average is significantly higher over the most recent financial years as shown in Figure 82. Looking at this information alongside that represented in Figures 68 and 70, the catch all category of special services attended by fire and rescue services could benefit from further detailed analysis if the Service is going to understand the wider aspects of resource requirements.

Strategic Assessment of Risk

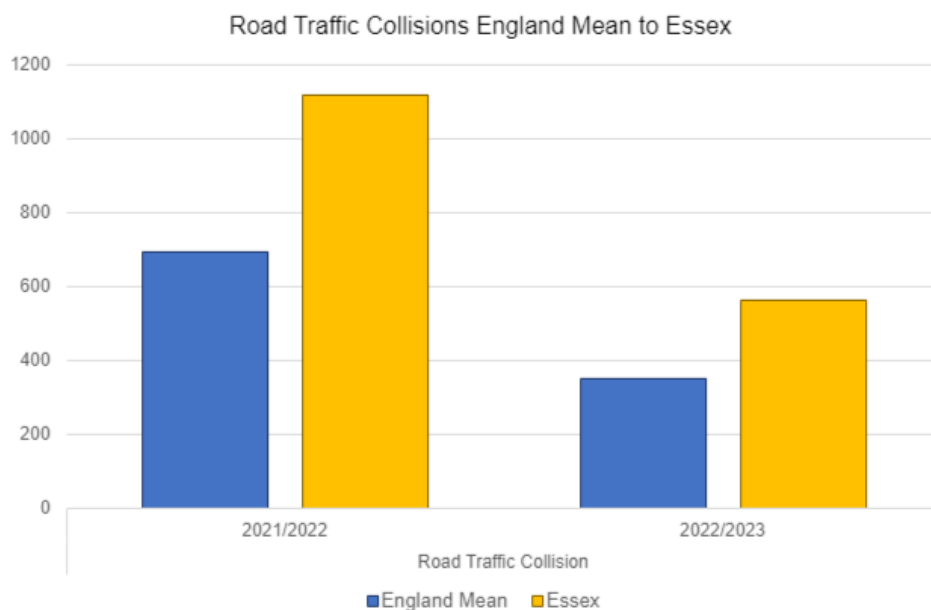


Figure 82

Considering the English mean to Essex data for road traffic collisions alongside the Essex only data across the past 5 years further analysis would benefit to address key road networks which consistently see incidents. The graph below (Figure 83) shows a continuing high trend of road traffic incidents occurring in Essex with an understandable dip in the year 2020 as societal behaviours were impacted by the government restrictions imposed to combat COVID-19. However, once these restrictions were lifted the numbers increased back to and above (in 2023) pre-pandemic levels.

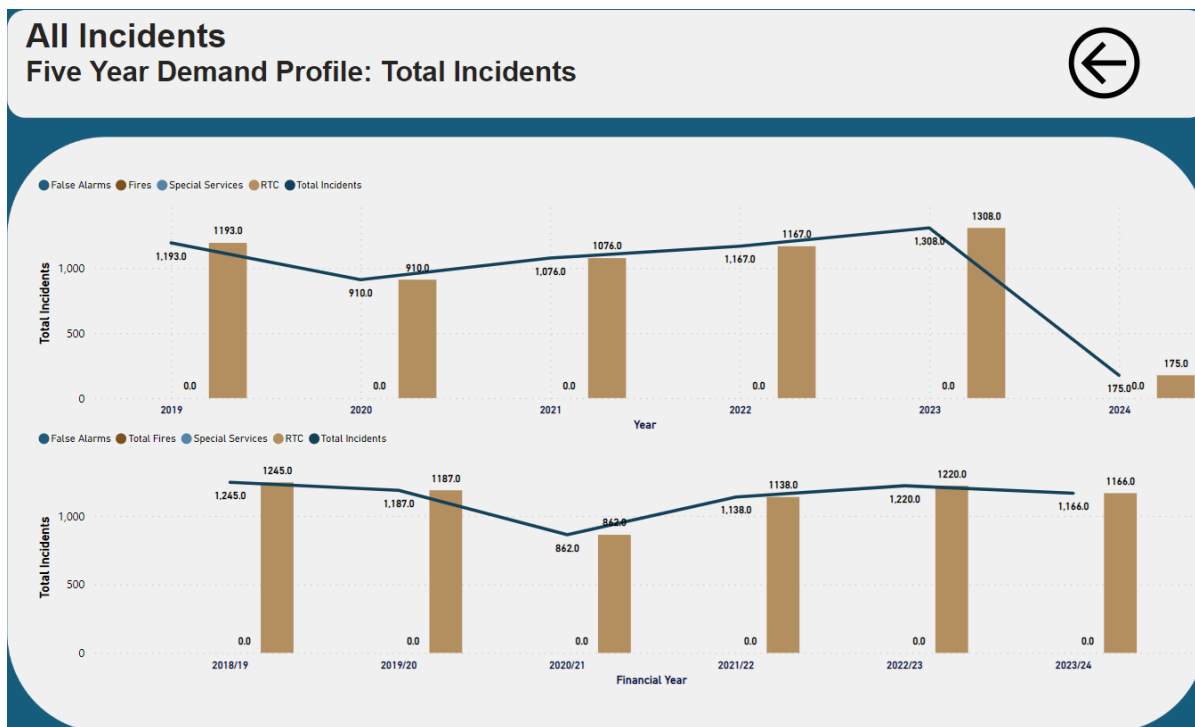


Figure 83

Further analysis should be conducted to determine the factors influencing this increase in 2023 and what implications this has for the Service, its key priorities within Road Safety and its response model.

Water Rescue

The Service maintains Water Rescue capabilities at 5 Stations across the county, at West Mersea, Orsett, Ingatestone, Chelmsford and Billericay. When mobilised these include a Water Rescue First Responder appliance crewed by a minimum of four personnel, a Swift Water Rescue Technician and a Water Incident Manager.

The graph below (Figure 84) shows the number of water incidents the Service has responded to over the past 5 years. This shows us that the number of incidents increased following the lifting of COVID-19 restrictions in 2021 and 2022, with a slight reduction occurring in 2023. It also shows that beach and river incidents are more frequent, this should be considered in conjunction with the details relating to water fatalities covered in Chapter 6 – Environmental Risk to understand how best to manage our resources for Prevention and Response activities.

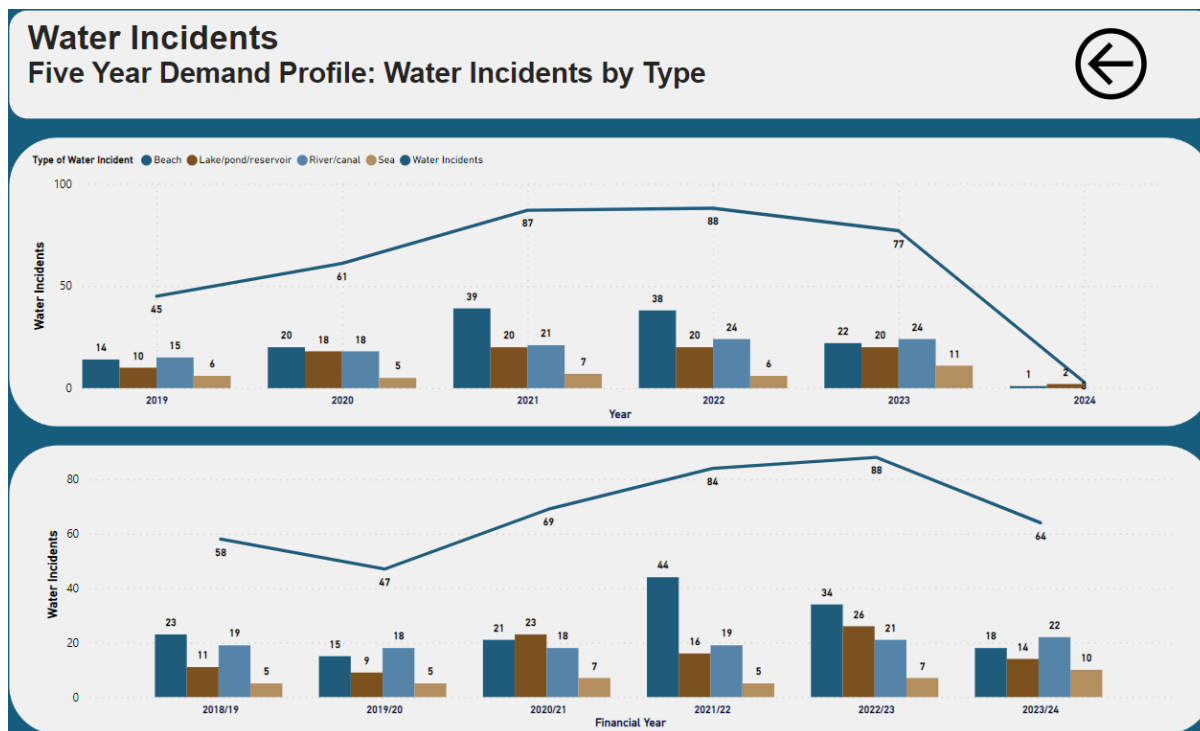


Figure 84

The next graph (Figure 85) shows the break down of water incidents by month, across the 5 year period 2019 to 2024. Whilst some months of the year indicate a lower probability of water incidents occurring, the summer months show a consistent and increasing number of water incidents requiring a Service response.

As can then be seen in Figure 86 the predominance of these water incidents occurs in key coastal or river locations in Clacton, Southend, Thurrock, Colchester, Harlow and Chelmsford. Further analysis is available through the Water Incidents and Drownings PowerBI to understand the type and nature of these water incidents, the ages of victims and the average duration of a call out. This information will support the appropriate resourcing, training and public engagement to reduce water incidents occurring and effective, efficient responses when required.

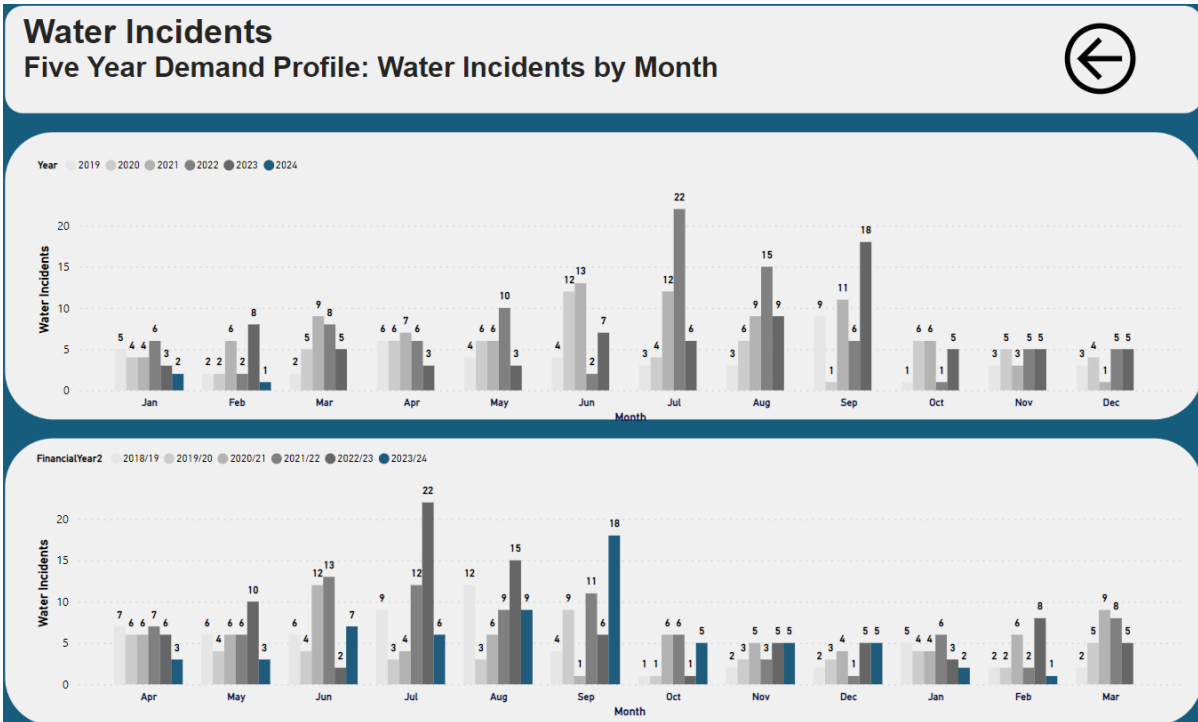


Figure 85

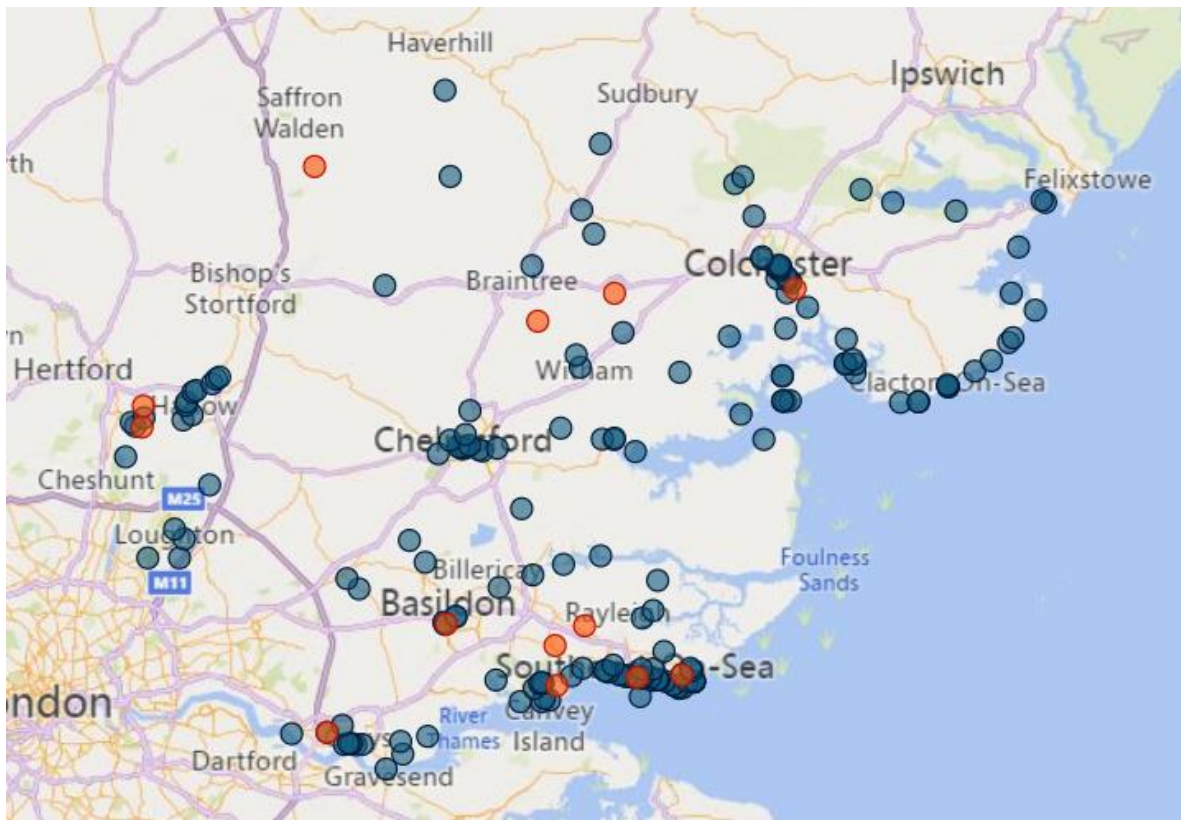


Figure 86: Orange indicates drowning incidents.

Strategic Assessment of Risk

Cross Border Incidents

Under Sections 13/16 of the Fire and Rescue Services Act 2004, Essex County Fire & Rescue Service engages in reciprocal support arrangements with neighbouring Services (see Cross Border Working on page 147).

With data from the past 5 years, the following graphs show the frequency and amount of cross border incidents Essex has responded to and requested support for (Figures 87 and 88 respectively).

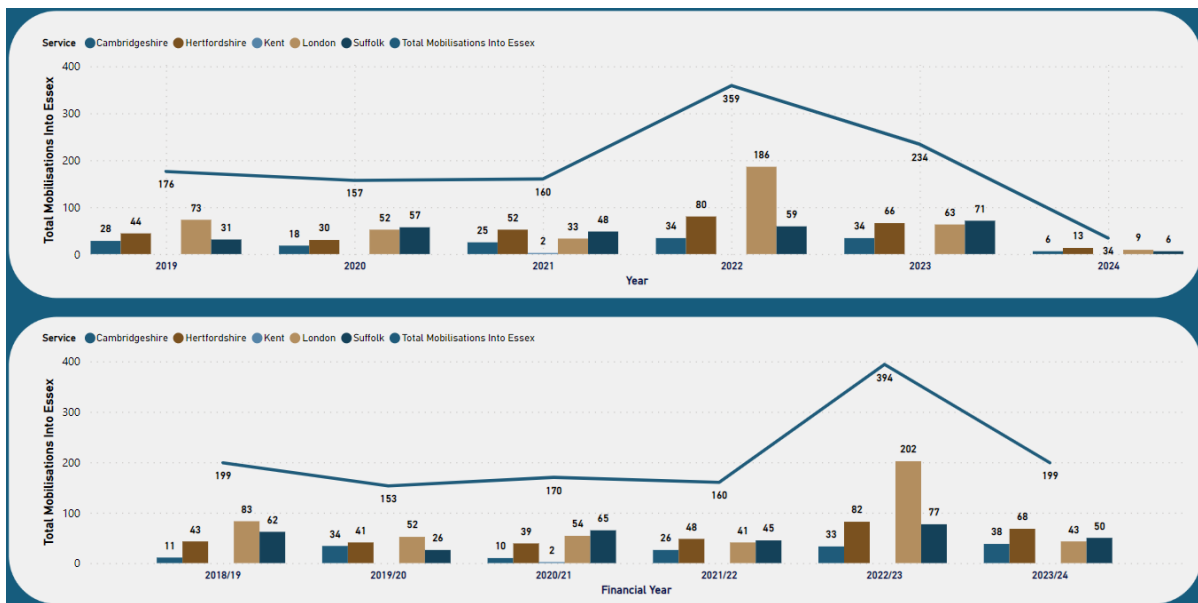


Figure 87: Over the Border Mobilisations: Out of Essex

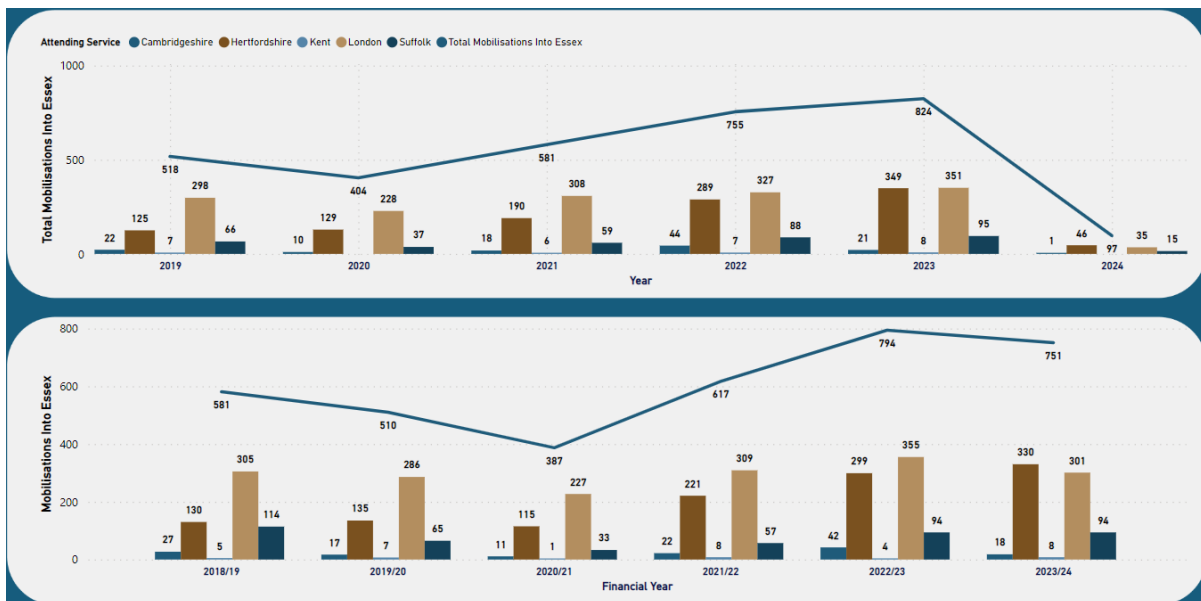


Figure 88: Over the Border Mobilisations: Into Essex

Strategic Assessment of Risk

These graphs show an overall trend for support both from Essex to neighbouring fire and rescue services, but also from our neighbouring fire and rescue services into Essex.

The total number of incidents requiring neighbouring fire and rescue services to support Essex in 2023 is 824, which is an increase of 9% on the previous year, which in itself had increased by 30% from 2021. Whilst Figure 23 shows us that there was a sharp increase by 124% in requests for support from neighbouring fire and rescue services in 2022 which can be attributed to the hot weather and increase in outdoor fires.

What is evident by these graphs is that the predominance of cross border working occurs between Essex and London or Essex and Hertfordshire, with very little support requested by or of Kent, whilst support between Essex and Suffolk remains relatively constant.

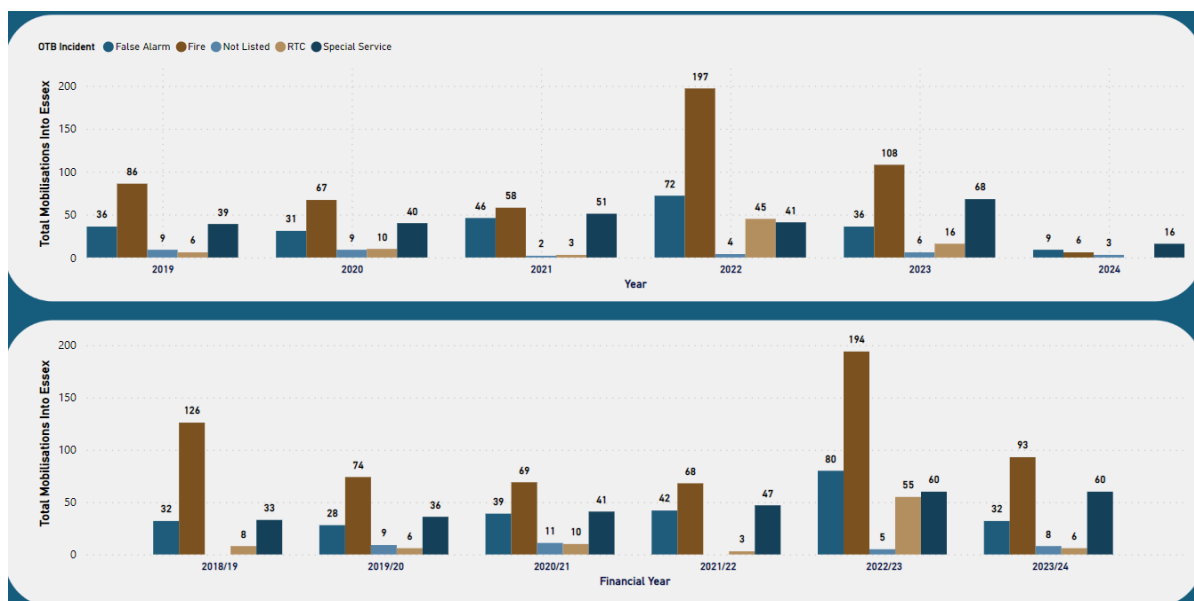


Figure 89: Over the Border Mobilisations: Out of Essex by Incident

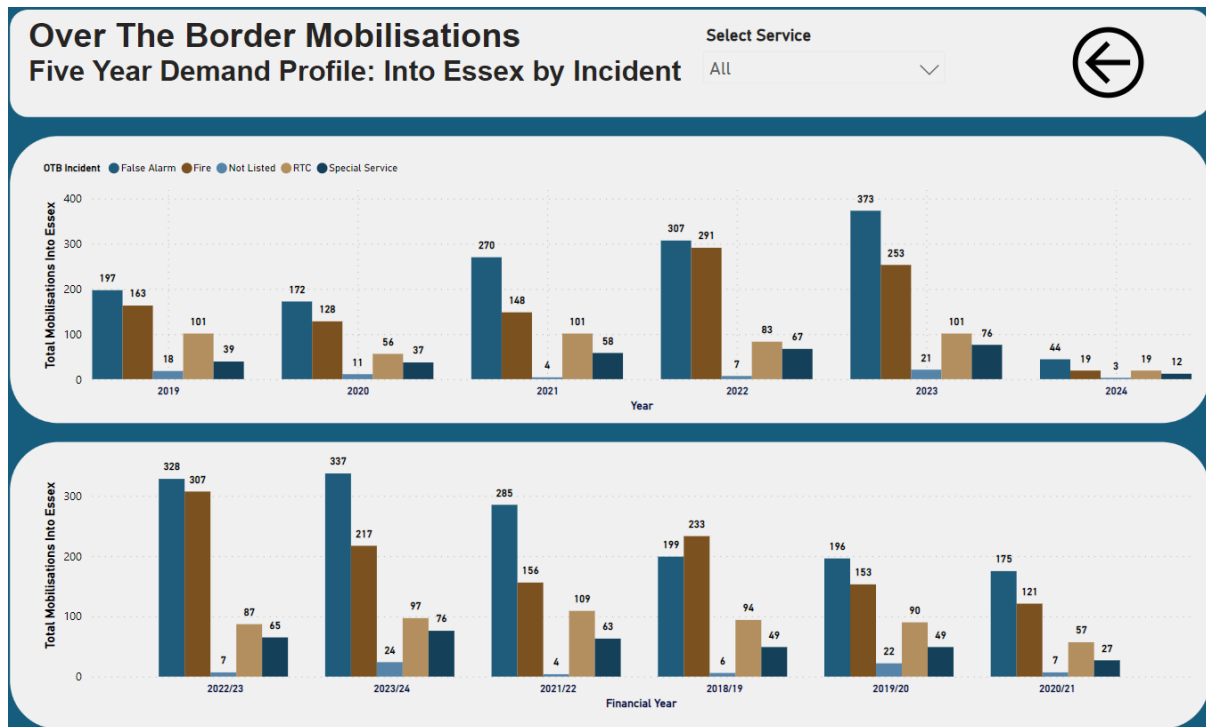


Figure 90: Over the Border Mobilisations: Into Essex by Incident

Figures 89 and 90 show the type of incident we either request support for or are requested to provide support to by our neighbouring fire and rescue services. What this tells us is that each year we are requested to provide support for fires above all other incident types, second to that being special services. Whilst we request support for attendance to false alarms above all other incident types. Consideration should be given to Protection work to reduce the number of false alarms requiring an attendance.

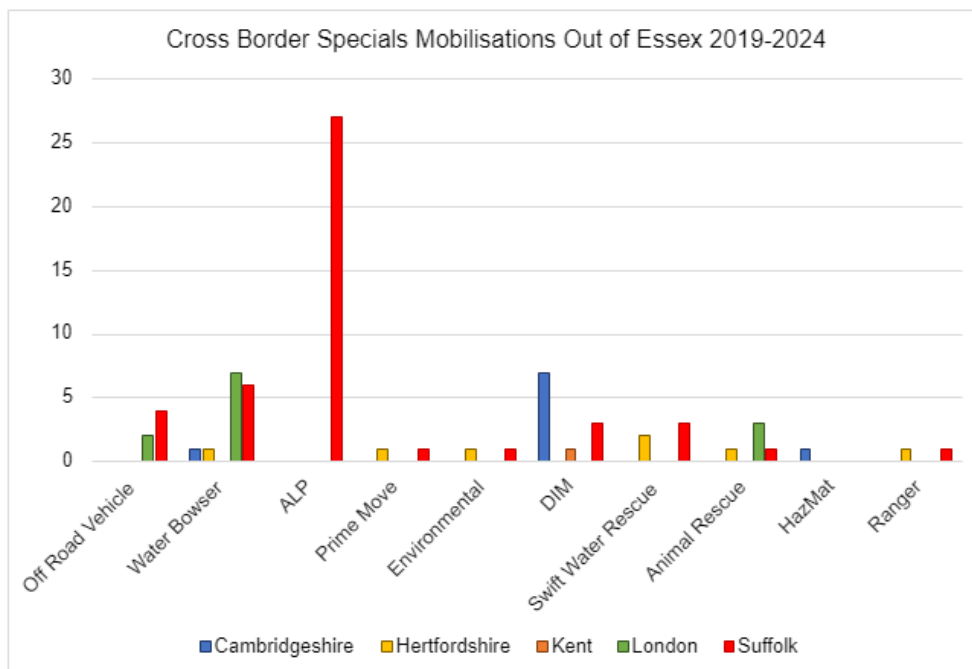


Figure 91

Strategic Assessment of Risk

Breaking down the special's requests from neighbouring fire and rescue services (as shown in Figure 91) we can see that Aerial Ladder Platforms have only been requested by Suffolk over the past 5 years, whilst the predominance of requests for Detection, Identification and Monitoring has been from Cambridgeshire.

Consideration of these specific mobilisations into our neighbouring fire and rescue services should be used to help inform Service policies and practices when maintaining specialist capabilities.

Response Times

The two graphs below (Figures 92 and 93) depict the response times in seconds for Essex over the past 5 years to most incident types. What these show us is that overall, the response times within Essex to most incidents has remained relatively consistent over the past 5 years. However, there are a few areas which show an increase in the past financial year which should be analysed further to understand the contributing factors and what the Service can do to address these where necessary.

For example, the response times to other outdoor incidents shown in Figure 92 for the financial year 2022/2023 is considerably greater than that of the preceding 4 years. Analysis to understand why this has occurred should be undertaken to determine if this is a one year anomaly due to contributing factors, or if this is indicative of future pressures on response times and therefore something to be addressed.

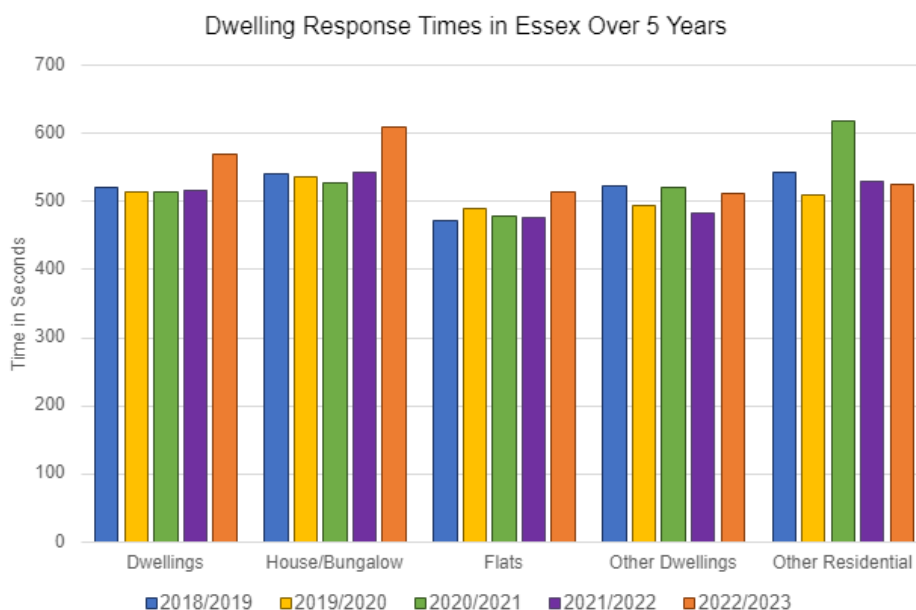


Figure 92

Strategic Assessment of Risk

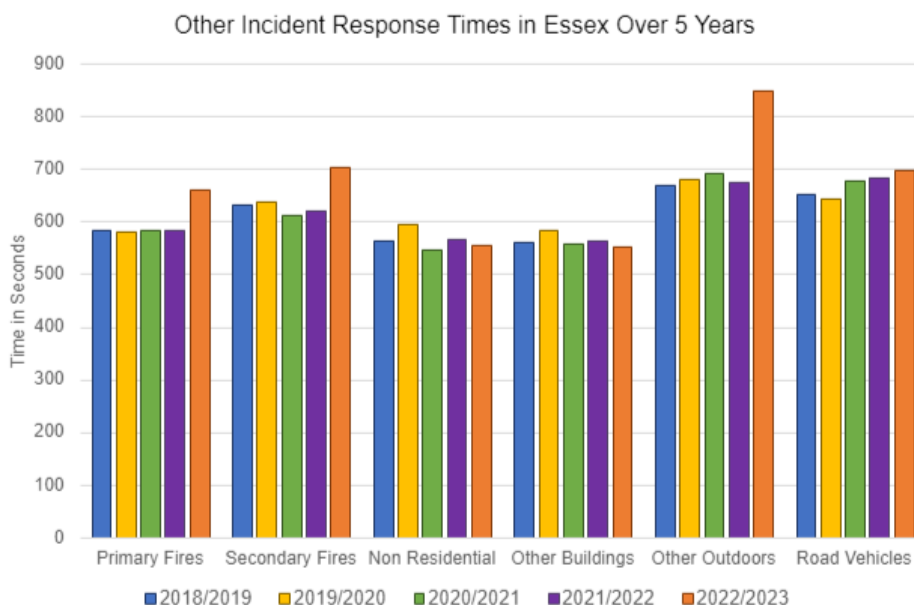


Figure 93

If we take these in comparison with the English mean data depicted in Figure 76, we can see that areas in which Essex is improving upon the English picture is when responding to other residential, non-residential and other buildings incidents, as these are all faster response times than the preceding financial year. Given that the English average for response times has increase across all incident types in the past two financial year consideration should be taken to the societal impacts of COVID-19 on incident data and whether trends will continue back to pre-pandemic levels (as the latest data suggests), or if new ways of working will change the type, nature and frequency of incidents occurring, with the Service having to consider its resourcing accordingly.

Public Inquiries

The Service has developed a process to incorporate recommendations from public inquiries into its Continuous Improvement Programme. This process is led by the Collaboration Team to ensure that all partners are engaging at the same level to identify, mitigate and evidence any aspect of their service delivery which requires improvement.

Manchester Arena and Grenfell Tower Fire

Through the work of the Collaboration Team and the process of Continuous Improvement, a number of key benefits have been identified through incorporating

the recommendations from the Manchester Arena Inquiry Volume 2 and Grenfell Tower Thematic Inquiry Phase 1, these are:

Learning and Continuous Improvement

Implementing the recommendations provides an opportunity for the Service to learn from the Grenfell Tower fire and Manchester Arena bombing and make necessary adjustments to policies, procedures, and operational practices. This culture of continuous improvement can help ensure that the fire service remains adaptable and resilient in the face of evolving challenges and threats.

Enhanced Interagency Coordination and Collaboration

Between Essex County Fire and Rescue Service and other emergency response agencies, including Essex Police, East of England Ambulance Service and Local Authorities to improve the overall response to emergencies and ensure a more cohesive and integrated approach to incident management.

Improved Communication and Coordination

Implementing recommendations related to communication and coordination between the Service and other agencies to facilitate more efficient and effective responses to emergencies. This included improving interoperability of communication systems, establishing clear protocols for incident command, and conducting joint training exercises with other emergency responders.

Enhancement of Communication Systems and Protocols

By implementing improved communication technologies and establishing common protocols, emergency services can ensure more efficient and effective coordination during crises. This includes streamlining information sharing between agencies, providing responders with clear channels for communication, and ensuring a common language is used.

Training and Exercises

Comprehensive training for emergency responders on various scenarios, implementing the learning from exercises on large-scale incidents like the Manchester Arena bombing and Grenfell Tower fire will allow responders to practice their skills and familiarise themselves with their roles and responsibilities, establishing joint planning processes, sharing resources, and fostering mutual understanding, to enhance their collective capabilities and effectiveness; improving their preparedness to handle emergencies.

Infrastructure and Equipment Upgrades

Ensures that emergency services have the necessary resources to respond effectively to emergencies. Investing in facility upgrades, providing specialised

equipment for mass casualty incidents, and ensuring access to personal protective gear are all crucial for enhancing response capabilities.

Improved Fire Safety Regulations and Enhanced Building Standards

Specifically, Grenfell Tower fire recommendations from Phase 1 emphasised the importance of stricter regulations regarding the use of combustible materials in construction, enhanced fire safety measures in high rise buildings, and more rigorous oversight of building projects by regulatory authorities to improve fire safety in high rise residential buildings. These recommendations provided a roadmap for policy makers and industry stakeholders to enact meaningful reforms aimed at preventing similar incidents in the future.

Increased Public Trust and Confidence

By demonstrating a commitment to learning from past incidents and implementing measures to prevent similar tragedies, the Service can enhance public trust and confidence in its ability to protect communities and respond effectively to emergencies. This can strengthen relationships with residents and stakeholders and improve overall community resilience.

Partnerships and Collaboration

Response Partnerships

The Service works in partnership with Bureau Veritas to access specialist scientific advice and support 24 hours a day, 365 days a year. The scientific advice provides an additional resource to Essex County Fire & Rescue Service in relation to incidents involving chemicals, radiation, and the potential environmental impact.

The investment allows the Service to reduce risk, improve our performance and meet the challenges of quality, health & safety, environmental protection and social responsibility.

The Service also works in partnership with Extreme Rescue who provide specialist knowledge and advice in relation to HGV/LGV road traffic collision extrications, hazard management and modern technology safety applications.

Essex Resilience Forum

The Essex Resilience Forum is a multi-agency group of Category 1 and 2 responders that oversees the resilience of Essex should a significant event occur of which Essex County Fire & Rescue Service is an active and integral partner.

Strategic Assessment of Risk

The Essex Resilience Forum has a dedicated team of four staff, with partners from all agencies supporting in each of the boards and working groups set up to plan, prepare and respond to multi-agency incidents.

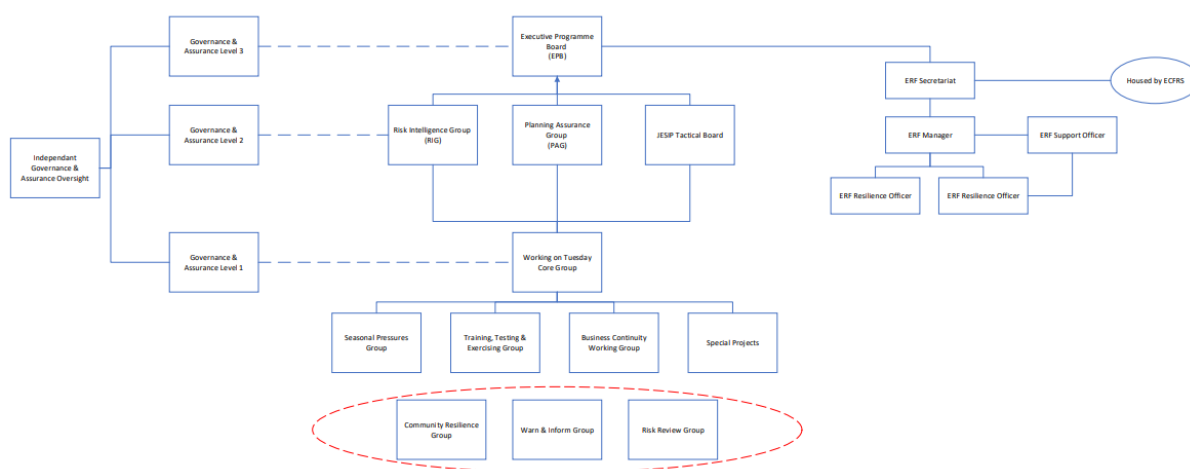


Figure 94

As detailed in Figure 94 above, the Essex Resilience Forum Governance and Assurance Framework comprises of three distinct levels, namely:

- Level 3
 - Strategic oversight with the Executive Programme Board which is chaired by the Chief Constable of Essex Police and Vice Chaired by the Chief Fire Officer of Essex County Fire and Rescue Service.
- Level 2
 - Tactical oversight from the Risk Intelligence Group to assess and identify risk, from the Planning Assurance Group ensuring plans and training is managed and from the JESIP Tactical Board embedding JESIP principles with all multi-agency work activities.
- Level 1
 - Operational oversight with the Working on Tuesday Core Group and the associated sub-groups to support work requirements and deliver for the above tactical and strategic groups.

The Essex Resilience Forum has an overarching framework for ensuring effective and efficient collaborative working is maintained when responding to and recovering from multi-agency incidents. This is the Combined Operating Procedures for Essex.

Emergency Services Collaboration

The Service formalised its arrangement with Essex Police to work in collaboration in 2016 based on the shared coterminous boundaries and government direction to

Strategic Assessment of Risk

manage down demand on services whilst protecting those most vulnerable from harm. The engagement of the Collaboration Team also extends to other partners whom joint working delivers beneficial outcomes to all, most notably with East of England Ambulance Service.

As the Collaboration programme has matured, support and coordination will continue to facilitate future collaboration activities in response to policy developments and the ongoing operational requirements of businesses. We will ensure that these activities undergo thorough evaluation, based on evidence, to focus on realising tangible benefits. Governance will continue to be maintained through the management of partner relationships to uphold effective collaboration.

Working in partnership has been shown to deliver benefits including:

- Better outcomes for the communities who use our services.
- Increased resilience.
- Sharing of best practice.
- Reduced costs through removal of duplication.

All areas of Service delivery are considered for potential collaborative activity against the following aims:

- Community Focussed
 - To deliver safe, effective and efficient public services which will make our communities safer, stronger and more resilient.
- Improved Outcomes
 - The collaboration maintains or improves the service we provide to local people and local communities.
- Reduced Demand
 - The collaboration should contribute towards our longer term strategic objective of decreasing risk in communities and reducing demand on public services.
- Better Value for Money
 - The collaboration produces quantifiable efficiencies either on implementation or in the longer term.

Governance on the projects and the annual review of benefits of closed projects delivered through the collaborative route is provided through:

- Strategic Board
 - To provide unified direction and effective decision making, providing resources and authorising funding.
- Programme Board
 - To provide overall direction and accountability, day-to-day management.
- Programme Team

Strategic Assessment of Risk

- Responsible for the delivery of products, evaluation of benefit and delegation of work streams as appropriate.
- Quality Assurance
 - Independent of the Programme Board to act as support and a critical friend.

Cross Border Working

The Service has long standing arrangements in place with its neighbouring Services which are detailed under Sections 13/16 of the Fire and Rescue Services Act 2004.

Section 13 obliges Fire and Rescue Authorities to group together, so far as practicable, to provide mutual assistance for fires, road traffic collisions and other serious emergencies.

Section 16 extends powers to Fire and Rescue Authorities to enter contractual arrangements with others (including other Fire and Rescue Authorities) to provide services in the execution of their functions.

The Operations Department team lead the Service engagement with our neighbouring Services to build and maintain strong working relationships with whom we share risk information relative to the cross border area.

Our neighbouring Services include London Fire Brigade, Kent Fire and Rescue Service, Suffolk Fire and Rescue Service, Cambridgeshire Fire and Rescue Service and Hertfordshire Fire and Rescue Service.

Neighbouring Fire and Rescue Services share risk information relative to their cross border areas and engage with the Service in regular cross border exercising both at the local station level and at strategic, multi-agency levels addressing identified risks.

National and Joint Operational Learning

Joint Organisational Learning and National Operational Learning are managed by the National Fire Chief's Council which is made up of a Secretariat and National Operational Learning User Group.

The Secretariat review learning submissions from fire and rescue services for National Operational Learning and from multi agency services for Joint Organisational Learning. The submissions are reviewed against current National Operational Guidance to determine if any changes to the guidance is required.

Where a fire and rescue service provides evidence that the use of Operational Discretion was a valid decision and they worked outside of national guidance, the Secretariat will consider if there is a need to revise the guidance to accommodate the identified need.

Multi agency learning is published as a Joint Organisational Learning Notable Practice or Lesson Identified and identifies the scenario of lessons learnt and the service to which the learning is applicable. Notable Practices are circulated to all

Strategic Assessment of Risk

partners as they provide best practice guidance whereas Lessons Identified are only circulated to those services which they relate to. Lessons Identified can be accompanied by an action plan and requirement to confirm implementation back to the National Fire Chief's Council.

The Service has embedded Joint Organisational Learning and National Operational Learning into its Operational Assurance and Debrief processes to ensure that lessons learned outside of Essex County Fire & Rescue Service are duly considered and incorporated into future improvements. The Service also shares any local operational learning with other services through these processes.

Submissions made to the Joint Organisational Learning portal are monitored and reported into the Operational Assurance Group to advise on any activity taken as a result. All activity is captured in a register and shared with our Category 1 partners in Essex Police and East of England Ambulance Trust.

National Operational Learning is received as Action Notes which provide recommendations for improvement and Information Notes which are for awareness only. The Information Notes and Action Notes are circulated to Operational personnel and appropriate departments within the Service for relevant action with responses collated and captured in a register.

Engagement with Representative Bodies

The Service holds regular sessions with each of the four unions recognised (see Chapter 2 – Political Risk).

The Joint Negotiation and Consultation Committee meets bi-monthly and is a forum to register and conclude matters for negotiation and consultation and to establish any joint task and finish groups to consider such matters. The Service holds a combined Joint Negotiation and Consultation Committee with the Fire and Rescue Services Association, Fire Officers Association and UNISON. Feedback from the recognised trade union bodies has been positive. This approach and a joint SharePoint site for joint consultation has continued to bring improvements in the Working Well Together approach. We continue to have a separate Joint Negotiation and Consultation Committee meeting for the Fire Brigade Union.

Our current Working Well Together approach was created as the output of workshops that we held with each of the joint representative bodies. It complements our formal mechanism – the Joint Negotiation and Consultation Committee. The schedule of consultation involves seeking acceptable solutions to problems through a genuine exchange of views and information.

The approach is based on a shared understanding of priorities and different perspectives, agreement on amendments to plans if needed / appropriate. There is a

Strategic Assessment of Risk

6-weekly timetable of priority areas and an agreed format for engagement, consultation, and negotiation.

A SharePoint site enables all Trade Union Bodies to view in real time feedback provided by others and the responses to those. This approach facilitates a more collaborative approach.

At the end of a consultation phase the trade unions are asked whether they:

1. Agree,
2. Reserve the position, or
3. Fail to Agree.

Of the failures to agree we have resolved all but one internally, we referred one matter for external assistance from the National Joint Council Joint Secretaries.

The identified common objectives to be pursued and achieved through this are:

- To ensure that employment practices in the Service are conducted in accord with Service Policy;
- To enhance effective communication;
- To achieve greater participation and involvement on the issues to be faced in running and developing the Service;
- To ensure that equal opportunities are offered to staff, or prospective staff and that the treatment of staff will be fair and equitable in all matters of dispute;
- Ensure good employee relations.

Stakeholder and Public Engagement

The Service proactively engages with our public through the use of social and traditional media channels. We use our social media accounts to follow partners, stakeholders and other relevant accounts of interest. This allows us to see content that we may like to share, we also tag in accounts where possible when we mention them in our own content.

The Service continues to evolve and develop its use of digital and online communications in response to the changing nature of public interaction with media sources. Information shared online and through mobile devices supports the responsive and timely reputation of our Service. It enables us to communicate with a wide range of audiences through a mix of digital platforms.

Our social media objectives are:

1. Build an engaged audience.

Strategic Assessment of Risk

- a. To grow Essex County Fire & Rescue Service social media audience, respond to their comments and engage positively in digital conversations with them.
2. Inform and educate our public.
 - a. To encourage behaviour change that is driven by our Service priorities.
3. Build trust in our brand.
 - a. Strengthening relationships and perception, sharing knowledge and expertise.

The Corporate Communications and Marketing Team lead the Service in shaping and responding to online media comments and conversations. They provide full training and guidance for all Service social media users, maintaining account access and removing admin users once they have left the Service. Authorisation details for social media accounts are linked to either shared mailboxes or an individual admin users work mobile which can create a risk when that individual is not available.

Key priorities for our social media conversations include:

- Providing important safety information, including fire prevention and how to use our roads and water safely.
- Promoting the work we do as an organisation.
- Enabling closer community engagement.
- Reporting on incidents of note.
- Utilising the National Fire Chief's Council calendar to set our monthly priority messages to help educate our public around staying safe.
- Warning and informing of national stories to enable our public to prepare and make themselves safer.

We send press releases out through our E-Shot e-newsletter platform which is a trusted source of information for journalists. The Service provides an On Call Press Officer role which operates 24/7 with a dedicated phone number through which our partners, stakeholders and employees are able to access a member of the Corporate Communications and Marketing Team. This enables the team to provide consistent, effective and efficient communication channels with the media.

The Service monitors all media coverage as this is a strong influencer on public opinion of the work of Essex County Fire & Rescue Service. Negative media coverage or social media comments and conversations can shape public perception of the Service and the team must be proactive in responding appropriately to all media stories.

We have just launched our public perception survey in partnership with the Police, Fire and Crime Commissioner. SMSR Ltd will carry out telephone and face to face interviews with a cross section of our community four times a year to find out what they think about our Service and what they know about keeping themselves, their

family and their businesses safe. We will use these results to help improve our Service.

Monitoring Performance

HMICFRS Inspection Outcomes

His Majesty's Inspectorate of Constabulary and Fire and Rescue Services (HMICFRS) independently assesses the effectiveness and efficiency of police forces and fire and rescue services.

Whilst the Service is awaiting the publication of our most recent inspection, we consider the six-week inspection of our Service in late 2021 by His Majesty's Inspectorate of Constabulary and Fire and Rescue Services (HMICFRS) and the published report on their findings.

Within this report we have been rated as 'Requires Improvement' in each of the three areas – People, Professionalism and Efficiency.

Areas of improvement that have been identified include:

- We are not aligning resources to risk, including meeting its prevention and protections strategies.
- We need to address future financial challenges and appropriate use of our resources.
- Workforce productivity needs to increase.
- We need to do more to meet our response standards.
- We need to implement National Operational Guidance.
- More work is needed to understand and address equality issues, including disproportionality in recruitment and retention.
- We need to work even harder to drive out all unacceptable behaviour and tackle bullying and harassment.
- More assurances are needed that our people are trained well enough to carry out their responsibilities.

Areas of success that were highlighted include:

- Our culture is continuing to improve.
- We promote mental and physical health and wellbeing well.
- We are good at evaluating operational performance.
- We are good at communicating incident-related information to the public.
- We use national learning and are an active member of the Essex Resilience Forum.

Strategic Assessment of Risk

- We are now 'good' at understanding risk, with an effective IRMP, good gathering and communication of the highest risks.
- Our focus on those most at risk is improving.
- Our response to the Grenfell Tower Inquiry to reduce risk and our work to assess the risk of each high-rise building in our area is good.
- The quality of fire safety audits is at 'a high standard'.
- Our Safe and Well visits by our Prevention team are skilled and confident.
- We have a good number of incident commanders, and they understand how to command incidents safely.
- Colleagues understand and have confidence in health and safety policies.

Fit For the Future

Fit for the Future establishes a common picture for the future of fire and rescue services in England. Its purpose is to identify what needs to change, using a sound evidence base and then identify how that change could be delivered at local and national levels, supporting its implementation across all services.

Wide engagement has taken place on the concept and content of Fit for the Future to ensure it reflects the views of senior managers and political leaders. There are a number of key areas of work and oversight that will be informed by Fit for the Future, these include:

- Production of central guidance, doctrine and tools.
- Audit and inspection.
- Pay and conditions for employees.
- Standards development.

The evidence considered within Fit for the Future identified 12 improvement objectives, which have been divided into three themes:

- Theme One: Service Delivery – the role of the Fire and Rescue Service.
 1. Community Risk Management Plan
 2. Prevention
 3. Protection
 4. Evaluation
- Theme Two: Leadership, People, and Culture.
 1. Competence
 2. Attracting Employees
 3. Retaining Employees
 4. Inspirational and Inclusive Leadership
- Theme Three: National Infrastructure and Support.
 1. Creating National Implementation Support
 2. Collaboration

Strategic Assessment of Risk

3. Data and Digital Support
4. Organisational Learning

For each improvement objective a Fire Standard has been created by the Fire Standards Board to provide clear direction to Fire and Rescue Services in order to deliver efficient and effective measures which can be assured against each recommendation.

Fire Standards

The Fire Standards Board has been established to oversee the identification, organisation, development and maintenance of professional Standards for fire and rescue services in England. In establishing the published Fire Standards, the Board considers the developing fire and rescue landscape informed by outcomes and recommendations made as a result of:

- Inspections or inquiries;
- The Fire Reform programme;
- The findings from or impacts of research;
- Operational or organisational learning from past incidents;
- Legislation.

Essex County Fire & Rescue Service is fully committed to contributing to the development of the Standards, providing feedback through consultation periods, and adopting the Standards to support a process of continuous improvement.

The process flow below outlines how the Service engages with and implements a newly released Fire Standard.

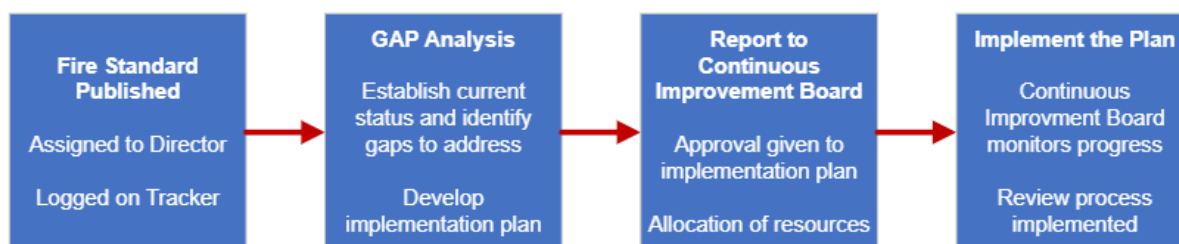


Figure 95



Figure 96

The Leading the Service Fire Standard published in December 2022 is the overarching Fire Standard as shown in Figure 96 above. It was developed to clearly articulate the expectations on senior leaders within services, particularly their behaviours, ethics and the strategic activities required to lead and govern well in a complex and ever-changing local, regional, and national environment. This standard is owned by the Service Leadership Team.

As of January 2024, the Service had achieved partial compliance against each of the published Fire Standards as detailed in the table below (Table 2). The implementation plans associated with each Fire Standard are governed through the Continuous Improvement Board, monitoring the progress towards compliance over the coming year.

Fire Standard	Publication Date	Assessment of Compliance
Code of Ethics	18.05.2021	94%
Community Risk Management Planning	18.05.2021	86%
Emergency Response Driving	16.02.2021	98%
Operational Competence	16.02.2021	82%
Operational Learning	16.02.2021	96%

Strategic Assessment of Risk

Operational Preparedness	16.02.2021	95%
Prevention	30.07.2021	94%
Protection	30.07.2021	97%
Safeguarding	15.02.2021	96%
Fire Investigation	31.03.2022	42%
Emergency Planning & Preparedness	31.05.2022	100%
Data Requirements & Management	02.08.2022	92%
Communications, Engagement and Consultation	30.03.2023	96%
Leading and Developing People	21.12.2022	93%

Table 11

To support in the delivery of the Fire Standards the Service's National Fire Chief's Council Implementation Manager will facilitate focus sessions on each of the Standards for the responsible manager to attend, to learn from best practice, get specific advice and guidance, and for the National Fire Chief's Council to share improvement tools relevant to each standard.

Internal Audits

The Service employs an external company, RSM UK Group LLP, to deliver its Internal Audit Services. The Internal Auditor has a responsibility to review and report to the independent Audit Committee annually, to provide assurance on the adequacy and effectiveness of the Police Fire and Crime Commissioner's arrangements for governance, risk management and control.

Strategic Assessment of Risk

The Internal Audit Programme uses a risk-based approach to provide assurance to the Police Fire and Crime Commissioner on Service delivery which are categorised under the following levels of assurance in their reports:

- Substantial Assurance
 - The organisation has an adequate and effective framework for risk, governance, and internal control.
- Reasonable Assurance
 - The organisation has an adequate and effective framework for risk, governance, and internal control, however work indicated further enhancements are required.
- Partial Assurance
 - There are weaknesses in the framework of governance, risk management and control such that it could become inadequate or ineffective.
- Minimal Assurance
 - The organisation does not have an adequate framework of risk management, governance, or internal control.

References

Benchmarking - Power BI

Continuous Improvement Board Exception Report January 2023

Fit for the Future 2022 | NFCC CPO (ukfrs.com)

Fire statistics data tables - GOV.UK (www.gov.uk)

Incident Overview by Year - Power BI

<https://www.firestandards.org/>

SLT Report_Fire Standards

Water Incidents and drownings - Power BI