



NFCC
National Fire
Chiefs Council



Developing a National Risk Methodology

Definition of Risk Phase 2

Other Building Fires: Draft Report (V3)

20 February 2023

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Executive Summary

- i. The National Fire Chiefs Council (NFCC) in collaboration with Operational Research in Health (ORH) have produced this Draft Report (V3) into the likelihood, consequence and risk of Other Building Fires (OBFs), as part of Phase 2 of NFCC's Definition of Risk (DoR) project.
- ii. The overall objective as defined by NFCC is "to deliver an evidence-based and consistent methodology for determining 'level of risk' that also provides a national benchmarking capability".
- iii. NFCC and ORH worked collaboratively to complete this report, taking a data-driven approach to researching the likelihood and consequence of OBFs, and the influencing factors that underpin the risk of these incidents. The approach involved collecting incident data from IRS, Ordnance Survey data on building locations and property types that NFCC/ORH grouped into 23 appropriate building categories, and publicly available information on a wide range of potential influencing factors.
- iv. NFCC/ORH analysed the likelihood of OBFs in terms of the total number, relative proportions and annual rates per 1,000 properties in each of the 23 building categories. The annual rate in prisons (3,472 incidents per 1,000 properties) is a massive outlier compared to all other building categories; the next highest are hospitals (97.8) and hotels (23.4).
- v. Through consultation, NFCC/ORH developed a three-step process for determining the consequence of OBFs by building category:
 - Measured Consequence – IRS data on actual OBF incidents
 - Potential Consequence – Other risks associated with property types
 - Building-specific Consequence – Using local information for an identifiable address
- vi. We determined an appropriate metric for assessing the *measured consequence* of OBFs using seven key data points from IRS. Of the 23 categories, HMOs (7.1%) and Sheltered Accommodation (5.8%) have the highest proportion of OBFs that are classified as High consequence.
- vii. The likelihood and measured consequence values were converted to a score out of ten, then multiplied together to give a risk score out of 100 for each of the 23 building categories. The highest risk scores are prisons (57.2), care homes (53.6), hotels (47.1) and hospitals (39.5).
- viii. Unlike the domestic dwelling fire methodology, the statistical modelling of the relationships between demographic factors and the likelihood/consequence of OBFs did not produce any pertinent findings.
- ix. This draft report provides an outline for how an FRS can calculate the likelihood, consequence and risk for OBFs in its area. The methodology combines the statistical assessment of historical incidents with SME input on the potential risk profile of different building types. Finally, there is scope for adjusting the outcomes to take account of local knowledge on individual properties.
- x. The immediate next step is for NFCC to undertake a consultation exercise with all FRSs on this Draft Report (V2) document and subsequently publish the findings. At the same time, NFCC/ORH will undertake initial consultation on the risk model for Road Traffic Collisions (RTCs). Other future developments could include benchmarking capability and potentially, in the longer term, the production of a digital toolkit for FRSs.

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1 Introduction

1.1 The National Fire Chiefs Council (NFCC) in collaboration with Operational Research in Health Limited (ORH, see Appendix **A1**) have produced this Draft Report (V2) into the likelihood, consequence and risk of Other Building Fires (OBFs), as part of Phase 2 of NFCC's Definition of Risk (DoR) project.

Background

1.2 Working with fire and rescue services (FRSs), NFCC committed to establishing a national definition of risk and developing a strategic community risk management framework to enable the conceptualisation of that definition. This formed the basis for the creation of the DoR project as a part of the Community Risk Programme (see Appendix **A2**).

1.3 To enable these products to have the required impact, they need to be supported by a risk assessment methodology (or methodologies) to facilitate consistent application of the strategic framework to risk management planning. This should enable FRSs to focus their resources on activities where they will have the greatest impact on reducing risk and vulnerability within their local communities.

1.4 As a part of Phase 1, the Definition of Risk project has delivered:

- A national definition of risk ("A combination of the likelihood and consequences of hazardous events").
- A strategic risk management framework (see Figure 1-1), which shows how the DoR fits into a typical risk assessment methodology.
- A glossary of risk-related terms.

1.5 Phase 2 will help us to pave the way towards our ambition of delivering a digital solution for assessing UK FRS-related risk to improve the safety, health, well-being, and economic prosperity of communities. To do this, the components of the framework require further detailed development to enable consistent interpretation and application.

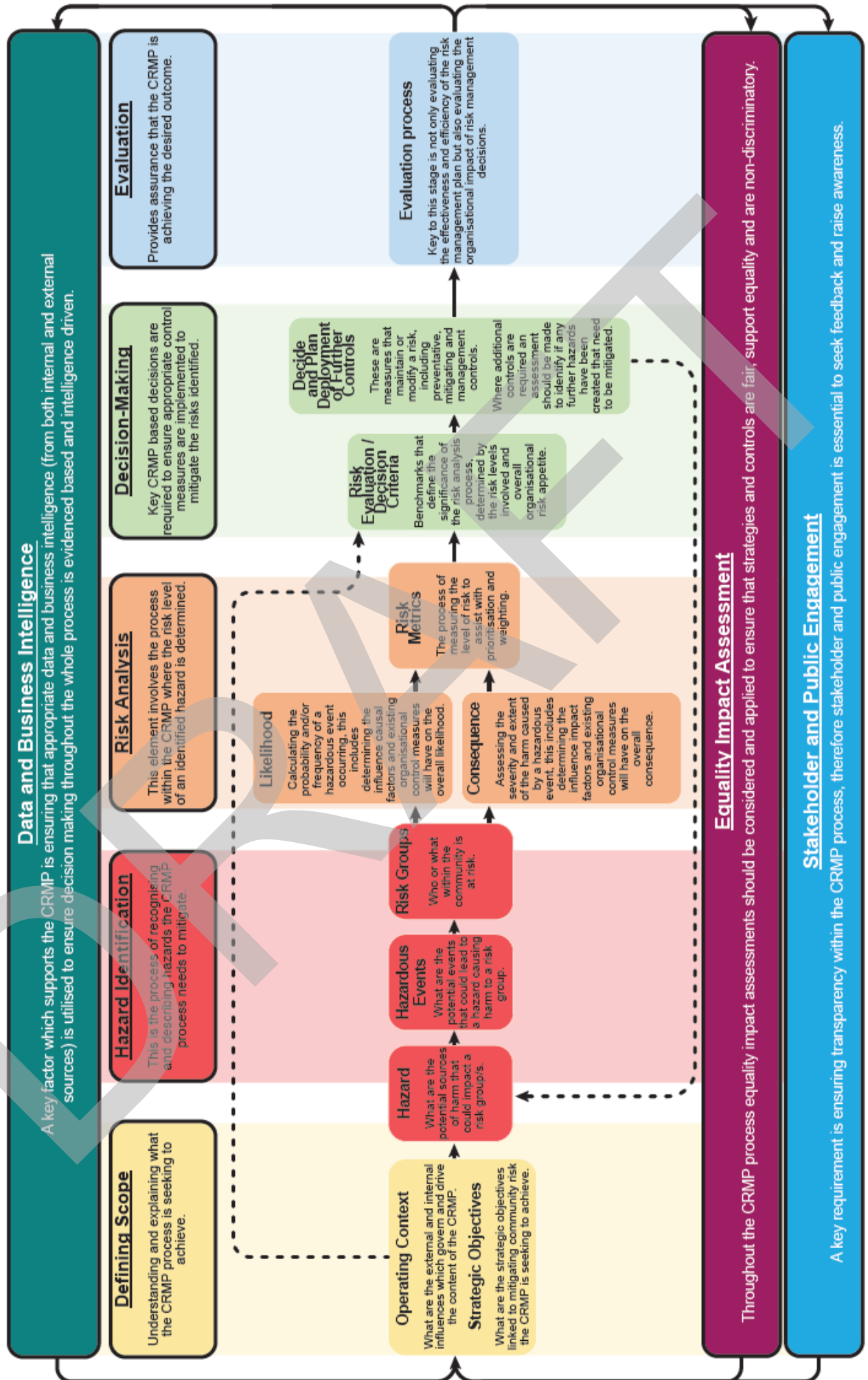
1.6 The overall objective as defined by NFCC is "to deliver an evidence-based and consistent methodology for determining 'level of risk' that also provides a national benchmarking capability across a central hazardous events and risk group database".

About this Document

1.7 This report sets out an overview of the process that NFCC/ORH have taken in developing an appropriate methodology for OBFs, taking account of comments from FRSs on the first version of this report. With the objective of conciseness, and following feedback from the domestic dwelling fire (DDF) report, not all elements of the research have been included; instead the focus is on the key findings and recommended process.

1.8 For an FRS user who is looking to apply the methodology, this can be found in Section 4, however the background to the approach (Section 2) and key analysis findings (Section 3) may provide useful context. A summary is provided at the beginning of each section.

Figure 1-1: NFCC Community Risk Management Planning – Strategic Framework



2 Approach

NFCC and ORH worked collaboratively to complete this report, taking a data-driven approach to researching the likelihood and consequence of OBFs, and the influencing factors that underpin the risk of these incidents.

The approach involved collecting incident data from IRS, national data from Ordnance Survey (OS) on building locations and property types, and publicly available information on a wide range of potential influencing factors. The OS data includes a detailed property code for every building in the UK. NFCC/ORH used this to establish suitable categories of buildings before analysing the annual rate of OBFs.

Through consultation, NFCC/ORH developed a three-step process for determining the consequence of OBFs by building category:

- Measured Consequence – IRS data on actual OBF incidents
- Potential Consequence – Other risks associated with property types
- Building-specific Consequence – Using local information for an identifiable address

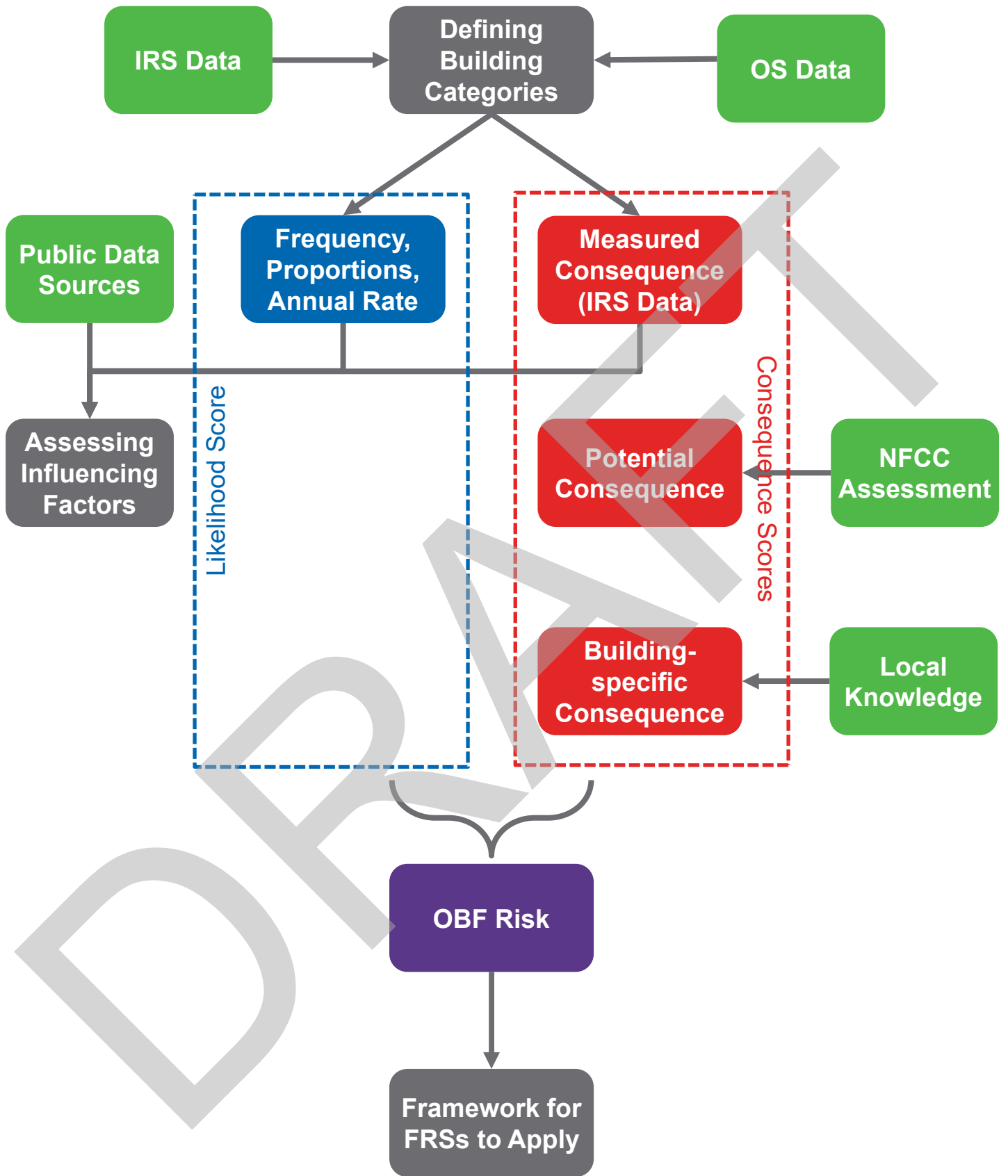
We then used data analysis and statistical modelling to assess the influence that demographic factors had on the likelihood and consequence of OBFs.

In addition to detailing the process that FRSs can follow to measure risk in their local area, NFCC/ORH have considered the potential gaps, opportunities for enhancing the approach and the next steps toward delivering a consistent methodology for UK FRSs.

Background

- 2.1 NFCC/ORH have conducted a data-driven and wide-ranging national study into the likelihood and consequence of OBFs. This required a collaborative and iterative approach, drawing on the knowledge of SMEs at NFCC and the technical experience of ORH.
- 2.2 In conducting this research, numerous options were discussed, trialled and evaluated before being either discarded or taken forward. The approach set out in this report is the product of that research, however is not regarded as the finished article. Instead, it is hoped that it is a framework that will be refined over time as FRSs adopt the methodology locally and further research can be conducted around the national picture.
- 2.3 With the objective of delivering an evidence-based and consistent methodology for determining 'level of risk', the project phases described below summarise the approach taken and how this has resulted in a set of recommendations to FRSs.
- 2.4 The project required multiple data sources, which enabled NFCC/ORH to define the likelihood of OBFs by building category (see OBF Methodology Overview in Figure 2-1). The consequence of OBFs is a product of the historical measures, potential risks associated with different building categories, and the specific features of the building. These could be combined to develop an overall risk metric for OBFs by building category, which was then modelled

Figure 2-1: Overview of OBF Methodology



Key:

Data / Input

Likelihood Calculation

Consequence Calculation

Assessment Process

against potential influencing factors. The overall output is an approach that FRSs can apply in their own local area.

Data Collection

2.5 The data collection for this report focused on three main areas:

- Incident Recording System (IRS) data for a six-year period (1 April 2014 to 31 March 2020) for all FRSs in England (see Appendix **A3**).
- National data from a range of publicly available data sources at LSOA or UPRN level, which would all be considered as potential influencing factors (see Appendix **A4**).
- Ordnance Survey (OS) supplied data from its AddressBase Plus product, which is available to all FRSs through the Public Sector Geospatial Agreement (PSGA).

2.6 The Home Office provided the IRS data for all incident types, however only OBFs have been assessed in this report. While the incident data only covers FRSs in England, the approach developed in this report should be directly applicable to all UK FRSs.

2.7 The potential influencing factors can be considered as one of three datasets:

- **Place:** Data on the local area (typically LSOA) that gives insight into the local environmental, economic and social factors. Data sources include Census reporting, the Indices of Multiple Deprivation (IMD) and the Office of National Statistics (ONS).
- **Property:** Data relating to the individual property, such as its building type, condition and occupancy. The main data sources are OS and Energy Performance Certificates (EPC); property data is at Unique Property Reference Number (UPRN) level.
- **People:** Data on households or individuals in terms of their behavioural patterns, which could include factors relating to health, employment and income. As established during the DDF report, NFCC/ORH did not find any freely available data at national level, but recognise that this would add to the model.

2.8 The OS data includes many fields of information for every addressable building in the UK, with 37 million records. Information on the AddressBase Plus product is available on the OS website: <https://www.ordnancesurvey.co.uk/business-government/tools-support/addressbase-plus-support>. The key data from AddressBase Plus that NFCC/ORH used for this project included the coordinates of the property, the UPRN and OS's classification for addressable objects (categories of building).

Building Classification

2.9 For OBFs (and other incidents) the property type is recorded in the IRS data. NFCC/ORH conducted some initial analysis on this data, however this category of building is only known where there has been an incident at the property. The purpose of this project is to assess the risk for all buildings, so a broader data source was required.

2.10 OS classifies buildings using a four-level system. Information on this system can be downloaded from the OS website: <https://www.ordnancesurvey.co.uk/documents/product-support/support/addressbase-product-classification-scheme.zip>.

Figure 2-2: Primary Level OS Categories

OS Primary Code	Description	Properties
C	Commercial	1,786,341
L	Land	97,683
M	Military	3,746
O	Other (OS Only)	31,125
P	Parent Shell	644,436
R	Residential	21,262,041
U	Unclassified	145
X	Dual Use	40,389
Z	Object of Interest	35,699
Total		23,901,605

Figure 2-3: Example of Quaternary Level OS Categories

Primary	OS Property Code			Properties	Full Description of Property Type
	Secondary	Tertiary	Quaternary		
C	CE	CE	CE	2,408	Commercial | Education
C	CE	CE01	CE01	2,137	Commercial | Education | College
C	CE	CE01	CE01FE	771	Commercial | Education | College | Further Education
C	CE	CE01	CE01HE	235	Commercial | Education | College | Higher Education
C	CE	CE05	CE05	2,425	Commercial | Education | University

Note: 'Properties' is the count of UPRNs with distinct coordinates, in England only

- 2.11 At the primary level, buildings contained within AddressBase are categorised into nine groups (see Figure 2-2). Most buildings that NFCC/ORH have focused on for the OBF risk modelling are 'C – Commercial', which includes education, community, commercial and office buildings.
- 2.12 The most detailed level in the AddressBase data has around 560 types of buildings, some of which feature only a few UPRNs across the country. This quaternary level (see Figure 2-3) formed the basis of the categorisation method that NFCC/ORH used in this project.
- 2.13 To develop the categorisation, NFCC/ORH attached the detailed property code to every OBF incident in the IRS data. For the 49% of OBFs where the UPRN was recorded, this was an automatic lookup to the OS data; for the other 51% of incidents, the UPRN of the nearest building was assigned to the incident coordinates.
- 2.14 It is very difficult to verify the accuracy of the geocoding process, however the following findings were reassuring:
- The proportion of OBFs by building category was very similar between the two halves of the data (that is, with and without UPRN recorded).
 - There was generally a close alignment between the IRS property type and the determined OS building category.
- 2.15 Having determined the number of properties in each of the quaternary classifications and the number of OBF incidents, NFCC/ORH then developed a set of appropriate groupings. This was a multi-stage process with input from SMEs on the current approach used by FRSs, and was adjusted after V1 of the Draft Report. The final classification for OBFs has 23 categories of buildings based on the OS quaternary level for property classification (see Figure 2-4 and Appendix B).
- 2.16 Buildings were restricted to those with unique coordinates, ie, if there was more than one record for a property type at a certain easting/northing, this was limited to one property in the analysis. This has a greater impact on the count of HMOs and Sheltered Accommodation than other building categories, where multiple flats could be separately listed in the OS database.

Data Analysis

- 2.17 Using the 23 building categories, NFCC/ORH analysed the likelihood of OBFs in terms of the total number, relative proportions and annual rates per 1,000 buildings in each category. The key findings are presented in Section 3.
- 2.18 There was feedback on V1 of the Draft Report that sought clarification on the approach taken to analyse HMOs and Sheltered Accommodation. In IRS, approximately 75% of primary fires that could be geocoded to these property types were specified as dwelling rather than other building fires. NFCC/ORH therefore included all DDF and OBF incidents where the nearest OS address aligned to one of the 23 building categories used in the analysis; for simplicity, these are referred to as OBFs in the analysis.
- 2.19 Within IRS there are also some vehicle and outdoor fires where the UPRNs are aligned to commercial properties; these were excluded from the incident analysis.

Figure 2-4: NFCC Building Categories

NFCC Building Category	Properties
Bar/Pub	36,999
Care Home	23,862
Factory or Manufacturing	36,768
Further Education	7,976
HMO	105,267
Hospital	3,611
Hotel	9,016
Leisure	45,854
Light Industrial or Storage	343,485
Medical	18,196
Nursery / Special Needs	16,320
Office	219,218
Other Sleeping Accommodation	95,456
Other Workplace	225,535
Primary School	20,133
Prison	231
Public Buildings	90,804
Residential Education	15,882
Restaurant/Other	65,315
Secondary School	9,351
Sheltered Accommodation	29,319
Shop	506,616
Waste and Recycling	10,717
zExcluded	883,757
zExcluded - Residential	21,081,917
Total Buildings	23,901,605
Total Included	1,935,931

Note: 'Properties' is the count of UPRNs with distinct coordinates, in England only

Defining Consequence

- 2.20 One of the major challenges in the project was determining an appropriate method for classifying OBFs according to the severity or consequence of an incident. There are multiple factors that relate to consequence, including:
- The effect of actual OBFs on people, property and the responding FRS.
 - The perceived life risk associated with different building types, particularly in relation to sleeping risk that has formed a major part of previous methodologies.
 - Broader risk factors, such as environmental and societal impacts that would result from an OBF in a particular category of building.
 - The specific features of a property, and how this might influence risk to firefighters or the community which uses the building.
- 2.21 Through consultation, NFCC/ORH developed a three-step process for determining the consequence of OBFs by building category (see Figure 2-5):
- (a) Measured Consequence – IRS data on actual OBF incidents
 - (b) Potential Consequence – Other risks associated with property types
 - (c) Building-specific Consequence – Using local information for an identifiable address
- 2.22 NFCC/ORH analysed the IRS data to evaluate various options for how to classify the **Measured Consequence**, taking account of different data fields (for example, injuries and fire damage) and scoring mechanisms to produce a score for each building category (see Section 3). This forms the basis of the empirical calculation used to determine the consequence of OBFs.
- 2.23 NFCC consulted with SMEs to develop a set of criteria on which to score the **Potential Consequence**. This is broadly similar to the Provision of Operational Risk Information System (PORIS) which FRSs have previously used as a strategic framework.
- 2.24 The **Building-specific Consequence** will require input from the local FRS, based on other data sources or local knowledge about the actual property. NFCC has developed a process for how FRSs can adjust the values from the Measured and Potential Consequence (based on national analysis and consultation) to reflect specific, local factors.
- 2.25 The recommended framework for OBF risk draws together the outcomes from the analysis of likelihood with the three elements of consequence (see Section 4).

Modelling Influencing Factors

- 2.26 NFCC/ORH used Random Forest Modelling and statistical analysis to identify which factors are potentially good indicators for the likelihood and consequence of OBFs.
- 2.27 Random Forest Models calculate a score by comparing historical incident demand and locations for OBFs with many different combinations of base data variables (see Figure 2-6 for a description of how Random Forest Models were applied in the DDF report).
- 2.28 The output was a long list of ranked factors that contribute to the likelihood of OBFs. This process was undertaken for LSOA and UPRN level data, for each of the 23 building categories.

Figure 2-5: Approach for Determining OBF Consequence



Finally, NFCC/ORH modelled the factors that influence the Measured Consequence of OBFs by building category, again using the Random Forest approach.

- 2.29 The output was a long list of ranked factors that contribute to the likelihood and consequence of OBFs by building category.

Gap Analysis

- 2.30 Throughout the project, NFCC and ORH have identified several areas in which the project could have been enhanced. Many of these are around data availability, both for FRS data and other sources. The key gaps are set out below, however this list is not exhaustive – as FRSs adopt the framework approach at local level, more issues are likely to become apparent. Some of the gaps were previously highlighted in the DDF report.

FRS Data

- 2.31 Although **IRS data** is centrally held by the Home Office, it is not readily accessible to NFCC or individual FRSs. If there was an established data link open to all FRSs, this would provide the opportunity for services to assess risk in neighbouring areas and conduct benchmarking.
- 2.32 A question was raised in the DDF research around whether the **incident types in IRS** were still the most appropriate. The analysis of OBFs and address data has revealed some instances of potential crossover between the different types of primary fires.
- 2.33 There is a strong case for linking the **property types in IRS** to the OS AddressBase coding system. This could enhance the analysis that NFCC/ORH has carried out in regard to OBFs (and other incidents) and would also give FRSs the opportunity to link data to their gazetteer.
- 2.34 In terms of data recording in IRS, it is recommended that **UPRN should be a mandatory field** for all incidents that occur in buildings. This would enable automatic linkage of incidents with data on buildings without the need for geocoding on the street address or incident coordinates.
- 2.35 A national approach to the **recording of home fire safety visits** would be very helpful for assessing prevention activities; for example, a set of standard forms in a similar format to IRS. A complementary reporting system for protection activities would also be beneficial.

Identifying HMOs (OS Buildings Data)

- 2.36 In analysing the OS Address Base data for HMOs and Sheltered Accommodation, NFCC/ORH identified some potential challenges with the dataset.
- 2.37 As highlighted above, there are often multiple records for one building, presumably representing the division of a single building into multiple units – there are approximately 330,000 records for HMOs in Address Base, however this is reduced to 105,000 with unique coordinates.
- 2.38 In addition, spot-checking the data suggests that there are issues with the way in which HMOs are captured. The government definition (<https://www.gov.uk/house-in-multiple-occupation-licence>) states that:

A house in multiple occupation (HMO) is a property rented out by at least 3 people who are not from 1 'household' (for example, a family) but share facilities like the bathroom and kitchen. It's sometimes called a 'house share'.

Figure 2-6: Random Forest Modelling (Dwelling Fire Methodology)

ORH used Random Forest Modelling and statistical analysis to identify which factors are good indicators for the likelihood of each of the different risk categories.

Random Forest Models (RFMs) calculate a risk score by comparing historical incident demand levels and locations with many different combinations of base data variables.

With this comparison, the model determines relationships between variables and the demand pattern. Each variable is ranked based on its individual contribution to the likelihood for the incident category, enabling the most important factors to be identified.

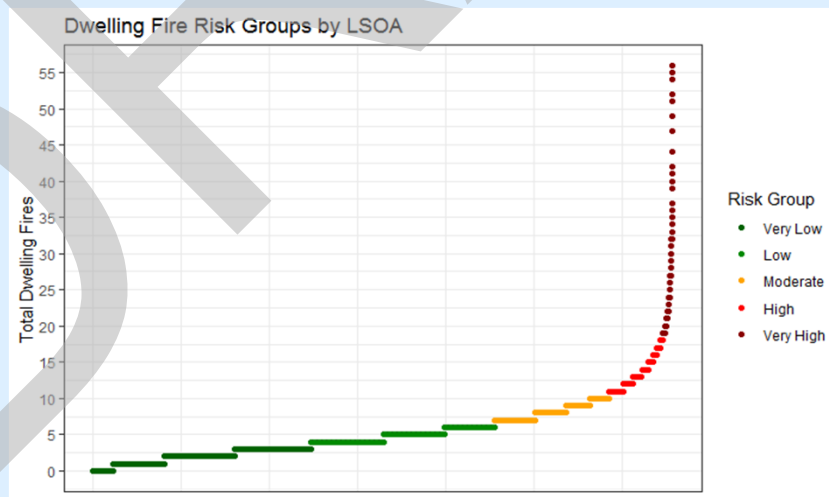
An area's final value is an aggregation of the individual variables; the modelling can quantify relationships, but not which characteristics cause incidents. An advantage of this approach is that if you can estimate how a factor in an area may change, you can identify how risk may be affected. This could especially be key to prevention and protection work.

The aim of the RFM was to predict the risk level of every LSOA in England (as opposed to a precise number of incidents).

The principal was to use machine learning techniques to identify significant patterns within the data that enable us to establish which factors are most closely linked to risk:

- **Concept:** Form 'decision trees' to ask the most pertinent questions that define risk and add information at each step.
- **Model Setup:** We 'trained' the model using a sample of data (80% of LSOAs), using machine learning to identify best questions to ask. After the sampling, the model was validated against the remaining 20% of LSOAs. This was repeated five times for completeness.
- **Outputs:** Predicted risk level by LSOA and key characteristics that contribute to risk.

For each incident type, ORH clustered the LSOAs in England based on the number of incidents. This was conducted using a clustering algorithm to select appropriate groups.



The key objective of the RFM is to identify the key characteristics that LSOAs in a risk group share with each other and the importance of these factors in predicting the level of risk.

The output of the RFM for each incident category is a prediction of the risk level for all LSOAs in England, based on the set of characteristics identified as being the most important for classifying the level of risk.

- 2.39 We have looked at local examples of the OS data and observed a lower than expected count of HMOs. Furthermore, there are specific properties that more than three people share but are listed as semi-detached or terraced dwellings. There are also widely varying estimates online for the total number of HMOs in England, all of which highlight the challenge for FRSs in identifying the locations of HMOs and where to potentially target prevention and protection activity.
- 2.40 FRSs will therefore need to work with partner agencies to establish the location of such properties within their local area, as the OS Address Base data should not be taken as the sole source of information for identifying HMOs. While the responsibility will not reside with the fire sector, it would be hugely beneficial if there was a consistent, accurate and up-to-date database of all HMOs in the country.

Other Data

- 2.41 The potential gaps in other data sources are the same as previously listed in the report for DDF incidents, namely:
- National data on individuals or households
 - Exeter data for granular health and vulnerability information
 - Lifestyle data at household level
 - Updated data from the 2021 UK Census

- 2.42 There are also opportunities to establish links with other data providers and the ongoing NFCC work into **Economic and Social Value** of the UK FRS Project; see the NFCC website: <https://www.ukfrs.com/economic-and-social-value-uk-frs-phase-i-based-english-data-only>.

Further Considerations

- 2.43 While the Measured Consequence is based purely on empirical findings from the IRS data analysis, the Potential Consequence relies on professional input from SMEs. There is scope for **further research into the Potential Consequence**; for example, by collating data on the 'typical' environmental impact of incidents in certain types of buildings.
- 2.44 NFCC has recently completed work on the re-clustering of **family groups** to provide a helpful method for comparing FRSs, and how these could be set to categorise FRSs in an appropriate manner; see: <https://www.ukfrs.com/community-risk/family-groups-re-clustered-2022>. As these are adopted, they could provide a useful tool for benchmarking, or even a more suitable level for modelling likelihood and consequence (rather than by FRS or nationally).

3 Key Findings

NFCC/ORH analysed the likelihood of OBFs in terms of the total number, relative proportions and annual rates per 1,000 buildings in each of the 23 building categories.

The annual rate in prisons (3,261 incidents per 1,000 buildings) is a massive outlier compared to all other building categories; the next highest are hospitals (78.1) and hotels (19.5).

NFCC/ORH determined an appropriate metric for assessing the measured consequence of OBFs using seven key data points from IRS, with relevant thresholds for High, Medium or Low consequence in each case.

Of the 23 building categories, HMOs (5.7%) and Care Homes (5.1%) have the highest proportion of OBFs that are classified as High consequence.

The likelihood and measured consequence values were converted to a score out of ten, then multiplied together to give a risk score out of 100 for each of the 23 building categories. The highest risk scores are prisons (67.8), hotels (54.0), care homes (48.5) and hospitals (47.4).

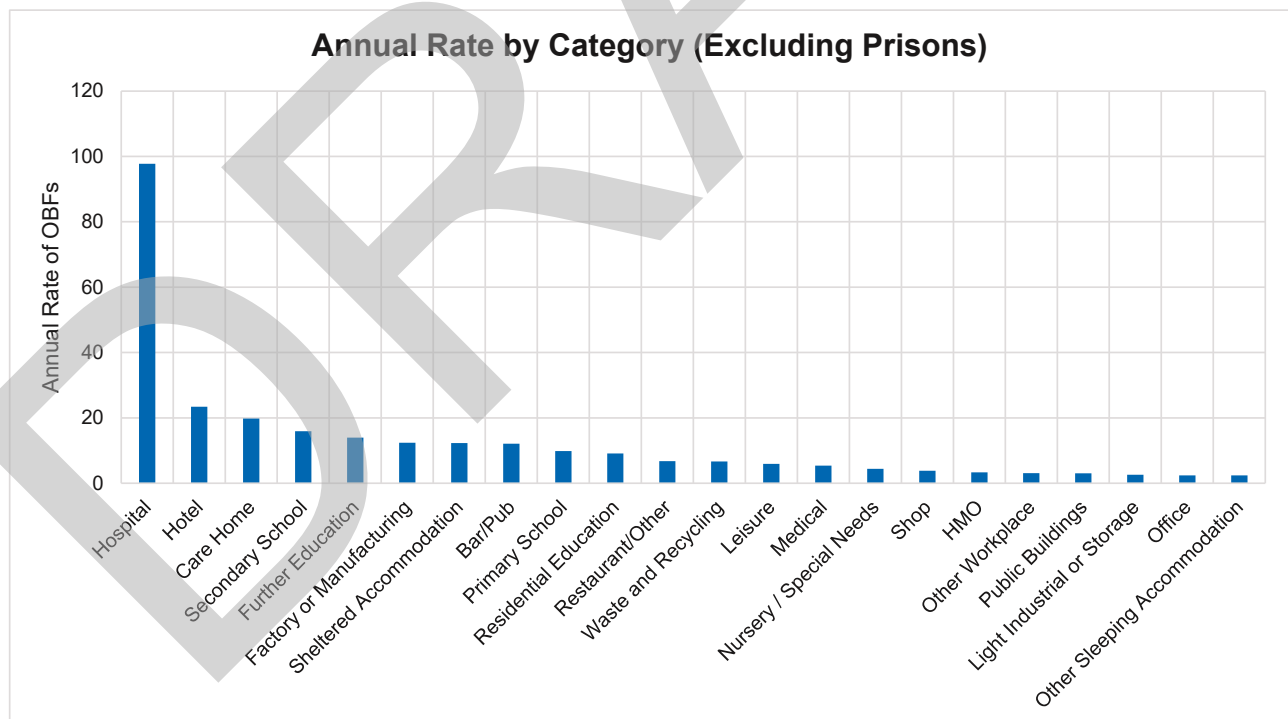
Unlike the DDF methodology, the statistical modelling of the relationships between demographic factors and the likelihood and consequence of OBFs did not produce any pertinent findings.

Likelihood

- 3.1 In the six-year sample of IRS data (April 2014 to March 2020), there were 57,426 primary fire incidents (OBF or DDF) that occurred at one of the 23 categories of buildings included in the project.
- 3.2 The analysis excludes 37,107 incidents that were classed as Primary Fire – Other Building but where the property type was residential or otherwise excluded (for example, car parks, dual use buildings, open spaces, etc). The full list of included and excluded building types is given in Appendix B.
- 3.3 The OS data contains 1,935,931 properties (with unique coordinates) in England that are in the 23 building categories. The annual rate of OBFs is therefore 4.9 incidents per 1,000 buildings (9,571 OBFs per year / 1,935,931 properties * 1,000).
- 3.4 NFCC/ORH analysed the likelihood of OBFs in terms of the total number, relative proportions and annual rates per 1,000 buildings in each of the 23 building categories (see Figure 3-1).
- 3.5 The annual rate in **prisons** is a massive outlier compared to all other building categories. The annual rate of 3,472 incidents per 1,000 buildings means that there are, on average, three fires per year in every prison in England, and there are some prisons that will be much higher than this. This potentially highlights an area of work for FRSSs to liaise with partners at prisons on specific prevention and protection activities, but also to factor into response requirements.
- 3.6 For the remaining building categories, **hospitals** are the standout category, with an annual rate (97.8 OBFs per 1,000 buildings) that is four times higher than the next building type (hotels with 23.4 OBFs per 1,000 buildings). Other categories with substantially higher than average annual rates include secondary schools, care homes and further education buildings.

Figure 3-1: Likelihood of OBFs by Property Category

Building Category	Fires	% of Fires	Properties	% of Properties	Annual Rate
Bar/Pub	2,690	4.7%	36,999	1.9%	12.1
Care Home	2,834	4.9%	23,862	1.2%	19.8
Factory or Manufacturing	2,732	4.8%	36,768	1.9%	12.4
Further Education	667	1.2%	7,976	0.4%	13.9
HMO	2,101	3.7%	105,267	5.4%	3.3
Hospital	2,118	3.7%	3,611	0.2%	97.8
Hotel	1,267	2.2%	9,016	0.5%	23.4
Leisure	1,634	2.8%	45,854	2.4%	5.9
Light Industrial or Storage	5,402	9.4%	343,485	17.7%	2.6
Medical	589	1.0%	18,196	0.9%	5.4
Nursery / Special Needs	430	0.7%	16,320	0.8%	4.4
Office	3,179	5.5%	219,218	11.3%	2.4
Other Sleeping Accommodation	1,379	2.4%	95,456	4.9%	2.4
Other Workplace	4,168	7.3%	225,535	11.6%	3.1
Primary School	1,192	2.1%	20,133	1.0%	9.9
Prison	4,812	8.4%	231	0.0%	3,471.9
Public Buildings	1,662	2.9%	90,804	4.7%	3.1
Residential Education	868	1.5%	15,882	0.8%	9.1
Restaurant/Other	2,645	4.6%	65,315	3.4%	6.7
Secondary School	892	1.6%	9,351	0.5%	15.9
Sheltered Accommodation	2,159	3.8%	29,319	1.5%	12.3
Shop	11,577	20.2%	506,616	26.2%	3.8
Waste and Recycling	429	0.7%	10,717	0.6%	6.7
Total	57,426	100.0%	1,935,931	100.0%	4.9



Note: 'Properties' is the count of UPRNs with distinct coordinates, in England only

3.7 The lowest annual rates are in **office** buildings and **other sleeping accommodation** (2.4 OBFs per 1,000 buildings), followed by light industrial (2.6) and other workplaces and public buildings (both 3.1).

Consequence

3.8 The analysis in this section focuses on the **Measured Consequence**, that is, the values defined from IRS data on actual OBF incidents, taking account of different data fields (for example, injuries and fire damage).

3.9 In the DDF methodology, there were separate measures for the consequence in terms of life and property impacts. Following initial analysis of OBFs, NFCC/ORH determined that it was more appropriate to draw together a combined measure of measured consequence, based on a variety of data outcomes from the IRS data. A range of fields were considered before settling on a list of seven key data points:

- Fire Damage Extent (square metres) and Fire Spread Description (Property Impacts)
- Evacuations Assisted by FRS, Fatalities, Casualties and Victim Severity (Life Impacts)
- Number of FRS Vehicles Attending (FRS Impact)

3.10 The next step was to determine a suitable metric for classifying OBF incidents as High, Medium or Low (H/M/L) consequence based on the IRS fields. To do this, thresholds were set for H/M/L for each of the seven IRS data points (see Figure 3-2), so that each incident would have seven H/M/L classifications (one for each field).

3.11 From this, the highest value is taken forward as the overall incident consequence; for example, if the value for Casualties is *High*, and all other values are *Low*, this would be classified as a *High* consequence incident overall.

3.12 NFCC/ORH worked through several iterations of this evaluation process, taking account of the outcomes by building category, to determine the most appropriate metric. A key consideration was to place greater importance on life risk compared to property risk as this aligns to the emphasis in the Fire Safety Order and the Fire Services Act.

3.13 Of the 23 building categories, **HMOs** (7.1%), **Sheltered Accommodation** (5.8%), **Other Sleeping Accommodation** (5.6%) and **Care Homes** (5.2%) have the highest proportion of OBFs that are classified as High consequence using the developed metric (see Figure 3-3). NFCC agreed that this was reflective of the anecdotal evidence around the most severe OBFs that have occurred in recent years. At the other end of the scale, nurseries and special needs schools (0.7%) have the lowest proportion of High consequence OBFs.

Measured Risk

3.14 As per Phase 1 of the DoR project, risk is considered to be the product of likelihood and consequence.

3.15 To determine an overall risk for OBFs in each building category, it was first necessary to translate the raw analysis into a score out of ten for both likelihood and measured consequence:

Figure 3-2: Metric for Measured Consequence (IRS Data)

IRS Fields for Measured Incident Consequence	Measured Consequence		
	High	Medium	Low
Fire Damage Extent	-	> 500 sqm	<= 500 sqm
Fire Spread	-	More than 2 floors and/or whole building	Any other damage
Evacuations assisted by FRS	-	20 or more	0 to 19
Fatalities	1 or more	-	0
Casualties	2 or more	1 casualty	0
Victim Severity	Any victim hospitalised	Any other medical attention on site	No injuries
FRS Vehicles (appliances and officers, etc)	-	20 or more	0 to 19

Figure 3-3: Measured Consequence (H/M/L) by Building Category

Building Category	Measured Consequence		
	High	Medium	Low
Bar/Pub	3.6%	8.7%	87.7%
Care Home	5.2%	6.2%	88.6%
Factory or Manufacturing	2.4%	12.1%	85.5%
Further Education	2.8%	10.6%	86.5%
HMO	7.1%	7.9%	85.0%
Hospital	3.2%	5.1%	91.7%
Hotel	3.2%	14.2%	82.6%
Leisure	1.5%	14.3%	84.1%
Light Industrial or Storage	2.6%	15.1%	82.3%
Medical	1.7%	4.6%	93.7%
Nursery / Special Needs	0.7%	9.1%	90.2%
Office	2.5%	7.6%	89.9%
Other Sleeping Accommodation	5.6%	13.4%	81.0%
Other Workplace	2.0%	13.6%	84.4%
Primary School	1.3%	13.5%	85.2%
Prison	4.0%	8.9%	87.0%
Public Buildings	2.0%	9.2%	88.7%
Residential Education	3.8%	8.3%	87.9%
Restaurant/Other	2.7%	8.4%	89.0%
Secondary School	1.3%	11.9%	86.8%
Sheltered Accommodation	5.8%	8.9%	85.3%
Shop	2.9%	7.3%	89.8%
Waste and Recycling	2.6%	17.7%	79.7%
Total	3.2%	9.8%	87.0%

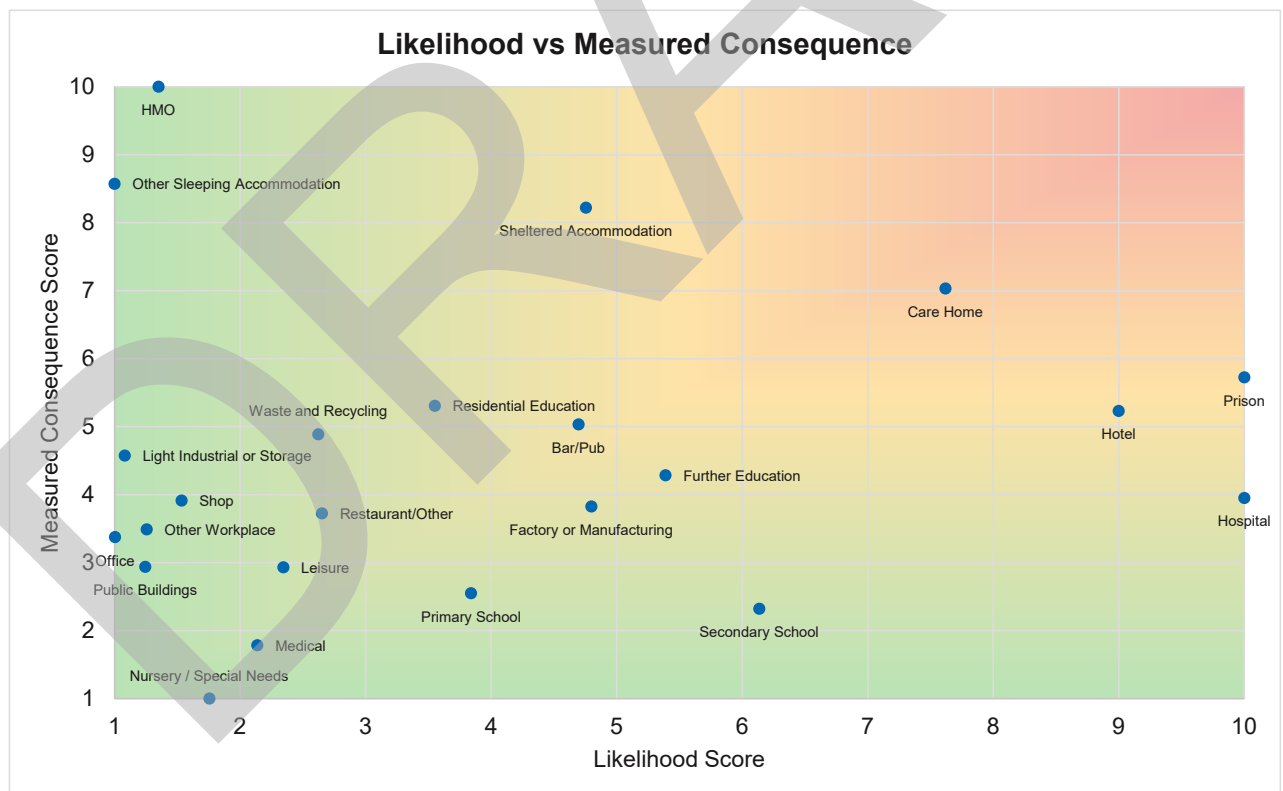
- Likelihood = A relative score from 1 to 9, directly aligned to the annual rate by category, with prisons and hospitals given a score of 10 as outliers.
 - Measured Consequence = A relative score from 1 to 10 based on the proportion of H/M/L incidents vs. all building categories, weighted 10/1/0.
- 3.16 The two values are then multiplied together (equally weighted) to give a risk score (potentially ranging from 1 to 100) for all building categories (see Figure 3-4).
- 3.17 Across the 23 building categories, the five highest measured risk scores are:
- Prisons = 57.6 (Likelihood = 10.0, Consequence = 5.7)
 - Care Homes = 53.6 (Likelihood = 7.6, Consequence = 7.0)
 - Hotels = 54.0 (Likelihood = 9.0, Consequence = 5.2)
 - Hospitals = 39.5 (Likelihood = 10.0, Consequence = 4.0)
 - Sheltered Accommodation = 39.1 (Likelihood = 4.8, Consequence = 8.2)

Influencing Factors

- 3.18 NFCC/ORH used Random Forest Modelling (as described in Section 2) to evaluate any potential linkages between the demographic data sources and the likelihood and consequence of OBFs by building category.
- 3.19 Unlike the DDF methodology, the statistical modelling did not produce any pertinent findings. There were some weak positive relationships between some deprivation factors and the overall likelihood of OBFs, however these were not strong enough to factor into the overall methodology.
- 3.20 In part, this is because there are fewer data points. While the DDF methodology studied 181,708 incidents, for OBFs there are only 57,426 incidents, and this is significantly reduced when examining the relationships by building category.
- 3.21 In addition, the distribution of where OBFs occur will be highly dependent on the underlying geography. For example, OBFs in further education buildings are limited to areas where these establishments are located, so many areas will have no OBFs to evaluate; this is even more extreme for hospitals and prisons.
- 3.22 The only individual category where the statistical modelling produced a meaningful result was for shops, which are present in most areas of the country. There were indications that similar factors associated with a higher likelihood of DDFs might influence OBFs too, however the relationship was too weak to make this conclusion with any certainty, so does not form part of the proposed methodology.

Figure 3-4: Likelihood, Measured Consequence and Risk Scores by Building Category

Building Category	Likelihood		Measured Consequence			Risk
	Annual Rate	Score (/10)	% High	% Medium	Score (/10)	Score (/100)
Bar/Pub	12.1	4.7	3.6%	8.7%	5.0	23.6
Care Home	19.8	7.6	5.2%	6.2%	7.0	53.6
Factory or Manufacturing	12.4	4.8	2.4%	12.1%	3.8	18.4
Further Education	13.9	5.4	2.8%	10.6%	4.3	23.1
HMO	3.3	1.3	7.1%	7.9%	10.0	13.5
Hospital	97.8	10.0	3.2%	5.1%	4.0	39.5
Hotel	23.4	9.0	3.2%	14.2%	5.2	47.1
Leisure	5.9	2.3	1.5%	14.3%	2.9	6.9
Light Industrial or Storage	2.6	1.1	2.6%	15.1%	4.6	4.9
Medical	5.4	2.1	1.7%	4.6%	1.8	3.8
Nursery / Special Needs	4.4	1.8	0.7%	9.1%	1.0	1.8
Office	2.4	1.0	2.5%	7.6%	3.4	3.4
Other Sleeping Accommodation	2.4	1.0	5.6%	13.4%	8.6	8.6
Other Workplace	3.1	1.3	2.0%	13.6%	3.5	4.4
Primary School	9.9	3.8	1.3%	13.5%	2.5	9.8
Prison	3,471.9	10.0	4.0%	8.9%	5.7	57.2
Public Buildings	3.1	1.2	2.0%	9.2%	2.9	3.7
Residential Education	9.1	3.6	3.8%	8.3%	5.3	18.8
Restaurant/Other	6.7	2.7	2.7%	8.4%	3.7	9.9
Secondary School	15.9	6.1	1.3%	11.9%	2.3	14.2
Sheltered Accommodation	12.3	4.8	5.8%	8.9%	8.2	39.1
Shop	3.8	1.5	2.9%	7.3%	3.9	6.0
Waste and Recycling	6.7	2.6	2.6%	17.7%	4.9	12.8



4 Recommended Framework for OBF Risk

While the research and background analysis for OBFs was as complex as for dwelling fires, the resultant methodology for FRSs is much simpler.

There are only two elements to the data collection for determining OBF risk within an FRS:

- Ordnance Survey (OS) data for building locations and types
- A series of lookup tables to calculate likelihood, consequence and risk

Once the OS data has been updated with the building category, the FRS can produce a database for each relevant UPRN in its area. The next steps in this process involve assigning likelihood and consequence for each category (based on the findings from the analysis, and NFCC assessment of potential risks), then calculating the overall risk by weighting each factor.

There are numerous ways in which an FRS could adapt the methodology to take account of local knowledge, including reassigning the overall category and rescoreing the potential consequences for specific buildings.

Introduction

- 4.1 NFCC/ORH recognise that the key output of this research is a methodology that FRSs can follow, adopt and adapt in their local area. To satisfy this, it was necessary to translate a detailed and iterative research project into something that is appropriate and easily applicable for all FRSs.
- 4.2 While the research and background analysis for OBFs was as complex as for DDFs, the resultant methodology for FRSs is much simpler, for two key reasons:
- (a) The DDF methodology provided two options for calculating risk: LSOA and UPRN. For OBFs, the nature of the geography and the differences between building categories mean that the only approach is to evaluate likelihood and consequence at the property level.
 - (b) There were 12 key influencing factors associated with the likelihood of DDFs (and a similar number for consequence), however the research into OBFs found only weak relationships with some deprivation measures. As such, there is no requirement in this methodology to collect and manage data from multiple public sources to determine risk for OBFs.
- 4.3 This draft report provides an outline of the steps that an FRS can take to calculate the likelihood, consequence and risk for OBFs in its area (see Figure 2-1). The methodology combines the statistical assessment of historical incidents (from the national IRS data) with SME input on the potential risk profile of different building types. Finally, there is scope for adjusting the outcomes to take account of local knowledge on individual properties.

Figure 4-1: Example of UPRN Data Table

UPRN	Xcoord	Ycoord	OS Quaternary Code	NFCC Building Category
100002569	194,753	476,836	CE02	Nursery / Special Needs
100010130	157,020	440,022	RD02	zExcluded - Residential
100010593	198,954	487,516	CE02	Nursery / Special Needs
100011851	248,092	460,351	CC08	Public Buildings
100021086	166,453	488,666	RI03	Residential Education
100026810	169,508	413,955	RD06	zExcluded - Residential
100029672	152,116	483,221	OI07	zExcluded
100031997	160,776	422,749	CI04	Light Industrial or Storage
100033503	184,689	467,549	RD06	zExcluded - Residential
100034471	214,187	430,306	RD02	zExcluded - Residential
100040531	163,530	418,741	CC04YR	Public Buildings
100043306	222,393	435,130	RD02	zExcluded - Residential
100045431	170,700	475,771	RD02	zExcluded - Residential
100048078	180,262	413,905	LW02IW	zExcluded
100048232	219,101	430,177	RD06	zExcluded - Residential
100053512	158,650	451,171	OI07	zExcluded
100055849	160,161	450,871	C	Other Workplace
100065665	221,087	498,782	LW02IW	zExcluded
100067953	209,465	488,153	CI03	Light Industrial or Storage
100072169	206,955	443,691	CR07	Restaurant/Other
100074909	226,412	477,826	RD01	zExcluded - Residential
100077230	176,609	443,189	CR08	Shop
100087094	161,534	470,335	CI03	Light Industrial or Storage
100098699	217,117	484,186	RD	zExcluded - Residential
100099108	198,386	424,957	RD02	zExcluded - Residential
100099629	236,623	494,715	RD	zExcluded - Residential
...

Note: Data populated from OS Code to NFCC Category lookup (see Appendix B)

Data Collection and Assigning Building Categories

Data Sources

- 4.4 There are only two elements to the data collection for determining OBF risk within an FRS:
- (a) OS data for building locations and types
 - (b) A series of lookup tables to calculate likelihood, consequence and risk, which are provided in this report
- 4.5 The OS AddressBase Plus product is available to all FRSs through the Public Sector Geospatial Agreement (PSGA). This data includes many fields of information for every addressable building in the UK, with 37 million records. Information on the AddressBase Plus product is available on the OS website: <https://www.ordnancesurvey.co.uk/business-government/tools-support/addressbase-plus-support>.
- 4.6 The key data from AddressBase Plus that an FRS will need to use are the coordinates of the property, the UPRN, and OS's classification for addressable objects (categories of building).
- 4.7 For most FRSs, there will be around 200,000 to 400,000 UPRNs in the service area that form the basis for the analysis, however this will be considerably larger in the metropolitan FRSs with larger populations. While most FRSs could potentially store the data in Excel tables, using database software (SQL, Access, PowerBI, etc) to store and process the data is recommended.
- 4.8 FRSs should consider restricting the analysis to buildings with unique easting and northings. This will mean that the analysis is based on properties rather than individual addresses; while some detail would be lost, it will simplify elements of the analysis and mapping by reducing the number of records in the dataset.

Assigning Building Categories

- 4.9 To assign building categories, two database tables are required (see Figure 4-1):
- (a) UPRN Table – all properties in the FRS
 - (b) Building Category Table – the translation from OS quaternary level codes to NFCC building categories (see Appendix B)
- 4.10 NFCC/ORH completed an iterative process to develop an appropriate set of building categories based on the OS quaternary level for building classification (see Section 2). The outcomes of this are 23 building categories and a lookup table for converting the OS codes into the categories to use for analysing likelihood and consequence (see Figure 2-4 and Appendix B).
- 4.11 The user should apply a lookup (using a direct link between the two database tables) from the OS quaternary code to complete the NFCC Building Category column (see Figure 4-1).
- 4.12 Around 90% of properties are excluded from the OBF methodology as they are either residential properties or other extraneous categories (for example, car parks and open land). The user should create a new table with only the properties that are included, as this will reduce the calculations required and simplify the mapping process.

Figure 4-2: Assigning Likelihood and Measured Consequence

Lookup Table for NFCC Building Categories

Building Category	Likelihood Score	Measured Consequence Score
Bar/Pub	4.7	5.0
Care Home	7.6	7.0
Factory or Manufacturing	4.8	3.8
Further Education	5.4	4.3
HMO	1.3	10.0
Hospital	10.0	4.0
Hotel	9.0	5.2
Leisure	2.3	2.9
Light Industrial or Storage	1.1	4.6
Medical	2.1	1.8
Nursery / Special Needs	1.8	1.0
Office	1.0	3.4
Other Sleeping Accommodation	1.0	8.6
Other Workplace	1.3	3.5
Primary School	3.8	2.5
Prison	10.0	5.7
Public Buildings	1.2	2.9
Residential Education	3.6	5.3
Restaurant/Other	2.7	3.7
Secondary School	6.1	2.3
Sheltered Accommodation	4.8	8.2
Shop	1.5	3.9
Waste and Recycling	2.6	4.9

Updated Table for Example UPRN Data

UPRN	OS Quaternary Code	NFCC Building Category	Likelihood Score	Measured Consequence Score
100002569	CE02	Nursery / Special Needs	1.8	1.0
100010593	CE02	Nursery / Special Needs	1.8	1.0
100011851	CC08	Public Buildings	1.2	2.9
100021086	R103	Residential Education	3.6	5.3
100031997	CI04	Light Industrial or Storage	1.1	4.6
100040531	CC04YR	Public Buildings	1.2	2.9
100055849	C	Other Workplace	1.3	3.5
100067953	CI03	Light Industrial or Storage	1.1	4.6
100072169	CR07	Restaurant/Other	2.7	3.7
100077230	CR08	Shop	1.5	3.9
100087094	CI03	Light Industrial or Storage	1.1	4.6

Assigning Likelihood and Consequence

- 4.13 To assign likelihood and consequence, two database tables are required:
- (a) UPRN Table – with only the relevant property types included
 - (b) Risk Table – the values for likelihood and consequence by NFCC building category (see Figure 4-2)

Likelihood and Measured Consequence

- 4.14 For the 23 building categories, NFCC/ORH determined an appropriate scoring metric for the likelihood and measured consequence of OBFs (see Section 3). The output is a score from 0 to 10 for each measure (see also Figure 3-4).
- 4.15 The user should update the UPRN Table with a lookup from the Risk Table, so that the likelihood and measured consequence are assigned to every relevant property record.

Potential Consequence

- 4.16 Through consultation, NFCC/ORH developed a three-step process for determining the consequence of OBFs by building category (see Section 2 and Figure 2-5): the Measured, Potential and Building-specific Consequence.
- 4.17 NFCC consulted with SMEs to develop a set of criteria on which to score the **Potential Consequence**. This is broadly similar to the Provision of Operational Risk Information System (PORIS), which FRSs have previously used as a strategic framework. The potential consequences are described in Appendix C1; further background on PORIS is available here: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/5914/2124406.pdf.
- 4.18 For the 23 building categories, NFCC assigned a High, Medium or Low rating for Potential Consequence to five elements of risk (Individual Fire Risk was not included as this was already captured in the Measured Consequence scoring):
- Societal Risk
 - Firefighter Risk
 - Community Risk
 - Heritage Risk
 - Environmental Risk
- 4.19 Examples of the highest potential consequence include the societal risk of OBFs in hospitals, the firefighter risk of OBFs in factories and the community risk of OBFs in schools (see Appendix C2).
- 4.20 A simple conversion of High = 10, Medium = 5 and Low = 1 has been applied to the potential consequence for each building category to provide a numeric value (see Figure 4-3).
- 4.21 As for the likelihood and measured consequence, the user should update the UPRN Table with a lookup from the Risk Table, so that the values for potential consequence are also assigned to every relevant property record.

Figure 4-3: Assigning Potential Consequence

Lookup Table for NFCC Potential Consequence

Building Category	Potential Consequence Score				
	Societal	Firefighter	Community	Heritage	Environmental
Bar/Pub	5	1	1	1	1
Care Home	10	5	10	1	1
Factory or Manufacturing	1	10	5	1	5
Further Education	1	1	1	1	1
HMO	5	5	5	1	1
Hospital	10	5	10	1	1
Hotel	5	1	1	1	1
Leisure	1	1	5	1	1
Light Industrial or Storage	1	10	5	1	1
Medical	1	1	5	1	1
Nursery / Special Needs	5	5	10	1	1
Office	1	1	1	1	1
Other Sleeping Accommodation	5	1	1	1	1
Other Workplace	1	1	1	1	1
Primary School	5	1	10	1	1
Prison	10	10	10	1	1
Public Buildings	1	1	5	1	1
Residential Education	10	1	10	1	1
Restaurant/Other	1	1	1	1	1
Secondary School	5	1	10	1	1
Sheltered Accommodation	5	5	5	1	1
Shop	1	1	1	1	1
Waste and Recycling	1	1	5	1	10

Updated Table for Example UPRN Data

UPRN	OS Quaternary Code	NFCC Building Category	Likelihood Score	Measured Consequence	Societal	Firefighter	Community	Heritage	Environmental
100002569	CE02	Nursery / Special Needs	1.8	1.0	5	5	10	1	1
100010593	CE02	Nursery / Special Needs	1.8	1.0	5	5	10	1	1
100011851	CC08	Public Buildings	1.2	2.9	1	1	5	1	1
100021086	R103	Residential Education	3.6	5.3	10	1	10	1	1
100031997	C104	Light Industrial or Storage	1.1	4.6	1	10	5	1	1
100040531	CC04YR	Public Buildings	1.2	2.9	1	1	5	1	1
100055849	C	Other Workplace	1.3	3.5	1	1	1	1	1
100067953	C103	Light Industrial or Storage	1.1	4.6	1	10	5	1	1
100072169	CR07	Restaurant/Other	2.7	3.7	1	1	1	1	1
100077230	CR08	Shop	1.5	3.9	1	1	1	1	1
100087094	C103	Light Industrial or Storage	1.1	4.6	1	10	5	1	1

Calculating Risk

- 4.22 The next step is to combine the outcomes for likelihood, measured consequence and potential consequence into an overall risk score for each building category. This involves weighting the scores from the Risk Table in an appropriate manner and updating the UPRN Table accordingly.
- 4.23 The weightings were developed in consultation with the NFCC Working Group, which is made up from SMEs in Protection, PPRU and RBIP. The Likelihood and Measured Consequence values are given equal weighting as per Stage 1 of the DoR project; there is also an equal balance between the analysed values (Likelihood and Measured Consequence) and the input based on professional knowledge (Potential Consequence). At this stage, the following weightings have therefore been applied to each score (see Figure 4-4):
- Weighting = 10 Likelihood and Measured Consequence
 - Weighting = 5 Societal, Firefighter and Community Potential Consequence
 - Weighting = 2.5 Heritage and Environmental Consequence
- 4.24 By calculating the *sum product* of the scores and weighting for each factor, NFCC/ORH have arrived at an overall risk score for each of the 23 building categories. The three highest scoring categories are prisons, hospitals and care homes, all of which score consistently highly across the individual factors.
- 4.25 The combined risk values for the 23 building categories are a composite of several factors and the weightings, so it is more appropriate to group these into an overall risk category, from Very High to Very Low (see Figures 4-4 and 4-5). Another reason to apply this classification is to ease the process for local adjustments (see below).
- 4.26 NFCC/ORH determined the Very High to Very Low categories by converting the final risk score for each of the 23 building categories (ranging from 64 to 312) into a relative value from 0 to 1 (see Figure 4-4). The categories were set based on these relative values:
- Very Low = 0 to 0.2 (7 building categories)
 - Low = 0.2 to 0.4 (7 building categories)
 - Medium = 0.4 to 0.5 (3 building categories)
 - High = 0.5 to 0.8 (3 building categories)
 - Very High = 0.8 to 1.0 (3 building categories)
- 4.27 The user should update the UPRN Table with a lookup from the Combined Risk Table, so that the values for combined risk and the overall category are assigned to every property record.

Local Adjustments

- 4.28 There are numerous ways in which an FRS could adapt the methodology to take account of local knowledge and specific buildings. Two options have been considered here, and RBIP/PPRU have provided further guidance on this topic (see Appendix D). The intention is to

Figure 4-4: Assigning Risk Category

Lookup Table for NFCC Risk by Building Category

Building Category	IRS Measured Scores		Potential Consequence Score					Combined Risk Score	Relative Risk Score	Combined Risk Category
	Likelihood	Consequence	Societal	Firefighter	Community	Heritage	Environmental			
Bar/Pub	4.7	5.0	5	1	1	1	1	137	0.30	Low
Care Home	7.6	7.0	10	5	10	1	1	277	0.86	Very High
Factory or Manufacturing	4.8	3.8	1	10	5	1	5	181	0.47	Medium
Further Education	5.4	4.3	1	1	1	1	1	117	0.21	Low
HMO	1.3	10.0	5	5	5	1	1	193	0.52	High
Hospital	10.0	4.0	10	5	10	1	1	270	0.83	Very High
Hotel	9.0	5.2	5	1	1	1	1	182	0.48	Medium
Leisure	2.3	2.9	1	1	5	1	1	93	0.12	Very Low
Light Industrial or Storage	1.1	4.6	1	10	5	1	1	142	0.31	Low
Medical	2.1	1.8	1	1	5	1	1	79	0.06	Very Low
Nursery / Special Needs	1.8	1.0	5	5	10	1	1	133	0.28	Low
Office	1.0	3.4	1	1	1	1	1	64	0.00	Very Low
Other Sleeping Accommodation	1.0	8.6	5	1	1	1	1	136	0.29	Low
Other Workplace	1.3	3.5	1	1	1	1	1	67	0.01	Very Low
Primary School	3.8	2.5	5	1	10	1	1	149	0.34	Medium
Prison	10.0	5.7	10	10	10	1	1	312	1.00	Very High
Public Buildings	1.2	2.9	1	1	5	1	1	82	0.07	Very Low
Residential Education	3.6	5.3	10	1	10	1	1	199	0.54	High
Restaurant/Other	2.7	3.7	1	1	1	1	1	84	0.08	Very Low
Secondary School	6.1	2.3	5	1	10	1	1	170	0.43	Medium
Sheltered Accommodation	4.8	8.2	5	5	5	1	1	210	0.59	High
Shop	1.5	3.9	1	1	1	1	1	74	0.04	Very Low
Waste and Recycling	2.6	4.9	1	1	5	1	10	138	0.30	Low
Weighting	10	10	5	5	5	2.5	2.5	-	-	-

Updated Table for Example UPRN Data

UPRN	OS Quaternary Code	NFCC Building Category	Fields for Likelihood, Measured Consequence and Potential Consequence	Combined Risk Score	Combined Risk Category
100002569	CE02	Nursery / Special Needs	... ..	133	Low
100010593	CE02	Nursery / Special Needs	... ..	133	Low
100011851	CC08	Public Buildings	... ..	82	Very Low
100021086	RI03	Residential Education	... ..	199	High
100031997	CI04	Light Industrial or Storage	... ..	142	Low
100040531	CC04YR	Public Buildings	... ..	82	Very Low
100055849	C	Other Workplace	... ..	67	Very Low
100067953	CI03	Light Industrial or Storage	... ..	142	Low
100072169	CR07	Restaurant/Other	... ..	84	Very Low
100077230	CR08	Shop	... ..	74	Very Low
100087094	CI03	Light Industrial or Storage	... ..	142	Low

take only one option forward in the final document, and FRS preference is being sought as part of the consultation.

Reassigning Overall Categories

4.29 The simplest approach is to manually adjust the overall risk category for a specific building. For example, for a UPRN for a care home where there are limited residents and a fire safety audit has shown that the building is very well managed, the overall risk for that building could be reduced from Very High to Medium at the FRS's discretion.

4.30 The FRS should record manual adjustments in a separate data column, so that this can be audited. NFCC/ORH would typically recommend that no UPRN is adjusted by more than two categories; for example, a Very High building should not be given an overall risk of Low or Very Low.

Rescoring the Potential Consequence

4.31 For specific buildings, the FRS may wish to assign their own scoring for societal, firefighter, community, heritage and environmental consequence. For example, a restaurant with lots of local employees, in a listed building and with challenging access might receive higher scores for firefighter, community and heritage consequence than the 'typical' restaurant nationwide.

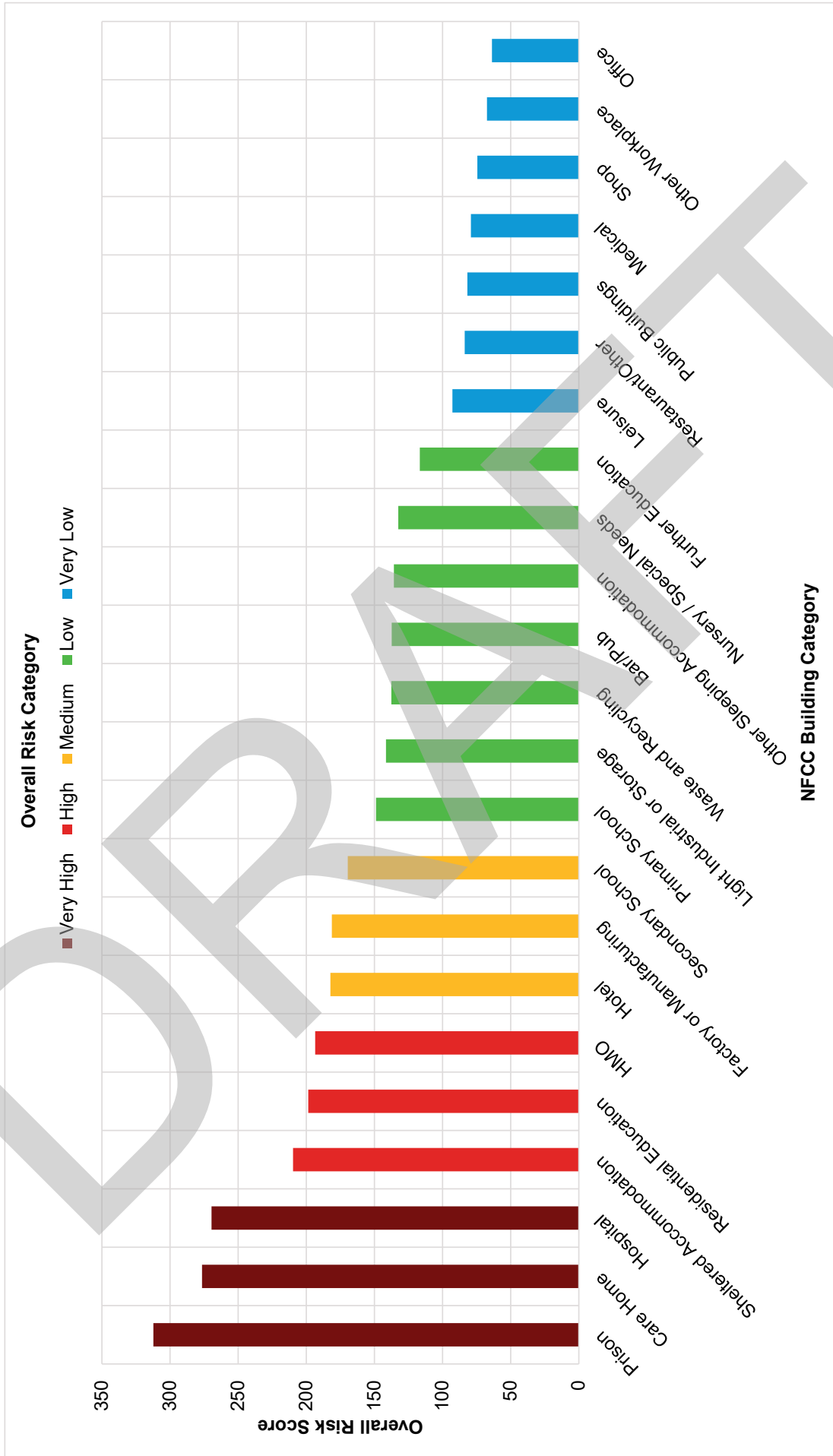
4.32 The FRS will need to re-run the sum product calculation for any UPRN where the scoring is adjusted, then assess the overall risk score and assign to a suitable overall risk category, from Very High to Very Low. The scores for likelihood and measured consequence should not be adjusted as these are based on the analytical findings. The FRS should record manual adjustments in a separate data column, so that this can be audited.

Applying the Methodology

4.33 Having calculated each step to determine the risk category for all buildings, this can be used to map the locations of Very High to Very Low risk other buildings across the FRS area (using the UPRN coordinates).

4.34 The FRS can also use the UPRN and address data from OS to link the information with existing systems; for example, to tag the OBF risk to all properties that have been audited by the FRS.

Figure 4-5: Overall Risk Score by Building Category



Appendices

A	Background Information
B	OS Property Code to NFCC Building Category Lookup
C	Potential Consequence Categories
D	Guidance on Potential Local Adjustments



NFCC
National Fire
Chiefs Council



National Fire Chiefs Council / ORH

Developing a National Risk Methodology

Other Building Fires: Draft Report (V3)

20 February 2023
ORH/NFCC/1b

A Background Information

A1 About ORH

A2 CRP Definition of Risk Project

A3 IRS Data Fields

A4 National Data on Potential Risk Factors

A4a Data Sources

A4b Sample Field List

DRAFT



PLAN. PREPARE. PERFORM.

About ORH

ORH helps emergency services around the world to optimise resource use and respond in the most effective and efficient way.

We have set the benchmark for emergency service planning, with a proven approach combining rigorous scientific analysis with experienced, insightful consultancy. Our expert team uses sophisticated modelling techniques to identify opportunities for improvement and uncover hidden capacity. Simulating future scenarios ensures that solutions are objective, evidence-based and quantified.

Every organisation faces a unique set of challenges, so remaining independent and flexible allows us to deliver an appropriate solution every time. The outputs of our work enable clients to make robust, data-driven decisions and explain them clearly to stakeholders.

ORH's approach is always tailored to the needs of the client. Above all, we are committed to getting it right, for the good of our clients and the people who rely on their services.

We work with fire services to define and communicate the risks across their area. Once understood, the next challenge is how to match resources to risk in an appropriate manner. Our approach also helps services to use their resources effectively and efficiently on a live basis.

Over the past ten years ORH has worked with 30 fire and rescue services in the UK and internationally. Our studies support organisations in their planning by identifying and appraising options for better service delivery. These studies involve many aspects of fire service provision, including evaluating alternative delivery models, optimising station location, identifying and quantifying local risk cover and coverage, contingency planning and estate strategy development.

What We Do

ANALYSIS

ORH's experts use sophisticated analytical techniques to develop a comprehensive understanding of the relationship between demand for a service and utilisation of resources. Internal service data can be combined with external sources, such as travel times, population or socio-demographic data, to provide a detailed quantitative profile of service provision.

SOFTWARE

ORH has supplied software to a variety of different services, tailored to the needs of individual clients. Our software solutions range from programs to assist dispatchers with instant decision-making in Control, to complex models designed to aid appraisal of different planning options for long-term service delivery. ORH also provides comprehensive training and ongoing support.

MODELLING

Over the last two decades, ORH has developed a suite of powerful, bespoke computer models, based on OR techniques. These are used by our consultants to improve the cost-effectiveness of a service and to inform forward planning. Our approach combines both optimisation and simulation models, which enables the assessment of a wide range of options and ensures our clients can respond confidently to the many challenges they face.

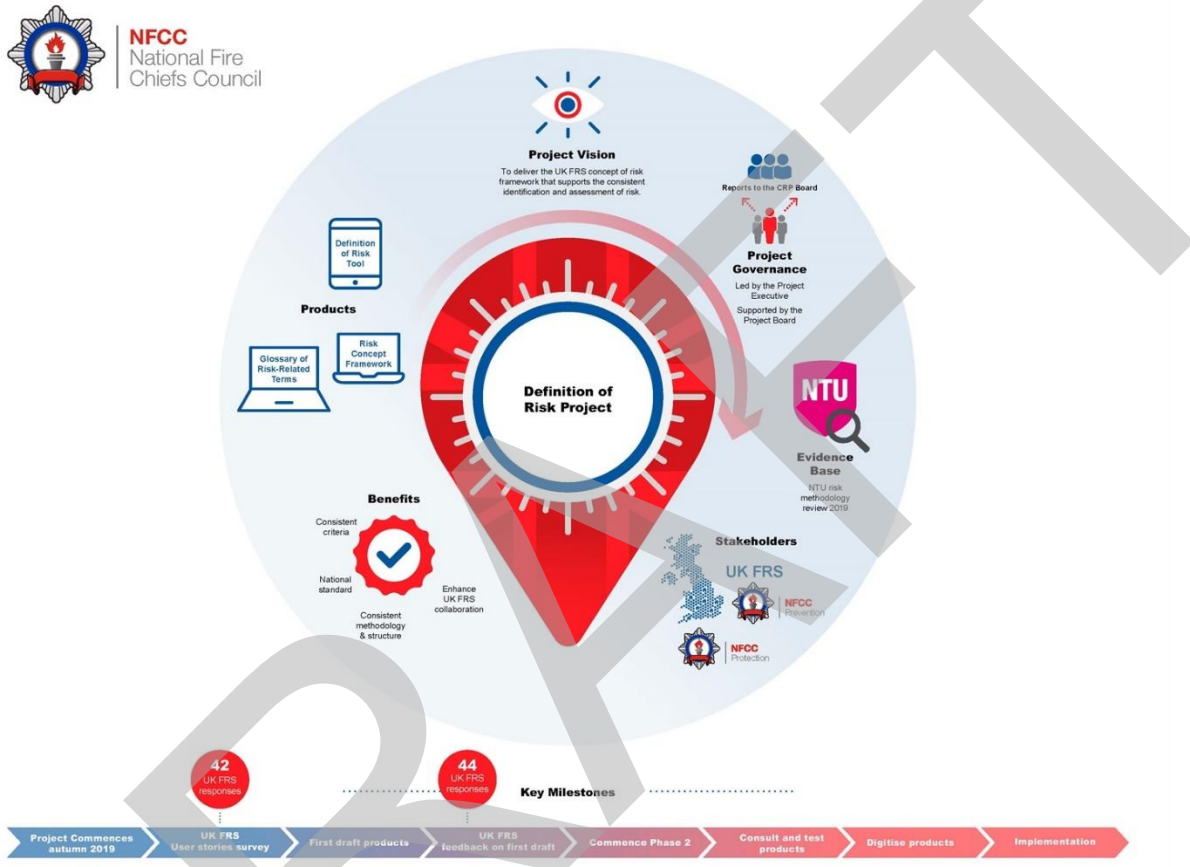
CONSULTANCY

ORH consultants have gained a wealth of experience of working with public sector organisations and work closely with clients to ensure that planning solutions meet their needs and are robust and sustainable. The ORH ethos is to keep an open mind, in order to derive optimal solutions adapted to each service's unique circumstances.

CRP Definition of Risk Project

Project vision

“To deliver the UK Fire and Rescue Service a risk framework with an approach that supports the consistent identification, understanding and assessment of risk.”



The NFCC Community Risk Programme aims to reduce community risk and vulnerability by delivering a set of national tools and guidance to improve risk management planning.

Progress to Date

Independent research commissioned by the NFCC and recent fire and rescue service inspections revealed that there is a need to coalesce around an agreed definition of risk. A critical gap identified by the CRP, supported by Her Majesty's Inspectorate of Constabulary and Fire and Rescue Services (HMICFRS) findings was that variation in approach across the UK made it difficult to benchmark aspects of the community risk management planning process nationally. One area this was prevalent in was the risk identification and assessment approaches adopted to determine the level of risk present. A critical success factor for this project will be to bring greater consistency to this area of work undertaken by FRSs.

A key starting point for this project was the development and delivery of a national definition of risk together with accompanying documentation.

This project has now completed its first phase and has produced:

- A national definition of risk in the context of Community Risk Management Planning (CRMP)
- A strategic level CRMP framework, as the basis for an FRSS
- A glossary of risk-related terms

Upon completion of phase 1, it was recognised that there is a need to develop the detail behind the key components of the strategic framework to make these products more useable. This will include a methodology (or methodologies) which will allow a consistent risk-based approach to risk management planning. These methodologies will be developed to enable fire and rescue services of all sizes and governance arrangements to make use of them when carrying out their own local risk management planning work.

We are now entering phase 2 of this project which will commence in January 2021.

Phase 2 will explore the details behind the components of the strategic risk assessment framework developed in phase 1 primarily in regard to:

- Hazardous events
- Risk groups
- Likelihood
- Consequence
- Risk Metric
- Risk Criteria

The programme is supported by key stakeholders from the fire sector including HMICFRS, the Fire Services Management Committee, the Home Office and the Fire Brigades Union.

Phase 2 of this project is expected to be complete by January 2022.

Primary Fire IRS Data

1 April 2014 to 31 March 2020

Primary Fire Incidents	Victims	Primary Fires Response
FRS_INCIDENT_NO	FINANCIAL_YEAR	FRS_INCIDENT_NO
PUB_INCIDENT_ID	PUB_INCIDENT_ID	PUB_INCIDENT_ID
territory_frs	VICTIM_SEQ_NO	VEHICLE_TYPE_DESCRIPTION
AT_CALL_OVER_BORDER_FRS_INCIDENT_NO	WAS_FIRE_RELATED	RCC_CALLSIGN
AT_CALL_MOBILISE_INCIDENT_TYPE_DESCRIPTION	VICTIM_TYPE_DESCRIPTION	FRS_CALLSIGN
incident_type_t0102_d	VICTIM_WAS_RESCUED_FLAG	NO_OF_CREW
property_type_detailed_d	INJURY_SEVERITY_CODE	DATETIME_MOBILISED
IS_DERELICT	INJURY_SEVERITY_DESCRIPTION	DATETIME_MOBILE
CHIMNEY_FIRE	VICTIM_RESCUE_BY_CODE	DATETIME_AT_SCENE
IS_PRIMARY_FIRE	VICTIM_RESCUE_BY_DESCRIPTION	DATETIME_AVAILABLE
UNIQUE_PROPERTY_REF_NO	VICTIM_AGE	DEPLOYED_FROM_FLAG
XCoord	VICTIM_ETHNICITY	DEPLOYED_FROM_FRS_ID
YCoord	VICTIM_GENDER	DEPLOYED_FROM_STATION_ID
ignition_to_discovery_d		
discovery_to_call_d		
HOW_DISCOVERED_DESCRIPTION		
IS_PROPERTY_REGULATED		
BUILDING_SAFETY_SYSTEM_COMPARTMENTATION_DESCRIPTION		
ALARM_SYSTEM_PRESENT		
battery_powered_c		
mains_powered_c		
other_powered_c		
alarm_system_operated_d		
BUILDING_OCCUPIED_AT_TIME_OF_INCIDENT		
BUILDING_NORMAL_OCCUPATION_STATUS_DESCRIPTION		
CAUSE_MOTIVE_DESCRIPTION		
fire_damage_extent_d		
HAZMAT_MARKER		
RTC_MARKER		
RTC_EXTRICATIONS		
STARTING_DELAY_DESCRIPTION		
MAIN_CAUSE_DESCRIPTION		
CAUSE_BY_DESCRIPTION		
CAUSE_IGNITION_SOURCE_DESCRIPTION		
CAUSE_ITEM_SPREAD_DESCRIPTION		
CAUSE_RAPID_GROWTH_DESCRIPTION		
CAUSE_SUBSTANCES_DANGEROUS_DESCRIPTION		
fire_start_location_ild_d		
DWELLING_OCCUPANCY_TYPE_DESCRIPTION		
OTHER_HUMAN_FACTOR_DESCRIPTION		
OTHER_HUMAN_FACTOR_SUSPECTED_UNDER_INFLUENCE		
BUILDING_SPECIAL_CONSTRUCTION_DESCRIPTION		
HEAT_SMOKE_DAMAGE_ONLY_FLAG		
FIRE_SIZE_ON_ARRIVAL_DESCRIPTION		
DAMAGE_RESTRICTED_TO_DESCRIPTION		
BUILDING_FIRE_DAMAGE_AREA_DESCRIPTION		
BUILDING_TOTAL_DAMAGE_AREA_DESCRIPTION		
BUILDING_ORIGIN_ROOM_SIZE_DESCRIPTION		
BUILDING_ORIGIN_FLOOR_SIZE_DESCRIPTION		
BUILDING_FLOORS_ABOVE_GROUND		
BUILDING_FLOORS_BELOW_GROUND		
BUILDING_FLOOR_ORIGIN		
ABANDONED_FLAG		
OUTDOOR_DAMAGE_AREA_LARGE_AREA_SIZE		
EVACUATION_WITHOUT_ASSISTANCE		
EVACUATION_WITH_ASSISTANCE		
EVACUATION_FRS_ASSISTANCE_DESCRIPTION		
TOC		
NO_FR_FATALITIES		
NO_ALL_FATALITIES		
NO_CASUALTIES		
NO_VICTIMS		
NO_EVACUATIONS		
VEHICLES_ATTENDING		
NO_OF_SMALL_VEHICLES		
NO_OF_LARGE_VEHICLES		
NO_OF_TWO_WHEELED_VEHICLES		

Public Data Sources Used

Data	Source	Description	Online Source	Release Date
Mid-year Population Estimates	Office for National Statistics	Number of people by age and gender; median age	https://www.ons.gov.uk/peoplepopulationandcommunity/populationandmigration/populationestimates/datasets/lowersuperoutputareamidyearpopulationestimates	Sep-20
Standard Area Measurements	Office for National Statistics	Geographic area of LSOA	https://geoportal.statistics.gov.uk/datasets/5a94044d113a4bd5bd895975d6612b05/about	Jan-18
Local Characteristics (2011 Census)	ONS / Nomis	100s of data tables from census: living arrangements, car ownership, ethnicity, nationality, language, religion, health problems, tenure, qualifications, travel to work, occupation	http://www.nomisweb.co.uk/census/2011/local_characteristics	Jan-14
Index of Multiple Deprivation	MHCLG	IMD scores and deciles for net position and sub domain	https://www.gov.uk/government/statistics/english-indices-of-deprivation-2019	Sep-19
Council Tax Bands	Valuation Office Agency	Housing stock by age, council tax band and property type	https://www.gov.uk/government/statistics/council-tax-stock-of-properties-2019	Sep-19
Urban Rural Classification	Office for National Statistics	The 2011 rural-urban classification (RUC) of lower layer super output areas in England and Wales is based on the 2011	https://www.ons.gov.uk/peoplepopulationandcommunity/populationandmigration/populationestimates/datasets/lowersuperoutputareamidyearpopulationestimates	Mar-19
Energy Performance Certificates	Ministry of Housing, Communities & Local Government	Building characteristics such as Age, energy Performance and Tenure	https://epc.opendatacommunities.org	Jun-21
Ordnance Survey Property Locations	Ordnance Survey	Household types and Location	NA (OS shared this data with NFCC/ORH as part of the PoC project)	Jun-21

Field List and Origin

Field	Source
Average Household Size	Census
Percentage of Households Private Renting	Census
Percentage of Households Social Renting	Census
Percentage of Households Own / Shared Ownership	Census
Percentage of Households with Full Time Students	Census
Percentage Who Cannot Speak English Well	Census
Percentage of Households with one or Fewer Rooms than Required	Census
Percentage aged 0 - 4	Census
Percentage aged 25 - 44	Census
Percentage aged 45 - 64	Census
Percentage aged 5 - 14	Census
Percentage aged 65 - 89	Census
Percentage aged 90+	Census
Percentage in Providing Unpaid Care	Census
Percentage Employed in Accommodation / Food	Census
Percentage Employed in Admit / Support	Census
Percentage Employed in Agriculture / Forestry / Fishing	Census
Percentage Employed Full Time	Census
Percentage Employed Part Time	Census
Percentage Unemployed	Census
Percentage Employed in Education Sector	Census
Percentage Employed in Utilities	Census
Percentage Employed in Finance / Insurance / Real Estate	Census
Percentage Employed in Human Health / Social Work	Census
Percentage Employed in Human Scientific Technology	Census
Percentage Employed in Mining / Quarrying / Construction	Census
Percentage Employed in Public Admin / Defense	Census
Percentage Employed in Transport / Service Industries	Census
Percentage Employed in Motor Vehicle Repair	Census
Percentage Divorced / Separated	Census
Percentage Married / Civil Partnership	Census
Percentage Full Time Students	Census
Percentage Single	Census
Percentage Use Private Transport to Work	Census
Percentage Use Public Transport to Work	Census
Percentage Use Walk / Cycle to Work	Census
Total in Managed Communal Establishments	Census
Total in Communal Establishments	Census
Total Employed the Week Before Census	Census
Total with Bad Health	Census
Total Households in Caravan / Mobile Structure	Census
Total Households	Census
Total Day to Day Activity Limited a little	Census
Total Day to Day Activity Limited a little - Working Age	Census
Total Day to Day Activity Limited a Lot	Census
Total Day to Day Activity Limited a Lot - Working Age	Census
Total Day to Day Activity Not Limited	Census
Total Day to Day Activity Not Limited - Working Age	Census
Total Households with Dependent Children Aged 0 - 4	Census
Total Households with Dependent Children Any Age	Census
Total in Establishment of Unknown Type	Census
Total in Fair Health	Census
Total Females Working 31 - 48 Hours	Census
Total Females Working 49 Hours+	Census
Total Females Working 15 Hours or Fewer	Census
Total Females Working 16 - 30 Hours	Census
Total Females	Census
Total Households in Flat - Part of Commercial Building	Census
Total Households in Flat - Converted or Shared Housing	Census
Total Households in Flat - Purpose Built	Census
Total Full Time Students Employed	Census
Total Full Time Students Unemployed	Census
Total Full Time Students Economically Inactive	Census
Total Working 31 - 48 Hours	Census
Total Working 49 Hours+	Census
Total in Good Health	Census
ONS LSOA Group	Census
Total Highest Level of Qualification - Apprenticeship	Census
Total Highest Level of Qualification - Level 1	Census
Total Highest Level of Qualification - Level 2	Census
Total Highest Level of Qualification - Level 3	Census
Total Highest Level of Qualification - Level 4+	Census
Total Highest Level of Qualification - Other Qualifications	Census
Total Household Spaces with at Least one Usual Resident	Census
Total Household Spaces with No Usual Residents	Census
Total Males Working 31 - 48 Hours	Census
Total Males Working 49 Hours+	Census
Total Males working 15 Hours or Fewer	Census

Field	Source
Total Males Working 16 - 30 Hours	Census
Total Males	Census
Total in Medical / Care Establishment - Care Home	Census
Total in Medical / Care Establishment - Childrens Home	Census
Total in Medical / Care Establishment - General Hospital	Census
Total in Medical / Care Establishment - Mental Health Hospital	Census
Total in Medical / Care Establishment - Other Hospital	Census
Total in Medical / Care Establishment - Other	Census
Total in Medical / Care Establishment - Care Home with Nursing	Census
Total in Medical / Care Establishment - Care Home with No Nursing	Census
Total in Medical / Care Establishment - Registered Social Landlord	Census
Total Households No Adults Employed	Census
Total Households No Adults Employed - No Dependent Children	Census
Total Households No Adults Employed - Dependent Children	Census
Total Households No Car / Van	Census
Total No Qualifications	Census
Total Households with One Person Long-term Health Problem or Disability - Disability 1	Census
Total Households with One Person Long-term Health Problem or Disability - Disability 2	Census
Total Households with One Person Long-term Health Problem or Disability - Disability 3	Census
Total Other Establishments	Census
Total Working 15 Hours or Fewer	Census
Total Working 16 to 30 Hours	Census
Total Full Time Students Aged 16 / 17	Census
Total Full Time Students Aged 18+	Census
Total Households - Shared Dwelling with Three+ Household Spaces	Census
Total Households - Shared Dwelling with Two Household Spaces	Census
Standard Illness Ratio	Census
Census LSOA Supergroup Name	Census
Total Households - Unshared Dwelling	Census
Total In Very Bad Health	Census
Total In Good Health	Census
Total Households in Detached Properties	Census
Total Households in Semi-Detached Properties	Census
Total Households in Terraced Properties	Census
Total Female Population	Census
Total Households with at Least One Usual Resident	Census
Total Male Population	Census
Total Properties	Census
IMD Barriers to Housing and Services Rank	MHCLG
IMD Crime Rank	MHCLG
IMD Education, Skills and Training Rank	MHCLG
IMD Employment Rank	MHCLG
IMD Health Deprivation and Disability Rank	MHCLG
IMD Overall Rank	MHCLG
IMD Income Rank	MHCLG
IMD Living Environment Rank	MHCLG
Total Jobseekers Aged 19 - 24 in 2019	ONS
Total Jobseekers All Ages in 2019	ONS
Total Employees 2019	ONS
Total in Employment 2019	ONS
Total in Full Time Employment 2019	ONS
Total in Part Time Employment 2019	ONS
LSOA Area	ONS
Total Female Population Aged 0 - 19	ONS
Total Female Population Aged 20 - 64	ONS
Total Female Population Aged 65+	ONS
Total Male Population Aged 0 - 19	ONS
Total Male Population Aged 20 - 64	ONS
Total Male Population Aged 65+	ONS
LSOA Population Density	ONS
Total Population Aged 0 - 19	ONS
Total Population Aged 20 - 64	ONS
Total Population Aged 65+	ONS
LSOA Urban / Rural Classification	ONS
Total Properties - Tax band A	Valuation Agency
Total Properties - Tax band B	Valuation Agency
Total Properties - Tax band C	Valuation Agency
Total Properties - Tax band D	Valuation Agency
Total Properties - Tax band E	Valuation Agency
Total Properties - Tax band F	Valuation Agency
Total Properties - Tax band G	Valuation Agency
Total Properties - Tax band H	Valuation Agency
Total Properties - Tax band I	Valuation Agency
Total Population 2019	ONS
Age of Property	EPC
Tenure of Property	EPC
Energy Performance of Property	EPC
Property Type	OS

B OS Property Code to NFCC Building Category Lookup

DRAFT

OS Property Code to NFCC Building Category Lookup

OS Code	OS Full Description	NFCC Building Category
C	Commercial	Other Workplace
CA	Commercial | Agricultural	Other Workplace
CA01	Commercial | Agricultural | Farm / Non-Residential Associated Building	Other Workplace
CA02	Commercial | Agricultural | Fishery	zExcluded
CA02FF	Commercial | Agricultural | Fishery | Fish Farming	zExcluded
CA02FH	Commercial | Agricultural | Fishery | Fish Hatchery	zExcluded
CA02FP	Commercial | Agricultural | Fishery | Fish Processing	zExcluded
CA02OY	Commercial | Agricultural | Fishery | Oyster / Mussel Bed	zExcluded
CA03	Commercial | Agricultural | Horticulture	zExcluded
CA03SH	Commercial | Agricultural | Horticulture | Smallholding	zExcluded
CA03VY	Commercial | Agricultural | Horticulture | Vineyard	zExcluded
CA03WB	Commercial | Agricultural | Horticulture | Watercress Bed	zExcluded
CA04	Commercial | Agricultural | Slaughter House / Abattoir	Other Workplace
CB	Commercial | Ancillary Building	Other Workplace
CC	Commercial | Community Services	Public Buildings
CC02	Commercial | Community Services | Law Court	Public Buildings
CC03	Commercial | Community Services | Prison	Prison
CC03HD	Commercial | Community Services | Prison | HM Detention Centre	Prison
CC03PR	Commercial | Community Services | Prison | HM Prison Service	Prison
CC03SC	Commercial | Community Services | Prison | Secure Residential Accommodation	Prison
CC04	Commercial | Community Services | Public / Village Hall / Other Community Facility	Public Buildings
CC04YR	Commercial | Community Services | Public / Village Hall / Other Community Facility | Youth Recreational / Social Club	Public Buildings
CC05	Commercial | Community Services | Public Convenience	zExcluded
CC06	Commercial | Community Services | Cemetery / Crematorium / Graveyard. In Current Use.	zExcluded
CC06CB	Commercial | Community Services | Cemetery / Crematorium / Graveyard. In Current Use. | Columbarium	zExcluded
CC06CN	Commercial | Community Services | Cemetery / Crematorium / Graveyard. In Current Use. | Crematorium	zExcluded
CC06CR	Commercial | Community Services | Cemetery / Crematorium / Graveyard. In Current Use. | Chapel Of Rest	zExcluded
CC06CY	Commercial | Community Services | Cemetery / Crematorium / Graveyard. In Current Use. | Cemetery	zExcluded
CC06MC	Commercial | Community Services | Cemetery / Crematorium / Graveyard. In Current Use. | Military Cemetery	zExcluded
CC06MY	Commercial | Community Services | Cemetery / Crematorium / Graveyard. In Current Use. | Mortuary	zExcluded
CC07	Commercial | Community Services | Church Hall / Religious Meeting Place / Hall	Public Buildings
CC08	Commercial | Community Services | Community Service Centre / Office	Public Buildings
CC09	Commercial | Community Services | Public Household Waste Recycling Centre (HWRC)	Waste and Recycling
CC10	Commercial | Community Services | Recycling Site	Waste and Recycling
CC11	Commercial | Community Services | CCTV	zExcluded
CC12	Commercial | Community Services | Job Centre	Public Buildings
CE	Commercial | Education	Further Education
CE01	Commercial | Education | College	Further Education
CE01FE	Commercial | Education | College | Further Education	Further Education
CE01HE	Commercial | Education | College | Higher Education	Further Education
CE02	Commercial | Education | Children's Nursery / Crèche	Nursery / Special Needs
CE03	Commercial | Education | Preparatory / First / Primary / Infant / Junior / Middle School	Primary School
CE03FS	Commercial | Education | Preparatory / First / Primary / Infant / Junior / Middle School | First School	Primary School
CE03IS	Commercial | Education | Preparatory / First / Primary / Infant / Junior / Middle School | Infant School	Primary School
CE03JS	Commercial | Education | Preparatory / First / Primary / Infant / Junior / Middle School | Junior School	Primary School
CE03MS	Commercial | Education | Preparatory / First / Primary / Infant / Junior / Middle School | Middle School	Primary School
CE03NP	Commercial | Education | Preparatory / First / Primary / Infant / Junior / Middle School | Non State Primary / Preparatory School	Primary School
CE03PS	Commercial | Education | Preparatory / First / Primary / Infant / Junior / Middle School | Primary School	Primary School
CE04	Commercial | Education | Secondary / High School	Secondary School
CE04NS	Commercial | Education | Secondary / High School | Non State Secondary School	Secondary School
CE04SS	Commercial | Education | Secondary / High School | Secondary School	Secondary School
CE05	Commercial | Education | University	Further Education
CE06	Commercial | Education | Special Needs Establishment.	Nursery / Special Needs
CE07	Commercial | Education | Other Educational Establishment	Secondary School
CH	Commercial | Hotel / Motel / Boarding / Guest House	Other Sleeping Accommodation
CH01	Commercial | Hotel / Motel / Boarding / Guest House | Boarding / Guest House / Bed And Breakfast / Youth Hostel	Other Sleeping Accommodation
CH01YH	Commercial | Hotel / Motel / Boarding / Guest House | Boarding / Guest House / Bed And Breakfast / Youth Hostel | Youth Hostel	Other Sleeping Accommodation
CH02	Commercial | Hotel / Motel / Boarding / Guest House | Holiday Let/Accommodation/Short-Term Let Other Than CH01	Other Sleeping Accommodation
CH03	Commercial | Hotel / Motel / Boarding / Guest House | Hotel/Motel	Hotel
CI	Commercial | Industrial Applicable to manufacturing, engineering, maintenance, storage / wholesale distribution and extraction sites	Light Industrial or Storage
CI01	Commercial | Industrial Applicable to manufacturing, engineering, maintenance, storage / wholesale distribution and extraction sites | Factory/Manufacturing	Factory or Manufacturing
CI01AW	Commercial | Industrial Applicable to manufacturing, engineering, maintenance, storage / wholesale distribution and extraction sites | Factory/Manufacturing | Aircraft Works	Factory or Manufacturing
CI01BB	Commercial | Industrial Applicable to manufacturing, engineering, maintenance, storage / wholesale distribution and extraction sites | Factory/Manufacturing | Boat Building	Factory or Manufacturing
CI01BR	Commercial | Industrial Applicable to manufacturing, engineering, maintenance, storage / wholesale distribution and extraction sites | Factory/Manufacturing | Brick Works	Factory or Manufacturing
CI01BW	Commercial | Industrial Applicable to manufacturing, engineering, maintenance, storage / wholesale distribution and extraction sites | Factory/Manufacturing | Brewery	Factory or Manufacturing
CI01CD	Commercial | Industrial Applicable to manufacturing, engineering, maintenance, storage / wholesale distribution and extraction sites | Factory/Manufacturing | Cider Manufacture	Factory or Manufacturing
CI01CM	Commercial | Industrial Applicable to manufacturing, engineering, maintenance, storage / wholesale distribution and extraction sites | Factory/Manufacturing | Chemical Works	Factory or Manufacturing

OS Property Code to NFCC Building Category Lookup

OS Code	OS Full Description	NFCC Building Category
CI01CW	Commercial | Industrial Applicable to manufacturing, engineering, maintenance, storage / wholesale distribution and extraction sites | Factory/Manufacturing | Cement Works	Factory or Manufacturing
CI01DA	Commercial | Industrial Applicable to manufacturing, engineering, maintenance, storage / wholesale distribution and extraction sites | Factory/Manufacturing | Dairy Processing	Factory or Manufacturing
CI01DY	Commercial | Industrial Applicable to manufacturing, engineering, maintenance, storage / wholesale distribution and extraction sites | Factory/Manufacturing | Distillery	Factory or Manufacturing
CI01FL	Commercial | Industrial Applicable to manufacturing, engineering, maintenance, storage / wholesale distribution and extraction sites | Factory/Manufacturing | Flour Mill	Factory or Manufacturing
CI01FO	Commercial | Industrial Applicable to manufacturing, engineering, maintenance, storage / wholesale distribution and extraction sites | Factory/Manufacturing | Food Processing	Factory or Manufacturing
CI01GW	Commercial | Industrial Applicable to manufacturing, engineering, maintenance, storage / wholesale distribution and extraction sites | Factory/Manufacturing | Glassworks	Factory or Manufacturing
CI01MG	Commercial | Industrial Applicable to manufacturing, engineering, maintenance, storage / wholesale distribution and extraction sites | Factory/Manufacturing | Manufacturing	Factory or Manufacturing
CI01OH	Commercial | Industrial Applicable to manufacturing, engineering, maintenance, storage / wholesale distribution and extraction sites | Factory/Manufacturing | Oast House	Factory or Manufacturing
CI01OR	Commercial | Industrial Applicable to manufacturing, engineering, maintenance, storage / wholesale distribution and extraction sites | Factory/Manufacturing | Oil Refining	Factory or Manufacturing
CI01PG	Commercial | Industrial Applicable to manufacturing, engineering, maintenance, storage / wholesale distribution and extraction sites | Factory/Manufacturing | Pottery Manufacturing	Factory or Manufacturing
CI01PM	Commercial | Industrial Applicable to manufacturing, engineering, maintenance, storage / wholesale distribution and extraction sites | Factory/Manufacturing | Paper Mill	Factory or Manufacturing
CI01PW	Commercial | Industrial Applicable to manufacturing, engineering, maintenance, storage / wholesale distribution and extraction sites | Factory/Manufacturing | Printing Works	Factory or Manufacturing
CI01SR	Commercial | Industrial Applicable to manufacturing, engineering, maintenance, storage / wholesale distribution and extraction sites | Factory/Manufacturing | Sugar Refinery	Factory or Manufacturing
CI01SW	Commercial | Industrial Applicable to manufacturing, engineering, maintenance, storage / wholesale distribution and extraction sites | Factory/Manufacturing | Steel Works	Factory or Manufacturing
CI01TL	Commercial | Industrial Applicable to manufacturing, engineering, maintenance, storage / wholesale distribution and extraction sites | Factory/Manufacturing | Timber Mill	Factory or Manufacturing
CI01WN	Commercial | Industrial Applicable to manufacturing, engineering, maintenance, storage / wholesale distribution and extraction sites | Factory/Manufacturing | Winery	Factory or Manufacturing
CI01YD	Commercial | Industrial Applicable to manufacturing, engineering, maintenance, storage / wholesale distribution and extraction sites | Factory/Manufacturing | Shipyard	Factory or Manufacturing
CI02	Commercial | Industrial Applicable to manufacturing, engineering, maintenance, storage / wholesale distribution and extraction sites | Mineral / Ore Working / Quarry / Mine	zExcluded
CI02MA	Commercial | Industrial Applicable to manufacturing, engineering, maintenance, storage / wholesale distribution and extraction sites | Mineral / Ore Working / Quarry / Mine | Mineral Mining / Active	zExcluded
CI02MD	Commercial | Industrial Applicable to manufacturing, engineering, maintenance, storage / wholesale distribution and extraction sites | Mineral / Ore Working / Quarry / Mine | Mineral Distribution / Storage	zExcluded
CI02MP	Commercial | Industrial Applicable to manufacturing, engineering, maintenance, storage / wholesale distribution and extraction sites | Mineral / Ore Working / Quarry / Mine | Mineral Processing	Light Industrial or Storage
CI02OA	Commercial | Industrial Applicable to manufacturing, engineering, maintenance, storage / wholesale distribution and extraction sites | Mineral / Ore Working / Quarry / Mine | Oil / Gas Extraction / Active	Other Workplace
CI02QA	Commercial | Industrial Applicable to manufacturing, engineering, maintenance, storage / wholesale distribution and extraction sites | Mineral / Ore Working / Quarry / Mine | Mineral Quarrying / Open Extraction / Active	Other Workplace
CI03	Commercial | Industrial Applicable to manufacturing, engineering, maintenance, storage / wholesale distribution and extraction sites | Workshop / Light Industrial	Light Industrial or Storage
CI03GA	Commercial | Industrial Applicable to manufacturing, engineering, maintenance, storage / wholesale distribution and extraction sites | Workshop / Light Industrial | Servicing Garage	Light Industrial or Storage
CI04	Commercial | Industrial Applicable to manufacturing, engineering, maintenance, storage / wholesale distribution and extraction sites | Warehouse / Store / Storage Depot	Light Industrial or Storage
CI04CS	Commercial | Industrial Applicable to manufacturing, engineering, maintenance, storage / wholesale distribution and extraction sites | Warehouse / Store / Storage Depot | Crop Handling / Storage	Light Industrial or Storage
CI04PL	Commercial | Industrial Applicable to manufacturing, engineering, maintenance, storage / wholesale distribution and extraction sites | Warehouse / Store / Storage Depot | Postal Sorting / Distribution	Light Industrial or Storage
CI04SO	Commercial | Industrial Applicable to manufacturing, engineering, maintenance, storage / wholesale distribution and extraction sites | Warehouse / Store / Storage Depot | Solid Fuel Storage	Light Industrial or Storage
CI04TS	Commercial | Industrial Applicable to manufacturing, engineering, maintenance, storage / wholesale distribution and extraction sites | Warehouse / Store / Storage Depot | Timber Storage	Light Industrial or Storage
CI05	Commercial | Industrial Applicable to manufacturing, engineering, maintenance, storage / wholesale distribution and extraction sites | Wholesale Distribution	Light Industrial or Storage
CI05SF	Commercial | Industrial Applicable to manufacturing, engineering, maintenance, storage / wholesale distribution and extraction sites | Wholesale Distribution | Solid Fuel Distribution	Light Industrial or Storage
CI05TD	Commercial | Industrial Applicable to manufacturing, engineering, maintenance, storage / wholesale distribution and extraction sites | Wholesale Distribution | Timber Distribution	Light Industrial or Storage
CI06	Commercial | Industrial Applicable to manufacturing, engineering, maintenance, storage / wholesale distribution and extraction sites | Recycling Plant	Waste and Recycling
CI07	Commercial | Industrial Applicable to manufacturing, engineering, maintenance, storage / wholesale distribution and extraction sites | Incinerator / Waste Transfer Station	Waste and Recycling
CI08	Commercial | Industrial Applicable to manufacturing, engineering, maintenance, storage / wholesale distribution and extraction sites | Maintenance Depot	Waste and Recycling
CL	Commercial | Leisure - Applicable to recreational sites and enterprises	Public Buildings
CL01	Commercial | Leisure - Applicable to recreational sites and enterprises | Amusements	Leisure
CL01LP	Commercial | Leisure - Applicable to recreational sites and enterprises | Amusements | Leisure Pier	Leisure
CL02	Commercial | Leisure - Applicable to recreational sites and enterprises | Holiday / Campsite	Other Sleeping Accommodation
CL02CG	Commercial | Leisure - Applicable to recreational sites and enterprises | Holiday / Campsite | Camping	Other Sleeping Accommodation
CL02CV	Commercial | Leisure - Applicable to recreational sites and enterprises | Holiday / Campsite | Caravanning	Other Sleeping Accommodation
CL02HA	Commercial | Leisure - Applicable to recreational sites and enterprises | Holiday / Campsite | Holiday Accommodation	Other Sleeping Accommodation
CL02HO	Commercial | Leisure - Applicable to recreational sites and enterprises | Holiday / Campsite | Holiday Centre	Other Sleeping Accommodation
CL02YC	Commercial | Leisure - Applicable to recreational sites and enterprises | Holiday / Campsite | Youth Organisation Camp	Other Sleeping Accommodation
CL03	Commercial | Leisure - Applicable to recreational sites and enterprises | Library	Public Buildings
CL03RR	Commercial | Leisure - Applicable to recreational sites and enterprises | Library | Reading Room	Public Buildings

OS Property Code to NFCC Building Category Lookup

OS Code	OS Full Description	NFCC Building Category
CL04	Commercial | Leisure - Applicable to recreational sites and enterprises | Museum / Gallery	Public Buildings
CL04AC	Commercial | Leisure - Applicable to recreational sites and enterprises | Museum / Gallery | Art Centre / Gallery	Public Buildings
CL04AM	Commercial | Leisure - Applicable to recreational sites and enterprises | Museum / Gallery | Aviation Museum	Public Buildings
CL04HG	Commercial | Leisure - Applicable to recreational sites and enterprises | Museum / Gallery | Heritage Centre	Public Buildings
CL04IM	Commercial | Leisure - Applicable to recreational sites and enterprises | Museum / Gallery | Industrial Museum	Public Buildings
CL04MM	Commercial | Leisure - Applicable to recreational sites and enterprises | Museum / Gallery | Military Museum	Public Buildings
CL04NM	Commercial | Leisure - Applicable to recreational sites and enterprises | Museum / Gallery | Maritime Museum	Public Buildings
CL04SM	Commercial | Leisure - Applicable to recreational sites and enterprises | Museum / Gallery | Science Museum	Public Buildings
CL04TM	Commercial | Leisure - Applicable to recreational sites and enterprises | Museum / Gallery | Transport Museum	Public Buildings
CL06	Commercial | Leisure - Applicable to recreational sites and enterprises | Indoor / Outdoor Leisure / Sporting Activity / Centre	Leisure
CL06AH	Commercial | Leisure - Applicable to recreational sites and enterprises | Indoor / Outdoor Leisure / Sporting Activity / Centre | Athletics Facility	Leisure
CL06BF	Commercial | Leisure - Applicable to recreational sites and enterprises | Indoor / Outdoor Leisure / Sporting Activity / Centre | Bowls Facility	Leisure
CL06CK	Commercial | Leisure - Applicable to recreational sites and enterprises | Indoor / Outdoor Leisure / Sporting Activity / Centre | Cricket Facility	Leisure
CL06CU	Commercial | Leisure - Applicable to recreational sites and enterprises | Indoor / Outdoor Leisure / Sporting Activity / Centre | Curling Facility	Leisure
CL06DS	Commercial | Leisure - Applicable to recreational sites and enterprises | Indoor / Outdoor Leisure / Sporting Activity / Centre | Diving / Swimming Facility	Leisure
CL06EQ	Commercial | Leisure - Applicable to recreational sites and enterprises | Indoor / Outdoor Leisure / Sporting Activity / Centre | Equestrian Sports Facility	Leisure
CL06FB	Commercial | Leisure - Applicable to recreational sites and enterprises | Indoor / Outdoor Leisure / Sporting Activity / Centre | Football Facility	Leisure
CL06FI	Commercial | Leisure - Applicable to recreational sites and enterprises | Indoor / Outdoor Leisure / Sporting Activity / Centre | Fishing / Angling Facility	Leisure
CL06GF	Commercial | Leisure - Applicable to recreational sites and enterprises | Indoor / Outdoor Leisure / Sporting Activity / Centre | Golf Facility	Leisure
CL06GL	Commercial | Leisure - Applicable to recreational sites and enterprises | Indoor / Outdoor Leisure / Sporting Activity / Centre | Gliding Facility	Leisure
CL06GR	Commercial | Leisure - Applicable to recreational sites and enterprises | Indoor / Outdoor Leisure / Sporting Activity / Centre | Greyhound Racing Facility	Leisure
CL06HF	Commercial | Leisure - Applicable to recreational sites and enterprises | Indoor / Outdoor Leisure / Sporting Activity / Centre | Hockey Facility	Leisure
CL06HR	Commercial | Leisure - Applicable to recreational sites and enterprises | Indoor / Outdoor Leisure / Sporting Activity / Centre | Horse Racing Facility	Leisure
CL06HV	Commercial | Leisure - Applicable to recreational sites and enterprises | Indoor / Outdoor Leisure / Sporting Activity / Centre | Historic Vessel / Aircraft / Vehicle	Leisure
CL06LS	Commercial | Leisure - Applicable to recreational sites and enterprises | Indoor / Outdoor Leisure / Sporting Activity / Centre | Activity / Leisure / Sports Centre	Leisure
CL06ME	Commercial | Leisure - Applicable to recreational sites and enterprises | Indoor / Outdoor Leisure / Sporting Activity / Centre | Model Sports Facility	Leisure
CL06MF	Commercial | Leisure - Applicable to recreational sites and enterprises | Indoor / Outdoor Leisure / Sporting Activity / Centre | Motor Sports Facility	Leisure
CL06PF	Commercial | Leisure - Applicable to recreational sites and enterprises | Indoor / Outdoor Leisure / Sporting Activity / Centre | Playing Field	Leisure
CL06QS	Commercial | Leisure - Applicable to recreational sites and enterprises | Indoor / Outdoor Leisure / Sporting Activity / Centre | Racquet Sports Facility	Leisure
CL06RF	Commercial | Leisure - Applicable to recreational sites and enterprises | Indoor / Outdoor Leisure / Sporting Activity / Centre | Rugby Facility	Leisure
CL06RG	Commercial | Leisure - Applicable to recreational sites and enterprises | Indoor / Outdoor Leisure / Sporting Activity / Centre | Recreation Ground	Leisure
CL06SI	Commercial | Leisure - Applicable to recreational sites and enterprises | Indoor / Outdoor Leisure / Sporting Activity / Centre | Shinty Facility	Leisure
CL06SK	Commercial | Leisure - Applicable to recreational sites and enterprises | Indoor / Outdoor Leisure / Sporting Activity / Centre | Skateboarding Facility	Leisure
CL06SX	Commercial | Leisure - Applicable to recreational sites and enterprises | Indoor / Outdoor Leisure / Sporting Activity / Centre | Civilian Firing Facility	Leisure
CL06TB	Commercial | Leisure - Applicable to recreational sites and enterprises | Indoor / Outdoor Leisure / Sporting Activity / Centre | Tenpin Bowling Facility	Leisure
CL06TN	Commercial | Leisure - Applicable to recreational sites and enterprises | Indoor / Outdoor Leisure / Sporting Activity / Centre | Public Tennis Court	Leisure
CL06WA	Commercial | Leisure - Applicable to recreational sites and enterprises | Indoor / Outdoor Leisure / Sporting Activity / Centre | Water Sports Facility	Leisure
CL06WP	Commercial | Leisure - Applicable to recreational sites and enterprises | Indoor / Outdoor Leisure / Sporting Activity / Centre | Winter Sports Facility	Leisure
CL06WY	Commercial | Leisure - Applicable to recreational sites and enterprises | Indoor / Outdoor Leisure / Sporting Activity / Centre | Wildlife Sports Facility	Leisure
CL06YF	Commercial | Leisure - Applicable to recreational sites and enterprises | Indoor / Outdoor Leisure / Sporting Activity / Centre | Cycling Sports Facility	Leisure
CL07	Commercial | Leisure - Applicable to recreational sites and enterprises | Bingo Hall / Cinema / Conference / Exhibition Centre / Theatre / Concert Hall	Leisure
CL07CI	Commercial | Leisure - Applicable to recreational sites and enterprises | Bingo Hall / Cinema / Conference / Exhibition Centre / Theatre / Concert Hall | Cinema	Leisure
CL07EN	Commercial | Leisure - Applicable to recreational sites and enterprises | Bingo Hall / Cinema / Conference / Exhibition Centre / Theatre / Concert Hall | Entertainment Complex	Leisure
CL07EX	Commercial | Leisure - Applicable to recreational sites and enterprises | Bingo Hall / Cinema / Conference / Exhibition Centre / Theatre / Concert Hall | Conference / Exhibition Centre	Leisure
CL07TH	Commercial | Leisure - Applicable to recreational sites and enterprises | Bingo Hall / Cinema / Conference / Exhibition Centre / Theatre / Concert Hall | Theatre	Leisure
CL08	Commercial | Leisure - Applicable to recreational sites and enterprises | Zoo / Theme Park	Leisure
CL08AK	Commercial | Leisure - Applicable to recreational sites and enterprises | Zoo / Theme Park | Amusement Park	Leisure

OS Property Code to NFCC Building Category Lookup

OS Code	OS Full Description	NFCC Building Category
CL08AQ	Commercial | Leisure - Applicable to recreational sites and enterprises | Zoo / Theme Park | Aquatic Attraction	Leisure
CL08MX	Commercial | Leisure - Applicable to recreational sites and enterprises | Zoo / Theme Park | Model Village Site	Leisure
CL08WZ	Commercial | Leisure - Applicable to recreational sites and enterprises | Zoo / Theme Park | Wildlife / Zoological Park	Leisure
CL09	Commercial | Leisure - Applicable to recreational sites and enterprises | Beach Hut (Recreational, Non-Residential Use Only)	Leisure
CL10	Commercial | Leisure - Applicable to recreational sites and enterprises | Licensed Private Members' Club	Leisure
CL10RE	Commercial | Leisure - Applicable to recreational sites and enterprises | Licensed Private Members' Club | Recreational / Social Club	Leisure
CL11	Commercial | Leisure - Applicable to recreational sites and enterprises | Arena / Stadium	Leisure
CL11SD	Commercial | Leisure - Applicable to recreational sites and enterprises | Arena / Stadium | Stadium	Leisure
CL11SJ	Commercial | Leisure - Applicable to recreational sites and enterprises | Arena / Stadium | Showground	Leisure
CM	Commercial | Medical	Other Workplace
CM01	Commercial | Medical | Dentist	Other Workplace
CM02	Commercial | Medical | General Practice Surgery / Clinic	Medical
CM02HC	Commercial | Medical | General Practice Surgery / Clinic | Health Centre	Medical
CM02HL	Commercial | Medical | General Practice Surgery / Clinic | Health Care Services	Medical
CM03	Commercial | Medical | Hospital / Hospice	Hospital
CM03HI	Commercial | Medical | Hospital / Hospice | Hospice	Hospital
CM03HP	Commercial | Medical | Hospital / Hospice | Hospital	Hospital
CM04	Commercial | Medical | Medical / Testing / Research Laboratory	Other Workplace
CM05	Commercial | Medical | Professional Medical Service	Medical
CM05ZS	Commercial | Medical | Professional Medical Service | Assessment / Development Services	Medical
CN	Commercial | Animal Centre	Other Workplace
CN01	Commercial | Animal Centre | Cattery / Kennel	Other Workplace
CN02	Commercial | Animal Centre | Animal Services	Other Workplace
CN02AX	Commercial | Animal Centre | Animal Services | Animal Quarantining	Other Workplace
CN03	Commercial | Animal Centre | Equestrian	Other Workplace
CN03HB	Commercial | Animal Centre | Equestrian | Horse Racing / Breeding Stable	Other Workplace
CN03SB	Commercial | Animal Centre | Equestrian | Commercial Stabling / Riding	Other Workplace
CN04	Commercial | Animal Centre | Vet / Animal Medical Treatment	Shop
CN05	Commercial | Animal Centre | Animal / Bird / Marine Sanctuary	Public Buildings
CN05AN	Commercial | Animal Centre | Animal / Bird / Marine Sanctuary | Animal Sanctuary	Public Buildings
CN05MR	Commercial | Animal Centre | Animal / Bird / Marine Sanctuary | Marine Sanctuary	Public Buildings
CO	Commercial | Office	Office
CO01	Commercial | Office | Office / Work Studio	Office
CO01EM	Commercial | Office | Office / Work Studio | Embassy /, High Commission / Consulate	Office
CO01FM	Commercial | Office | Office / Work Studio | Film Studio	Office
CO01GV	Commercial | Office | Office / Work Studio | Central Government Service	Office
CO01LG	Commercial | Office | Office / Work Studio | Local Government Service	Office
CO02	Commercial | Office | Broadcasting (TV / Radio)	Other Workplace
CR	Commercial | Retail	Shop
CR01	Commercial | Retail | Bank / Financial Service	Shop
CR02	Commercial | Retail | Retail Service Agent	Shop
CR02PO	Commercial | Retail | Retail Service Agent | Post Office	Shop
CR04	Commercial | Retail | Market (Indoor / Outdoor)	Public Buildings
CR04FK	Commercial | Retail | Market (Indoor / Outdoor) | Fish Market	Public Buildings
CR04FV	Commercial | Retail | Market (Indoor / Outdoor) | Fruit / Vegetable Market	Public Buildings
CR04LV	Commercial | Retail | Market (Indoor / Outdoor) | Livestock Market	Public Buildings
CR05	Commercial | Retail | Petrol Filling Station	Shop
CR06	Commercial | Retail | Public House / Bar / Nightclub	Bar/Pub
CR07	Commercial | Retail | Restaurant / Cafeteria	Restaurant/Other
CR08	Commercial | Retail | Shop / Showroom	Shop
CR08GC	Commercial | Retail | Shop / Showroom | Garden Centre	Shop
CR09	Commercial | Retail | Other Licensed Premise / Vendor	Shop
CR10	Commercial | Retail | Fast Food Outlet / Takeaway (Hot / Cold)	Shop
CR11	Commercial | Retail | Automated Teller Machine (ATM)	zExcluded
CS	Commercial | Storage Land	Other Workplace
CS01	Commercial | Storage Land | General Storage Land	Other Workplace
CS02	Commercial | Storage Land | Builders' Yard	Other Workplace
CT	Commercial | Transport	Other Workplace
CT01	Commercial | Transport | Airfield / Airstrip / Airport / Air Transport Infrastructure Facility	Other Workplace
CT01AF	Commercial | Transport | Airfield / Airstrip / Airport / Air Transport Infrastructure Facility | Airfield	Other Workplace
CT01AI	Commercial | Transport | Airfield / Airstrip / Airport / Air Transport Infrastructure Facility | Air Transport Infrastructure Services	Other Workplace
CT01AP	Commercial | Transport | Airfield / Airstrip / Airport / Air Transport Infrastructure Facility | Airport	Other Workplace
CT01AY	Commercial | Transport | Airfield / Airstrip / Airport / Air Transport Infrastructure Facility | Air Passenger Terminal	Other Workplace
CT01HS	Commercial | Transport | Airfield / Airstrip / Airport / Air Transport Infrastructure Facility | Helicopter Station	Other Workplace
CT01HT	Commercial | Transport | Airfield / Airstrip / Airport / Air Transport Infrastructure Facility | Helipad / Helipad	Other Workplace
CT02	Commercial | Transport | Bus Shelter	zExcluded
CT03	Commercial | Transport | Car / Coach / Commercial Vehicle / Taxi Parking / Park And Ride Site	zExcluded
CT03PK	Commercial | Transport | Car / Coach / Commercial Vehicle / Taxi Parking / Park And Ride Site | Public Park And Ride	zExcluded
CT03PP	Commercial | Transport | Car / Coach / Commercial Vehicle / Taxi Parking / Park And Ride Site | Public Car Parking	zExcluded
CT03PU	Commercial | Transport | Car / Coach / Commercial Vehicle / Taxi Parking / Park And Ride Site | Public Coach Parking	zExcluded
CT03VP	Commercial | Transport | Car / Coach / Commercial Vehicle / Taxi Parking / Park And Ride Site | Public Commercial Vehicle Parking	zExcluded
CT04	Commercial | Transport | Goods Freight Handling / Terminal	Other Workplace

OS Property Code to NFCC Building Category Lookup

OS Code	OS Full Description	NFCC Building Category
CT04AE	Commercial | Transport | Goods Freight Handling / Terminal | Air Freight Terminal	Other Workplace
CT04CF	Commercial | Transport | Goods Freight Handling / Terminal | Container Freight	Other Workplace
CT04RH	Commercial | Transport | Goods Freight Handling / Terminal | Road Freight Transport	Other Workplace
CT04RT	Commercial | Transport | Goods Freight Handling / Terminal | Rail Freight Transport	Other Workplace
CT05	Commercial | Transport | Marina	Other Workplace
CT06	Commercial | Transport | Mooring	Other Workplace
CT07	Commercial | Transport | Railway Asset	Other Workplace
CT08	Commercial | Transport | Station / Interchange / Terminal / Halt	Other Workplace
CT08BC	Commercial | Transport | Station / Interchange / Terminal / Halt | Bus / Coach Station	Other Workplace
CT08RS	Commercial | Transport | Station / Interchange / Terminal / Halt | Railway Station	Other Workplace
CT08VH	Commercial | Transport | Station / Interchange / Terminal / Halt | Vehicular Rail Terminal	Other Workplace
CT09	Commercial | Transport | Transport Track / Way	Other Workplace
CT09CL	Commercial | Transport | Transport Track / Way | Cliff Railway	Other Workplace
CT09CX	Commercial | Transport | Transport Track / Way | Chair Lift / Cable Car / Ski Tow	Other Workplace
CT09MO	Commercial | Transport | Transport Track / Way | Monorail	Other Workplace
CT10	Commercial | Transport | Vehicle Storage	Light Industrial or Storage
CT10BG	Commercial | Transport | Vehicle Storage | Boat Storage	Light Industrial or Storage
CT10BU	Commercial | Transport | Vehicle Storage | Bus / Coach Depot	Light Industrial or Storage
CT11	Commercial | Transport | Transport Related Infrastructure	zExcluded
CT11AD	Commercial | Transport | Transport Related Infrastructure | Aqueduct	zExcluded
CT11LK	Commercial | Transport | Transport Related Infrastructure | Lock	zExcluded
CT11WE	Commercial | Transport | Transport Related Infrastructure | Weir	zExcluded
CT11WG	Commercial | Transport | Transport Related Infrastructure | Weighbridge / Load Gauge	zExcluded
CT12	Commercial | Transport | Overnight Lorry Park	zExcluded
CT13	Commercial | Transport | Harbour / Port / Dock / Dockyard / Slipway / Landing Stage / Pier / Jetty / Pontoon / Terminal / Berthing / Quay	Other Workplace
CT13FR	Commercial | Transport | Harbour / Port / Dock / Dockyard / Slipway / Landing Stage / Pier / Jetty / Pontoon / Terminal / Berthing / Quay | Passenger Ferry Terminal	Other Workplace
CT13NB	Commercial | Transport | Harbour / Port / Dock / Dockyard / Slipway / Landing Stage / Pier / Jetty / Pontoon / Terminal / Berthing / Quay | Non-Tanker Nautical Berthing	Other Workplace
CT13NF	Commercial | Transport | Harbour / Port / Dock / Dockyard / Slipway / Landing Stage / Pier / Jetty / Pontoon / Terminal / Berthing / Quay | Nautical Refuelling Facility	Other Workplace
CT13SA	Commercial | Transport | Harbour / Port / Dock / Dockyard / Slipway / Landing Stage / Pier / Jetty / Pontoon / Terminal / Berthing / Quay | Slipway	Other Workplace
CT13SP	Commercial | Transport | Harbour / Port / Dock / Dockyard / Slipway / Landing Stage / Pier / Jetty / Pontoon / Terminal / Berthing / Quay | Ship Passenger Terminal	Other Workplace
CT13TK	Commercial | Transport | Harbour / Port / Dock / Dockyard / Slipway / Landing Stage / Pier / Jetty / Pontoon / Terminal / Berthing / Quay | Tanker Berthing	Other Workplace
CT13VF	Commercial | Transport | Harbour / Port / Dock / Dockyard / Slipway / Landing Stage / Pier / Jetty / Pontoon / Terminal / Berthing / Quay | Vehicular Ferry Terminal	Other Workplace
CU	Commercial | Utility	Other Workplace
CU01	Commercial | Utility | Electricity Sub-Station	zExcluded
CU02	Commercial | Utility | Landfill	Waste and Recycling
CU03	Commercial | Utility | Power Station / Energy Production	Other Workplace
CU03ED	Commercial | Utility | Power Station / Energy Production | Electricity Distribution Facility	Other Workplace
CU03EP	Commercial | Utility | Power Station / Energy Production | Electricity Production Facility	Other Workplace
CU03WF	Commercial | Utility | Power Station / Energy Production | Wind Farm	zExcluded
CU03WU	Commercial | Utility | Power Station / Energy Production | Wind Turbine	zExcluded
CU04	Commercial | Utility | Pump House / Pumping Station / Water Tower	zExcluded
CU04WC	Commercial | Utility | Pump House / Pumping Station / Water Tower | Water Controlling / Pumping	zExcluded
CU04WD	Commercial | Utility | Pump House / Pumping Station / Water Tower | Water Distribution / Pumping	zExcluded
CU04WM	Commercial | Utility | Pump House / Pumping Station / Water Tower | Water Quality Monitoring	zExcluded
CU04WS	Commercial | Utility | Pump House / Pumping Station / Water Tower | Water Storage	zExcluded
CU04WW	Commercial | Utility | Pump House / Pumping Station / Water Tower | Waste Water Distribution / Pumping	zExcluded
CU06	Commercial | Utility | Telecommunication	zExcluded
CU06TE	Commercial | Utility | Telecommunication | Telecommunications Mast	zExcluded
CU06TX	Commercial | Utility | Telecommunication | Telephone Exchange	Other Workplace
CU07	Commercial | Utility | Water / Waste Water / Sewage Treatment Works	Other Workplace
CU07WR	Commercial | Utility | Water / Waste Water / Sewage Treatment Works | Waste Water Treatment	Other Workplace
CU07WT	Commercial | Utility | Water / Waste Water / Sewage Treatment Works | Water Treatment	Other Workplace
CU08	Commercial | Utility | Gas / Oil Storage / Distribution	Other Workplace
CU08GG	Commercial | Utility | Gas / Oil Storage / Distribution | Gas Governor	Other Workplace
CU08GH	Commercial | Utility | Gas / Oil Storage / Distribution | Gas Holder	Other Workplace
CU08OT	Commercial | Utility | Gas / Oil Storage / Distribution | Oil Terminal	Other Workplace
CU09	Commercial | Utility | Other Utility Use	Other Workplace
CU09CQ	Commercial | Utility | Other Utility Use | Cable Terminal Station	Other Workplace
CU09OV	Commercial | Utility | Other Utility Use | Observatory	Other Workplace
CU09RA	Commercial | Utility | Other Utility Use | Radar Station	Other Workplace
CU09SE	Commercial | Utility | Other Utility Use | Satellite Earth Station	Other Workplace
CU10	Commercial | Utility | Waste Management	Waste and Recycling
CU11	Commercial | Utility | Telephone Box	zExcluded
CU11OP	Commercial | Utility | Telephone Box | Other Public Telephones	zExcluded
CU12	Commercial | Utility | Dam	Other Workplace
CX	Commercial | Emergency / Rescue Service	Other Workplace
CX01	Commercial | Emergency / Rescue Service | Police / Transport Police / Station	Other Workplace
CX01PT	Commercial | Emergency / Rescue Service | Police / Transport Police / Station | Police Training	Other Workplace
CX02	Commercial | Emergency / Rescue Service | Fire Station	Other Workplace

OS Property Code to NFCC Building Category Lookup

OS Code	OS Full Description	NFCC Building Category
CX02FT	Commercial | Emergency / Rescue Service | Fire Station | Fire Service Training	Other Workplace
CX03	Commercial | Emergency / Rescue Service | Ambulance Station	Other Workplace
CX03AA	Commercial | Emergency / Rescue Service | Ambulance Station | Air Sea Rescue / Air Ambulance	Other Workplace
CX04	Commercial | Emergency / Rescue Service | Lifeboat Services / Station	Other Workplace
CX05	Commercial | Emergency / Rescue Service | Coastguard Rescue / Lookout / Station	Other Workplace
CX06	Commercial | Emergency / Rescue Service | Mountain Rescue Station	Other Workplace
CX07	Commercial | Emergency / Rescue Service | Lighthouse	Other Workplace
CX08	Commercial | Emergency / Rescue Service | Police Box / Kiosk	zExcluded
CZ	Commercial | Information	zExcluded
CZ01	Commercial | Information | Advertising Hoarding	zExcluded
CZ02	Commercial | Information | Tourist Information Signage	zExcluded
CZ02VI	Commercial | Information | Tourist Information Signage | Visitor Information	zExcluded
CZ03	Commercial | Information | Traffic Information Signage	zExcluded
L	Land	zExcluded
LA	Land | Agricultural - Applicable to land in farm ownership and not run as a separate business enterprise	zExcluded
LA01	Land | Agricultural - Applicable to land in farm ownership and not run as a separate business enterprise | Grazing Land	zExcluded
LA02	Land | Agricultural - Applicable to land in farm ownership and not run as a separate business enterprise | Permanent Crop / Crop Rotation	zExcluded
LA02OC	Land | Agricultural - Applicable to land in farm ownership and not run as a separate business enterprise | Permanent Crop / Crop Rotation | Orchard	zExcluded
LB	Land | Ancillary Building	zExcluded
LB99AV	Land | Ancillary Building | | Aviary / Dovecot / Cage	zExcluded
LB99BD	Land | Ancillary Building | | Bandstand	zExcluded
LB99PI	Land | Ancillary Building | | Pavilion / Changing Room	zExcluded
LB99SV	Land | Ancillary Building | | Sports Viewing Structure	zExcluded
LC	Land | Burial Ground	zExcluded
LC01	Land | Burial Ground | Historic / Disused Cemetery / Graveyard	zExcluded
LD	Land | Development	zExcluded
LD01	Land | Development | Development Site	zExcluded
LD01CC	Land | Development | Development Site | Commercial Construction Site	zExcluded
LD01CO	Land | Development | Development Site | Community Construction Site	zExcluded
LD01RN	Land | Development | Development Site | Residential Construction Site	zExcluded
LD01TC	Land | Development | Development Site | Transport Construction Site	zExcluded
LF	Land | Forestry	zExcluded
LF02	Land | Forestry | Forest / Arboretum / Pinetum (Managed / Unmanaged)	zExcluded
LF02AU	Land | Forestry | Forest / Arboretum / Pinetum (Managed / Unmanaged) | Arboretum	zExcluded
LF03	Land | Forestry | Woodland	zExcluded
LL	Land | Allotment	zExcluded
LM	Land | Amenity - Open areas not attracting visitors	zExcluded
LM01	Land | Amenity - Open areas not attracting visitors | Landscaped Roundabout	zExcluded
LM02	Land | Amenity - Open areas not attracting visitors | Verge / Central Reservation	zExcluded
LM02NV	Land | Amenity - Open areas not attracting visitors | Verge / Central Reservation | Natural Central Reservation	zExcluded
LM02VE	Land | Amenity - Open areas not attracting visitors | Verge / Central Reservation | Natural Verge	zExcluded
LM03	Land | Amenity - Open areas not attracting visitors | Maintained Amenity Land	zExcluded
LM04	Land | Amenity - Open areas not attracting visitors | Maintained Surfaced Area	zExcluded
LM04MV	Land | Amenity - Open areas not attracting visitors | Maintained Surfaced Area | Made Central Reservation	zExcluded
LM04PV	Land | Amenity - Open areas not attracting visitors | Maintained Surfaced Area | Pavement	zExcluded
LO	Land | Open Space	zExcluded
LO01	Land | Open Space | Heath / Moorland	zExcluded
LP	Land | Park	zExcluded
LP01	Land | Park | Public Park / Garden	zExcluded
LP02	Land | Park | Public Open Space / Nature Reserve	zExcluded
LP03	Land | Park | Playground	zExcluded
LP03PA	Land | Park | Playground | Play Area	zExcluded
LP03PD	Land | Park | Playground | Paddling Pool	zExcluded
LP04	Land | Park | Private Park / Garden	zExcluded
LU	Land | Unused Land	zExcluded
LU01	Land | Unused Land | Vacant / Derelict Land	zExcluded
LW	Land | Water	zExcluded
LW01	Land | Water | Lake / Reservoir	zExcluded
LW01BP	Land | Water | Lake / Reservoir | Balancing Pond	zExcluded
LW01BV	Land | Water | Lake / Reservoir | Buried Reservoir	zExcluded
LW02	Land | Water | Named Pond	zExcluded
LW02DE	Land | Water | Named Pond | Dew Pond	zExcluded
LW02DP	Land | Water | Named Pond | Decoy Pond	zExcluded
LW02IW	Land | Water | Named Pond | Static Water	zExcluded
LW03	Land | Water | Waterway	zExcluded
LW03DR	Land | Water | Waterway | Drain	zExcluded
LW03LR	Land | Water | Waterway | Leats / Races	zExcluded
M	Military	Other Workplace
MA	Military | Army	Other Workplace
MA99AG	Military | Army | | Army Military Storage	Other Workplace
MA99AR	Military | Army | | Army Military Range	Other Workplace
MA99AS	Military | Army | | Army Site	Other Workplace
MA99AT	Military | Army | | Army Military Training	Other Workplace
MB	Military | Ancillary Building	Other Workplace

OS Property Code to NFCC Building Category Lookup

OS Code	OS Full Description	NFCC Building Category
MB99TG	Military | Ancillary Building | Military Target	Other Workplace
MF	Military | Air Force	Other Workplace
MF99UG	Military | Air Force | Air Force Military Storage	Other Workplace
MF99UR	Military | Air Force | Air Force Military Range	Other Workplace
MF99US	Military | Air Force | Air Force Site	Other Workplace
MF99UT	Military | Air Force | Air Force Military Training	Other Workplace
MG	Military | Defence Estates	Other Workplace
MN	Military | Navy	Other Workplace
MN99VG	Military | Navy | Naval Military Storage	Other Workplace
MN99VR	Military | Navy | Naval Military Range	Other Workplace
MN99VS	Military | Navy | Naval Site	Other Workplace
MN99VT	Military | Navy | Naval Military Training	Other Workplace
O	Other (Ordnance Survey Only)	zExcluded
OA	Other (Ordnance Survey Only) | Aid To Navigation	zExcluded
OA01	Other (Ordnance Survey Only) | Aid To Navigation | Aid To Aeronautical Navigation	zExcluded
OA01AL	Other (Ordnance Survey Only) | Aid To Navigation | Aid To Aeronautical Navigation | Aeronautical Navigation Beacon / Light	zExcluded
OA01LL	Other (Ordnance Survey Only) | Aid To Navigation | Aid To Aeronautical Navigation | Landing Light	zExcluded
OA01SQ	Other (Ordnance Survey Only) | Aid To Navigation | Aid To Aeronautical Navigation | Signal Square	zExcluded
OA01WK	Other (Ordnance Survey Only) | Aid To Navigation | Aid To Aeronautical Navigation | Wind Sock / Wind Tee	zExcluded
OA02	Other (Ordnance Survey Only) | Aid To Navigation | Aid To Nautical Navigation	zExcluded
OA02DM	Other (Ordnance Survey Only) | Aid To Navigation | Aid To Nautical Navigation | Daymark	zExcluded
OA02FG	Other (Ordnance Survey Only) | Aid To Navigation | Aid To Nautical Navigation | Fog Horn Warning	zExcluded
OA02NL	Other (Ordnance Survey Only) | Aid To Navigation | Aid To Nautical Navigation | Nautical Navigation Beacon / Light	zExcluded
OA03	Other (Ordnance Survey Only) | Aid To Navigation | Aid To Road Navigation	zExcluded
OA03GP	Other (Ordnance Survey Only) | Aid To Navigation | Aid To Road Navigation | Guide Post	zExcluded
OC	Other (Ordnance Survey Only) | Coastal Protection / Flood Prevention	zExcluded
OC01	Other (Ordnance Survey Only) | Coastal Protection / Flood Prevention | Boulder Wall / Sea Wall	zExcluded
OC02	Other (Ordnance Survey Only) | Coastal Protection / Flood Prevention | Flood Gate / Flood Sluice Gate / Flood Valve	zExcluded
OC03	Other (Ordnance Survey Only) | Coastal Protection / Flood Prevention | Groynes	zExcluded
OC04	Other (Ordnance Survey Only) | Coastal Protection / Flood Prevention | Rip-Rap	zExcluded
OE	Other (Ordnance Survey Only) | Emergency Support	zExcluded
OE01	Other (Ordnance Survey Only) | Emergency Support | Beach Office / First Aid Facility	zExcluded
OE02	Other (Ordnance Survey Only) | Emergency Support | Emergency Telephone (Non Motorway)	zExcluded
OE03	Other (Ordnance Survey Only) | Emergency Support | Fire Alarm Structure / Fire Observation Tower / Fire Beater Facility	zExcluded
OE04	Other (Ordnance Survey Only) | Emergency Support | Emergency Equipment Point / Emergency Siren / Warning Flag	zExcluded
OE05	Other (Ordnance Survey Only) | Emergency Support | Lifeguard Facility	zExcluded
OE06	Other (Ordnance Survey Only) | Emergency Support | Life / Belt / Buoy / Float / Jacket / Safety Rope	zExcluded
OF	Other (Ordnance Survey Only) | Street Furniture	zExcluded
OG	Other (Ordnance Survey Only) | Agricultural Support Objects	zExcluded
OG01	Other (Ordnance Survey Only) | Agricultural Support Objects | Fish Ladder / Lock / Pen / Trap	zExcluded
OG02	Other (Ordnance Survey Only) | Agricultural Support Objects | Livestock Pen / Dip	zExcluded
OG03	Other (Ordnance Survey Only) | Agricultural Support Objects | Curriek	zExcluded
OG04	Other (Ordnance Survey Only) | Agricultural Support Objects | Slurry Bed / Pit	zExcluded
OH	Other (Ordnance Survey Only) | Historical Site / Object	zExcluded
OH01	Other (Ordnance Survey Only) | Historical Site / Object | Historic Structure / Object	zExcluded
OI	Other (Ordnance Survey Only) | Industrial Support	zExcluded
OI01	Other (Ordnance Survey Only) | Industrial Support | Adit / Incline / Level	zExcluded
OI02	Other (Ordnance Survey Only) | Industrial Support | Caisson / Dry Dock / Grid	zExcluded
OI03	Other (Ordnance Survey Only) | Industrial Support | Channel / Conveyor / Conduit / Pipe	zExcluded
OI04	Other (Ordnance Survey Only) | Industrial Support | Chimney / Flue	zExcluded
OI05	Other (Ordnance Survey Only) | Industrial Support | Crane / Hoist / Winch / Material Elevator	zExcluded
OI06	Other (Ordnance Survey Only) | Industrial Support | Flare Stack	zExcluded
OI07	Other (Ordnance Survey Only) | Industrial Support | Hopper / Silo / Cistern / Tank	zExcluded
OI08	Other (Ordnance Survey Only) | Industrial Support | Grab / Skip / Other Industrial Waste Machinery / Discharging	zExcluded
OI09	Other (Ordnance Survey Only) | Industrial Support | Kiln / Oven / Smelter	zExcluded
OI10	Other (Ordnance Survey Only) | Industrial Support | Manhole / Shaft	zExcluded
OI11	Other (Ordnance Survey Only) | Industrial Support | Industrial Overflow / Sluice / Valve / Valve Housing	zExcluded
OI12	Other (Ordnance Survey Only) | Industrial Support | Cooling Tower	zExcluded
OI13	Other (Ordnance Survey Only) | Industrial Support | Solar Panel / Waterwheel	zExcluded
OI14	Other (Ordnance Survey Only) | Industrial Support | Telephone Pole / Post	zExcluded
OI15	Other (Ordnance Survey Only) | Industrial Support | Electricity Distribution Pole / Pylon	zExcluded
ON	Other (Ordnance Survey Only) | Significant Natural Object	zExcluded
ON01	Other (Ordnance Survey Only) | Significant Natural Object | Boundary / Significant / Historic Tree / Pollard	zExcluded
ON02	Other (Ordnance Survey Only) | Significant Natural Object | Boundary / Significant Rock / Boulder	zExcluded
ON03	Other (Ordnance Survey Only) | Significant Natural Object | Natural Hole (Blow / Shake / Swallow)	zExcluded
OO	Other (Ordnance Survey Only) | Ornamental / Cultural Object	zExcluded
OO02	Other (Ordnance Survey Only) | Ornamental / Cultural Object | Mausoleum / Tomb / Grave	zExcluded
OO03	Other (Ordnance Survey Only) | Ornamental / Cultural Object | Simple Ornamental Object	zExcluded
OO04	Other (Ordnance Survey Only) | Ornamental / Cultural Object | Maze	zExcluded
OP	Other (Ordnance Survey Only) | Sport / Leisure Support	zExcluded
OP01	Other (Ordnance Survey Only) | Sport / Leisure Support | Butt / Hide	zExcluded
OP02	Other (Ordnance Survey Only) | Sport / Leisure Support | Gallop / Ride	zExcluded
OP03	Other (Ordnance Survey Only) | Sport / Leisure Support | Miniature Railway	zExcluded
OR	Other (Ordnance Survey Only) | Royal Mail Infrastructure	zExcluded
OR01	Other (Ordnance Survey Only) | Royal Mail Infrastructure | Postal Box	zExcluded
OR02	Other (Ordnance Survey Only) | Royal Mail Infrastructure | Postal Delivery Box / Pouch	zExcluded

OS Property Code to NFCC Building Category Lookup

OS Code	OS Full Description	NFCC Building Category
OR03	Other (Ordnance Survey Only) | Royal Mail Infrastructure | PO Box	zExcluded
OR04	Other (Ordnance Survey Only) | Royal Mail Infrastructure | Additional Mail / Packet Addressee	zExcluded
OS	Other (Ordnance Survey Only) | Scientific / Observation Support	zExcluded
OS01	Other (Ordnance Survey Only) | Scientific / Observation Support | Meteorological Station / Equipment	zExcluded
OS02	Other (Ordnance Survey Only) | Scientific / Observation Support | Radar / Satellite Infrastructure	zExcluded
OS03	Other (Ordnance Survey Only) | Scientific / Observation Support | Telescope / Observation Infrastructure / Astronomy	zExcluded
OT	Other (Ordnance Survey Only) | Transport Support	zExcluded
OT01	Other (Ordnance Survey Only) | Transport Support | Cattle Grid / Ford	zExcluded
OT02	Other (Ordnance Survey Only) | Transport Support | Elevator / Escalator / Steps	zExcluded
OT03	Other (Ordnance Survey Only) | Transport Support | Footbridge / Walkway	zExcluded
OT04	Other (Ordnance Survey Only) | Transport Support | Pole / Post / Bollard (Restricting Vehicular Access)	zExcluded
OT05	Other (Ordnance Survey Only) | Transport Support | Subway / Underpass	zExcluded
OT06	Other (Ordnance Survey Only) | Transport Support | Customs Inspection Facility	zExcluded
OT07	Other (Ordnance Survey Only) | Transport Support | Lay-By	zExcluded
OT08	Other (Ordnance Survey Only) | Transport Support | Level Crossing	zExcluded
OT09	Other (Ordnance Survey Only) | Transport Support | Mail Pick Up	zExcluded
OT10	Other (Ordnance Survey Only) | Transport Support | Railway Pedestrian Crossing	zExcluded
OT11	Other (Ordnance Survey Only) | Transport Support | Railway Buffer	zExcluded
OT12	Other (Ordnance Survey Only) | Transport Support | Rail Drag	zExcluded
OT13	Other (Ordnance Survey Only) | Transport Support | Rail Infrastructure Services	zExcluded
OT14	Other (Ordnance Survey Only) | Transport Support | Rail Kilometre Distance Marker	zExcluded
OT15	Other (Ordnance Survey Only) | Transport Support | Railway Lighting	zExcluded
OT16	Other (Ordnance Survey Only) | Transport Support | Rail Mile Distance Marker	zExcluded
OT17	Other (Ordnance Survey Only) | Transport Support | Railway Turntable	zExcluded
OT18	Other (Ordnance Survey Only) | Transport Support | Rail Weighbridge	zExcluded
OT19	Other (Ordnance Survey Only) | Transport Support | Rail Signalling	zExcluded
OT20	Other (Ordnance Survey Only) | Transport Support | Railway Traverse	zExcluded
OT21	Other (Ordnance Survey Only) | Transport Support | Goods Tramway	zExcluded
OT22	Other (Ordnance Survey Only) | Transport Support | Road Drag	zExcluded
OT23	Other (Ordnance Survey Only) | Transport Support | Vehicle Dip	zExcluded
OT24	Other (Ordnance Survey Only) | Transport Support | Road Turntable	zExcluded
OT25	Other (Ordnance Survey Only) | Transport Support | Road Mile Distance Marker	zExcluded
OT26	Other (Ordnance Survey Only) | Transport Support | Road Kilometre Distance Marker	zExcluded
OT27	Other (Ordnance Survey Only) | Transport Support | Road Infrastructure Services	zExcluded
OU	Other (Ordnance Survey Only) | Unsupported Site	zExcluded
OU01	Other (Ordnance Survey Only) | Unsupported Site | Cycle Parking Facility	zExcluded
OU04	Other (Ordnance Survey Only) | Unsupported Site | Picnic / Barbeque Site	zExcluded
OU05	Other (Ordnance Survey Only) | Unsupported Site | Travelling Persons Site	zExcluded
OU08	Other (Ordnance Survey Only) | Unsupported Site | Shelter (Not Including Bus Shelter)	zExcluded
P	Parent Shell	zExcluded
PP	Parent Shell | Property Shell	zExcluded
PS	Parent Shell | Street Record	zExcluded
R	Residential	zExcluded - Residential
RB	Residential | Ancillary Building	zExcluded
RC	Residential | Car Park Space	zExcluded - Residential
RC01	Residential | Car Park Space | Allocated Parking	zExcluded - Residential
RD	Residential | Dwelling	zExcluded - Residential
RD01	Residential | Dwelling | Caravan	zExcluded - Residential
RD02	Residential | Dwelling | Detached	zExcluded - Residential
RD03	Residential | Dwelling | Semi-Detached	zExcluded - Residential
RD04	Residential | Dwelling | Terraced	zExcluded - Residential
RD06	Residential | Dwelling | Self Contained Flat (Includes Maisonette / Apartment)	zExcluded - Residential
RD07	Residential | Dwelling | House Boat	zExcluded - Residential
RD08	Residential | Dwelling | Sheltered Accommodation	zExcluded - Residential
RD10	Residential | Dwelling | Privately Owned Holiday Caravan / Chalet	zExcluded - Residential
RG	Residential | Garage	zExcluded - Residential
RG02	Residential | Garage | Lock-Up Garage / Garage Court	zExcluded - Residential
RH	Residential | House In Multiple Occupation	HMO
RH01	Residential | House In Multiple Occupation | HMO Parent	HMO
RH02	Residential | House In Multiple Occupation | HMO Bedsit / Other Non Self Contained Accommodation	HMO
RH03	Residential | House In Multiple Occupation | HMO Not Further Divided	HMO
RI	Residential | Residential Institution	Care Home
RI01	Residential | Residential Institution | Care / Nursing Home	Care Home
RI02	Residential | Residential Institution | Communal Residence	zExcluded - Residential
RI02NC	Residential | Residential Institution | Communal Residence | Non-Commercial Lodgings	zExcluded - Residential
RI02RC	Residential | Residential Institution | Communal Residence | Religious Community	zExcluded - Residential
RI03	Residential | Residential Institution | Residential Education	Residential Education
U	Unclassified	zExcluded
UC	Unclassified | Awaiting Classification	zExcluded
UP	Unclassified | Pending Internal Investigation	zExcluded
X	Dual Use	zExcluded
Z	Object of Interest	zExcluded
ZA	Object of Interest | Archaeological Dig Site	zExcluded
ZM	Object of Interest | Monument	zExcluded
ZM01	Object of Interest | Monument | Obelisk / Milestone / Standing Stone	zExcluded
ZM01OB	Object of Interest | Monument | Obelisk / Milestone / Standing Stone | Obelisk	zExcluded

OS Property Code to NFCC Building Category Lookup

OS Code	OS Full Description	NFCC Building Category
ZM01ST	Object of Interest | Monument | Obelisk / Milestone / Standing Stone | Standing Stone	zExcluded
ZM02	Object of Interest | Monument | Memorial / Market Cross	zExcluded
ZM03	Object of Interest | Monument | Statue	zExcluded
ZM04	Object of Interest | Monument | Castle / Historic Ruin	zExcluded
ZM05	Object of Interest | Monument | Other Structure	zExcluded
ZM05BS	Object of Interest | Monument | Other Structure | Boundary Stone	zExcluded
ZM05CE	Object of Interest | Monument | Other Structure | Cascade / Fountain	zExcluded
ZM05PN	Object of Interest | Monument | Other Structure | Permanent Art Display / Sculpture	zExcluded
ZM05WI	Object of Interest | Monument | Other Structure | Windmill (Inactive)	zExcluded
ZS	Object of Interest | Stately Home	Public Buildings
ZU	Object of Interest | Underground Feature	zExcluded
ZU01	Object of Interest | Underground Feature | Cave	zExcluded
ZU04	Object of Interest | Underground Feature | Pothole / Natural Hole	zExcluded
ZV	Object of Interest | Other Underground Feature	zExcluded
ZV01	Object of Interest | Other Underground Feature | Cellar	zExcluded
ZV02	Object of Interest | Other Underground Feature | Disused Mine	zExcluded
ZV02MI	Object of Interest | Other Underground Feature | Disused Mine | Mineral Mining / Inactive	zExcluded
ZV02OI	Object of Interest | Other Underground Feature | Disused Mine | Oil And / Gas Extraction/ Inactive	zExcluded
ZV02QI	Object of Interest | Other Underground Feature | Disused Mine | Mineral Quarrying And / Open Extraction / Inactive	zExcluded
ZV03	Object of Interest | Other Underground Feature | Well / Spring	zExcluded
ZV03SG	Object of Interest | Other Underground Feature | Well / Spring | Spring	zExcluded
ZV03WL	Object of Interest | Other Underground Feature | Well / Spring | Well	zExcluded
ZW	Object of Interest | Place Of Worship	Public Buildings
ZW99AB	Object of Interest | Place Of Worship | | Abbey	Public Buildings
ZW99CA	Object of Interest | Place Of Worship | | Cathedral	Public Buildings
ZW99CH	Object of Interest | Place Of Worship | | Church	Public Buildings
ZW99CP	Object of Interest | Place Of Worship | | Chapel	Public Buildings
ZW99GU	Object of Interest | Place Of Worship | | Gurdwara	Public Buildings
ZW99KH	Object of Interest | Place Of Worship | | Kingdom Hall	Public Buildings
ZW99LG	Object of Interest | Place Of Worship | | Lych Gate	Public Buildings
ZW99MQ	Object of Interest | Place Of Worship | | Mosque	Public Buildings
ZW99MT	Object of Interest | Place Of Worship | | Minster	Public Buildings
ZW99SU	Object of Interest | Place Of Worship | | Stupa	Public Buildings
ZW99SY	Object of Interest | Place Of Worship | | Synagogue	Public Buildings
ZW99TP	Object of Interest | Place Of Worship | | Temple	Public Buildings

C Potential Consequence Categories

C1 Description of Potential Consequence Categories

C2 Potential Consequence by Building Category (High/Medium/Low)

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Categories for Potential Consequence

Societal Life Fire Risk Reduction

Societal Life Fire Risk is a commonly understood term originally established in the FSEC tools and IRMP GN4. It is the potential for the death or injury of multiple individuals or groups in multiple compartments due to fire spreading before individuals can evacuate the building.

In this category compliance with the Fire Safety Order is also relevant and risk interventions include the 'risk-based inspection programmes' (as outlined in IRMP GN 4) carried out by both Protection or Response staff.

An effective 'risk-based inspection programme' relies on the prioritisation of specific building types or occupancies so that the higher risk or more complex premises are prioritised for physical inspections by competent inspecting officers. Fire safety advisors and operational crews can carry out fire safety checks on medium or low risk occupancies. The competency of the staff inspecting or checking buildings is defined by the National Competency Framework for Fire Safety Regulators.

The highest priority for physical inspections are likely to be defined by the nature of the occupancy and their ability to respond to a fire in the premises. For example, high dependency occupants who require/rely on assistance to escape from the premises to a place of safety will likely be the highest priority for inspection.

Risk information may be drawn from a range of sources. Incident Data, FSEC codes relative risk scores, horizon scanning local authority data, websites such as CQC, Housing & Care, marketing websites but this will only inform the 'potential' fire risk at a premises. Once the premises has been audited the risk should be adjusted to the 'actual' fire risk and either, measures put in place to reduce the risk and record/measure that reduction or a frequency of re-audit established if there is a high 'residual' risk. (See Para 6 below)

It is recognised that the FRS do not have Protection resources of sufficient quantity to audit all of their high societal risk premises every year and therefore risk-based interventions need to contain a flexible range of methods and effective triaging to ensure we are auditing the highest risk premises.

Firefighter Risk Reduction

Firefighter Fire Risk is the potential for the death or injury of a firefighter due to:

- the hazardous items or processes contained within a premises,
- complex layout
- or where firefighters are unable to use their normal safe systems of work and require an adapted tactical firefighting plan for the premises.

Fire and Rescue Service Operational Guidance – Operational Risk Information outlines the PORIS methodology in gathering information about risk. Section 7(2)d of the Fire Services Act 2004 places a responsibility on the Fire and Rescue Authority to make arrangements for obtaining information needed for that purpose and making it readily available to operational crews. Fire and Rescue Services already capture data and information to support the core functions of their organisations, such as: operations, fire safety, emergency planning, fire investigations, health and safety, incident debriefs and reports, etc. Fire and Rescue

Services vary in the extent of the data collected and held and the policies and processes related to the use, storage and dissemination of this data and information. However, data and information may be stored in isolation and the consequent data integration issues may affect efficient operational pre-planning and incident management.

To assist the Fire and Rescue Service to meet their statutory duties and responsibilities in relation to operational risk information, the guidance introduces a model approach. The model, entitled Provision of Operational Risk Information System (PORIS), provides a strategic framework that is compatible with other relevant data and information systems such as the Incident Recording System, Fire Service Emergency Cover Toolkit, generic risk assessments, fire safety data, and security guidance. The model provides a common methodology and approach to managing the identification, gathering, analysis, provision, audit and review of operational data, whilst allowing individual Fire and Rescue Services the flexibility to integrate its processes into their own systems.

Community Risk Reduction

Community Fire Risk is the potential for a fire to create severe consequences on a local community or wider economy. This may be linked to public risk perception, sense of wellbeing, mental health, financial position, loss of public services, social interaction, political and media impact etc. e.g. loss of a school or hospital.

The British Insurance Brokers Association (BIBA) report that Government figures suggest nearly 1 in 5 businesses suffer a major disruption every year and 80% of businesses affected by a major incident close down within 18 months. Such disruption does not only occur in the commercial sector; local authorities and other public and voluntary sector organisations can also be victims of a major fire incident. The consequential impact of such a major event can seriously affect the wider community, potentially for long term periods, and can be a contributory factor in increased levels of crime, unemployment, health and housing inequalities.

There is an objective within the national government guidance (IRMP) for 'reducing the commercial, economic and social impact of fires and other emergency incidents'.

Heritage Risk Reduction

Heritage Fire Risk is the potential for the partial or total loss of items, premises or sites of heritage value. The whole of our historic environment enriches our quality of life and contributes to local character and a sense of place; and are of special importance nationally or even internationally.

The main criteria used in selecting buildings to be listed are:

- architectural and/or historic interest: this includes buildings which illustrate important aspects of the nation's social, economic, cultural or military history
- group value, especially where buildings comprise an important architectural or historic unity or are a fine example of planning (such as squares, terraces and model villages).

Environmental Risk Reduction

Environmental Fire Risk is the potential for a fire to negatively impact the environment in the immediate or wider vicinity of a premises through the involvement of environmental hazards in a fire or the firefighting interventions required to extinguish the fire e.g. foam, water, controlled burn.

IRMP Steering Group Integrated Risk Management Planning: Policy Guidance
Environmental Protection gives guidance on the risk assessment of environmental hazards. FRSs attend incidents that have the potential to pollute air, land and water. Water courses and other aquatic environments are considered to be the most vulnerable to pollution from emergency incidents and the aspect of the environment that the FRS can protect most readily. The development of pollution prevention and control in all areas is, however, seen as a core function in an IRMP that is designed to improve the safety of the community.

Individual Fire Risk Reduction [Excluded from Risk Calculation]

Individual Fire Risk is the potential for the death or injury of an individual or group within a single fire compartment e.g. occupants of a flat, house. Fire risk is predominantly reduced through Prevention interventions and further actions such as adult at risk/safeguarding referrals.

In the FRS context, community safety activities are primarily based on education or prevention programmes such as Home Fire Safety Visits, which aim to influence human behaviour to prevent fires from occurring in dwellings or to protect people in the event that they do occur. Community Safety activities may be complemented by Fire Safety (Structural Protection/ Enforcement) activities and Operational (Intervention/Response) arrangements. Together, the risk to the community will be reduced through the effective combination of prevention, protection and response means.

Potential Consequence by Building Category

Building Category	Potential Consequence - NFCC Categorisation				
	Societal	Firefighter	Community	Heritage	Environmental
Bar/Pub	Medium	Low	Low	Low	Low
Care Home	High	Medium	High	Low	Low
Factory or Manufacturing	Low	High	Medium	Low	Medium
Further Education	Low	Low	Low	Low	Low
HMO	Medium	Medium	Medium	Low	Low
Hospital	High	Medium	High	Low	Low
Hotel	Medium	Low	Low	Low	Low
Leisure	Low	Low	Medium	Low	Low
Light Industrial or Storage	Low	High	Medium	Low	Low
Medical	Low	Low	Medium	Low	Low
Nursery / Special Needs	Medium	Medium	High	Low	Low
Office	Low	Low	Low	Low	Low
Other Sleeping Accommodation	Medium	Low	Low	Low	Low
Other Workplace	Low	Low	Low	Low	Low
Primary School	Medium	Low	High	Low	Low
Prison	High	High	High	Low	Low
Public Buildings	Low	Low	Medium	Low	Low
Residential Education	High	Low	High	Low	Low
Restaurant/Other	Low	Low	Low	Low	Low
Secondary School	Medium	Low	High	Low	Low
Sheltered Accommodation	Medium	Medium	Medium	Low	Low
Shop	Low	Low	Low	Low	Low
Waste and Recycling	Low	Low	Medium	Low	High

D Guidance on Potential Local Adjustments

DRAFT

Guidance on Potential Local Adjustments

Local adjustments

The methodology applies a generic risk score and risk category to generic occupancy types. There are a number of ways in which an FRS could adapt the basic methodology to take account of local knowledge and risk factors for specific buildings following desktop research, inspections or visits.

Reassigning Overall Categories

One approach is to manually adjust the overall combined risk category for a specific building based on the attributes of the building, its occupiers, or its location.

For example, Hospitals have a generic risk category of Very High but for a smaller outpatient hospital with no sleeping risk and appropriate protection and management, the overall risk for that building could be reduced from that generic category to High or Medium.

Conversely, a very large nightclub (included in Bar/Pub classification) in a basement or on an upper floor, and with complex evacuation factors may be increased from Medium to High or Very High.

The FRS should record manual adjustments and the justification in a separate data column, so that this can be audited.

Rescoring the 'Potential Consequence' Risk

Alternatively - for specific buildings the FRS may wish to assign their own scoring for Societal, Firefighter, Community, Heritage and Environmental risk consequences (see descriptors in Appendix C) based again on the attributes of the building, its occupiers or its location following desktop research, inspections or visits.

For example, a very large and complex hotel in a Grade 1 listed building and with challenging access in a remote area might receive higher scores for societal risk, firefighter risk and heritage risk consequences than a 'typical' modern hotel in or near a town/city. Increasing these would have the effect of increasing its combined risk score and category.

Conversely – a small factory/manufacturing building with non-hazardous contents may have reduced scores for Firefighter Risk and Community Risk consequences.

Examples of risk influencing factors that contribute to increasing or reducing risk scores and categorisation following desktop appraisals or inspection/visits.

The actual risk score categorisation following desktop appraisals or inspections/visits will usually be influenced primarily by the information collected by that formal process. However, the table below provides some examples of risk influencing factors that can be considered to contribute to an increased or reduced level of risk.

Relationship to existing FRS property databases and risk scoring methodologies

It is recognised that Services will already have varying property databases and methodologies which they use to apply either generic or actual risk scores and categories to specific buildings based on the outcomes from previous inspections/visits.

In most FRS cases the risk scoring derived from previous inspections is based on the extant FSEC, IRMP, and SSRI/NOG national guidance.

Services also use a variety of additional data sources (ie, Experian, food standards agency, CQC, IMD Ratings) and/or apply weightings to risk scores for attributes such as flood risk zones, travel distance/time from fire stations, and others.

Risk Scoring is also often directly linked to national CFOA guidance on audit and enforcement practices which are due for review. Until this review is completed it is difficult to anticipate future changes and their impact but until that is complete FRS could use this Definition of Risk methodology to confirm or update their existing building risk categorisations.

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Examples of risk influencing factors that may contribute to increasing or reducing risk scores and categorization following desktop appraisals or inspection/visits.

	Individual Life Risk	Societal Life Risk	Firefighter Risk	Community Risk	Heritage Risk	Environment Risk
'Increased risk' factors	TBD	<ul style="list-style-type: none"> • Reliance on complex/specialised risk management • Complex or delayed evacuation strategies • Vulnerable/dependent occupiers • Size and complexity • Older building, unknown or poor construction standards. • Older, unknown or poor Protection standards • Critical Intelligence from other regulators (CQC/LA etc) • Recent Formal Enforcement History (Protection/Management/Staffing failures) • Operational response delay/challenges 	Apply PORIS/SSRI Risk gradings	<ul style="list-style-type: none"> • Loss of critical community asset. • Loss of major disruption to local community/public services. • Major financial loss to local community, society, economy, business. 	<ul style="list-style-type: none"> • Loss of major architectural and/or historic, cultural interest. 	<ul style="list-style-type: none"> • Major impact on the environment in the immediate or wider vicinity through the release of environmental hazards or firefighting interventions.
'Generic risk' score and category	TBD	<ul style="list-style-type: none"> • Appropriate building standards • Appropriate Protection standards • Appropriate Management and staffing standards 	Apply PORIS/SSRI Risk gradings	<ul style="list-style-type: none"> • Limited community risk consequences 	<ul style="list-style-type: none"> • Limited heritage risk consequences 	<ul style="list-style-type: none"> • Limited environmental risk consequences
'Reduced risk' factors	TBD	<p>As 'generic' factors plus:</p> <ul style="list-style-type: none"> • Fully Sprinklered • Quality Assurance or external verification systems for fire safety management • Latest/enhanced building & protection standards • Small/Simple layout (2 storeys only etc) 	Apply PORIS/SSRI Risk gradings	<ul style="list-style-type: none"> • No or minor community risks 	<ul style="list-style-type: none"> • No heritage interest 	<ul style="list-style-type: none"> • No impact on the environment