



Home Office

# **Publishing Incident Recording System data on the fire and rescue service at an Incident Level:**

## **Dwelling Fires Dataset Guidance**

Produced by the Fire Statistics team

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# 1 Background

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## Data Quality

Incident records in the Incident Recording System (IRS) are the responsibility of and quality assured by Fire and Rescue Services (FRSs). The Home Office and FRSs are working on improving the data within the IRS and possible inconsistencies, having said that the IRS was not designed with record level datasets in mind and so we are aware of some possible inconsistencies and there may well be other issues.

IRS incident records are a judgement call of the lead fire officer at the time of the incident. The quality of the information provided by fire and rescue services is variable and its accuracy cannot be guaranteed, especially at a record level, for instance some records involve estimation by those in attendance.

## Dataset rationale

When surveyed, interested parties said that the most important topic to them was knowing the “type of building a fire occurred in” through the release of open data. Most commented that dwelling fires were a priority. We have reflected this by publishing this dataset in ‘Tranche One’ and updating it regularly since. The Home Office has, and will continue to, engage with stakeholders, such as statistical users and FRSs, to gauge opinion on the most useful datasets to publish.

## Dataset definition

The dwelling fires dataset covers incidents attended by FRSs that were primary dwelling fires in England. The Home Office only has jurisdiction for fire policy in England and therefore has published incident data for England only.

A dwelling is defined as “a property that is a place of residence i.e. occupied by households”. The definition includes residential homes, sheltered accommodation, caravans, houseboats and Houses of Multiple Occupancy (HMO) but it does not include hostels, hotels and residential institutions, bed and breakfast establishments, nursing/care homes and student halls of residence. Fires in these types of buildings are covered in the ‘Other building fires’ dataset. Fires in common areas of flats (such as stairs) are included.

Fires in derelict dwellings are only included if they are considered a primary fire (i.e. the fire involved a fatality, casualty or rescue or the fire was attended by five or more pumping appliances).

Derelict dwellings are defined as those unfit for further use; awaiting demolition or under demolition. These records, when aggregated, also match the [published statistics](#) as derelict dwellings are not included in the dwellings statistics.

The data in this dataset are consistent with records that reached the IRS by 10th June 2018.

Since publication of our most recent incident level datasets on 18 October 2018 further quality assurance checks have identified some inconsistencies in the dwelling fires, casualties in fires and fire-related fatalities incident level datasets. In this dataset two variables were named “TOTAL\_DAMAGE\_EXTENT”, the second should have been labelled “TOTAL\_DAMAGE\_EXTENT\_CODE”.

## 2 Variable by variable – scene setting

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Variable Name:	FRS_FULLNAME
Variable Description:	The FRS in which the dwelling fire took place
IRS Question:	1.6

The Fire and Rescue Service (FRS) refers to the territory in which the incident took place, not necessarily the FRS which responded. Occasionally an FRS will respond to an incident “over the border”, because of this users should be careful about making general comments about particular FRSs as some incidents may have been attended by other FRSs. This dataset only covers incidents that took place in England.

Due to data protection issues we have merged Isles of Scilly data with Cornwall, as the number of dwelling fires in Isle of Scilly is minimal [there were seven between 2010/11 and 2016/17]. Figures for Dorset and Wiltshire, who merged into one FRS on 1<sup>st</sup> April 2016, are presented merged.

Variable Name:	E_CODE
Variable Description:	The E Code of the FRS
IRS Question:	1.6 (based on)

The standard National Statistics code (E Code) of the Fire and Rescue Service (FRS) in FRS\_NAME. In this case the code for Cornwall has been used for the Cornwall and Isles of Scilly combined FRS.

Variable Name:	FINANCIAL_YEAR
Variable Description:	The financial year the dwelling fire took place
IRS Question:	2.1 (based on)

A financial year runs from 1 April to 31 March. Record level information is published from 2010/11 - although the IRS began in April 2009 there are a few minor issues with the 2009/10 records which mean that while statistics at higher levels are robust some of the incident level records are not of a sufficient quality to publish. Incidents are allocated to financial year depending on the time of the call, which is usually collected through automatic systems, so for example an incident where the call was made at 23.59 on March 31<sup>st</sup> 2010 but the incident was closed at 01.34 on April 1<sup>st</sup> 2010 would be allocated to 2009/10 not 2010/11.

Variable Name:	WEEKDAY_WEEKEND
Variable Description:	Whether the dwelling fire took place on a weekday or a weekend
IRS Question:	2.1 (based on)

The weekend is defined as starting at 6pm on Friday evening and running until 6am on Monday morning. Incidents are allocated to this variable depending on the time of the call, which is usually collected through automatic systems.

### 3 Variable by variable - situation

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Variable Name:	DWELLING_TYPE_NEW
Variable Description:	The type of dwelling the fire was in
IRS Question:	3.2

The dwelling fires dataset only covers primary fires, this excludes derelict dwellings unless five or more pumping appliances attended the incident or it resulted in a fatality, casualty or rescue. The definitions used for this variable are those used in the [Census 2011](#) and are consistent with [FIRE0205](#).

The first version of the dataset had five possible answers to this variable (“Bungalow - Single occupancy”, “Dwellings - Multiple occupancy”, “Dwellings - Other / unspecified”, “Flats - Single occupancy” and “House - single occupancy”).

The updated versions have eight possible answers to this variable (“Bungalow - single occupancy”, “Converted Flat/Maisonette - single occupancy”, “Dwelling - Multiple occupancy”, “House - single occupancy”, “Other dwelling”, “Purpose Built High Rise (10+) Flat”, “Purpose Built Medium Rise (4-9) Flat” and “Purpose Built Low Rise (1-3) Flats/Maisonette”).

Variable Name:	OCCUPANCY_TYPE
Variable Description:	The household description of those occupying the dwelling
IRS Question:	8.15

This may be a judgement call of the FRS staff present at the time and/or those completing the Incident Recording System for the incident concerned.

Variable Name:	ALARM_SYSTEM
Variable Description:	Whether a smoke alarm was present and if it operated.
IRS Question:	Combination of 5.8 and 5.11

In a case where more than one alarm system was present the “best” case is chosen.

Variable Name:	NO_ALARMS
Variable Description:	The number of smoke alarms present in the dwelling
IRS Question:	5.9 (based on)

The number of smoke alarms present in the dwelling. This may be a judgement call of the FRS staff present at the time and/or those completing the Incident Recording System for the incident concerned.

Variable Name:	IGNITION_TO_DISCOVERY
Variable Description:	The time between ignition and discovery
IRS Question:	5.2

This is the approximate time elapsed from the ignition of the fire to its discovery, and may well be estimated.

When the dwelling fire spreads from a secondary fire, the time is based on the estimated start of first damage to the dwelling. For example, if a rubbish bin fire (secondary) spreads to a house (primary) the time recorded is the estimated time from ignition of the house to discovery NOT ignition of the bin to discovery.

Variable Name:	DISCOVERY_TO_CALL
Variable Description:	The time between discovery and call.
IRS Question:	5.3

This is the approximate time elapsed from the discovery of the fire to when the call was made to the emergency services, and may well be estimated (FRSs are asked to provide an estimate if at all possible).

Variable Name:	LATE_CALL
Variable Description:	Whether the incident was a late call
IRS Question:	2.4

A late call is where a fire is known to be extinguished when the call was made.

It should be stressed that a fire that is 'out on arrival' (for example, extinguished before the FRS arrived) does not constitute a 'late fire call'. A fire which comes to the attention of the FRS to which no call was made, for example as a result of a press report or inquest, is reported as a late call if an attendance is made (even if one person attends for inspection only) but is not included if no attendance is made.

## 4 Variable by variable – the fire

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Variable Name:	ACCIDENTAL_OR_DELIBERATE
Variable Description:	Whether the incident was recorded as an accidental or deliberate fire
IRS Question:	5.15

A deliberate fire is a fire believed to have been started deliberately such as suspected arson and some fires started by children, psychiatric patients, suicides and attempted suicides. Accidental fires includes those where the motive was recorded as “not known”. Whilst we would not expect the fires for “deliberate fires” to match precisely the [published figures for arson](#) in the tables from the Crime in England and Wales statistical release, we would expect “deliberate fires for dwellings, other dwellings and vehicles to be similar to the arson figures.

Variable Name:	CAUSE_OF_FIRE
Variable Description:	The main cause of the fire
IRS Question:	8.1

This variable contains options that best describe the main cause of the fire. FRSs are not necessarily certain that the fire was due to the cause given, only that the cause was one that could be reasonably supposed, given the evidence available. The cause may change as more evidence through a fire investigation becomes available.

Variable Name:	IGNITION_POWER
Variable Description:	What powered the ignition of the fire
IRS Question:	8.5

This variable contains options that best describe the main source of the ignition’s power. It is not necessary to be certain that the fire was due to the power given, only that the power was one that could be reasonably supposed, given the evidence available. The cause may change as more evidence through a fire investigation becomes available.

Variable Name:	FIRE_START_LOCATION
Variable Description:	The type of room/compartment the fire started in
IRS Question:	8.14

This variable contains options that best describe the room or compartment where the fire started.

Variable Name:	FIRE_SIZE_ON_ARRIVAL
Variable Description:	The extent of fire on the FRS's arrival
IRS Question:	8.20

This variable contains options that best describe of the extent of the fire when the first fire crew arrived.

Variable Name:	OTHER_PROPERTY_AFFECTED_ON_ARRIVAL
Variable Description:	Whether an adjacent property was affected by the fire on the FRS's arrival
IRS Question:	8.21

Whether an adjacent property was affected, when the first fire crew arrived, by either flame and heat, flame and smoke or flame, heat and smoke damage.

Variable Name:	ITEM_IGNITED
Variable Description:	The item/material that was ignited first
IRS Question:	8.6

This variable contains options that best (or most likely) describe the item first ignited. The item cannot be the same as the source of ignition and doesn't include items that were ignited in the normal course of events (for example a cigarette, a match etc.)

If the fire was a spread from a secondary fire, the primary location that was damaged first should be recorded, for example if the source of ignition was a bonfire burning leaves which spread to the wooden wall of a garden shed, then the item first ignited was the shed, not the waste leaves on the bonfire.

Variable Name:	ITEM_CAUSING_SPREAD
Variable Description:	The item/material that was mainly responsible for the spread of the fire
IRS Question:	8.7

This variable contains options that best (or most likely) describe the item mainly responsible for causing the spread of the fire.

Variable Name:	RAPID_FIRE_GROWTH
Variable Description:	Whether there was rapid fire growth
IRS Question:	8.8

Whether there was rapid fire growth or not.

## 5 Variable by Variable - resourcing

Variable Name:	VEHICLES
Variable Description:	The number of fire service vehicles that attended the incident
IRS Question:	6.2

The total number of FRS vehicles that attended the incident. This includes all types of vehicle, for example hazardous materials units, fire boats and canteen vans would be included in this total. Large numbers are grouped for ease of use and to reduce the personal data risk of incidents being matched across datasets. For example, there is likely to be few incidents attended by 147 officers and this could be matched to other datasets containing this variable but grouping these in the “40 or more” grouping makes this impossible.

Variable Name:	VEHICLES_CODE
Variable Description:	A code to help users analyse data
IRS Question:	6.2

Because some of the options in the vehicles variable contains letters (e.g. 15 or more) this code has been added after feedback from users to aid analysis. 99 is used for “don’t know”.

Variable Name:	PERSONNEL
Variable Description:	The number of fire crew and officers that attended the incident
IRS Question:	Combination of 6.1 and 6.4

The number of FRS personnel that attended the incident on fire service appliances or by other means (e.g. their own vehicle, on foot). Large numbers of personnel are grouped for ease of use and to reduce the personal data risk of incidents being matched across datasets.

Variable Name:	PERSONNEL_CODE
Variable Description:	A code to help users analyse data
IRS Question:	Combination of 6.1 and 6.4

Because some of the options in the personnel variable contains letters (e.g. 40 or more) this code has been added after feedback from users to aid analysis. 99 is used for “don’t know”.

Variable Name:	RESPONSE_TIME
Variable Description:	The time between the call being made and the first fire vehicle attending the scene
IRS Question:	Combination of 2.1 and 6.8



The time of the call is defined as when first call was received to Command & Control. If the call was received by one FRS and relayed to another, then the time of the call to the first FRS is used. Both of these variables are usually collected through automatic systems.

Variable Name:	RESPONSE_TIME_CODE
Variable Description:	A code to help users analyse data
IRS Question:	Combination of 2.1 and 6.8

Because all of the options in the response time variable contains letters (e.g. 1-2 mins) this code has been added after feedback from users to aid analysis. 99 is used for “don’t know”.

Variable Name:	TIME_AT_SCENE
Variable Description:	The time between the first fire vehicle attending the scene and the incident being closed.
IRS Question:	Combination of 6.8 and 2.6

An incident is closed when the last FRS appliance, vehicle or officer left the scene of the incident. Both of these variables are usually collected through automatic systems.

Variable Name:	TIME_AT_SCENE_CODE
Variable Description:	A code to help users analyse data
IRS Question:	Combination of 6.8 and 2.6

Because all of the options in the time at scene variable contains letters (e.g. 0-15 mins) this code has been added after feedback from users to aid analysis.

## 6 Variable by Variable - outcomes

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Variable Name:	FATALITY_CASUALTY
Variable Description:	Whether the incident involved a fatality or casualty
IRS Question:	Combination of 9.6 and 9.21

This records whether the incident involved at least one fire-related fatality or one casualty from the fire. Due to data protection considerations no more detailed information on casualties and fatalities is given, there is a separate fatality/casualty dataset.

To be consistent with published statistics the variable combines “fire-related fatality” and “casualty in the fire” (whether fire-related or not). Where “don’t know” is recorded for whether a fatality is fire-related it is included in the fire-related totals. In general, ‘fire-related fatalities’ are those that would not have occurred had there not been a fire. Casualties include those with injuries requiring hospital attention, those requiring first aid at the scene and those given advice to have precautionary checks (whether they then take that advice or not).

Variable Name:	RESCUES
Variable Description:	Whether the incident involved a rescue
IRS Question:	9.13

A rescue is where person has received physical assistance to get clear of the area involved in the incident. A baby carried out in the course of another person’s escape is not included as a rescue, however if a rescuer (including FRS personnel) entered the building or other area affected by the fire in order to rescue the baby, then the baby is recorded as a rescue.

A removal of a fatality is not recorded as a rescue, except where a rescue took place in circumstances which might have resulted in a life being saved even if the person did not survive the rescue attempt.

Where “don’t know” is recorded for whether a rescue occurred, it is not included in this variable.

Variable Name:	EVACUATIONS
Variable Description:	The number of people evacuated from the dwelling
IRS Question:	9.3

An evacuation is the direction of people from a dangerous place to somewhere safe. This variable is the number of people who were evacuated from the incident, unharmed but with assistance from FRS personnel. Those who are rescued or rescued with an injury are not included in those that are evacuated from the incident. Rescues involve physical assistance.

Variable Name:	EVACUATIONS_CODE
Variable Description:	A code to help users analyse data
IRS Question:	9.3

Because all of the options in the time at scene variable contains letters (e.g. Up to 5) this code has been added after feedback from users to aid analysis.

Variable Name:	FIRE_DAMAGE_EXTENT
Variable Description:	The total horizontal area damaged by the flame and heat (sq. m) at the stop of the fire.
IRS Question:	8.24

The total horizontal area damaged by the flame and/or heat (in square metres) at the stop of the fire.

Where an incident was due to fire spread, the extent of all the area affected is included. Where both the floor and ceiling are damaged in a room only that which had the greater amount of damage is included. The total aggregate of all horizontal damage is recorded, e.g. if three floors are damaged, the total area is given. Vertical surfaces (e.g. walls) that were damaged in the fire are not included, but the horizontal area occupied by damaged contents are included.

Where the horizontal area damaged was zero, this includes where damage was confined to vertical surfaces. A very small area would be included in 'up to 5 metres squared'.

Variable Name:	FIRE_DAMAGE_EXTENT_CODE
Variable Description:	A code to help users analyse data
IRS Question:	8.24

Because all of the options in the time at scene variable contains letters (e.g. Up to 5) this code has been added after feedback from users to aid analysis.

Variable Name:	TOTAL_DAMAGE_EXTENT
Variable Description:	The total horizontal area damaged by the flame, heat, smoke and water (sq. m)
IRS Question:	8.25

The total horizontal area damaged by the flame, heat, smoke and/or water (in square metres) at the stop of the fire.

Where an incident was due to fire spread, the extent of all the area affected is included. Where both the floor and ceiling are damaged in a room only that which had the greater amount of damage is included. The total aggregate of all horizontal damage is recorded, e.g. if three floors damaged, the total area is given. Vertical surfaces (e.g. walls) that were damaged in the fire are not included, but the horizontal area occupied by damaged contents are included.

Where the horizontal area damaged was zero, this includes where damage was confined to vertical surfaces. A very small area would be included in 'up to 5 metres squared'.

Variable Name:	TOTAL_DAMAGE_EXTENT_CODE
Variable Description:	A code to help users analyse data
IRS Question:	8.25

Because all of the options in the time at scene variable contains letters (e.g. Up to 5) this code has been added after feedback from users to aid analysis.

Variable Name:	SPREAD_OF_FIRE
Variable Description:	The extent of fire when the incident was closed
IRS Question:	8.22

This variable contains options that best describe of the extent of the fire and heat damage once the incident was closed.

Variable Name:	OTHER_PROPERTY_AFFECTED_CLOSE
Variable Description:	Whether an adjacent property was affected by the fire by the close of the incident
IRS Question:	8.23

Whether an adjacent property was affected, when the incident was declared closed, by either flame and heat, flame and smoke or flame, heat and smoke damage.

## 7 Summary statistics

The number of dwelling fires in England decreased by 16 per cent between 2010/11 and 2017/18. The table below shows the number of dwelling fires by FRS over the time covered by this release.

FRS_NAME	E_CODE	2010/11	2011/12	2012/13	2013/14	2014/15	2015/16	2016/17	2017/18
<b>England</b>	<b>E92000001</b>	<b>36,602</b>	<b>35,403</b>	<b>33,295</b>	<b>31,908</b>	<b>31,331</b>	<b>31,371</b>	<b>30,343</b>	<b>30,744</b>
Avon	E31000001	667	622	531	489	535	539	522	599
Bedfordshire	E31000002	432	458	419	413	473	385	415	436
Berkshire	E31000003	433	439	401	397	408	394	393	401
Buckinghamshire	E31000004	421	456	462	439	427	423	352	382
Cambridgeshire	E31000005	333	323	282	284	313	278	294	298
Cheshire	E31000006	540	527	481	445	448	437	458	445
Cleveland	E31000007	283	275	205	205	222	185	197	219
Cornwall and Isles of Scilly	E31000008	314	328	319	310	282	293	274	341
Cumbria	E31000009	289	285	321	286	304	279	273	239
Derbyshire	E31000010	586	545	520	496	506	499	451	457
Devon and Somerset	E31000011	1,190	1,075	1,051	1,058	979	968	1,006	1,059
Dorset and Wiltshire	E31000047	877	833	866	803	752	787	818	839
Durham	E31000013	330	351	314	327	298	288	267	311
East Sussex	E31000014	575	609	611	577	579	601	588	541
Essex	E31000015	1,021	1,013	947	892	899	946	934	896
Gloucestershire	E31000016	333	336	329	316	317	340	312	300
Greater Manchester	E31000040	2,777	2,718	2,454	2,231	2,261	2,428	2,289	2,347
Hampshire	E31000017	1,021	992	957	894	870	873	831	869
Hereford and Worcester	E31000018	425	452	411	392	372	378	370	367
Hertfordshire	E31000019	588	571	570	591	530	515	608	497
Humberside	E31000020	698	639	584	567	521	508	495	488
Isle Of Wight	E31000021	99	81	84	59	73	60	70	74
Kent	E31000022	798	808	657	667	674	637	624	605
Lancashire	E31000023	1,364	1,300	1,152	1,092	1,041	1,049	969	1,033
Leicestershire	E31000024	547	495	465	417	422	447	454	437
Lincolnshire	E31000025	429	403	331	362	329	415	385	409
London	E31000046	6,714	6,659	6,429	5,971	5,851	5,705	5,508	5,640
Merseyside	E31000041	1,511	1,560	1,417	1,395	1,263	1,308	1,203	1,143
Norfolk	E31000026	487	529	483	457	484	484	424	456
North Yorkshire	E31000027	442	406	397	367	393	387	337	380
Northamptonshire	E31000028	437	371	393	435	418	385	386	419
Northumberland	E31000029	208	186	172	197	175	166	177	167
Nottinghamshire	E31000030	808	712	704	691	624	578	601	614
Oxfordshire	E31000031	375	346	346	330	283	351	280	305
Shropshire	E31000032	289	301	276	241	248	263	247	248
South Yorkshire	E31000042	849	755	742	755	732	736	693	728
Staffordshire	E31000033	740	698	646	630	590	684	640	635
Suffolk	E31000034	419	355	297	302	324	330	315	292
Surrey	E31000035	573	585	596	561	582	596	586	556
Tyne and Wear	E31000043	800	706	711	677	683	666	655	650
Warwickshire	E31000036	230	188	176	169	177	164	161	164
West Midlands	E31000044	2,293	2,135	1,939	2,014	1,935	1,903	1,797	1,851
West Sussex	E31000037	535	485	531	465	480	485	499	513
West Yorkshire	E31000045	1,522	1,492	1,316	1,242	1,254	1,228	1,185	1,094



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