



Home Office

Publishing Incident Recording System data on the fire and rescue service at an incident level:

Road vehicle fires dataset guidance

Produced by the Fire Statistics team

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1 Background

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 work together to improve the data within the IRS and minimise any inconsistencies or errors. However, as the IRS was not designed with record level datasets in mind, a very small number of previously unidentified inconsistencies have been discovered ([see project overview for further detail](#)).

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 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. We have reflected this by publishing a [dwellings dataset](#) in ‘Tranche One’ and ‘other buildings’ and road vehicles datasets in ‘Tranche Two’. Although vehicles aren’t a building, fires in them are considered primary fires and so it seemed the natural next step. Also common FOIs regarding the make of road vehicle can be answered by referring to this dataset. The Home Office has, and will continue to, engaged with stakeholders such as statistical users and FRSs, to gauge opinion on the most useful datasets to publish.

Dataset definition

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

A road vehicle is any vehicle designed for road use.

Fires in derelict road vehicles are only included if they are considered to be 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 road vehicles are defined as those unfit for further use; awaiting demolition or under demolition. These records, when aggregated, also match the [published statistics](#) as derelict road vehicles are not included in the road vehicles statistics.

The data in this dataset are consistent with records that reached the IRS by 7th June 2017.

2 Variable by variable – Scene Setting

| | |
|-----------------------|--|
| Variable Name: | FRS_FULLNAME |
| Variable Description: | The FRS in which the vehicle 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 responded to 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 road vehicle fires in Isle of Scilly is minimal [there were 11 between 2010/11 and 2016/17]. Figures for Dorset and Wiltshire, who merged into one FRS on 1st 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 road vehicle 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 a 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 31st 2010 but the incident was closed at 01.34 on April 1st 2010 would be allocated to 2009/10 not 2010/11.

| | |
|-----------------------|--|
| Variable Name: | DAY_OF_WEEK |
| Variable Description: | Which day of the week the vehicle fire took place on |
| IRS Question: | 2.1 (based on) |

Incidents are allocated to this variable depending on the time of the call, which is usually collected through automatic systems.

| | |
|-----------------------|---|
| Variable Name: | DAY_NIGHT |
| Variable Description: | Whether the incident took place in day or night |
| IRS Question: | 2.1 (based on) |

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

3 Variable by variable - Situation

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|-----------------------|-------------------------------------|
| Variable Name: | VEHICLE_TYPE |
| Variable Description: | The type of vehicle the fire was in |
| IRS Question: | 3.2 |

The road vehicle fires dataset only covers primary fires. This excludes derelict vehicles unless five or more pumping appliances attended the incident or it resulted in a fatality, casualty or rescue. One option is “Multiple vehicles”.

| | |
|-----------------------|--|
| Variable Name: | RTC_MARKER |
| Variable Description: | Was the incident also a Road Traffic Collision |
| IRS Question: | 5.22 |

This variable has two options, “yes” or “no”, and is a judgement call made at the time.

| | |
|-----------------------|---|
| Variable Name: | REPORTED_MISSING |
| Variable Description: | Whether the vehicle been reported missing to the police |
| IRS Question: | 8.33 |

This variable has three options, “yes”, “don’t know” or “no”, and is a judgement call made at the time.

| | |
|-----------------------|--|
| Variable Name: | APPEARED_ABANDONED |
| Variable Description: | Whether the vehicle appear to be abandoned |
| IRS Question: | 8.34 |

This variable has three options, “yes”, “don’t know” or “no”, and is a judgement call made at the time.

A road vehicle is generally deemed to have been abandoned if it is found in a place where the true owner likely intended to leave it, but is in such a condition that it is apparent that the true owner has no intention of returning to claim the item.

| | |
|-----------------------|---|
| Variable Name: | VMM_CODE |
| Variable Description: | The four letter code of the make/model of the road vehicle. |
| IRS Question: | Based on 8.2 |

This variable is the four letter code for the make and/or model of the faulty appliance or equipment that was the source of ignition for the fire. The question from the IRS that this variable is based on is only asked when the cause of fire was recorded as a piece of faulty appliance or equipment or a faulty lead to that appliance or equipment. It is a free text box, so this has been converted into a usable format for this exercise. The question is not mandatory and in some cases the make/model would not be identifiable by FRSS. The quality and extent of the make/model

information provided by FRSs is variable and its accuracy cannot be guaranteed. Recorded incidents do not include judgments on whether the cause of the incident related to the make/model (either its manufacture or maintenance), other circumstances or a combination of those factors. This information should not, therefore, be used in isolation to make judgments about the safety of particular makes/models.

| | |
|-----------------------|--|
| Variable Name: | VMM_FULLNAME |
| Variable Description: | The full name of the make/model of the road vehicle. |
| IRS Question: | Based on 8.2 |

This variable is the full name for the make and/or model of the faulty appliance or equipment that was the source of ignition for the fire. The question from the IRS that this variable is based on is only asked when the cause of fire was recorded as a piece of faulty appliance or equipment or a faulty lead to that appliance or equipment. It is a free text box, so this has been converted into a usable format for this exercise. The question is not mandatory and in some cases the make/model would not be identifiable by FRSs. The quality and extent of the make/model information provided by FRSs is variable and its accuracy cannot be guaranteed. Recorded incidents do not include judgments on whether the cause of the incident related to the make/model (either its manufacture or maintenance), other circumstances or a combination of those factors. This information should not, therefore, be used in isolation to make judgments about the safety of particular makes/models.

| | |
|-----------------------|---|
| 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 road vehicle fire spreads from a secondary fire, the time is based on the estimated start of first damage to the road vehicle. For example, if a rubbish bin fire (secondary) spreads to a road vehicle (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 Bulletin tables from the Crime in England and Wales statistical release, we would expect deliberate fires for dwellings, other buildings 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: | FIRE_START_LOCATION |
| Variable Description: | The type of compartment the fire started in |
| IRS Question: | 8.14 |

This variable contains options that best describe the 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: | 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 road vehicle, then the item first ignited was the road vehicle, 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.

| | |
|-----------------------|---|
| Variable Name: | OFFICERS |
| 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: | OFFICERS_CODE |
| Variable Description: | A code to help users analyse data |
| IRS Question: | 6.2 |

Because some of the options in the officers variable contains letters (e.g. 40 or more) this code has been added after feedback from users to aid analysis.

| | |
|-----------------------|---|
| 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.

| | |
|-----------------------|--|
| 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. At this early stage of publishing this incident level dataset gives no more detailed information on casualties and fatalities.

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: | The number of people rescued from the road vehicle |
| IRS Question: | 9.13 |

A rescue is where a 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: | DAMAGE_RESTRICTED_TO_DESCRIPTION |
| Variable Description: | The extent of flame and heat damage at the end of the incident |
| IRS Question: | 8.22 |

This variable contains options that best describe the extent of the fire when the incident ended. This only includes flame and heat damage, it does not include damage by smoke or water (for example). Where more than one area of the road vehicle is damaged it is recorded as the “whole vehicle” option.

7 Summary Statistics

The number of road vehicle fires in England decreased by 15 per cent between 2010/11 and 2016/17. The table below shows the number of road vehicle 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 |
|------------------------------|------------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|
| England | E92000001 | 27,727 | 23,846 | 20,316 | 19,649 | 19,473 | 20,854 | 23,505 |
| Avon | E31000001 | 781 | 683 | 582 | 481 | 521 | 603 | 653 |
| Bedfordshire | E31000002 | 408 | 277 | 282 | 328 | 339 | 326 | 338 |
| Berkshire | E31000003 | 443 | 373 | 299 | 276 | 285 | 300 | 286 |
| Buckinghamshire | E31000004 | 444 | 339 | 305 | 303 | 283 | 309 | 325 |
| Cambridgeshire | E31000005 | 437 | 391 | 371 | 306 | 325 | 345 | 398 |
| Cheshire | E31000006 | 510 | 418 | 401 | 372 | 293 | 283 | 347 |
| Cleveland | E31000007 | 336 | 287 | 214 | 209 | 204 | 287 | 309 |
| Cornwall and Isles of Scilly | E31000008 | 252 | 257 | 205 | 214 | 198 | 234 | 230 |
| Cumbria | E31000009 | 272 | 222 | 219 | 211 | 178 | 202 | 167 |
| Derbyshire | E31000010 | 484 | 429 | 365 | 389 | 346 | 383 | 397 |
| Devon and Somerset | E31000011 | 873 | 749 | 683 | 740 | 713 | 670 | 714 |
| Dorset and Wiltshire | E31000047 | 633 | 560 | 527 | 528 | 462 | 477 | 492 |
| Durham | E31000013 | 362 | 328 | 286 | 307 | 296 | 346 | 433 |
| East Sussex | E31000014 | 364 | 307 | 335 | 280 | 234 | 244 | 254 |
| Essex | E31000015 | 881 | 764 | 713 | 720 | 663 | 775 | 848 |
| Gloucestershire | E31000016 | 336 | 276 | 229 | 255 | 241 | 222 | 245 |
| Greater Manchester | E31000040 | 1,756 | 1,427 | 1,190 | 1,123 | 1,102 | 1,187 | 1,554 |
| Hampshire | E31000017 | 787 | 738 | 535 | 513 | 568 | 573 | 554 |
| Hereford and Worcester | E31000018 | 375 | 335 | 270 | 289 | 286 | 293 | 315 |
| Hertfordshire | E31000019 | 510 | 438 | 341 | 371 | 402 | 363 | 408 |
| Humberside | E31000020 | 593 | 432 | 354 | 403 | 389 | 436 | 516 |
| Isle Of Wight | E31000021 | 44 | 34 | 51 | 42 | 28 | 32 | 37 |
| Kent | E31000022 | 985 | 854 | 753 | 701 | 746 | 791 | 903 |
| Lancashire | E31000023 | 646 | 549 | 477 | 468 | 482 | 509 | 564 |
| Leicestershire | E31000024 | 505 | 457 | 385 | 385 | 433 | 477 | 459 |
| Lincolnshire | E31000025 | 411 | 330 | 323 | 274 | 293 | 311 | 291 |
| London | E31000046 | 2,729 | 2,447 | 1,985 | 1,908 | 1,990 | 1,995 | 2,349 |
| Merseyside | E31000041 | 950 | 813 | 716 | 675 | 695 | 756 | 826 |
| Norfolk | E31000026 | 475 | 354 | 315 | 284 | 294 | 322 | 354 |
| North Yorkshire | E31000027 | 342 | 294 | 273 | 279 | 264 | 277 | 271 |
| Northamptonshire | E31000028 | 455 | 464 | 385 | 329 | 347 | 389 | 417 |
| Northumberland | E31000029 | 199 | 175 | 138 | 118 | 138 | 135 | 145 |
| Nottinghamshire | E31000030 | 613 | 615 | 438 | 395 | 392 | 427 | 531 |
| Oxfordshire | E31000031 | 320 | 298 | 260 | 234 | 222 | 205 | 235 |
| Shropshire | E31000032 | 287 | 256 | 195 | 181 | 113 | 171 | 162 |
| South Yorkshire | E31000042 | 1,032 | 825 | 755 | 728 | 671 | 781 | 935 |
| Staffordshire | E31000033 | 605 | 514 | 432 | 404 | 365 | 369 | 444 |
| Suffolk | E31000034 | 365 | 318 | 220 | 233 | 230 | 257 | 238 |
| Surrey | E31000035 | 442 | 428 | 376 | 397 | 387 | 334 | 427 |
| Tyne and Wear | E31000043 | 737 | 620 | 525 | 471 | 456 | 532 | 660 |
| Warwickshire | E31000036 | 398 | 355 | 252 | 263 | 269 | 283 | 288 |
| West Midlands | E31000044 | 1,525 | 1,294 | 1,016 | 1,081 | 1,100 | 1,189 | 1,435 |
| West Sussex | E31000037 | 353 | 376 | 303 | 281 | 297 | 245 | 288 |
| West Yorkshire | E31000045 | 1,472 | 1,146 | 1,037 | 900 | 933 | 1,209 | 1,463 |



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