

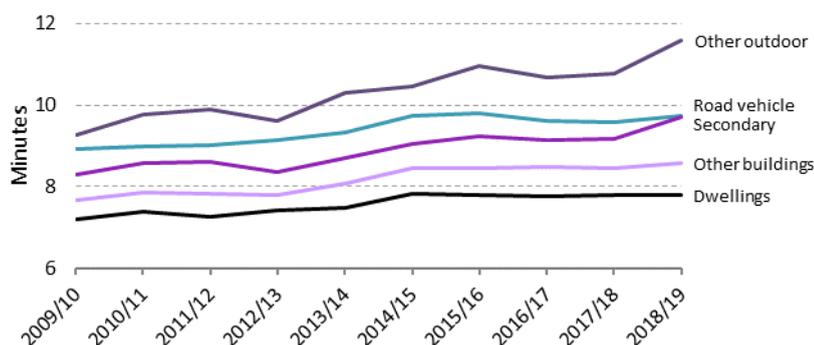


## Response times to fires attended by fire and rescue services: England, April 2018 to March 2019

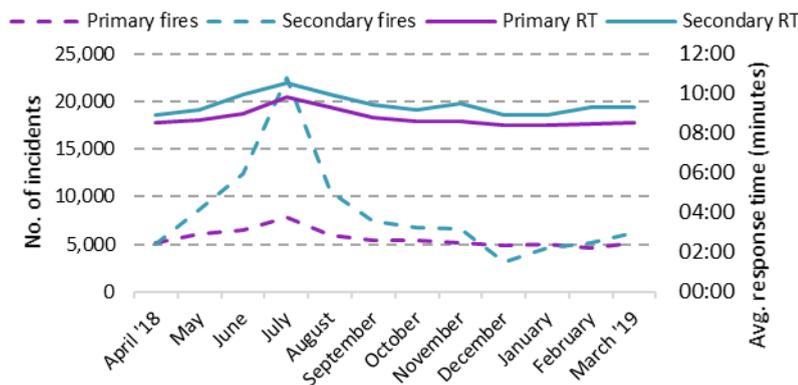
This release presents statistics on the average response times to fire incidents in the financial year 2018/19 (1 April 2018 to 31 March 2019) for fire and rescue services (FRSs) in England.

### Key results

In 2018/19, the average response time to primary fires in England was 8 minutes 49 seconds, up 11 seconds since 2017/18 and 33 seconds since 2013/14. Three types of primary fires showed an increase (other buildings by 7 seconds, road vehicles by 8 seconds and other outdoor fires by 48 seconds) but dwelling fires decreased by 1 second compared with 2017/18.



Average response time to secondary fires increased by 32 seconds to 9 minutes 42 seconds. These increases were driven by the exceptionally high number of fires in July 2018 coinciding with a peak in monthly average response times for the year.



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# 1 Introduction

## Data source: Incident Recording System

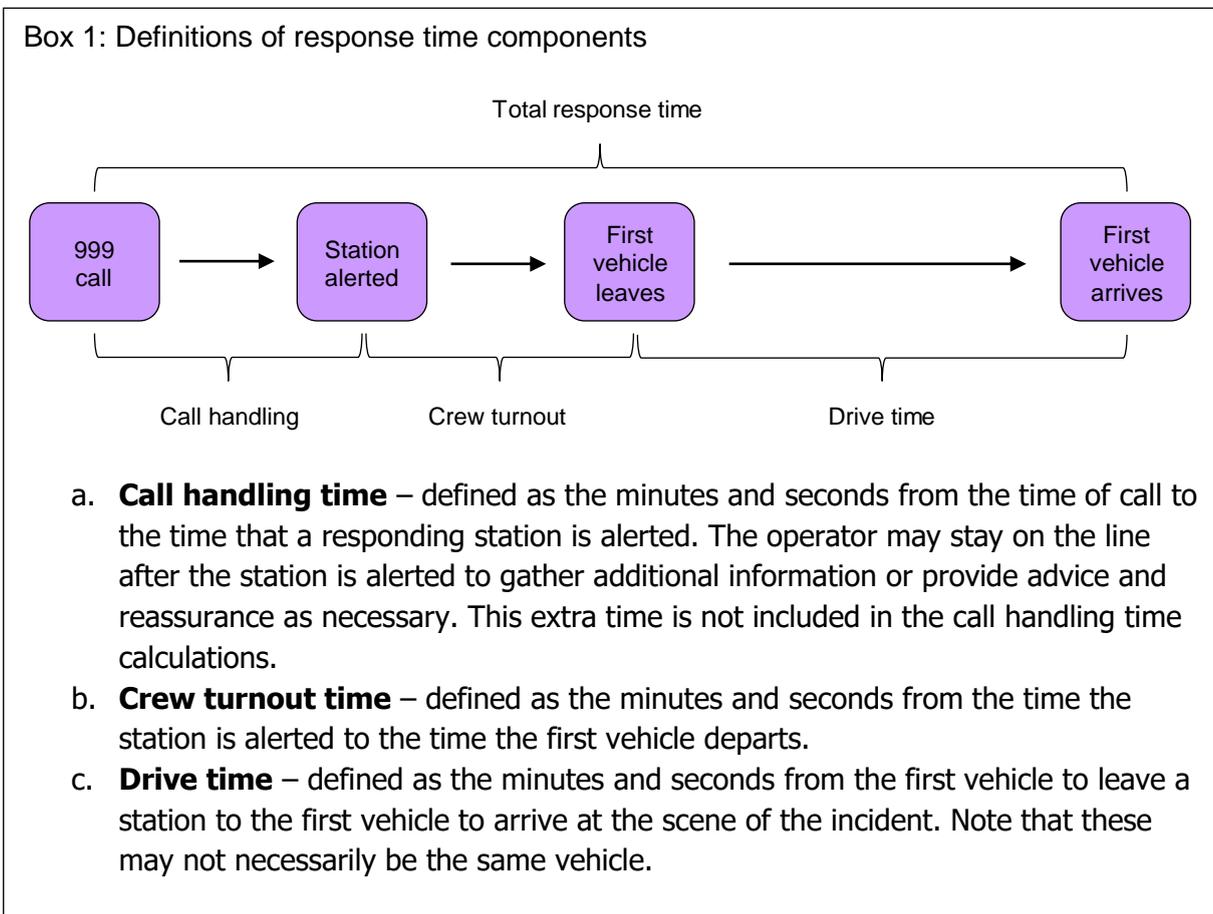
Each time a fire and rescue service (FRS) attends an incident in England, details of that incident are uploaded to the Home Office's Incident Recording System (IRS) by the FRS. The IRS is used as the source for all the statistics in this publication. More information on the IRS can be found at:

<https://www.gov.uk/government/statistical-data-sets/fire-statistics-guidance>

## Methodology and changes for 2018/19

This statistical release presents statistics on response times to fires between April 2018 and March 2019. It focusses on trends in average (mean) response times in England.

The headline statistic reported is termed the 'total response time', which is the minutes and seconds taken from time of call to time of arrival at the incident by the first vehicle and is likely to be of main public interest. However, in response to user feedback, statistics on the component parts of total response times were presented for the first time in the [2017/18 release](#). See Box 1 below for definitions.



Some FRSs have local definitions for response times which may not include the call time, however this does not affect records in the IRS.

Around seven per cent (13,177) of 2018/19 fire incidents were excluded for the purpose of analysis (compared with 8%, or 13,384, of 2017/18 incidents) for the following reasons:

- For road vehicle fires, where the road vehicle was abandoned.
- Where the location of the fire was a derelict property.

- c. Where an FRS learned of the fire when it was known to have already been extinguished (known as 'late calls').

Exclusions a) to c) are applied as these would generally be treated as lower priority incidents if known at the time of call, therefore the balance of public safety lies in slower drive speeds and would increase the average times calculated.

- d. Where the total response time for an incident was over an hour or less than one minute.

Exclusion d) is applied to avoid erroneous data or exceptional incidents from skewing the averages. This is because these are likely, in the main, to be erroneous. One example could be incidents that occur across a clock change between Greenwich Mean Time and British Summer Time.

- e. Where the sequence of events (time of call → mobilisation → vehicle mobile → arrival at scene) in an incident are not recorded in a logical sequence, either through recording error (e.g. a vehicle appears to have arrived before it left) or absence of data (null values).

Exclusion e) was new to the 2017/18 response times publication, arising from the publication of component parts (call handling, turnout and drive time) needing to have internally consistent timings within each incident so that they sum to the total response time for all categories and are drawn from the same set of incidents. This mainly excludes incidents where the vehicle timestamps are missing but also a few rare instances of erroneous data.

In previous years a further exclusion was applied:

- f. Where there was heat and/or smoke damage only (no flame).

However, after a [public consultation](#), exclusion f) has been discarded for the main reported response times in this release (i.e. incidents where there was heat and/or smoke damage only are now **included** in the average response times calculations). This decision was based on responses to the consultation, all of which supported including these incident types. A discussion on the effects of this change can be found in [Chapter 6](#) but, in short, including heat and/or smoke damage only incidents causes an overall **reduction** in the calculated average response time to primary fires, although all the main primary fire types (except other buildings) show increases in average total response times in the more recent part of the series. These changes do not affect the trends shown. To give users a chance to fully investigate this change for themselves, the data are presented both with the new method and the old method (i.e. retaining exclusion f) in data tables [FIRE1001, 1002 and 1004](#). It is not intended to repeat this dual running of calculation methods in following years.

As this publication focuses on primary and secondary fires only, it does not include chimney fires.

## Publication of data

This publication is accompanied by reference data tables. All fire statistics tables can be found at: [www.gov.uk/government/statistical-data-sets/fire-statistics-data-tables](http://www.gov.uk/government/statistical-data-sets/fire-statistics-data-tables).

The following tables have been updated alongside this publication:

*FIRE: [1001](#) (including the previous 1003, 1005, 1006, 1007, 1008 and 1009), [1002](#), [1004](#).*

These tables include data on Fire and Rescue Authority (FRA) areas. It is important to note that direct comparisons in response times should not be made between different fire and rescue services as there are many factors that affect average response times, for example, population density, local road conditions and firefighter crewing arrangements.

The IRS is a continually updated database, with FRSs adding incidents on a daily basis. The figures in this release refer to records of incidents that occurred up to and including 31 March 2019. A

snapshot of the dataset was taken on 26 September 2019 for analysis, so the statistics published may not match those held locally by FRSs and revisions may occur in the future.

## Response standards and data recording

Fire and rescue services have had autonomy in setting their own response targets and strategies based on local integrated risk management plans since the introduction of the [Fire and Rescue Service Act 2004](#). Before the introduction of the Act, Government recommended national standards for response times based on broad risk categories for particular areas.<sup>1</sup>

This statistical release and the accompanying data tables show average total response times from 1994/95 onwards. Over this time, improvements in recording accuracy both at the FRS level with newer mobilisation software and at the national level with the introduction of the Incident Recording System have been made. For example, prior to May 2004, the London Fire Brigade used a system which only recorded full minutes elapsed and not seconds, so the response time to each incident could have been under-recorded by up to 59 seconds.<sup>2</sup> The effects of these changes is particularly apparent at the recording discontinuity marked in the charts in the following chapters between 2008/09 and 2009/10, when the online IRS was introduced, so while general trends may be compared across this time, absolute values of average response times should not be compared across this discontinuity.

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<sup>1</sup> For a detailed discussion of how these national standards worked in one city, see Annex A of the London Fire Brigade publication '[Fire Facts: Incident response times 2018](#)'.

<sup>2</sup> See '[Fire Facts: Incident response times 2018](#)' published by the London Fire Brigade.

## 2 Total response times

This chapter details changes in average total response times to fires in England from 1994/95 to 2018/19, as well as by type of FRA (rural/urban and metropolitan/non-metropolitan classifications).

**Total response time** is the minutes and seconds elapsed from the time of call to the arrival of the first vehicle to the incident.

### Key results

- Overall, total response times to fires have increased gradually over the past 20 years. However, these have generally plateaued since 2014/15 followed by a marked increase in 2018/19.
- The average total response time to **primary fires** (potentially more serious fires that harm people or cause damage to property)<sup>3</sup> in England in 2018/19 was 8 minutes and 49 seconds: an increase of 11 seconds since 2017/18 and of 33 seconds since five years before in 2013/14.
- Three types of primary fires showed an increase in average response times in 2018/19 (**other buildings** by 7 seconds, **road vehicles** by 8 seconds and **other outdoor**<sup>4</sup> fires by 48 seconds), while the response time to **dwelling** fires decreased by 1 second compared with 2017/18.
- Average total response time to **secondary fires** in 2018/19 (which can broadly be thought of as smaller outdoor fires, not involving people or property) increased by 32 seconds to 9 minutes 42 seconds compared with 2017/18 and increased by 59 seconds compared with 2013/14. This increase was driven by the exceptionally high number of secondary fires in July 2018 coinciding with a peak in monthly average response time for the year.
- Fire and rescue authorities (FRAs) in **predominantly urban areas** had an average total response time of 7 minutes 41 seconds to primary fires in 2018/19: an increase of 6 seconds and 24 seconds since 2017/18 and 2013/14, respectively.
- Average total response time to primary fires in **significantly rural FRAs** was 9 minutes 59 seconds in 2018/19: an increase of 13 seconds and 52 seconds since last year and five years previous, respectively.
- Average total response time to primary fires in **predominantly rural areas** was 10 minutes 34 seconds in 2018/19: an increase of 18 seconds since 2017/18 and an increase of 27 seconds since 2013/14.

### Total response times by type of fire attended

The average total response time to primary fires (potentially more serious fires that harm people or cause damage to property) in England in 2018/19 was 8 minutes and 49 seconds, an increase of 11 seconds since the previous year and an increase of 33 seconds compared with five years ago in 2013/14 ([Chart 1](#)).

<sup>3</sup> For more detailed technical definitions of different types of fire, see the [Fire statistics definitions](#) document.

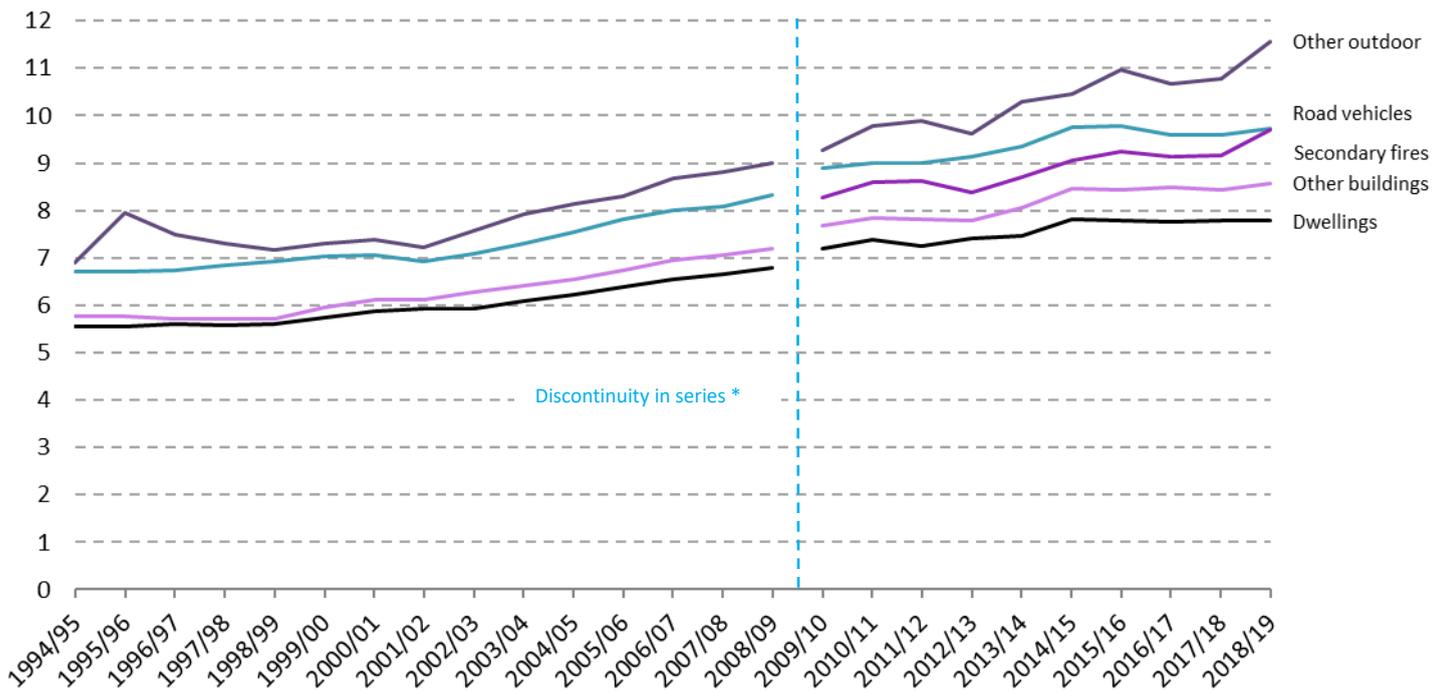
<sup>4</sup> Other outdoor fires are fires in either primary outdoor locations, or fires in non-primary outdoor locations that have casualties or five or more pumping appliances attending. For a full definition of other outdoor locations, please refer to the [Fire statistics definitions](#) document.

Total response times to secondary fires (which are generally smaller outdoor fires, not involving people or property) have increased by 32 seconds, to 9 minutes and 42 seconds, since last year. This is an increase of 59 seconds since 2013/14.

While total response times to all types of fires have increased since 2013/14, the increase in total response time to primary fires since 2017/18 was not even across the main primary fire locations. From 2017/18 to 2018/19 there were **increases** in total response time in other building fires (+7 seconds), road vehicle fires (+8 seconds) and other outdoor fires (+48 seconds), while there was a **decrease** in total response time to dwelling fires (-1 second). Within other building fires, the increase is entirely for non-residential (+9 seconds) with the 'other residential' category showing no change from 2017/18.

The average response time to dwelling fires in 2018/19 was 7 minutes 47 seconds. Of these, the average response time to fires in flats was 7 minutes 1 second, compared with 8 minutes 14 seconds for houses/bungalows and 7 minutes 45 seconds for other dwellings. This probably reflects that most flats (71% of those included in the analysis for 2018/19) are in 'predominantly urban' locations (see [here](#)) and therefore generally within closer proximity to a fire station than rural dwellings.

**Chart 1: Average total response times (minutes) by type of fire†, England; 1994/95 to 2018/19**



Source: [FIRE1001](#)

**Notes:**

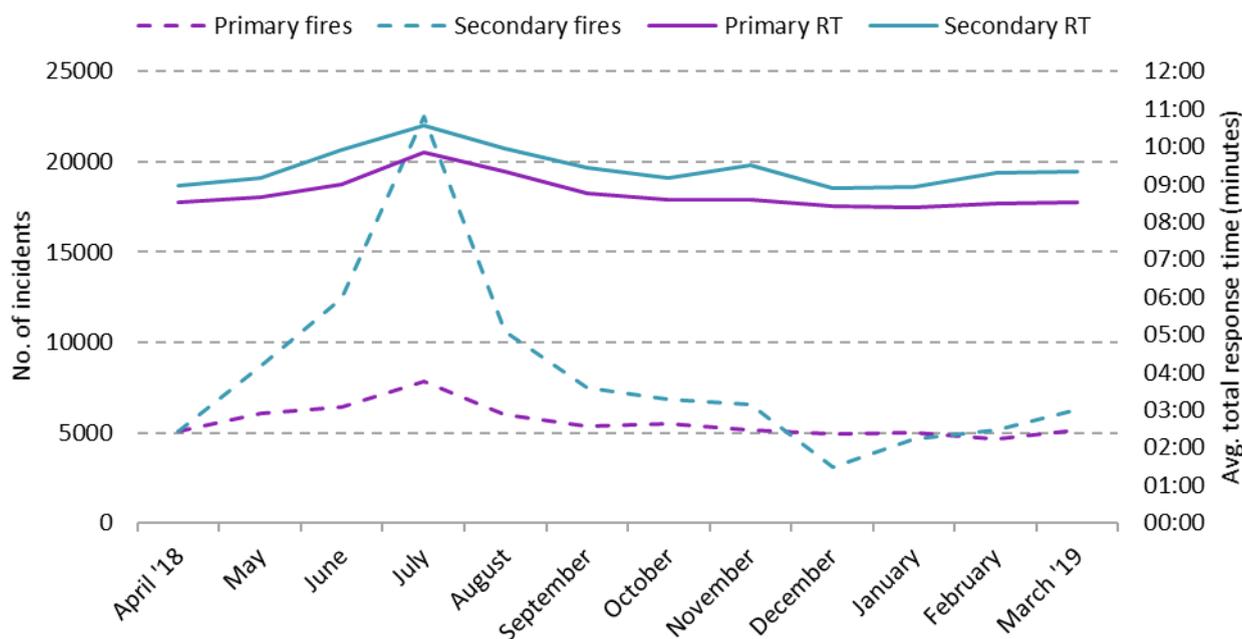
\* See the [definitions document](#) on the discontinuity in series.

† Response times for secondary fires were not recorded before the introduction of the online IRS and so are only available from 2009/10 onwards

It should be noted that other outdoor fires are numerically the smallest of the main primary fire types and so are more prone to larger fluctuations (of both increases and decreases) as can be seen throughout the time series ([Chart 1](#)). However, the effect of the increase in total response time to other outdoor fires on the average time for all primary fires was compounded by other outdoor fires making up a greater proportion of primary fires in 2018/19 (10% compared with 8% in 2017/18). Secondary and other outdoor fires together showed the largest increase in total response time in 2018/19, not in keeping with the changes in the remaining primary fire types.

As shown in '[Detailed analysis of fires attended by fire and rescue services, England, April 2018 to March 2019](#)', the hot dry summer of 2018 saw an exceptionally high daily rate of fires in July 2018, driven by fires in 'grassland, woodland and crops' which had a daily rate more than two and half times as high as the peak for that type of fire in the previous year. Comparing the monthly average response time to the number of fire incidents, [Chart 2](#) shows that the exceptionally high number of fires in July 2018 coincided with the peak in monthly average response times for both primary (9m 52s) and secondary (10m 34s) for the year.

**Chart 2: Average total response times (RT) and number of fires by month and type of fire, England; 2018/19**



Source: [FIRE1001](#)

The table below provides a summary of the trends in the last year for response times to fires.

**Table 1 Response times to fires by type of fire with a summary of trends, England; 2018/19**

Type of fire	2018/19	Change since 2017/18	Change since 2013/14
<b>Primary</b>	8 minutes 49 seconds	+11 seconds ↑	+33 seconds ↑
<b>Dwelling</b>	7 minutes 47 seconds	-1 second ↓	+18 seconds ↑
<b>Other building</b>	8 minutes 34 seconds	+7 seconds ↑	+30 seconds ↑
<b>Road vehicle</b>	9 minutes and 43 seconds	+8 seconds ↑	+23 seconds ↑
<b>Other outdoor</b>	11 minutes and 34 seconds	+48 seconds ↑	+1 minute 16 seconds ↑
<b>Secondary</b>	9 minutes 42 seconds	+32 seconds ↑	+59 seconds ↑

Source: [FIRE1001](#)

Notes: Arrows in this table are not to scale. Arrows pointing upwards indicate an increase and arrows pointing downwards a decrease in average total response time.

### Response times by type of fire and rescue authority (FRA)

Of the 45 fire and rescue authorities (FRAs), 12 showed a decrease in average total response time to primary fires between 2017/18 and 2018/19, 31 showed an increase and two showed no change. (Source: [FIRE1001](#))

FRAs can be split into three rural-urban classifications (predominantly rural, significantly rural and predominantly urban)<sup>5</sup> and by whether they are metropolitan or non-metropolitan<sup>6</sup>. As shown in [Chart 3](#), average response times to primary fires are lower in predominantly urban areas and quicker still in the subset of predominantly urban FRAs which are metropolitan. The difference in average total response times between predominantly urban and predominantly rural FRAs has been around two to three minutes every year since 1994/95. All types of FRA have shown gradual increases in average response time over the past twenty years, while predominantly urban areas and predominantly rural areas showed two consecutive decreases since 2015/16. All FRA types returned to an increase in 2018/19, although less strongly in predominantly urban and metropolitan FRAs. (Source: [FIRE1001](#))

The table below provides a summary of the trends in the last year for response times to primary fires by rural-urban and metropolitan/non-metropolitan FRAs.

<sup>5</sup> As defined by the Department for Environment, Food and Rural Affairs' ['2011 Rural-Urban Classification of Local Authorities and other geographies'](#).

<sup>6</sup> Metropolitan FRAs are a subset of those in the predominantly urban category, while non-metropolitan comprises those in predominantly rural, significantly rural and the remainder of predominantly urban FRAs.

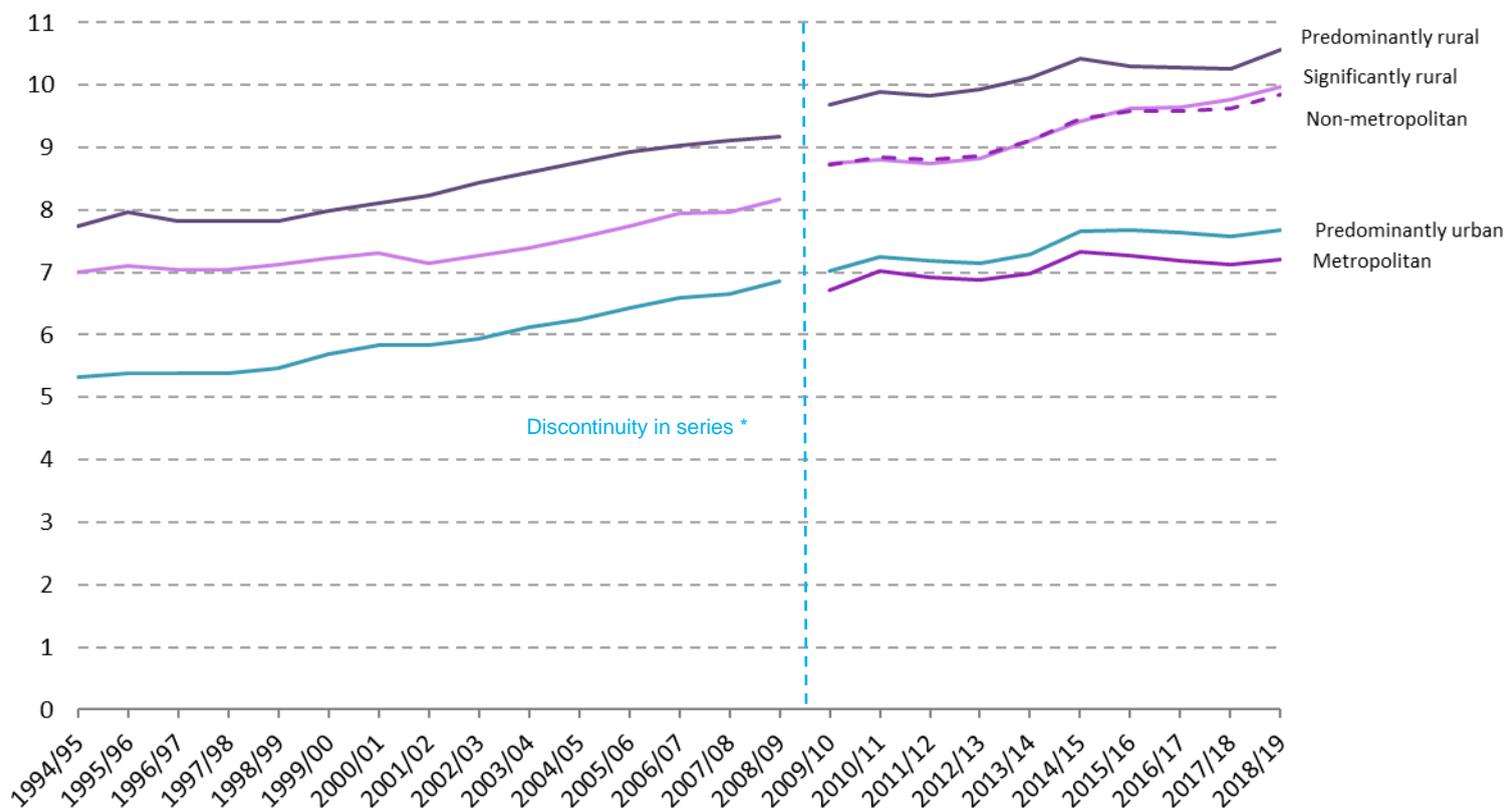
**Table 2 Response times to primary fires by type of fire and rescue authority with a summary of trends, England; 2018/19**

Type FRA	2018/19	Change since 2017/18	Change since 2013/14
Predominantly rural	10 minutes 34 seconds	+18 seconds ↑	+27 seconds ↑
Significantly rural	9 minutes 59 seconds	+13 seconds ↑	+52 seconds ↑
Predominantly urban	7 minutes 41 seconds	+6 seconds ↑	+24 seconds ↑
Metropolitan	7 minutes and 12 seconds	+4 seconds ↑	+14 seconds ↑
Non-metropolitan	9 minutes and 52 seconds	+14 seconds ↑	+45 seconds ↑

Source: [FIRE1001](#)

Notes: Arrows in this table are not to scale. Arrows pointing upwards indicate an increase and arrows pointing downwards a decrease in average total response time.

**Chart 3: Average total response times (minutes) to primary fires by FRA type, England; 1994/95 to 2018/19**



Source: [FIRE1001](#)

Notes: The metropolitan and non-metropolitan groupings are only calculated with online IRS data and so are not available for the pre-2009/10 back-data series.

\* See the [definitions document](#) on the discontinuity in series.

### 3 Response time components

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The total response time (from time of call to time of first arrival) can be further divided into call handling time, crew turnout time and drive time. This is the second year that these breakdowns of the average response time have been published, in response to user need and to help explain which parts of the emergency response chain have changed over time. These data are drawn from the electronic IRS and so are only available from 2009/10 onwards (FIRE1001).

**Call handling time:** from time of call to the station being alerted.

**Crew turnout time:** time between the station being alerted and the time the first vehicle departs i.e. the time it takes for the firefighters to prepare to leave.

**Drive time:** from time the first vehicle leaves to the first vehicle arriving at the scene of the incident (not necessarily the same vehicle).

#### Key results

In England:

- **Call handling times** for primary fires decreased by one second in 2018/19 to 1 minute 23 seconds, the third consecutive decrease since a peak of 1 minute 27 seconds in 2015/16. Call handling times for secondary fires increased by 3 seconds to 1 minute 47 seconds in 2018/19.
- **Crew turnout times** for primary fires showed no change in 2018/19 at 1 minute 37 seconds for primary fires and 1 minute 35 seconds for secondary, remaining at the shortest time in the series following a consistent decreasing trend.
- **Drive times** have increased across all fire types, up 11 seconds to 5 minutes 48 seconds for primary fires and 29 seconds to 6 minutes 20 seconds for secondary fires in 2018/19. At the England level, the increase in total response time to primary fires is entirely caused by the increase in average drive time.

Although total response times in England have returned to the long-term trend since 2009/10 following a plateau from 2014/15 to 2017/18 ([Chart 1](#)), [Chart 4](#) shows that call handling times have continued to decrease for primary fire types, with an average decrease of 1 second since 2017/18 to 1 minute 23 seconds for primary fires overall. There was a slight increase in call handling times for secondary fires in 2018/19. Crew turnout times have remained at a series low but drive times continue to increase for all fire types.

It is notable that dwelling fires have the quickest times in all three of the response time components, probably reflecting the relative ease with which a street address can be communicated on the telephone and the urgency with which an FRS responds to fires with the greatest potential risk to life. Other outdoor fires, by contrast, are typically among the slowest responses in all three categories, which could reflect the difficulty of describing an outdoor location without a street address (call handling) and the difficulty of finding it once mobile (drive time).

A range of possible factors could have contributed to the long-term increase in total response time to primary fires ([Chart 1](#)). These may include changing traffic levels, 'drive to arrive' policies<sup>7</sup> and control staff typically asking more questions of the caller to better assess the risk and attendance needed. The possibility that changes to crew health and safety policies (e.g. that firefighters should dress in their personal protective equipment before boarding the appliance rather than en route in a moving vehicle) could be increasing response times seems unlikely as there has been a sustained reduction in crew turnout times. Analysis addressing the cause of the increase in fire response times in England, published in 2009,<sup>8</sup> concluded that rising traffic levels was the primary cause. This was based on data from 1996 to 2006 and the national situation may have changed since then, but an updated analysis is outside the scope of this statistics publication.

However, it is difficult to isolate the impact of any of these individual factors, and there may also be other factors, locally or nationally, which affect response times, such as urban sprawl and new housing developments outdating the strategic positioning of fire stations.

**Table 3 Average response times to fires by response time component and type of fire with a summary of trends, England; 2018/19**

Type of fire and response time component	2018/19	Change since 2017/18	Change since 2013/14
<b>Primary</b>			
Call handling	1 minute 23 seconds	-1 seconds ↓	+9 seconds ↑
Crew turnout	1 minute 37 seconds	0 seconds =	-8 seconds ↓
Drive time	5 minutes 48 seconds	+11 seconds ↑	+32 seconds ↑
<b>Secondary</b>			
Call handling	1 minute 47 seconds	+3 seconds ↑	+14 seconds ↑
Crew turnout	1 minute 35 seconds	0 seconds =	-5 seconds ↓
Drive time	6 minutes 20 seconds	+29 seconds ↑	+50 seconds ↑

Source: [FIRE1001](#)

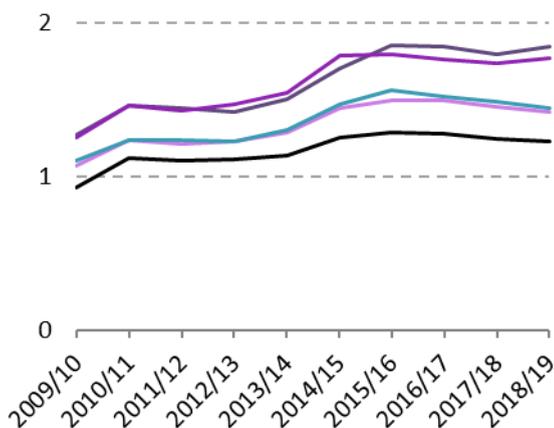
Notes: Arrows in this table are not to scale. Arrows pointing upwards indicate an increase and arrows pointing downwards a decrease in average total response time.

<sup>7</sup> 'Drive to arrive' policies require drivers to modify driving depending on risk, in order to reduce the number of incidents whilst mobile.

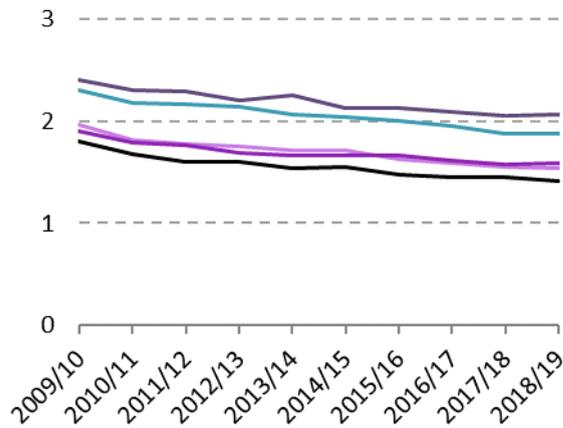
<sup>8</sup> Communities and Local Government: [Review of Fire and Rescue Service response times - Fire Research Series 1/2009](#)

**Chart 4 Average response times (minutes) by response time component and type of fire, England; 2009/10 to 2018/19**

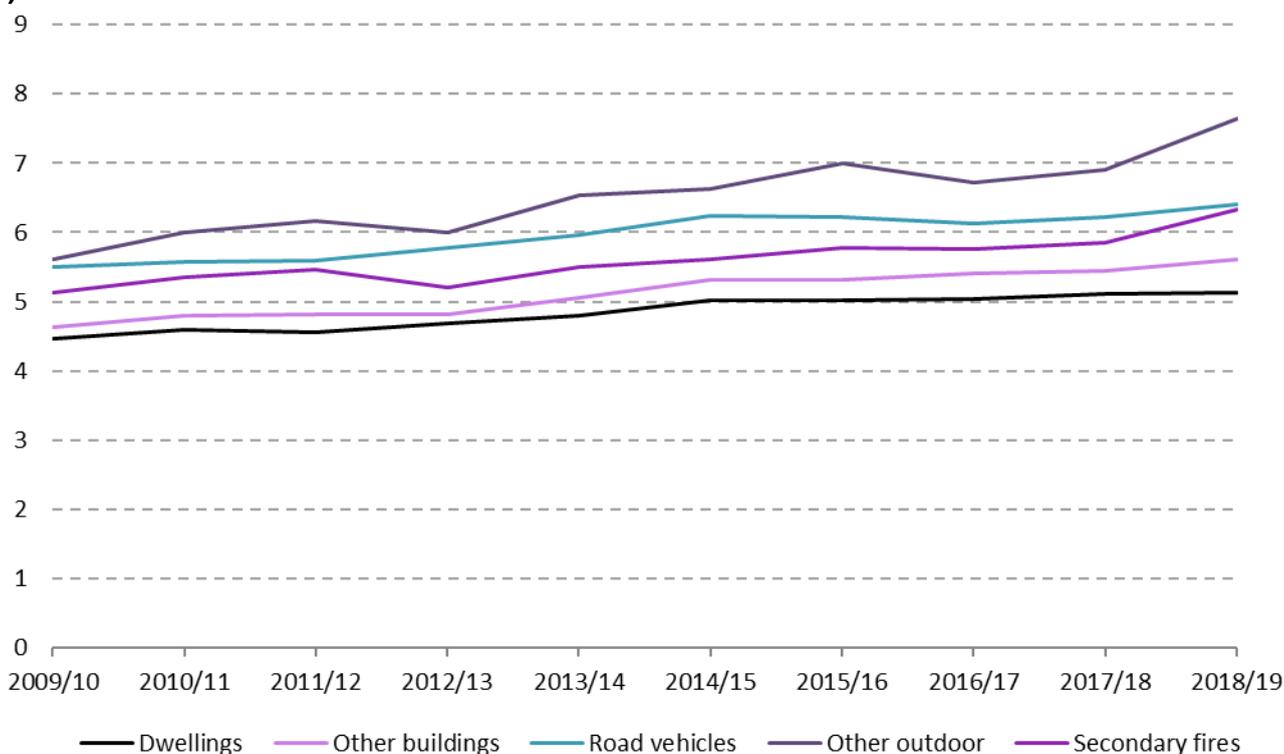
**a) Call handling time**



**b) Crew turnout time**



**c) Drive time**



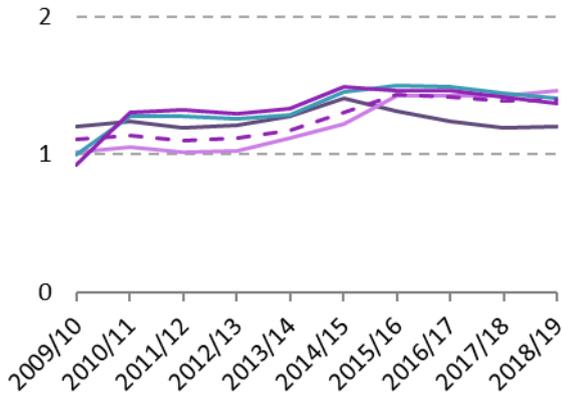
Source: [FIRE1001](#)

The response time components for primary fires by FRA type ([Chart 5](#)) show that the plateau and slight decrease in primary total response times seen in [Chart 1](#) between 2015/16 and 2017/18 were largely the result of decreases in crew turnout times in all FRA types, while the increase in total response time in 2018/19 resulted from increases in drive time in all FRA types.

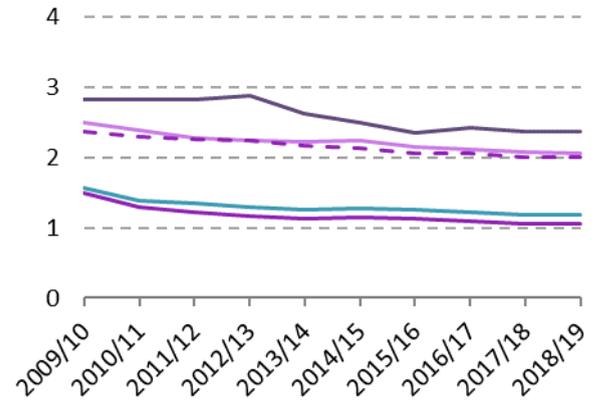
Although crew turnout times for predominantly rural FRAs typically took a minute to a minute and a half longer than predominantly urban ones in each year, likely due to the higher proportion of on-call ('retained duty system') firefighters who first need to get to a station once alerted, it was the predominantly rural FRAs which showed the greatest decrease in crew turnout time since 2012/13 ([Chart 5](#)).

**Chart 5 Average response times (minutes) by response time component to primary fires by FRA type, England; 2009/10 to 2018/19**

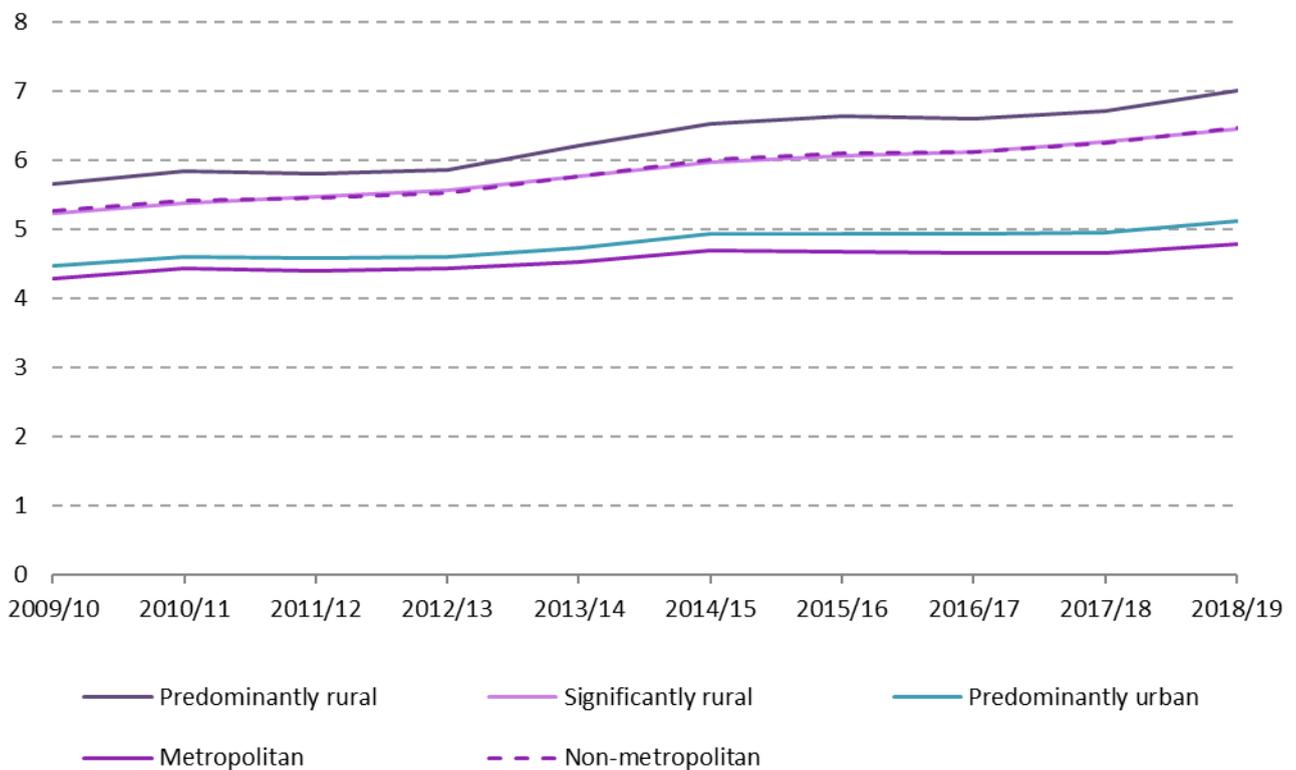
**a) Call handling time**



**b) Crew turnout time**



**c) Drive time**



Source: [FIRE1001](#)

## 4 Distribution of total response times

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The previous chapters present (mean) average response times but many FRSs measure their performance based on the proportion of incidents attended within various target times. Fire statistics table [FIRE1004](#) provides incident counts by one minute bands (including <1 and >60 minutes) for primary and secondary fires.

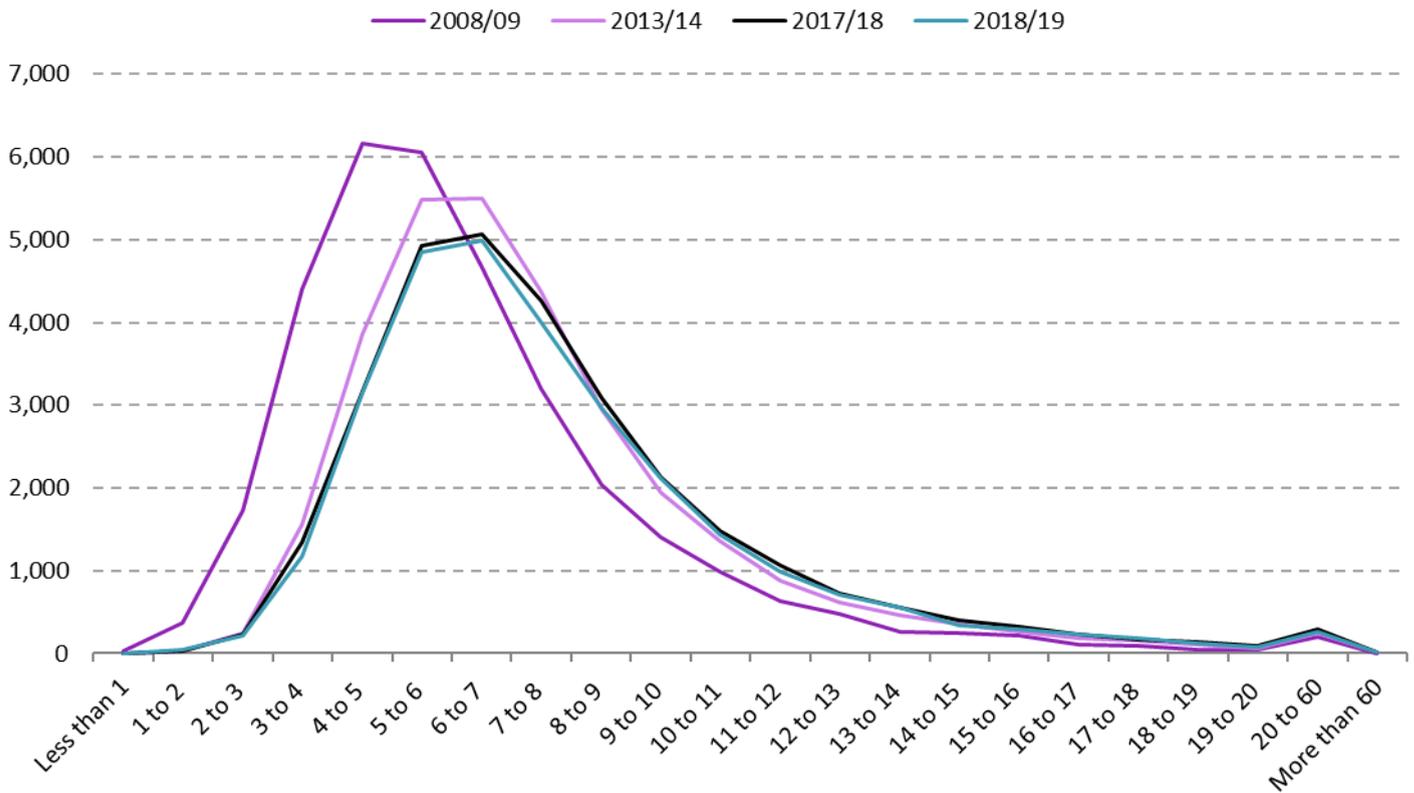
### Key results

In 2018/19 in England:

- over half (54%) of primary fires were responded to within 8 minutes, while the most frequent response time band was 6 to 7 minutes (15%);
- for dwelling fires, half (50%) were responded to within 7 minutes and the most frequent time bands were 5 to 6 minutes (17%) and 6 to 7 minutes (17%);
- for fires in other buildings, over half (56%) were responded to within 8 minutes and the most frequent time band was 6 to 7 minutes (15%);
- for road vehicle fires, over half (55%) were responded to within 9 minutes, and the most frequent time band was 6 to 7 minutes (13%);
- for primary other outdoor fires, over half (56%) were responded to within 11 minutes and the most frequent time band was 7 to 8 minutes (10%); and
- the majority (56%) of secondary fires were responded to within 9 minutes, while the most frequent response time bands were 6 to 7 minutes (13%) and 7 to 8 minutes (13%).

[Chart 6](#) and [Chart 7](#) show the frequency distribution of total response times by one-minute bands for fires in dwellings and other buildings in England (source [FIRE1004](#)). The shapes of the curves reflect both the long-term reduction (i.e. decreasing height of the curves) in the total number of fires between 2008/09 and 2018/19 (decreases of 23% and 32% for dwellings and other buildings, respectively; table [FIRE0102](#)) and the increasing response times to those fires (i.e. the distribution of the curves moving to the right).

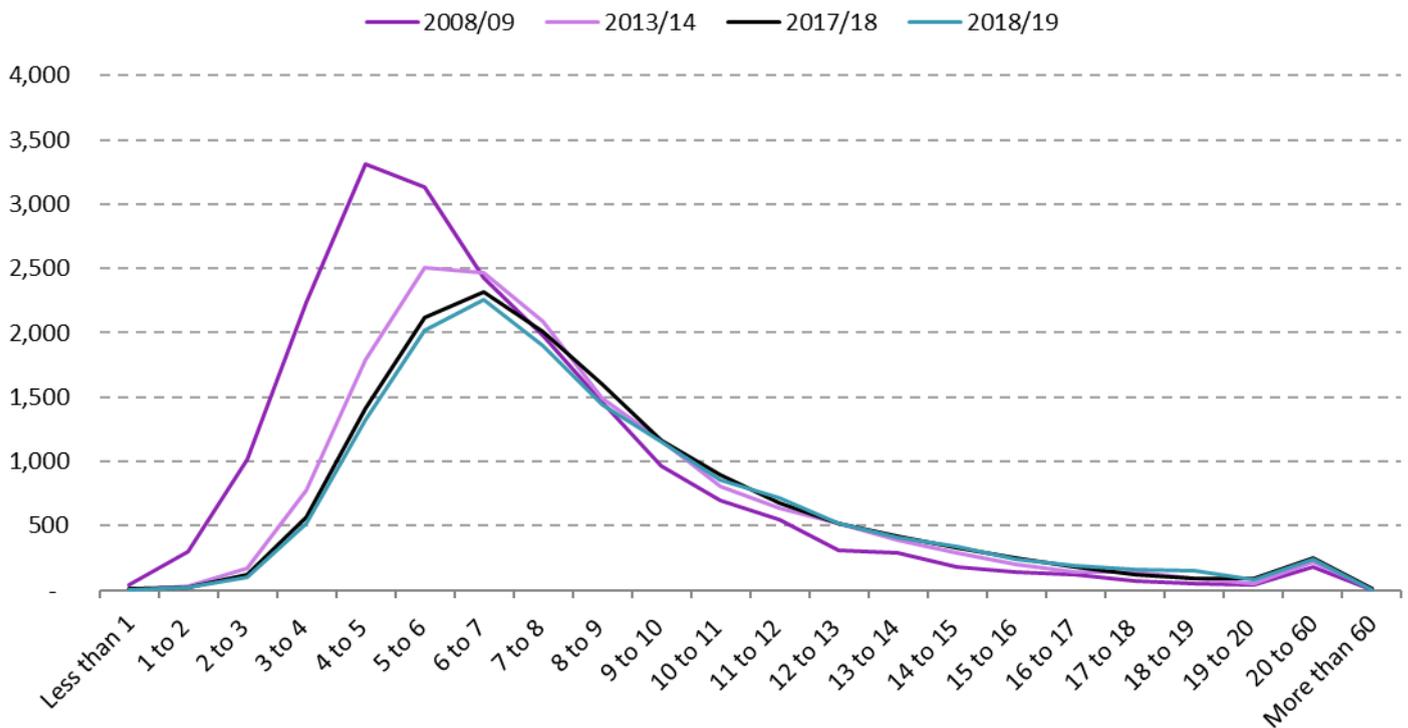
**Chart 6 Number of fires attended by FRSs in one-minute total response time bands for fires in dwellings, England; 2008/09\*, 2013/14, 2017/18 and 2018/19**



Source: [FIRE1004](#)

Notes: \* See the [definitions document](#) on the discontinuity in series.

**Chart 7 Number of incidents in one-minute total response time bands for fires in 'other buildings', England; 2008/09\*, 2013/14, 2017/18 and 2018/19**



Source: [FIRE1004](#)

Notes: \* See the [definitions document](#) on the discontinuity in series.

## 5 Response times and outcomes

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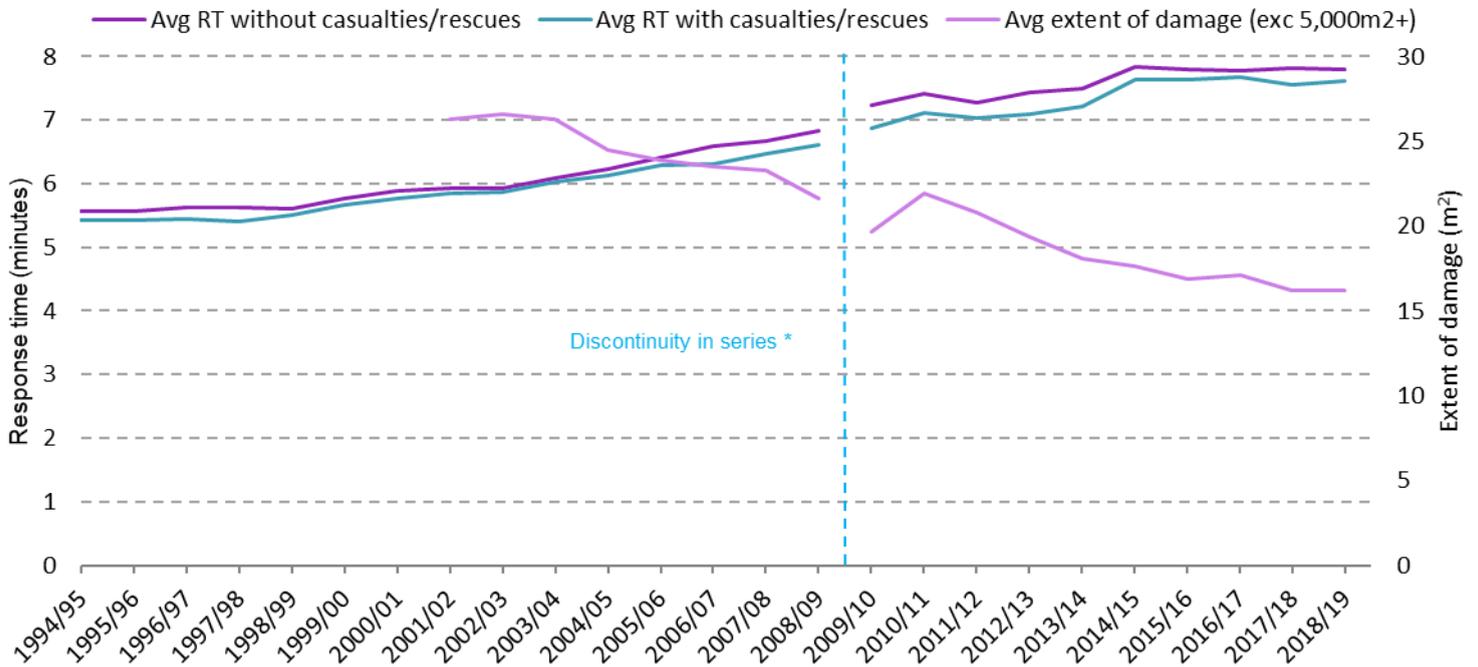
There is no straightforward relationship between response times and the outcomes of a fire as the type of fire and the time elapsed before the fire was discovered (both outside the control of FRs) as well as other factors will also have an influence on the outcome. However, it is sometimes assumed that slower response times would be associated with greater instances of casualties/rescues and larger areas of damage due to the later starting of firefighting activities.

### Key results

- The average total response time to dwelling fires involving casualties and/or rescues in England in 2018/19 was 7 minutes 37 seconds. This was an increase of 3 seconds since 2017/18 and an increase of 24 seconds since 2013/14. (Source: [FIRE1002](#))
- The average total response time to dwelling fires **not** involving casualties and/or rescues in England in 2018/19 was 7 minutes 48 seconds, a decrease of 1 second since 2017/18 but an increase of 18 seconds since 2013/14.
- In 2018/19, the average area of fire damage to dwellings (excluding those incidents with areas of damage over 5,000m<sup>2</sup>)<sup>18</sup> in England remained unchanged compared with 2017/18 but decreased by 10 per cent compared with 2013/14. At the same time, the average response time to dwelling fires decreased by 1 second (<1%) since 2017/18 but increased by 18 seconds (4%) since 2013/14. (Source: [FIRE0204](#), [FIRE1001](#))
- The average area of fire damage to other buildings (excluding those incidents with areas of damage over 1,000m<sup>2</sup>)<sup>18</sup> fluctuates, having increased by four per cent since 2017/18 but decreased by four per cent since 2013/14. At the same time, the average response time to other building fires increased by 7 seconds (2%) since 2017/18 and by 30 seconds (6%) since 2013/14. (Source: [FIRE0305](#), [FIRE1001](#))

Dwelling fires with casualties (including fatalities) and/or rescues have had consistently faster average response times than the majority of dwelling fires where no casualties and/or rescues were involved ([Chart 8](#)). Although these comprise a relatively small number of incidents (around 10% of dwelling fires in the calculations since 2009/10) so are potentially more susceptible to fluctuations in average response times, the pattern is consistent across all years in the series. This difference in response times to dwelling fires with casualties and/or rescues compared with those without is most strongly apparent in the drive time (8 seconds faster in 2018/19) but less pronounced in the crew turnout (4 seconds faster in 2018/19), while the call handling time is around the same or higher (1 second slower in 2018/19), from 2009/10 to 2018/19. This suggests that, while dwelling fires are responded to most quickly of all primary fire types ([Table 1](#)), response times appear to reduce even more for higher risk incidents which are likely to involve casualties or rescues, if it has been possible to collect this information from the caller.

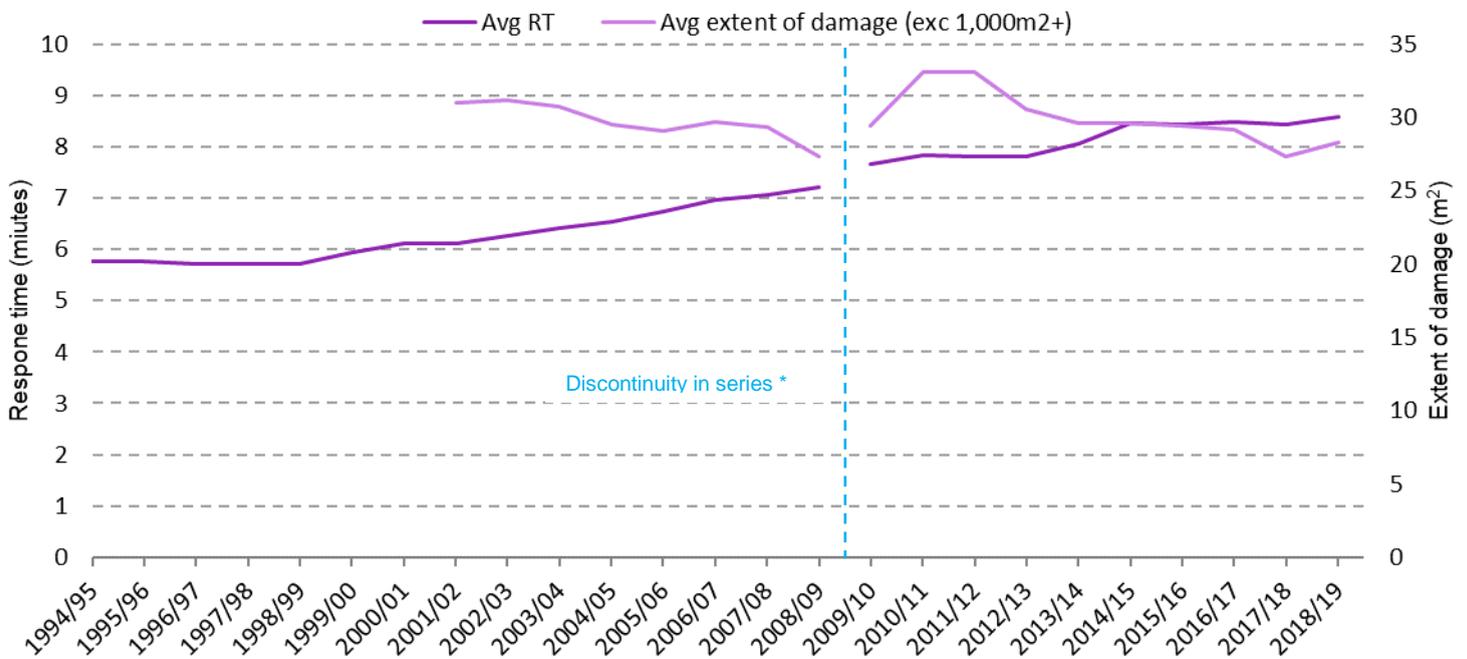
**Chart 8 Average total response times (Avg RT) to dwelling fires with and without casualties or rescues and average extent of damage (excluding 5,000+ m<sup>2</sup>) for dwelling fires, England; 1994/95 to 2018/19**



Source: [FIRE0204](#), [FIRE1002](#)

Notes: \* See the [definitions document](#) on the discontinuity in series.

**Chart 9 Average total response times (Avg RT) and average extent of damage (excluding 1,000+ m<sup>2</sup>) for 'other building' fires, England; 1994/95 to 2018/19**



Source: [FIRE0305](#), [FIRE1001](#)

Notes: \* See the [definitions document](#) on the discontinuity in series.

As noted in [Chapter 3](#), the long-term trend has been an increase in total response times, yet the average area of damage in both dwelling and 'other building' fires has been decreasing ([Chart 8](#), [Chart 9](#)).<sup>9</sup> This would seem counterintuitive as it could be assumed that increased response time would lead to increased spread. However, this assumption may be being countered by improved early detection (the proportion of households with a working smoke alarm has remained high<sup>10</sup>), the gradual replacement of old furnishings with newer materials with improved fire resisting properties, new buildings with sprinkler systems and numerous other factors which are difficult to quantify.<sup>11</sup>

Another factor outside the direct control of fire and rescue services are the times between ignition and discovery of the fire, and between discovery and calling the emergency services. Estimates of these times are recorded in the online IRS based on firefighter and investigator knowledge of fire development and any additional information from witnesses. [Chart 10](#) and [Chart 11](#) show the distribution of these times for dwelling fires with and without casualties or rescues. Overall, fires with casualties/rescues tended to have longer between ignition and discovery and discovery and calling the emergency services. For example, in 38% of dwelling fires **with** casualties or rescues the time between ignition and discovery was five to 30 minutes (30% for fires without). Dwelling fires **without** casualties or rescues had a greater proportion (58%) where there was no delay or a delay of less than five minutes compared with dwelling fires with casualties or rescues (47%) ([Chart 10](#)). Similarly, in 45% of dwelling fires **with** casualties or rescues the time between discovery of the fire and calling the emergency services had delays of less than five minutes (36% for fires without) and 13 per cent had delays of five to 30 minutes (7% for fires without). More than half of fires **without** casualties or rescues had no delay between discovery and call compared with 37% for those dwelling fires with casualties or rescues ([Chart 11](#)). Despite FRSs responding to dwelling fires leading to casualties or rescues more quickly than to those without ([Chart 8](#)), these are more often the fires which have had longer to develop before the FRS has even been notified, which may be a contributing factor to the negative outcome.

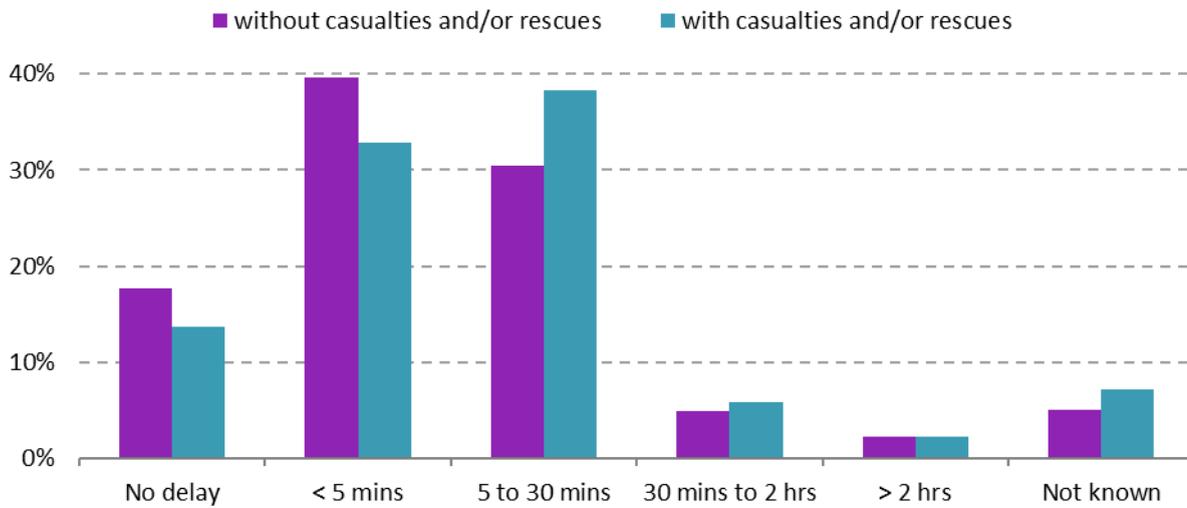
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<sup>9</sup> See [Detailed analysis of fires attended by fire and rescue services, England, April 2018 to March 2019](#).

<sup>10</sup> See [Fire prevention and protection statistics, England, April 2018 to March 2019](#).

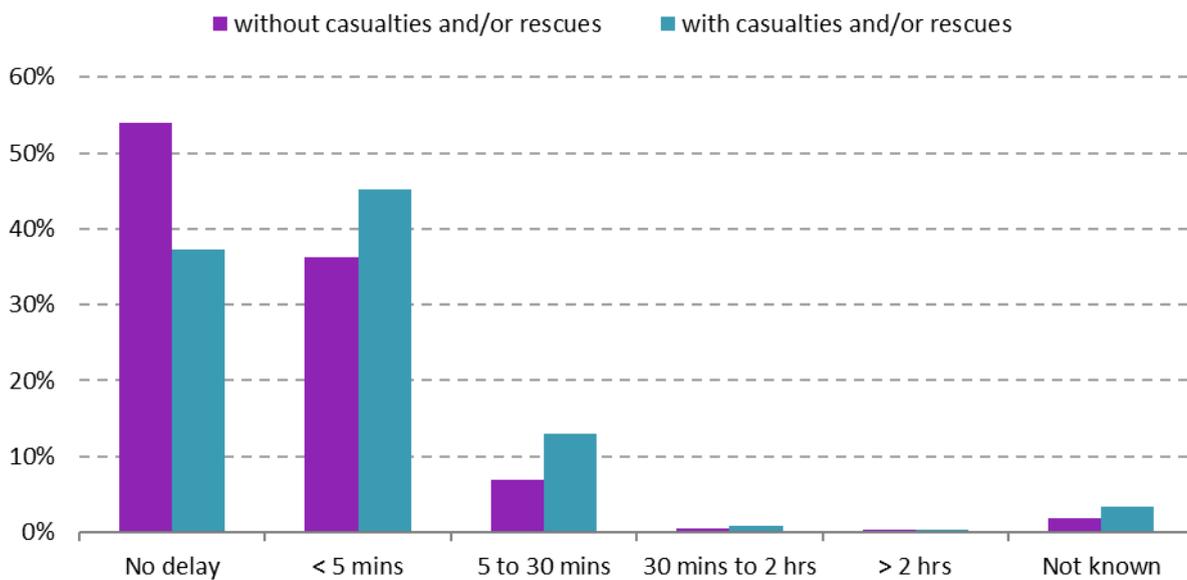
<sup>11</sup> See [Focus on trends in fires and fire-related fatalities](#) for a more in-depth look at factors that have influenced trends in fire incidents and fire-related fatalities.

**Chart 10 Delays between ignition and discovery of dwelling fires with and without casualties or rescues, England; combined data for 2009/10 to 2018/19**



Source: [FIRE1002](#)

**Chart 11 Delays between discovery and calling 999 for dwelling fires with and without casualties or rescues, England; combined data for 2009/10 to 2018/19**



Source: [FIRE1002](#)

## 6 Analysis of changes to methodology

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For the calculation of the (mean) average response times to fires for data from 2009/10 onwards, certain incidents are excluded from the data set (see [Chapter 1](#) for further discussion of these):

- a. For road vehicle fires, where the road vehicle was abandoned.
- b. Where the location of the fire was a derelict property.
- c. Where an FRS learned of the fire when it was known to have already been extinguished (known as 'late calls').
- d. Where the total response time for an incident was over an hour or less than one minute.
- e. Where the sequence of events (time of call → mobilisation → vehicle mobile → arrival at scene) in an incident are not recorded in a logical sequence, either through recording error (e.g. a vehicle appears to have arrived before it left) or absence of data (null values).

In previous years a further exclusion was applied:

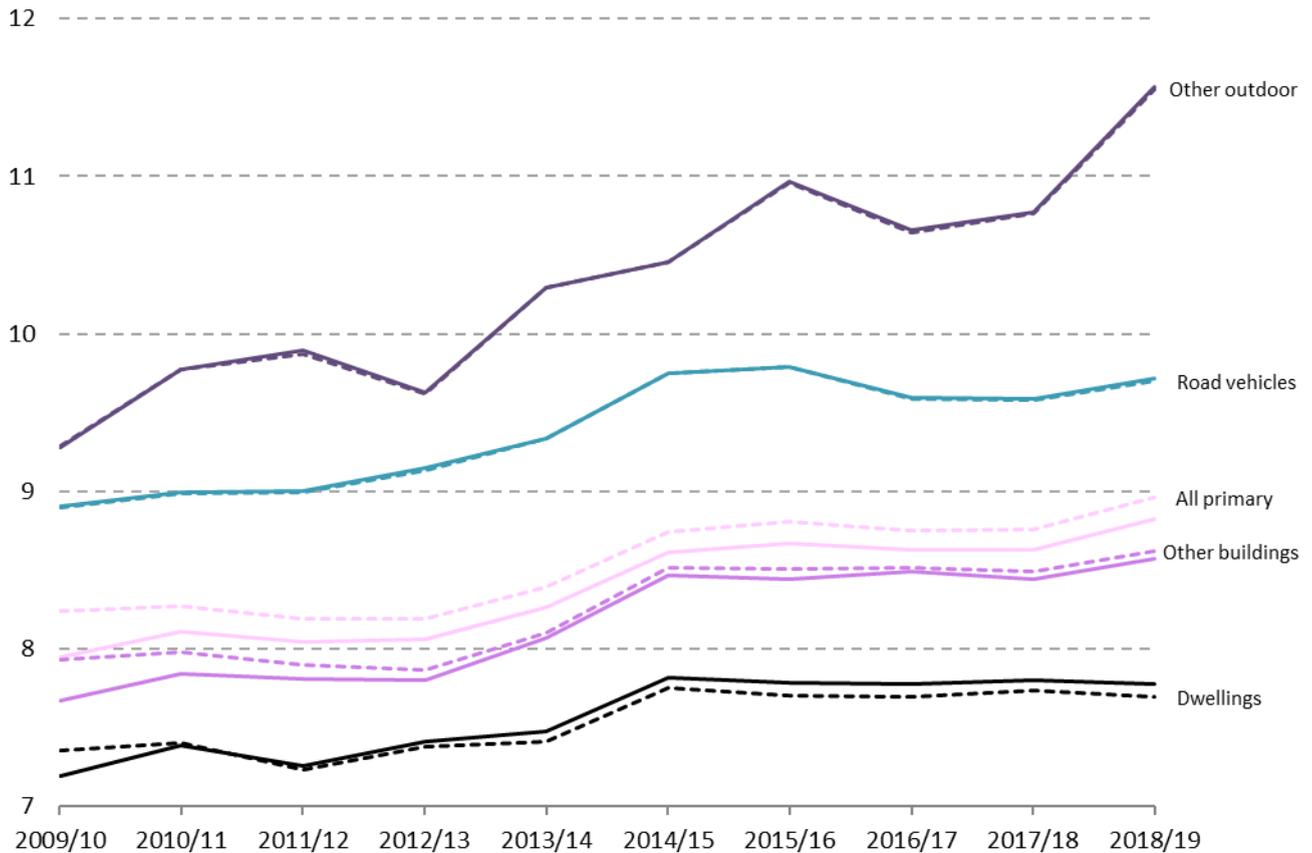
- f. Where there was heat and/or smoke damage only (no flame).

After a [public consultation](#), exclusion f) has been discarded for the main reported response times in this release (i.e. incidents where there was heat and/or smoke damage only are now **included** in the average response times calculations). This decision was based on responses to the consultation, all of which supported including these incident types. The IRS question this variable is based on is asked only for primary fires and so does not affect secondary fires.

The effect of retaining heat and/or smoke damage only incidents on the current data set is to increase the number of incidents included by an average of 26 per cent in each year for all primary fires but by an average of 48 per cent for dwelling fires. The effect on calculated average response times is a decrease of four per cent (approximately 17 seconds) to primary fires in 2009/10, gradually reducing to a decrease of two per cent (eight seconds) in 2018/19, with some variation between years and different primary locations. All the main primary fire types show increases in average total response times in the more recent part of the series when heat and/or smoke damage only incidents are included, except for other buildings which shows decreases of two to four seconds. It may seem paradoxical at first that mostly increases in the main primary types can add up to a larger *decrease* for all primary fires together when heat and/or smoke damage only incidents are included, but this is due to the fact that most of these additional incidents are dwelling fires, meaning that the proportion of all primary fires which are dwelling fires increases, weighting the average for all primary fires towards the faster response times.

Although this adds to the methodological discontinuity with the calculations for pre-IRS years, there are now sufficient years of comparable data from the IRS to show meaningful trends while noting that absolute comparisons should not be made between pre- and post-IRS average response times.

**Chart 12 Comparison of average total response time to primary fire types including (solid lines) or excluding (dashed lines) heat and/or smoke damage only incidents, England; 2009/10 to 2018/19**



Source: [FIRE1001](#)

To give users a chance to fully investigate this change for themselves, the data are presented both with the new method and the old method (i.e. retaining exclusion f) in data tables [FIRE1001](#), [1002](#) and [1004](#). It is not intended to repeat this dual running of calculation methods in following years.

[Table 4](#) and [Table 5](#) below show the effect of going from excluding heat and smoke damage only incidents to including them, by number seconds different and per cent change.

**Table 4 Change (seconds) in average total response times to fires caused by including heat and/or smoke damage only incidents, England; 2009/10 to 2018/19**

	09/10	10/11	11/12	12/13	13/14	14/15	15/16	16/17	17/18	18/19
<b>All primary fires</b>	<b>-17</b>	<b>-10</b>	<b>-8</b>	<b>-8</b>	<b>-7</b>	<b>-8</b>	<b>-9</b>	<b>-7</b>	<b>-7</b>	<b>-8</b>
<b>Dwellings</b>	<b>-10</b>	<b>-1</b>	<b>2</b>	<b>2</b>	<b>4</b>	<b>4</b>	<b>5</b>	<b>5</b>	<b>4</b>	<b>5</b>
House/bungalow	-3	1	5	5	6	4	7	6	5	7
Flats	-10	0	1	2	4	7	6	5	6	5
Other dwellings	-13	-8	-5	-6	-3	-4	-1	0	-5	-3
<b>Other buildings</b>	<b>-16</b>	<b>-8</b>	<b>-5</b>	<b>-4</b>	<b>-2</b>	<b>-3</b>	<b>-4</b>	<b>-2</b>	<b>-3</b>	<b>-3</b>
Other residential	-17	-5	0	2	0	5	-6	2	0	3
Non residential	-15	-8	-5	-4	-1	-3	-3	-2	-3	-2
<b>Road vehicles</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>1</b>
<b>Other outdoor</b>	<b>-1</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>1</b>

**Table 5 Change (per cent) in average total response times to fires caused by including heat and/or smoke damage only incidents, England; 2009/10 to 2018/19**

	09/10	10/11	11/12	12/13	13/14	14/15	15/16	16/17	17/18	18/19
<b>All primary fires</b>	<b>-4%</b>	<b>-2%</b>	<b>-2%</b>	<b>-2%</b>	<b>-1%</b>	<b>-2%</b>	<b>-2%</b>	<b>-1%</b>	<b>-1%</b>	<b>-2%</b>
<b>Dwellings</b>	<b>-2%</b>	<b>0%</b>	<b>0%</b>	<b>0%</b>	<b>1%</b>	<b>1%</b>	<b>1%</b>	<b>1%</b>	<b>1%</b>	<b>1%</b>
House/bungalow	-1%	0%	1%	1%	1%	1%	1%	1%	1%	1%
Flats	-2%	0%	0%	0%	1%	2%	1%	1%	1%	1%
Other dwellings	-3%	-2%	-1%	-1%	-1%	-1%	0%	0%	-1%	-1%
<b>Other buildings</b>	<b>-3%</b>	<b>-2%</b>	<b>-1%</b>	<b>-1%</b>	<b>0%</b>	<b>-1%</b>	<b>-1%</b>	<b>0%</b>	<b>-1%</b>	<b>0%</b>
Other residential	-4%	-1%	0%	0%	0%	1%	-1%	0%	0%	1%
Non residential	-3%	-2%	-1%	-1%	0%	-1%	-1%	0%	0%	0%
<b>Road vehicles</b>	<b>0%</b>									
<b>Other outdoor</b>	<b>0%</b>									

## 7 Further information

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This release contains statistics about incidents attended by fire and rescue services (FRSs) in England. The statistics are sourced from the [Home Office's online Incident Recording System \(IRS\)](#). This system allows FRSs to complete an incident form for every incident attended, be it a fire, a false alarm or a non-fire incident (also known as a Special Service). The online IRS was introduced in April 2009. Previously, paper forms were submitted by FRSs and an element of sampling was involved in the data compilation process.

Fire and Rescue Incident Statistics and other Home Office statistical releases are available from the [Statistics at Home Office](#) pages on the GOV.UK website.

Data tables linked to this release and all other fire statistics releases can be found on the Home Office's 'Fire statistics data tables' page. The sections below state the most relevant tables for each section. The tables can be found here: <https://www.gov.uk/government/statistical-data-sets/fire-statistics-data-tables>

Guidance for using these statistics and other fire statistics outputs is available on the fire statistics collection page, found here: <https://www.gov.uk/government/statistical-data-sets/fire-statistics-guidance>.

The information published in this release is kept under review, taking into account the needs of users and burdens on suppliers and producers, in line with the [Code of Practice for Statistics](#). If you have any comments, suggestions or enquiries, please contact the team via email using [firestatistics@homeoffice.gov.uk](mailto:firestatistics@homeoffice.gov.uk) or via the user feedback form on the fire statistics collection page.

### Revisions

The IRS is a continually updated database, with FRSs adding incidents daily. The figures in this release refer to records of incidents that occurred up to and including 31 March 2019. This includes incident records that were submitted to the IRS by 26 September 2019, when a snapshot of the database was taken for the purpose of analysis. As a snapshot of the dataset was taken on 26 September 2019, the statistics published may not match those held locally by FRSs and revisions may occur in the future. This is particularly the case for statistics with relatively small numbers, such as fire-related fatalities. For instance, this can occur because coroner's reports may mean the initial view taken by the FRS will need to be revised; this can take many months, even years, to do so.

### Other related publications

[Home Office](#) publish five other statistical releases covering fire and rescue services:

- [Fire and rescue incident statistics, England](#): provides statistics on trends in fires, casualties, false alarms and non-fire incidents attended by fire and rescue services in England, updated quarterly.
- [Detailed analysis of fires attended by fire and rescue services in England](#): focuses on fires attended by fire and rescue services across England, and fire-related fatalities and non-fatal casualties in those fires; including analyses of the causes of fires and smoke alarms ownership and operation.
- [Detailed analysis of non-fire incidents attended by fire and rescue services, England](#): focuses on non-fire incidents attended by fire and rescue services across England, including analysis on overall trends, fatalities and non-fatal casualties in non-fire incidents, and further detailed analysis of different categories of non-fire incidents.

- [Fire and rescue workforce and pensions statistics](#): focuses on total workforce numbers, workforce diversity and information regarding leavers and joiners; covers both pension fund income and expenditure and firefighters' pension schemes membership; and includes information on incidents involving attacks on firefighters.
- [Fire prevention and protection statistics, England](#): focuses on trends in smoke alarm ownership, fire prevention and protection activities by fire and rescue services.

The [Ministry of Housing, Communities & Local Government](#) publish one statistical release on fire:

- [English housing survey: fire and fire safety report](#): focuses on the extent to which the existence of fire and fire safety features vary by household and dwelling type.

Fire statistics are published by the other UK nations:

Statistics for [Scotland](#) and [Wales](#) are published based on the IRS. [Northern Ireland](#) fire statistics are published by the Northern Ireland Fire and Rescue Service using data from a system similar to the Incident Recording System, which means that they are not directly comparable to English, Welsh and Scottish data.

This statistical bulletin is produced to the highest professional standards and is free from political interference. It has been produced by statisticians working in accordance with the Home Office's Statement of compliance with the [Code of Practice for Official Statistics](#), which covers Home Office policy on revisions and other matters. The Chief Statistician reports to the National Statistician with respect to all professional statistical matters and oversees all Home Office Statistics products with respect to the Code, being responsible for their timing, content and methodology.

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