

The economic cost of fire: estimates for 2008

Fire research report 3/2011

This research was commissioned by the previous government and is not necessarily a reflection of the current government's policies and priorities.

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Summary

The estimated total cost of fire for England in 2008 was **£8.3bn**.

This was similar to 2006, increasing only slightly by 1.0 per cent from £8.2bn (2006) to £8.3bn (2008). The cost of arson decreased to £1.7bn (2008) from £1.9bn (2006).

In terms of the main categories of cost, a comparison between 2006 and 2008 showed that the costs in anticipation and response increased, while the costs as a consequence reduced.

The main factors contributing to these changes in the estimates were considered to be:

- The increase in the number of hours spent on community fire safety activities and fire investigations which added to Fire and Rescue Service resource costs. While the fire safety labour cost per hour rose with inflation, the actual number of hours Fire and Rescue Services devoted to fire safety activities increased much more rapidly. This type of activity represents the drive by the Fire and Rescue Service to better fire prevention. It is worth noting that the datasets for hours spent on community fire safety activities and fire investigations for 2008 were more complete than they were for 2006.
- The rise in capital costs between 2006 and 2008 according to the Chartered Institute of Public Finance and Accountancy statistics. These figures were taken directly from the Institute's statistics, so the reason for the increase was unknown to the authors of this summary.

Additional factors contributing to changes in the estimates were:

- The overall decrease in the number of fatalities – each fatality was estimated at £1.65m¹
- The decrease in the number of fatal and non-fatal casualties as a result of fires started deliberately – each fatality was estimated at £1.65m and each serious injury estimated to cost around £185,000.²

The Economic Cost of Fire: Estimates for 2006 included suggestions for further research to improve the Model. For further information please refer to the 2006 report.

¹ The value of a fatality in 2005 was taken from Department for Transport (2007) Highways Economic Note 1:2005 Valuation of the Benefits of Prevention of Road Accidents and Casualties and updated using the Retail Price Index to provide a value for a fatality in 2008.

² The value of a serious injury in 2005 was taken from Department for Transport (2007) Highways Economic Note 1:2005 Valuation of the Benefits of Prevention of Road Accidents and Casualties and updated using the Retail Price Index to provide a value for a serious injury in 2008.

Introduction

The methodology for estimating the cost of fire to the economy was revised and updated as part of the production of the 2006 cost of fire estimates. This document, using the model developed as part of the 2006 update, provides tables and estimates for the cost of fire for 2008 in England.

To produce these supplementary tables the following data were updated to 2008:

- Fire and Rescue Service incident data (taken from fire damage reports)
- Chartered Institute of Public Finance and Accountancy statistics
- Property damage and lost business data (from the Association of British Insurers and National Health Service Litigation Authority); and
- Population data.

Prices (estimates prior to 2008) were inflated using the retail price index (e.g. the value of a fatality, average cost of fire safety labour, etc) (see table 24 at the end of this summary for a list of general price assumptions used in the model).

The underlying non price assumptions used for the 2006 estimates remained the same. For more detail of how the 2006 estimates were calculated, as well as the data and assumptions used see the *Economic Cost of Fire: Estimates for 2006*.

It should be noted that the costs included in this report are only estimates. They should be used with caution for a number of reasons:

- The mechanism for generating the estimates is in essence a "model". While every effort has been made to make the model represent as fully as possible the cost of fire to the economy, it will always remain subject to refinement and improvement. For example additional cost elements that cannot at present be monetised could in future, once the data becomes available, be added in
- Considerable advice was taken and discussion had when the model (described in the *Economic Cost of Fire: Estimates for 2006*) was developed. It should be noted that a different approach would produce different estimates
- The quality of the estimates produced also relies upon the completeness and validity of the various data sources used. Again while every effort has been made to use the best possible information, any lack of validity or completeness of the data will challenge the integrity of the model

- Some of the underlying data used to produce these estimates is subject to natural variation, peaks and troughs that will have an impact on the cost of fire. Equally some of the data elements are subject to price inflation, this again would have an impact in the estimates produced.

What are the costs of fire?

Estimates of the costs of fire are broken down into three separate categories:

Costs in anticipation

The costs of measures designed to either prevent fires or protective measures to mitigate the damage caused by fires. Key variables that were monetised as part of the costs in anticipation included:

- total costs of active (e.g. sprinklers) and passive (e.g. fire walls) fire protection in buildings
- resource and capital costs of training and fire safety
- non-pay related costs
- total insurance administration.

Costs as a consequence

The costs as a result of fires, including damage to properties, loss of business, and the costs of human injury and death. Key variables that were monetised as part of the costs as a consequence included:

- total cost of fatal and non-fatal casualties
- total cost of lost business
- costs of property damage
- costs to victims, the police, criminal justice system and prison service.

Costs in response

The costs as a result of reported incidents, which typically include the cost of the Fire and Rescue Service responding to fires, false alarms, etc. Key variables that were monetised as part of the costs in response included:

- Fire and Rescue Service resource costs in response to fire-related incidents
- capital costs in response to fire-related incidents.

These estimates were produced using the same methodology as the 2006 estimates, the only changes between 2006 and 2008 being the underlying data, which, where new data was readily available, was updated accordingly. Table 1 summarises the changes in underlying data that contribute to the overall cost of fire estimates.

Table 1: Comparisons of underlying data between 2006 and 2008				
Data element	Change 2006 to 2008 ³	Relevance to costs in anticipation	Relevance to costs as a consequence	Relevance to costs in response
Number of incidents	-18%	✓	✓	✓
Number of fatalities	-21%		✓	
Number of injuries	-16%		✓	
Population	+2%	✓	✓	✓
Value of ABI ¹ claims as a result of fire	+12%		✓	
Total FRS net expenditure ²	+7%	✓		✓
¹ – Association of British Insurers ² – In order to determine Fire and Rescue Service resource costs, the costs in anticipation (i.e. fire safety activities, fire investigations and community fire safety) and costs of Special Service Incidents were removed to avoid double counting costs ³ – adjusted for inflation where appropriate using the retail price index				

The number of incidents is clearly one of the main drivers for the cost of fire to the economy. The number of incidents in each region in 2008 is presented in Tables 2 and 3 below. For more detail on fire incidents please refer to Fire Statistics United Kingdom 2008³.

³ <http://www.communities.gov.uk/fire/researchandstatistics/firestatistics/firestatisticsuk/>

Table 2: Number of incidents in England 2008

Region	Building fires	Non buildings fires	False alarms	All incidents ¹
North East	3,332	17,649	17,518	38,499
North West	11,201	37,844	42,602	91,647
Yorkshire & The Humber	6,258	28,047	34,657	68,962
East Midlands	5,063	15,590	23,524	44,177
West Midlands	6,549	21,576	31,694	59,819
East of England	5,628	14,643	29,476	49,747
South East	8,509	21,004	47,283	76,796
South West	5,646	13,748	24,510	43,904
London	9,637	20,028	63,906	93,571
ENGLAND	61,823	190,129	315,170	567,122

¹ – The totals do not include Special Service Incidents

Table 3: Number of incidents in England (per million population) 2008

Region	Building fires	Non buildings fires	False alarms	All incidents ¹
North East	1,294	6,853	6,802	14,948
North West	1,629	5,504	6,196	13,329
Yorkshire & The Humber	1,200	5,380	6,648	13,228
East Midlands	1,142	3,517	5,307	9,966
West Midlands	1,210	3,987	5,857	11,055
East of England	982	2,556	5,145	8,684
South East	1,015	2,506	5,642	9,164
South West	1,084	2,640	4,707	8,432
London	1,265	2,628	8,387	12,280
ENGLAND	1,202	3,696	6,126	11,024

¹ – The totals do not include Special Service Incidents

1 Estimates for the total cost of fire in England for 2008

The **cost of fire in England for 2008 was estimated at £8.3bn**. This included both deliberate and accidental fires (and false alarms). Of this total cost, **arson accounted for £2.3bn**, or 27 per cent of the total cost of fire.

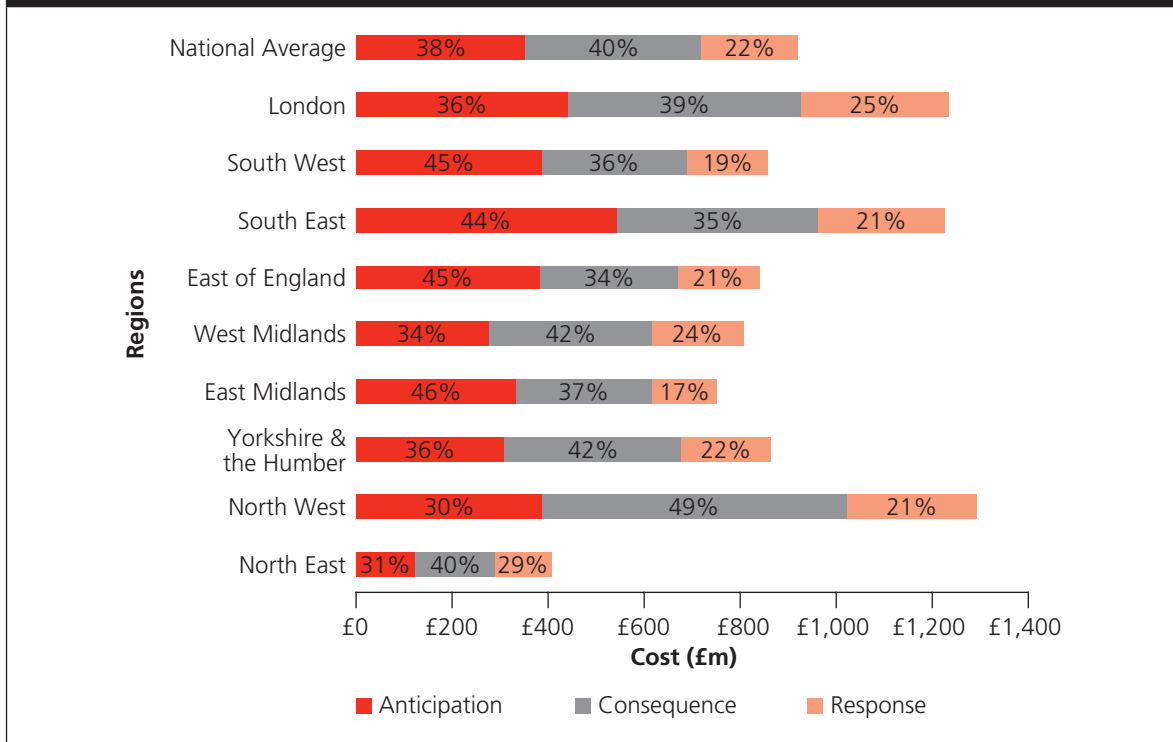
A regional breakdown of costs is presented below. Overall the cost in anticipation, as a consequence and in response to fires varied across the regions. However this is a reflection of the variety in the number of incidences occurring in the different regions and not a reflection on individual Fire and Rescue Services. The cost per person was similar in each region. The results are shown in Table 5 and Figure 1 below.

Table 4: Estimates for the total cost of fire

Area	Anticipation (£m)	Consequence (£m)	Response (£m)	Total (£m)
ENGLAND	£3,185	£3,285	£1,807	£8,277

Table 5: Estimates for the total cost of fire by region						
Region	Anticipation (£m)	Consequence (£m)	Response (£m)	Total (£m)	Cost per 1,000 population (£)	Cost per person (£) ¹
North East	£125	£164	£119	£408	£158,362	£158
North West	£385	£638	£271	£1,293	£188,117	£188
Yorkshire & The Humber	£310	£367	£186	£863	£165,449	£165
East Midlands	£334	£283	£132	£749	£168,951	£169
West Midlands	£276	£340	£192	£807	£149,159	£149
East of England	£383	£286	£173	£841	£146,813	£147
South East	£543	£422	£261	£1,225	£146,233	£146
South West	£386	£304	£166	£855	£164,289	£164
London	£444	£482	£308	£1,235	£162,056	£162
NATIONAL AVERAGE	£354	£365	£201	£920	£161,048	£161
ENGLAND	£3,185	£3,285	£1,807	£8,277	£160,887	£161

¹ – Based on regional populations

Figure 1: Estimates for the total cost of fire by region 2008

The economic cost of fire, estimated at £8.3bn for 2008, represented 0.91 per cent of Gross Value Added⁴ in England. This figure was similar in 2006 when the economic cost of fire was estimated at £8.2bn and represented 0.90 per cent of Gross Value Added. Table 6 provides a breakdown of the percentage of Gross Value Added each element of the cost of fire represented.

Table 6: Estimates as a percentage of Gross Value Added in England 2008

	Anticipation	Consequence	Response	Total	Arson
Cost as a % of GVA in England	0.32%	0.36%	0.20%	0.91%	0.19%

⁴ English Gross Value Added is used as a reference for the scale of the costs being estimated – by comparing them with the size of the overall economy. Gross Value Added is a measure of the total economic value of goods and services produced in an area or sector of an economy minus the cost of the raw materials and other inputs used to produce them. This, measures the contribution or value added and can be used as a measure of economic performance. This method does not imply that the cost of fire contributes to the economy.

A comparison of each element of the estimated total cost, between 2006 and 2008, showed the following:

- Costs in **anticipation** increased modestly, mainly accounted for by increases in resource capital, non pay-related costs (by 140%)
- Costs as a **consequence** fell. This was as a result of a fall in the number of incidents (by 18%), which reduced the cost of fatalities and injuries
- There was a substantial increase in costs in **response**. The increases were due to an increase in capital costs (of 150%), which increased the average response cost
- The total cost of **arson** (already included in the total cost of fire) decreased substantially. This was due to a fall in the number of deliberate fire-related fatal and non fatal casualties, reducing the cost by 20 per cent. The cost of dealing with non-detected arsons also decreased (by 30%) (see Section 2 below).

Table 7: Comparison of headline results for 2006 and 2008

	Costs in anticipation (£m)	Costs as a consequence (£m)	Costs in response (£m)	Total costs (£m)	Arson (£m)
2006	£3,099m	£3,433m	£1,665m	£8,197m	£1,882m
2008	£3,185m	£3,285m	£1,807m	£8,277m	£1,701m
% change	2.8%	-4.3%	8.5%	1.0%	-9.6%

1.1 Estimates for the costs in anticipation of fire

Table 8 shows the headline results for the costs in anticipation of fire for 2008. The total costs in anticipation for England were estimated at **£3.2bn** and represented 0.32 per cent of Gross Value Added in England for 2008. This compared with estimated costs of £3.1bn in 2006 (0.34% of Gross Value Added).

The costs in anticipation varied across the regions – the cost per person was higher in the East Midlands and South West and lower in the North East and West Midlands. The variation across the regions is a reflection of the variety in the number of incidences occurring in the different regions and not a reflection on individual Fire and Rescue Services. These figures are estimates only and should be treated with caution.

Table 8: Estimates for the costs in anticipation of fire

Regions	Insurance administration costs (£m)	Total cost of fire protection in buildings (£m)	Resource, capital, non-pay related costs (£m)	Total (£m)	Cost per 1,000 population (£)	Cost per person (£) ¹
North East	£29	£92	£4	£125	£48,400	£48
North West	£78	£291	£16	£385	£56,020	£56
Yorkshire & The Humber	£57	£245	£8	£310	£59,423	£59
East Midlands	£49	£282	£4	£334	£75,394	£75
West Midlands	£59	£208	£8	£276	£50,938	£51
East of England	£62	£317	£4	£383	£66,823	£67
South East	£91	£442	£10	£543	£64,758	£65
South West	£59	£321	£5	£386	£74,061	£74
London	£82	£349	£13	£444	£58,321	£58
ENGLAND	£568	£2,546	£71	£3,185	£61,912	£62

¹ – Based on regional populations

1.2 Estimates for the costs as a consequence of fire

Table 9 shows the headline results for the costs as a consequence of fire for 2008. The total costs as a consequence for England were estimated at **£3.3bn**. This cost was primarily attributable to the costs of fatal and non-fatal casualties at £1.4bn and property damage at just under £1.5bn. Costs to the police and prison services of responding to arson resulted in a cost of approximately £350m and lost business at £45m.

The estimated costs as a consequence of fire for England in 2008 represented 0.36 per cent of Gross Value Added. This compared with an estimate of £3.4bn in 2006, representing 0.38 per cent of Gross Value Added.

The costs as a consequence varied across the regions. For cost per person, the cost was highest in the North West and lowest in the East of England and South East. The variation across the regions is a reflection of the variety in the number of incidences occurring in the different regions and not a reflection on individual Fire and Rescue Services. These figures are estimates only and should be treated with caution.

Table 9: Estimates for the costs as a consequence of fire

Region	Total cost of fatal and non-fatal casualties (£m)	Total cost to police and prison service of dealing with arson (£m)	Property damage (£m)	Lost business (£m)	Total (£m)	Cost per 1,000 population (£)	Cost per person (£) ¹
North East	£47	£34	£81	£2	£164	£63,727	£64
North West	£279	£82	£269	£7	£638	£92,724	£93
Yorkshire & the Humber	£153	£57	£152	£5	£367	£70,325	£70
East Midlands	£123	£28	£128	£4	£283	£63,784	£64
West Midlands	£132	£41	£162	£5	£340	£62,803	£63
East of England	£120	£23	£138	£4	£286	£49,847	£50
South East	£174	£33	£209	£6	£422	£50,343	£50
South West	£138	£21	£141	£4	£304	£58,434	£58
London	£236	£25	£214	£6	£482	£63,300	£63
ENGLAND	£1,402	£345	£1,494	£45	£3,285	£63,854	£64

¹ – Based on regional populations

1.3 Estimates for the costs in response to fire

Table 10 shows the headline results for the costs in response to fire for 2008. These included the resource and capital costs incurred specifically in response to fire-related activities. The total response costs for England were estimated to be **£1.8bn**, with an average response cost per incident in England estimated at £3,186.

The costs in response to fire for England in 2008 represented 0.20 per cent of Gross Value Added, compared with the 2006 estimates of £1.7bn, representing 0.18 per cent of Gross Value Added.

The cost per person was highest in the North East and lowest in the East Midlands, East of England, South East and South West. The variation across the regions is a reflection of the variety in the number of incidences occurring in the different regions and not a reflection on individual Fire and Rescue Services. These figures are estimates only and should be treated with caution.

Table 10: Estimates for the costs in response to fire

Regions	Number of incidents ¹	Resource costs ² (£m)	Capital costs ² (£m)	Total response costs ³ (£m)	Average response cost (£/incident)	Cost per 1,000 population (£)	Cost per person (£) ⁴
North East	38,499	£109	£10	£119	£3,093	£46,235	£46
North West	91,647	£250	£20	£271	£2,954	£39,373	£39
Yorkshire & The Humber	68,962	£175	£11	£186	£2,699	£35,702	£36
East Midlands	44,177	£122	£10	£132	£2,988	£29,773	£30
West Midlands	59,819	£175	£16	£192	£3,204	£35,417	£35
East of England	49,747	£165	£8	£173	£3,471	£30,143	£30
South East	76,796	£238	£23	£261	£3,397	£31,131	£31
South West	43,904	£140	£25	£166	£3,771	£31,794	£32
London	93,571	£274	£34	£308	£3,293	£40,435	£40
ENGLAND	567,122	£1,649	£157	£1,807	£3,186	£35,121	£35
<p>1 – Excludes Special Service Incidents 2 – These include the costs associated with attacks on firefighters, vehicles and equipment 3 – Does not include the opportunity costs of false alarms 4 – Based on regional populations</p>							

1.4 Estimates for the cost of fire by building type

Costs by building type were calculated for costs as a consequence and in response only. Costs in anticipation were not included, because the costs related to the total number of each type of building, not to the number of fires. For example, the cost of installing fire protection in buildings depends on the total number of domestic buildings that protection is installed in regardless of the number of fires that actually occur. Consequential and response costs related to the number of fires in each building type and were based on Fire Damage Report 1 data.

Table 11 summarises the average cost of fire by building type across the regions. Non-building fires refer to other outdoor structures including post boxes, tunnels, bridges, etc.⁵. The costs for each building type were similar across each region with minor variations.

⁵ Fire Statistics, United Kingdom, 2008, DCLG <http://www.communities.gov.uk/publications/corporate/statistics/firestatisticsuk/>

Table 11: Estimates for average costs by building type and region

Region	North East	North West	Yorkshire & The Humber	East Midlands	West Midlands	East of England	South East	South West	London	ENGLAND
Fires in buildings										
Total domestic	£34,634	£47,202	£47,197	£46,343	£41,293	£42,902	£41,269	£44,216	£48,092	£44,523
Total commercial	£81,021	£81,104	£73,623	£86,247	£72,135	£72,640	£78,204	£74,996	£69,207	£75,881
Public sector	£74,019	£65,694	£66,242	£59,703	£56,787	£62,706	£65,992	£64,733	£62,301	£63,853
Total non buildings fires	£5,582	£5,969	£5,618	£6,539	£6,704	£7,027	£7,136	£8,439	£6,078	£6,412
<p>Total average cost does not include anticipation. Breakdown of anticipation costs by building types requires detailed breakdown of building stock data. This level of building stock data is not currently publicly available.</p> <p>Non building fires costs do not include costs related to property damage as this data is not reported on or disaggregated in Association of British Insurers data.</p> <p>Includes the average cost of arson</p>										

2 Estimates for the cost of arson

Table 12 shows the headline results for the costs of arson for 2008. The cost of arson in England was estimated to be **£1.7bn** which was approximately 14 per cent of the total cost of fire in 2008. However, this did not include the environmental and social costs associated with arson, which were not monetised as part of this study (see *Economic Cost of Fire: Estimates for 2006* for more information on environmental and social costs). The cost of arson is not additional to the overall cost of fire – it is included in the overall cost of fire presented above.

The cost of arson in England was estimated at £1.9bn in 2006, which was 23 per cent of the total cost of fire in 2006 and 0.21 per cent of Gross Value Added in England in 2006. As a means of comparison the cost of arson at £1.7bn represented 0.19 per cent of Gross Value Added in England in 2008.

Table 12 and Figure 2 below show that the cost per person for arson was highest in the North West, and more than twice the lowest costs in areas such as the South East, East of England and London. The regional variations are accounted for by the variations in the number of incidents. These figures are estimates only and should be treated with caution.

Table 12: Estimates for the costs of arson

Region	Anticipation ¹ (£m)	Consequence (£m)	Response (£m)	Total (£m)	Cost per 1,000 population (£)	Cost per person (£) ²
North East	–	£77	£49	£126	£48,936	£49
North West	–	£255	£113	£368	£53,517	£54
Yorkshire & The Humber	–	£162	£72	£235	£44,992	£45
East Midlands	–	£104	£41	£145	£32,685	£33
West Midlands	–	£135	£63	£198	£36,648	£37
East of England	–	£90	£40	£131	£22,815	£23
South East	–	£137	£58	£195	£23,227	£23
South West	–	£91	£40	£130	£25,011	£25
London	–	£125	£49	£174	£22,807	£23
ENGLAND	–	£1,178	£524	£1,701	£33,067	£33

¹ – Anticipation costs for arson were not calculated as it was not possible to apportion those costs that may be attributable to anticipating arson specifically as opposed to those costs of anticipating fire in general. However, note that overall anticipation costs have been estimated in Table 8 above.

² – Based on regional populations

Figure 2: Estimates for the cost of arson by region (consequence and response costs only)



2.1 Estimates for the costs as a consequence of arson

The elements of the cost of arson can be seen in Table 13 below. The estimate for the cost of arson included fatal and non-fatal casualties, Fire and Rescue Service response costs, criminal justice system costs, costs to the police/Crown Prosecution Service, the prison service, property damage and business interruption costs.

Table 13: Estimates for the cost of arson – costs as a consequence only

Region	Costs of non-detected arsons (£m)	Charge / summons (£m)	Caution (£m)	Taken into consideration (£m)	Penalty notice for disorder (£m)	Non-sanction detection (£m)	Costs to the prison service (£m)	Total cost to police and prison service (£m)	Total cost of fatal and non-fatal casualties (£m)	Property damage (£m)	Lost business (£m)	Total (£m)
North East	£16	£12	£0.5	£0.1	£0.2	£0.1	£6	£34	£8	£34	£0.75	£77
North West	£38	£28	£1.3	£0.2	£0.5	£0.3	£14	£82	£59	£112	£2.31	£255
Yorkshire & The Humber	£26	£20	£0.9	£0.1	£0.4	£0.2	£10	£57	£43	£62	£1.29	£162
East Midlands	£13	£10	£0.4	£0.1	£0.2	£0.1	£5	£28	£24	£51	£1.03	£104
West Midlands	£19	£14	£0.6	£0.1	£0.3	£0.2	£7	£41	£32	£61	£1.38	£135
East of England	£10	£8	£0.4	£0.1	£0.1	£0.1	£4	£23	£22	£44	£0.92	£90
South East	£15	£11	£0.5	£0.1	£0.2	£0.1	£6	£33	£29	£74	£1.39	£137
South West	£10	£7	£0.3	£0.1	£0.1	£0.1	£4	£21	£21	£47	£0.96	£91
London	£12	£9	£0.4	£0.1	£0.2	£0.1	£4	£25	£42	£57	£1.00	£125
ENGLAND	£158	£119	£5.3	£0.8	£2.2	£1.3	£58	£345	£279	£543	£11.02	£1,178

2.2 Estimates for the costs in response to arson

Based on data provided by Fire Damage Report 1 and Fire Damage Report 3 returns it was possible to separate the number of fires into deliberate and accidental. For the costs of arson, the results presented refer to deliberate fires only. For chimney fires all fires were assumed to be accidental. Resource costs of malicious false alarms were included. The number of deliberate incidents and costs varied across regions, however the cost per incident was similar in most areas, with the highest cost per incident in the South West.

Table 14: Estimates for the resource costs of arson incidents (and malicious false alarms)

Regions	Number of deliberate incidents ¹	Resource costs ² (£m)	Capital costs ² (£m)	Total response costs ³ (£m)	Average response cost (£ per incident)
North East	15,900	£45	£4	£49	£3,093
North West	38,099	£104	£8	£113	£2,954
Yorkshire & The Humber	26,701	£68	£4	£72	£2,699
East Midlands	13,605	£38	£3	£41	£2,988
West Midlands	19,679	£58	£5	£63	£3,204
East of England	11,653	£39	£2	£40	£3,471
South East	16,930	£52	£5	£58	£3,397
South West	10,492	£34	£6	£40	£3,771
London	14,736	£43	£5	£49	£3,293
ENGLAND	167,796	£480	£43	£524	£3,120
¹ – Excludes Special Service Incidents ² – These include the costs associated with attacks on firefighters, vehicles and equipment ³ – Does not include the opportunity costs of false alarms					

Appendix

The following tables include additional information used to estimate the cost of fire. (Please refer to the *Economic Cost of Fire: Estimates for 2006* for more information about how these costs have been used in the Model – Appendices B and C).

Estimates for the costs as a consequence

Table 15: Estimates for the economic costs of injuries and fatalities			
Region	Fatal (£m)	Serious injuries (£m)	Slight injuries (£m)
North East	£20	£22	£5
North West	£96	£165	£19
Yorkshire & The Humber	£77	£69	£7
East Midlands	£48	£69	£6
West Midlands	£69	£58	£4
East of England	£41	£74	£5
South East	£75	£91	£8
South West	£69	£61	£7
London	£56	£172	£9
ENGLAND	£552	£780	£70

Estimates for the costs in response

Table 16: Firefighting capital costs

Region	Capital costs of fire safety & training (£m)	Capital cost of SSIs ¹ (£m)	Response capital costs (£m)	FRS total capital cost (£m)
North East	£0.4	£1.6	£9.6	£11.6
North West	£1.1	£3.1	£20.4	£24.6
Yorkshire & The Humber	£0.8	£1.7	£11.1	£13.6
East Midlands	£0.6	£3.1	£9.9	£13.6
West Midlands	£1.2	£4.0	£16.4	£21.6
East of England	£0.4	£2.3	£8.1	£10.7
South East	£1.4	£7.8	£23.0	£32.1
South West	£2.0	£11.1	£25.3	£38.3
London	£1.4	£15.6	£33.8	£50.8
ENGLAND	£9.3	£50.2	£157.5	£217.0
¹ Special Service Incidents				

Table 17: Marginal cost of a false alarm

Region	Equipment running costs	Mobilisation	Resource costs	Total MC of a false alarm
North East	£6.95	£1.66	£54.45	£63.06
North West	£4.26	£1.69	£55.34	£61.30
Yorkshire & The Humber	£7.28	£1.73	£56.56	£65.57
East Midlands	£11.87	£1.66	£54.23	£67.76
West Midlands	£6.35	£1.97	£64.42	£72.73
East of England	£10.51	£1.93	£63.15	£75.59
South East	£9.87	£1.88	£61.52	£73.27
South West	£12.89	£1.85	£60.56	£75.30
London	£12.32	£2.02	£82.25	£96.58
ENGLAND	£9.16	£1.83	£59.58	£70.57

Table 18: Estimating the response resource costs of incidents

Regions	Labour cost of fire safety (£m)	Non pay-related costs of fire safety (£m)	Resource costs apportioned to SSIs ¹ (£m)	Response resource cost (£m)	Total FRS resource costs (£m)
North East	£2	£1	£18	£109	£131
North West	£9	£6	£36	£250	£302
Yorkshire & The Humber	£5	£2	£26	£175	£208
East Midlands	£2	£1	£36	£122	£161
West Midlands	£4	£3	£39	£175	£221
East of England	£2	£1	£45	£165	£212
South East	£6	£3	£76	£238	£322
South West	£2	£1	£57	£140	£200
London	£8	£4	£121	£274	£407
ENGLAND	£40	£22	£454	£1,649	£2,165

¹Special Service Incidents

Table 19: Lost hours due to attending false alarms (nearest hour)

Region	Number of false alarms	Average hours lost attending false alarms ¹	Total hours lost attending false alarms
North East	17,518	3	59,416
North West	42,602	3	146,867
Yorkshire & The Humber	34,657	4	122,106
East Midlands	23,524	3	79,466
West Midlands	31,694	4	127,176
East of England	29,476	4	115,945
South East	47,283	4	181,195
South West	24,510	4	92,456
London	63,906	4	262,632
ENGLAND	315,170	4	1,187,258

¹- This is based on an average crew size of 4.5 and regional variations of between 2 and 3 for the number of pumps used

Table 20: Average attendance time (minutes) for different types of fires in England (2008)

Region	Building fires	Non Buildings Fires	False Alarms	All incidents ¹
North East	51	37	22	33
North West	77	42	22	41
Yorkshire & The Humber	64	48	22	39
East Midlands	152	57	22	63
West Midlands	106	43	22	48
East of England	78	52	22	44
South East	69	46	22	40
South West	65	45	22	39
London	55	41	22	35
ENGLAND	81	46	22	43

¹ – The totals do not include Special Service Incidents

Table 21: Average number of pumps used for different types of fires in England (2008)

Region	Building fires	Non buildings fires	False alarms	All incidents ¹
North East	2.3	1.8	2.0	2.0
North West	2.3	1.8	2.1	2.1
Yorkshire & The Humber	2.4	1.9	2.1	2.1
East Midlands	2.2	1.8	2.0	2.0
West Midlands	2.7	2.1	2.4	2.4
East of England	2.7	2.1	2.4	2.4
South East	2.6	2.1	2.3	2.3
South West	2.5	2.0	2.3	2.3
London	2.7	2.2	2.5	2.5
ENGLAND	2.5	2.0	2.2	2.2

¹ – The totals do not include Special Service Incidents

Estimates for consequence and response costs

Table 22: Average consequential and response costs per fire										
Region	Property damage per fire	Lost business per fire	Cost of fatalities per fire ¹	Cost of injuries per fire ¹	CJS ² costs per fire ³	Costs to police per fire ³	Costs to the prison service per fire ³	Cost of non-detected arson per fire ³	Average consequence cost per fire	Response cost per fire
North East	£2,096	£58	£514	£705	£307	£25	£151	£408	£4,263	£3,093
North West	£2,934	£80	£1,043	£2,004	£309	£25	£152	£410	£6,956	£2,954
Yorkshire & The Humber	£2,199	£70	£1,124	£1,099	£285	£23	£140	£377	£5,316	£2,699
East Midlands	£2,899	£89	£1,082	£1,691	£220	£18	£108	£292	£6,400	£2,988
West Midlands	£2,704	£87	£1,157	£1,045	£237	£19	£116	£315	£5,681	£3,204
East of England	£2,784	£88	£828	£1,579	£159	£13	£78	£211	£5,740	£3,471
South East	£2,724	£77	£979	£1,287	£147	£12	£72	£195	£5,494	£3,397
South West	£3,220	£100	£1,577	£1,557	£164	£13	£81	£218	£6,930	£3,771
London	£2,286	£69	£598	£1,929	£94	£8	£46	£125	£5,155	£3,293
ENGLAND	£2,634	£79	£972	£1,499	£210	£17	£103	£278	£5,792	£3,186
<p>¹ These averages included fires where there were no fatalities or injuries</p> <p>² Criminal Justice System</p> <p>³ This average was calculated across all fires, not just deliberate fires</p>										

Table 23: Average consequential and response costs per fire

England		2008
Consequential costs	Property damage per fire	£2,634
	Lost business per fire	£79
	Cost of fatalities per fire ¹	£972
	Cost of injuries per fire ¹	£1,499
	CJS ² costs per fire ³	£210
	Costs to police per fire ³	£17
	Costs to the prison service per fire ³	£103
	Cost of non-detected arson per fire ³	£278
	Average consequence cost per fire	£5,792
Response costs	Response cost per fire	£3,186
¹ These averages include fires where there were no fatalities or injuries ² Criminal Justice System ³ This average is calculated across all fires, not just deliberate fires		

Price assumptions

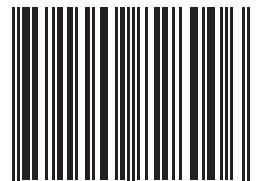
Table 24: General price assumptions

Description	Value in the base period (2008)	Unit
Average fire safety labour cost per hour	£16.05	£/h
London weighted firefighters pay	£5,248.02	£/annum
Average London fire safety labour cost per hour	£20.01	£/h
Value of fatality	£1,648,539	£
Value of serious injury	£185,241	£
Value of slight injury	£14,279	£
Cost of mobilisation (per vehicle)	£0.82	£
Victim cost per criminal damage incident	£817	£
Annual cost to Police (Crown Prosecution Service) due to arson	£99,874,263	£/annum
Annual cost to forensic unit due to arson	£1,125,344	£/annum
Cost to Crown Prosecution Service and forensic unit per deliberate fire	£2,137	£
Penalty notice for disorder	86.74	£

Table 24: General price assumptions (continued)		
Description	Value in the base period (2008)	Unit
Average cost of a magistrates court	£1,672	£
Average cost of a Crown Court	£112,496	£
Annual average cost per prisoner	40,547.92	£/annum
Monthly average cost per prisoner	£3,664	£/per prisoner
Insurance administration per incident 2004 – domestic	£236,036,812.11	
Insurance administration per incident 2004 – commercial	£198,416,935.68	
Insurance administration per incident 2004 – public	£133,743,468.95	
Gross Value Added in England	£989,641,393,235.74	
Crime prevention officer	£1,571.84	£/starter

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