

Fire and rescue

July 2006



# **Fire and rescue performance framework 2006/07**

**Guide to service assessment**

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## Contents

Introduction	4
The performance information element	4
Treatment and thresholds of performance indicators	5
Making adjustments for deprivation	6
Dealing with missing PI data	8
The overall performance information element score	8

## Introduction

- 1 This document is a guide to the service assessment framework. It is intended to be read alongside *Fire & Rescue Performance Framework 2006/07* (available at [audit-commission.gov.uk/fire](http://audit-commission.gov.uk/fire)) which sets out the overall performance framework for fire and rescue services for 2006/07 and the principles behind the fire and rescue service assessment. This document provides a more detailed explanation of how the service assessment score is determined.
- 2 The fire and rescue service assessment will be made up of two elements: the operational assessment of service delivery; and the performance information element. Both of these elements will be scored separately and given a 1 - 4 score, which will then be combined to give the overall service assessment score. The methodology for combining the two elements to determine the overall fire and rescue service assessment score is set out in the *Fire & Rescue Performance Framework 2006/07* (available at [www.audit-commission.gov.uk/fire](http://www.audit-commission.gov.uk/fire))

### The operational assessment of service delivery

- 3 A score of 1 - 4 for the operational assessment of service delivery will be provided to the Audit Commission by the Department for Communities and Local Government (DCLG). Further detail on this element is set out in *Operational Assessment of Service Delivery – July 2006* published by DCLG and available at [www.communities.gov.uk/index.asp?id=1501386](http://www.communities.gov.uk/index.asp?id=1501386).

### The performance information element

- 4 We will bring together a range of Best Value Performance Indicators (BVPIs) to determine the overall performance information element score. The Commission has taken into account the following factors in identifying PIs for inclusion:
  - PIs must be robust, reliable and capable of being compared on a nationally consistent basis;
  - PIs must measure outcome, rather than an input or process measure; and
  - the set of PIs must be broadly representative of the service that authorities provide.
- 5 The BVPIs used in the 2006/07 fire and rescue service assessment are detailed in table 4.
- 6 We are considering using the following additional BVPIs in any future fire and rescue service assessment, subject to consultation:
  - BVPI 146 (i) - Number of malicious false alarms not attended per 1,000 population
  - BVPI 146 (ii) - Number of malicious false alarms attended per 1,000 population
  - BVPI 149 (ii) - Number of properties (from BVPI 149i) with more than one attendance by FRS;

- BVPI 149 (iii) - Percentage of false alarms caused by automatic fire detection which are to a non-domestic property with more than one attendance;
- BVPI 206 (iii) + BVPI 206 (iv) - Number of deliberate secondary fires (including vehicles) per 10,000 population;
- BVPI 207 - Number of fires in non-domestic premises per 1,000 non-domestic properties;
- BVPI 208 - Percentage of people in accidental dwelling fires who escape unharmed without FRS assistance at the fire; and
- BVPI 209 - Percentage of fires attended in dwellings where the smoke alarm was activated.

We are also looking at ways that the results from the next user survey can be included in any future fire and rescue service assessment.

### **Treatment and thresholds of performance indicators**

- 7 We will include the most up-to-date data available for each BVPI in the fire and rescue service assessment. We will use 2005/06 data in the fire and rescue service assessment published in February 2007. In the case of F3 (accidental fire deaths) there is a possibility that the results for this PI may change following the publication of the fire and rescue service assessment scores. If DCLG publish revised data for this PI which would lead to a change in the fire and rescue service assessment score then we will report the updated service assessment score at the next available opportunity.
- 8 The result for each BVPI will be compared against a pre-determined upper threshold and lower threshold. Where there are national requirements, standards or targets that have been determined or endorsed by the relevant government department, achievement or progress towards the requirement, standard or target, will be used to set the thresholds. In other cases where there are no such national requirements the default thresholds will be linked to quartiles, as follows:
  - the lower threshold will be set at the 25th percentile based on the average data for that PI from 2002/03, 2003/04 and 2004/05; and
  - the upper threshold will be set at the 75th percentile based on the average data for that PI from 2002/03, 2003/04 and 2004/05.
- 9 The upper and lower thresholds we will use are detailed in table 4. In order to retain some stability in the service assessment these thresholds will normally remain unchanged for two years unless there is a valid reason for amending them.
- 10 A number of the BVPIs that will be used in the service assessment show significant variations in the data between years. In order to overcome the unintended consequences of small changes in the data leading to volatility in the scoring, where thresholds are based on quartiles we will calculate a result for the PI based on an average of the last three years data. The specific treatment for each individual BVPI is set out in table 4.

### Making adjustments for deprivation

- 11 We will adjust PI data where a significant correlation exists between the extent of deprivation locally, as expressed in the Index of Multiple Deprivation (IMD) 2004 index, and performance in relevant years of data we will be using. There is no published IMD 2004 average score for FRAs unless they are county fire and rescue authorities. The Commission has calculated an IMD figure for each FRA, covering the geographical area, using existing published IMD 2004 and population figures.

**Table 1 Index of Multiple Deprivation**

Based on index of multiple deprivation (IMD) 2004 average score

Fire and rescue authority	IMD score	Fire and rescue authority	IMD score
Avon	18.00	Kent & Medway Towns	16.32
Bedfordshire & Luton	16.28	Lancashire	24.04
Berkshire	11.44	Leicester, Leicestershire & Rutland	17.49
Buckinghamshire	10.54	Lincolnshire	18.46
Cambridgeshire	14.25	Merseyside	37.70
Cheshire	18.22	Norfolk	17.93
Cleveland	32.88	North Yorkshire	14.15
Cornwall	22.87	Northamptonshire	15.97
Cumbria	21.61	Northumberland	21.88
Derbyshire	21.54	Nottinghamshire & City of Nottingham	26.43
Devon	20.14	Oxfordshire	10.77
Dorset	15.81	Shropshire & Wrekin	17.70
Durham	27.82	Somerset	15.76
East Sussex	20.12	South Yorkshire	29.86
Essex	15.67	Stoke-on-Trent & Staffordshire	20.67
Gloucestershire	13.51	Suffolk	15.04
London	25.18	Surrey	7.56
Greater Manchester	31.41	Tyne & Wear	32.49
Hampshire	13.56	Warwickshire	14.41
Hereford & Worcestershire	15.00	West Midlands	31.43

Fire and rescue authority	IMD score	Fire and rescue authority	IMD score
Hertfordshire	10.76	West Sussex	11.91
Humberside	26.15	West Yorkshire	28.59
Isle of Wight	21.07	Wiltshire	12.50
Isles of Scilly	15.72		

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- 12 PIs where the correlation coefficient between deprivation and performance in relevant years is greater than 0.4 or less than -0.4 will be adjusted. Table 4 indicates which BVPIs we will adjust.
- 13 We will adjust all authorities' results for these PIs to take account of their level of deprivation, therefore, the higher the level of deprivation the greater the adjustment. If the adjusted figure is below zero, then a figure of zero will be used for that authority
- 14 We will make the adjustments where relevant using a linear regression model. The adjusted PI value would be calculated using the following equation:

Adjusted PI value = original PI value - linear function of deprivation

The function element will use the gradient of the linear regression equation calculated from the relevant data. An example of a calculation is given below:

Original PI value = 38%

Gradient = +0.25

Deprivation (IMD 2004 average score) = 36

Adjusted PI value = original PI value - linear function of deprivation

Adjusted PI = 38% - (+0.25 x 36) = 29%

- 15 Where data is adjusted and thresholds are based on quartiles, the thresholds will be derived from adjusted BVPI data for the relevant years.
- 16 The gradient for each of the PIs we are adjusting for deprivation is set out below.

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**Table 2      Gradients for adjusting indicators for deprivation**

Indicator	Gradient
F1	+ 1.0895
F2	+ 0.4759
F4	+ 0.2469

### Dealing with missing PI data

- 17 Where it has not been possible to calculate a BVPI figure for 2005/06 because a FRA has failed to supply the necessary information, in the current or previous years, then we will treat that BVPI as being below the lower threshold in the fire service and rescue service assessment.

### The overall performance information element score

- 18 We will calculate a performance information element score, from 1 - 4, based on the distribution of PIs that are below the lower threshold, above the upper threshold, or in-between the two thresholds. Performance on PI F3 (accidental fire deaths) is of such significance that it will be subject to specific treatment so that failure to exceed the lower threshold will limit the overall performance information element score to a maximum of '2' out of '4'. Table 3 sets out the approach to scoring the performance information element.

**Table 3 Approach to scoring the performance information element for the fire and rescue service assessment**

<b>Performance information element score</b>	<b>Distribution of BVPIs</b>
<b>4</b>	No PIs at or below the lower threshold and 3 or more PIs at or above the upper threshold
<b>3</b>	No more than 1 of the PIs (except F3) at or below the lower threshold and 2 or more PIs at or above the upper threshold
<b>2</b>	Any other combination
<b>1</b>	3 or more PIs at or below the lower threshold



**Table 4 PIs, treatment and thresholds for the 2006/07 fire and rescue service assessment**

Fire and rescue service assessment for 2006/07

Ref.	Description of PI (Measurement of ...)	Source and ref.	Treatment notes	Lower threshold	Upper threshold	Comment
F1	Primary fires per 10,000 population  <b>(Fire prevention)</b>	BVPI 142 (ii)	<ul style="list-style-type: none"> <li>Result is calculated as the average of the data from 2003/04, 2004/05 and 2005/06</li> <li>Thresholds based on 25th and 75th percentile points of the average of the data from 2002/03, 2003/04 and 2004/05</li> </ul>	15.2	7.5	Adjusted for deprivation
F2	Accidental dwelling fires per 10,000 dwellings  <b>(Fire prevention)</b>	BVPI 142 (iii)	<ul style="list-style-type: none"> <li>Result is calculated as the average of the data from 2003/04, 2004/05 and 2005/06</li> <li>Thresholds based on 25th and 75th percentile points of the average of the data from 2002/03, 2003/04 and 2004/05</li> </ul>	9.9	5.2	Adjusted for deprivation
F3	Deaths arising from accidental dwelling fires per 100,000 population  <b>(Operational response)</b>	BVPI 143 (i)	<ul style="list-style-type: none"> <li>Thresholds based on floor target that every authority should be within 1.25 x the national average, based on results over five years</li> <li>Results for each authority are calculated as the average of the data from 2001/02 to 2005/06</li> <li>The upper threshold is based on the national average of the data from 2000/01 to 2004/05</li> <li>The lower threshold is based on 1.25 x national average of the data from five years 2000/01 to 2004/05</li> </ul>	0.625	0.5	Measurement of improvement towards national target.

Ref.	Description of PI (Measurement of ...)	Source and ref.	Treatment notes	Lower threshold	Upper threshold	Comment
F4	Injuries arising from accidental dwelling fires per 100,000 population  <b>(Operational response)</b>	BVPI 143 (ii)	<ul style="list-style-type: none"> <li>Result is calculated as the average of the data from 2003/04, 2004/05 and 2005/06</li> <li>Thresholds based on 25th and 75th percentile points of the average of the data from 2002/03, 2003/04 and 2004/05</li> </ul>	6.0	2.0	Adjusted for deprivation
F5	Percentage of accidental dwelling fires confined to room of origin  <b>(Operational response)</b>	BVPI 144	<ul style="list-style-type: none"> <li>Result is calculated as the average of the data from 2003/04, 2004/05 and 2005/06</li> <li>Thresholds based on 25th and 75th percentile points of the average of the data from 2002/03, 2003/04 and 2004/05</li> <li><i>Note - BVPI 144 was previously split into parts a, b, c and d - data for each part will be added together for previous years</i></li> </ul>	89.6%	91.3%	None
F6	False alarms caused by automatic fire detection attended per 1,000 non-domestic properties  <b>(Operational response)</b>	From data returned through FDR3	<ul style="list-style-type: none"> <li>Result is calculated as the average of the data from 2003/04, 2004/05 and 2005/06</li> <li>Thresholds based on 25th and 75th percentile points of the average of the data from 2002/03, 2003/04 and 2004/05</li> <li><i>Note - Data from FDR3 is used to enable comparison over the years - similar to BVPI 149</i></li> </ul>	150.9	112.2	None

Ref.	Description of PI (Measurement of ...)	Source and ref.	Treatment notes	Lower threshold	Upper threshold	Comment
	response)					
F7	Number of deliberate primary fires (including vehicles) per 10,000 population  <b>(Fire prevention)</b>	BVPI 206i+ii	<ul style="list-style-type: none"> <li>• Thresholds based on the progress towards the national target of 10% reduction in baseline figure from 2001/02 by 2010</li> <li>• A reduction of 1.25% from baseline would be required each year over eight years to meet this target</li> <li>• <i>Note - BVPI 206 is split into parts i, ii, iii and iv in 2005/06 but parts i and ii can be added together to give the same data as BVPI 206 from previous years</i></li> </ul>	No change or increase from 2004/05 to 2005/06	Net reduction of 6.25% from 2001/02 to 2005/06 (1.25% each year for five years)	Measurement of improvement towards national target.