

# City of London Corporation Pension Fund

Actuarial valuation as at 31 March 2016

**Valuation report**



## Introduction

In accordance with Regulation 62 of the Local Government Pension Scheme (LGPS) Regulations 2013 (as amended), we have been asked by City of London Corporation to prepare an actuarial valuation of the City of London Corporation Pension Fund (the Fund) as at 31 March 2016 as part of their role as the Administering Authority to the Fund.

The purpose of the valuation is to review the financial position of the Fund and to set appropriate contribution rates for each employer in the Fund for the period from 1 April 2017 to 31 March 2020. Contributions are set to cover any shortfall between the assumed cost of providing benefits built up by members at the valuation date and the assets held by the Fund and to also cover the cost of benefits that active members will build up in the future.

This report is provided further to earlier advice dated 3 September 2016 which set out the background to the valuation and explains the proposed underlying methods and assumptions derivation.

This report summarises the results of the valuation and is addressed to the Administering Authority of the Fund. It is not intended to assist any user other than the Administering Authority in making decisions or for any other purpose and neither we nor Barnett Waddingham LLP accept liability to third parties in relation to this advice.

This advice is subject to and complies with Technical Actuarial Standards (TASs) issued by the Financial Reporting Council (namely, the Pensions TAS and generic TASs relating to reporting, data and modelling).

We would be pleased to discuss any aspect of this report in more detail.

## Contents

1	Summary of results .....	3
2	Background to valuation approach.....	4
3	Results .....	5
4	Sensitivity analysis.....	9
5	Final comments .....	11
Appendix 1	Summary of membership data .....	12
Appendix 2	Actuarial assumptions .....	13
Appendix 3	Rates and Adjustment Certificate .....	19

# 1 Summary of results

A summary of the results of the valuation is as follows:

## Funding position

Using the agreed assumptions, the Fund had assets sufficient to cover 84% of the accrued liabilities as at 31 March 2016.

This is broadly the same funding position as at the 2013 valuation.

## Changes since 2013

The Public Sector Pensions Act 2013 and updated guidance from CIPFA have introduced and reinforced requirements to focus on securing **solvency** of the pension fund and **long-term cost efficiency**.

## Method and assumptions

The resulting method and assumptions are set out in Appendix 2 and we believe are appropriate for the 31 March 2016 valuation.

## Employer contributions

Individual employer contributions are set out in Appendix 3 in the Rates and Adjustment certificate to cover the period from 1 April 2017 to 31 March 2020.

The next actuarial valuation should be carried out with an effective date of 31 March 2019 and the contributions payable by the participating employers will be reviewed as part of that valuation.

## 2 Background to valuation approach

The purpose of the 2016 actuarial valuation is to set appropriate contribution rates for each employer in the Fund for the period from 1 April 2017 to 31 March 2020. This is required under regulation 62 of the LGPS Regulations. The Regulations for actuarial valuations have changed since the 2013 valuation and so has the context surrounding the valuation. Regulation 62 specifies four requirements that the actuary “must have regard to” and are detailed below:

- “the desirability of maintaining as nearly constant a primary rate as possible”;
- “the current version of the administering authority’s funding strategy statement”;
- “the requirement to secure the solvency of the pension fund”; and
- “the long-term cost efficiency of the Scheme (i.e. the LGPS for England and Wales as a whole), so far as relating to the pension fund”.

We have considered these changes when providing our advice and choosing the method and assumptions used and a number of reports and discussions have taken place with the Administering Authority before agreeing the final assumptions to calculate the results and set contribution rates. In particular:

- The initial results report dated 3 September 2016 which provides information and results on a whole fund basis as well as more detailed background to the method and derivation of the assumptions.
- The follow up report dated 6 January 2017 confirming the agreed actuarial assumptions following the meeting of 5 September 2016.
- The Funding Strategy Statement which will confirm the approach in setting employer contributions.

Note that not all these documents may be in the public domain.

The final assumptions have been agreed with the Administering Authority. We suggest that the Fund’s Funding Strategy Statement is reviewed to ensure that it is consistent with this approach as well as complying with the updated version of CIPFA’s Funding Strategy Statement guidance.

### Membership data

A summary of the membership data used for the valuation is set out in Appendix 1.

The membership data has been checked for reasonableness and we have compared the membership data with information in the Fund accounts. Any missing or inconsistent data has been estimated where necessary. While this should not be seen as a full audit of the data, we are happy that the data is sufficiently accurate for the purposes of the valuation.

### Benefits

Full details of the benefits being valued are as set out in the Regulations as amended and summarised on the LGPS [website](#) and the Fund’s membership booklet. We have made no allowance for discretionary benefits.

### Assets

Assets have been valued at a six month smoothed market value straddling the valuation date.

We have been provided with the audited Fund accounts for the years ending 31 March 2014, 31 March 2015 and 31 March 2016.

**The market asset valuation as at 31 March 2016 was £802,200,000.**

The Fund’s long-term investment strategy has been taken into consideration in the derivation of the assumptions used. The investment strategy is set out in the Fund’s Investment Strategy Statement.

## 3 Results

### Previous valuation

The previous valuation was carried out as at 31 March 2013 by Barnett Waddingham LLP. The results are summarised in the valuation report dated 31 March 2014 and show a funding level of 85% corresponding to a deficit of £127,846,000.

The average employer contribution was calculated to be 11.5% of Pensionable Pay in order to cover the cost of future benefits being built up by active members.

In practice, each employer paid their own contribution rate which will have been a combination of contributions to cover the cost of future benefits (which will not necessarily have been the same as the average given above) and contributions towards a past service deficit.

### Shortfall between assets and liabilities

Using the assumptions summarised in Appendix 2, the results of the valuation are set out in the tables below which show:

- The past service funding position which means to what extent the Fund's assets meet its liabilities at the valuation date; and
- The primary rate for the whole Fund which is the weighted average (by payroll) of the individual employers' primary rates.

The primary and secondary rate of the individual employer contributions payable are set out in the Rates and Adjustment certificate in Appendix 3. These are either based on the employer's own membership and experience or they are the employer's share of the contributions payable within a pool of employers.

In Appendix 3 we also disclose the sum of the secondary rates for the whole Fund for each of the three years beginning with 1 April 2017. The secondary rate is an adjustment to the primary rate each employer is required to pay.

Active members pay contributions to the Fund as a condition of membership in line with the rates required under the Regulations.

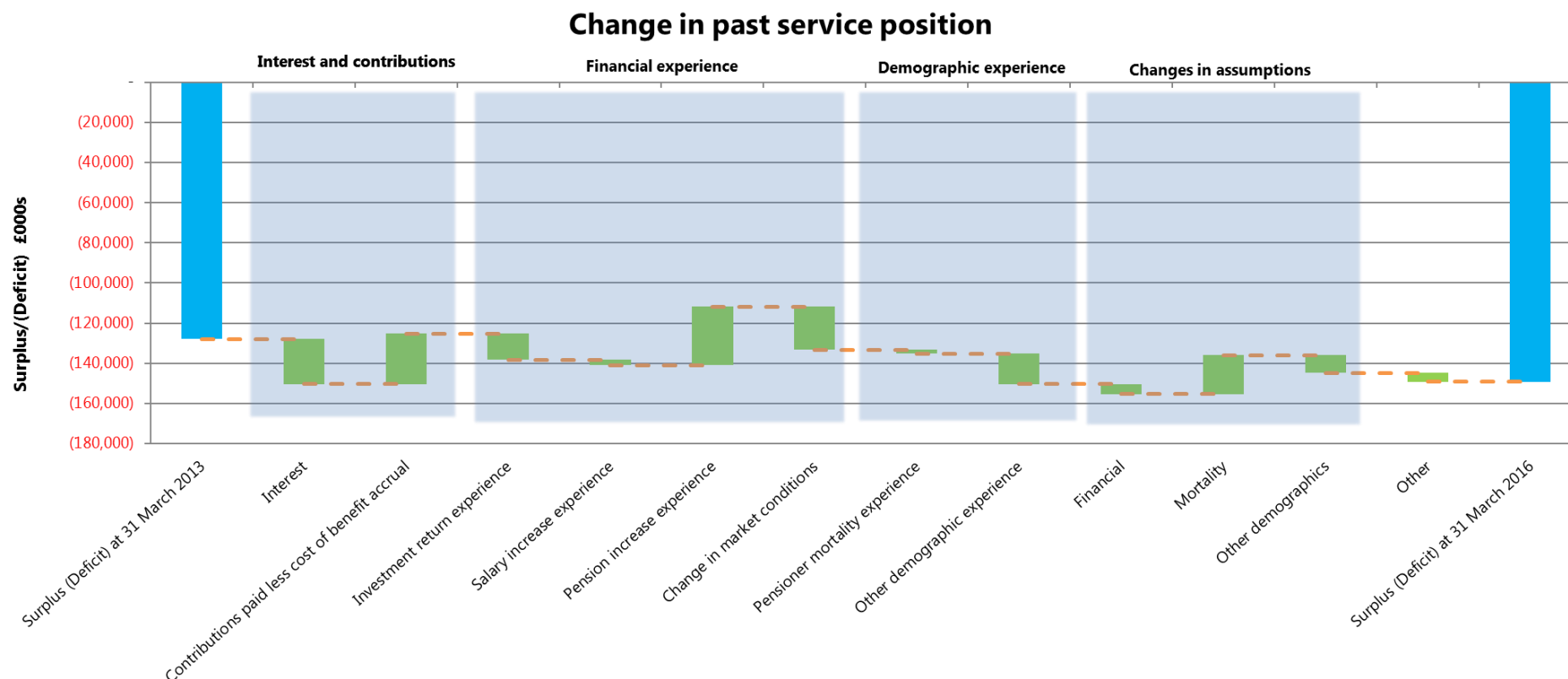
Past service funding position	
	31 March 2016
	£000
<b>Smoothed asset value</b>	796,301
<b>Past service liabilities</b>	
Actives	308,945
Deferred pensioners	185,048
Pensioners	451,583
Total	945,576
<b>Surplus (Deficit)</b>	<b>(149,275)</b>
<b>Funding level</b>	84%

Primary rate	% of payroll
Total future service rate	20.1%
less employee contribution rate	(7.3%)
<b>Total primary rate</b>	<b>12.8%</b>

There was a deficit of £149,275,000 in the Fund at the valuation date, and the Fund's assets were sufficient to cover 84% of its liabilities.

## Reconciliation to previous valuation

The key factors that have influenced the funding level of the Fund over the intervaluation period are as follows:



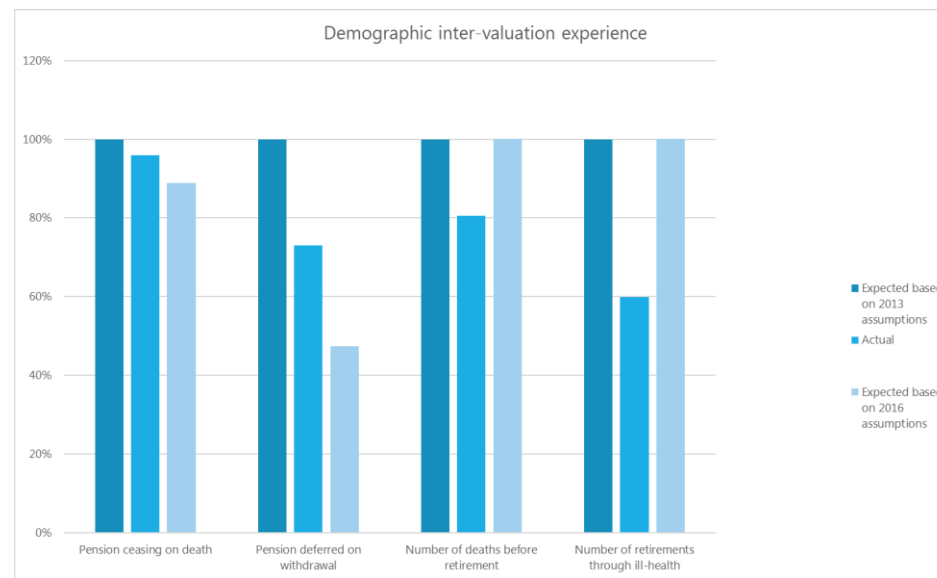
The funding level as a percentage has decreased slightly as the earned investment returns and employer contributions have been partly offset by changes to the financial assumptions used.

The table below sets out the change in future service contribution rate over the intervaluation period.

Change in future service contribution rate		% of payroll
<b>Average employer rate at 31 March 2013</b>		<b>11.5%</b>
Change in market conditions		1.0%
Change in assumptions		
	Financial	0.2%
	Mortality	(0.6%)
	Other demographics	0.9%
Legislative changes		(0.3%)
Other		0.1%
<b>Average employer rate at 31 March 2016</b>		<b>12.8%</b>

## Comparing experience with assumptions

A comparison of the actual demographic experience of members of the Fund over the intervaluation period, with that predicted by the assumptions adopted at the last valuation in 2013 is shown in the graph below. The graph also shows how the assumptions adopted for this valuation would have compared with those adopted at 2013.



## Valuations on other bases

The liability value as set out in the previous section is known as the Fund's "funding target" and should be consistent with the Administering Authority's Funding Strategy Statement. However, as part of the valuation, we have also considered an estimate of the liabilities represented with all margins for prudence removed (the "neutral estimate").

## Neutral estimate

It is appropriate to include a margin for prudence in the assumptions used for the funding basis to mitigate the risk that the Fund does not reach its funding target, and to build a cushion for future adverse experience. This margin for prudence is included in the Funding basis through an allowance in the discount rate assumption only.

The neutral estimate represents our best estimate of the funding position, in other words, we believe that it is equally likely that the Fund will beat or miss the funding target based on the neutral assumptions derived. The neutral basis is set with the main purpose of providing the Administering Authority with an idea of the level of prudence contained within the funding basis.

The neutral estimate does not contain any margins for prudence in any of the assumptions. Therefore the discount rate on the neutral basis is 6.7% p.a. rather than 5.7% p.a. and all other assumptions are consistent with the ongoing funding basis.

The funding level on the neutral basis was 97%.

## Projected future results

The progression of the funding level over time is influenced by a large number of factors, including the experience of the Fund's membership, the investment return achieved and the contributions paid.

We estimate that three years after the valuation date (i.e. at the next valuation) the funding position on a funding basis will be 86%. This allows for contributions to be paid as described in Appendix 3 and assumes that investment returns and other experience over the next three years is in line with the assumptions used for the valuation as set out in Appendix 2.



## 4 Sensitivity analysis

### Sensitivities to the liabilities

The results set out in this report are based on a particular set of assumptions. The actual cost of providing the benefits will depend on the actual experience, which could be significantly better or worse than assumed. The sensitivity of the results to some of the key assumptions is set out in the table below.

Sensitivity analysis - Past service funding position					
	2016 basis	Discount rate -0.1%	Discount rate +0.1%	Long term salary increase +0.1%	Long-term improvement rate 1.25%
	£000	£000	£000	£000	£000
<b>Smoothed asset value</b>	796,301	796,301	796,301	796,301	796,301
<b>Past service liabilities</b>					
Actives	308,945	315,174	302,893	310,962	305,963
Deferred pensioners	185,048	188,751	181,450	185,048	183,349
Pensioners	451,583	456,169	447,076	451,583	448,169
Total	945,576	960,094	931,419	947,593	937,481
<b>Surplus (Deficit)</b>	<b>(149,275)</b>	<b>(163,793)</b>	<b>(135,118)</b>	<b>(151,292)</b>	<b>(141,180)</b>
<b>Funding level</b>	84%	83%	85%	84%	85%

## Sensitivities to the primary rate

The calculated primary rate required to fund benefits as they are earned from year to year will also be affected by the particular set of assumptions chosen. The sensitivity of the primary rate to changes in some key assumptions is shown below.

Sensitivity analysis - Primary rate					
	2016 basis	Discount rate -0.1%	Discount rate +0.1%	Long term salary increase +0.1%	Long-term improvement rate 1.25%
	% of payroll	% of payroll	% of payroll	% of payroll	% of payroll
Total future service rate	20.1%	20.5%	19.6%	20.1%	19.8%
less Employee contribution rate	(7.3%)	(7.3%)	(7.3%)	(7.3%)	(7.3%)
<b>Total primary rate</b>	<b>12.8%</b>	<b>13.2%</b>	<b>12.3%</b>	<b>12.8%</b>	<b>12.5%</b>

## 5 Final comments

### Funding Strategy Statement

The assumptions used for the valuation must be documented in a revised Funding Strategy Statement to be agreed between the Fund Actuary and the Administering Authority. We are able to help the Fund to prepare the Funding Strategy Statement using the latest guidance issued by CIPFA.

### Risks

There are many factors that affect the Fund's funding position and could lead to the Fund's funding objectives not being met within the timescales expected. Some of the key risks that could have a material impact on the Fund are:

- Employer covenant risk
- Investment risk
- Inflation risk
- Mortality risk
- Member options risk
- Legislative risk

Sensitivity to some of these risks were set out in section 4. Please note that this is not an exhaustive list. Further information on these risks and more can be found in our initial results report and will be set out in greater detail in the Funding Strategy Statement.

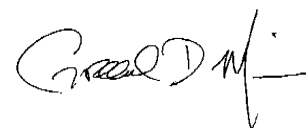
### Rates and Adjustment Certificate

The contributions payable in respect of benefit accrual, expenses and any deficit contributions under each employer's recovery period have been set out in Appendix 3 in the Rates and Adjustments Certificate in accordance with Regulation 62 of the Regulations. In this certificate no allowance will be made for additional costs arising which need to be met by additional contributions by the employer such as non-ill health early retirements.

The contributions as set out in Appendix 3 in the Rates and Adjustments Certificate are set so that each employer's assets (including future contributions) are projected to be sufficient to cover the benefit payments for their members, on the assumptions set out in this report. Where there is currently a deficit for an individual employer, this is targeted in line with the Fund's Funding Strategy Statement and all employers are projected to be fully funded over a recovery period of no longer than 17 years.

This document has been agreed between the Administering Authority and the Fund Actuary. Contributions have been set that in our opinion meet the regulatory requirements and the funding objectives set out in the Fund's Funding Strategy Statement.

The next formal valuation is due to be carried out as at 31 March 2019 however we would recommend that the financial position of the Fund is monitored regularly during the period leading up to the next formal valuation. We would be happy to give more detail about the ways that this can be achieved.



**Graeme Muir FFA**  
**Barnett Waddingham LLP**

## Appendix 1 Summary of membership data

A summary of the membership data used in the valuation and at the previous valuation is shown below.

Actives	Number		Pensionable pay				Average age	
			Total £000		Average £			
	2016	2013	2016	2013	2016	2013	2016	2013
Males	2,359	2,159	71,467	65,629	30,295	30,398	46.6	46.5
Females	1,827	1,638	51,356	45,549	28,110	27,808	43.3	43.1
Total	4,186	3,797	122,823	111,178	29,341	29,281	45.1	45.0

Deferred pensioners (including "undecideds")	Number		Annual pensions current				Average age	
			Total £000		Average £			
	2016	2013	2016	2013	2016	2013	2016	2013
Males	2,071	1,899	6,294	5,918	3,039	3,116	46.4	45.9
Females	2,723	2,300	6,517	5,287	2,393	2,299	44.2	43.4
Total	4,794	4,199	12,811	11,205	2,672	2,668	45.2	44.5

Pensioners	Number		Annual pensions current				Average age	
			Total £000		Average £			
	2016	2013	2016	2013	2016	2013	2016	2013
Males	2,094	1,940	22,874	20,402	10,923	10,517	72.0	71.6
Females	972	845	6,548	5,377	6,736	6,363	70.7	70.2
Dependants	735	691	3,333	2,466	4,535	3,569	75.5	76.0
Total	3,801	3,476	32,755	28,245	8,617	8,126	72.3	72.1

- The numbers relate to the number of records and so will include members in receipt of, or potentially in receipt of, more than one benefit.
- Annual pensions are funded items only (i.e. excluding unfunded pensions which are not the responsibility of the Fund) and include pension increases up to and including the 2016 pension increase order.
- Pensionable Pay is actual earnings.

In the table below we have set out the number of members who are assumed to reach retirement age over the period from 1 April 2016 to 31 March 2020 as required under the Rates and Adjustment Certificate.

Members may retire for a number of reasons including reaching normal retirement age, retiring through ill health or redundancy. The amounts set out in the table below are the new retirement benefit amounts, as at the current valuation date that are assumed to come into payment in each of the intervaluation years.

Projected new benefits		
Year to	Number of members	Retirement benefits £000
31/03/2017	269	5,124
31/03/2018	240	5,289
31/03/2019	283	7,441
31/03/2020	234	6,417

## Appendix 2 Actuarial assumptions

A summary of the assumptions adopted in the valuation is set out below:

Asset class	Percentage of Fund	Return assumption (% p.a.)	Real (relative to CPI)
Gilts	0%	2.4%	0.0%
Other bonds	0%	3.3%	0.9%
Cash/temporary investments	0%	1.8%	-0.6%
Equities	55%	7.4%	5.0%
Property	10%	5.9%	3.5%
Absolute return fund – inflation plus 3.7%	15%	6.1%	3.7%
Absolute return fund – LIBOR plus 4.5%	20%	6.3%	3.9%
Expenses (deduction)		-0.2%	
<b>Neutral estimate of discount rate based on long-term investment strategy</b>		<b>6.7%</b>	<b>4.3%</b>
Prudence allowance		1.0%	
<b>Final discount rate assumption</b>		<b>5.7%</b>	<b>3.3%</b>

Financial assumptions			31 March 2016	31 March 2013
			% p.a.	% p.a.
Discount rate			5.7%	6.0%
Pay increases	Long-term		3.9%	4.2%
	Short-term	CPI for period from 31 March 2016 to 31 March 2020		1% for period from 31 March 2013 to 31 March 2016
Pension increases			2.4%	2.7%
Pension increases on GMP		Funds will pay limited increases for members that have reached SPA by 6 April 2016, with the Government providing the remainder of the inflationary increase. For members that reach SPA after this date, we have assumed that Funds will be required to pay the entire inflationary increases		No allowance for limit in increases for any members

Demographic assumptions		
	31 March 2016	31 March 2013
Pre-retirement mortality - base table	GAD tables (updated)	GAD tables
Post-retirement mortality (member) - base table	S2PA tables with a multiplier of 80% for males and 85% for females	95% of the S1PA tables
Post-retirement mortality (dependant) - base table	100% of the S2DFA tables for female dependants and 95% of the S2PMA tables for male dependants	95% of the S1PA tables
Allowance for improvements in life expectancy	2015 CMI Model with a long-term rate of improvement of 1.5% p.a.	2012 CMI Model with a long-term rate of improvement of 1.25% p.a.
Promotional salary scale	GAD tables (updated)	GAD tables
Allowance for early retirements (ill health)	GAD tables (updated)	GAD tables
Allowance for withdrawals	GAD tables (updated)	GAD tables
Allowance for cash commutation	Members will commute pension at retirement to provide a lump sum of 50% of the maximum allowed under HMRC rules and this will be at a rate of £12 lump sum for £1 of pension	Members will commute pension at retirement to provide a lump sum of 75% of the additional maximum allowed under HMRC rules and this will be at a rate of £12 lump sum for £1 of pension
Allowance for 50:50 membership	Based on members' current section	10% of active members will opt to pay 50% of contributions for 50% of benefits under the new scheme
Partner age difference	Males are three years older than their spouse and females are three years younger than their spouse	Males are three years older than their spouse and females are three years younger than their spouse
Proportion married	There is a 75%/70% chance that male/female members will, at retirement or earlier death, have a dependant who is eligible for death benefits	There is an 80%/70% chance that male/female members will, at retirement or earlier death, have a dependant who is eligible for death benefits
Retirement age	For each tranche of benefit, the "tranche retirement age" is the earliest age a member could retire with unreduced benefits. Each member is assumed to retire at the weighted average of these for all tranches of benefit.	For each tranche of benefit, the "tranche retirement age" is the earliest age a member could retire with unreduced benefits. Each member is assumed to retire at the weighted average of these for all tranches of benefit.

## Demographic assumptions – sample rates

The following tables set out some sample rates of the demographic assumptions used in the calculations. These are the same as those used by the Government Actuary's Department when LGPS reforms were designed and are based on analysis of incidence of death, retirement and withdrawal for Local Authority Funds, details of which are saved here: <http://www.lgpsregs.org/index.php/dclg-publications/dclg-other>

### Allowance for ill health early retirements (GAD table b6.1)

A small proportion of members are assumed to retire early due to ill health. In the table below we set out an extract of some sample rates from our decrement table used:

Age	Leaving p.a. (M)	Leaving p.a. (F)
25	0.01%	0.00%
30	0.01%	0.01%
35	0.02%	0.02%
40	0.05%	0.03%
45	0.10%	0.07%
50	0.20%	0.15%
55	0.41%	0.33%
60	0.84%	0.71%
65	1.72%	1.53%

The proportion of ill health early retirements falling into each tier category has been assumed to be as follows for both males and females:

Tier 1	Tier 2	Tier 3
75%	15%	10%

Further details of the level of benefit specified for each tier category are available here: <http://lgpsregs.org/index.php/guides/employees-guides>



### Death before retirement for all members (GAD table b8)

A small number of members are assumed to die before reaching retirement age. In the table below we set out an extract of some sample rates from our decrement table used:

Age	Males	Females
25	0.03%	0.01%
30	0.04%	0.02%
35	0.05%	0.02%
40	0.06%	0.03%
45	0.09%	0.05%
50	0.13%	0.08%
55	0.21%	0.13%
60	0.32%	0.20%
65	0.51%	0.30%

### Allowance for withdrawals (GAD table b7)

This assumption is regarding active members who leave service to move to deferred member status or take a transfer out but do not yet retire. Active members are assumed to leave service at the following sample rates:

Age	Leaving p.a. (M)	Leaving p.a. (F)
25	8.10%	9.08%
30	6.38%	7.20%
35	5.02%	5.71%
40	3.95%	4.53%
45	3.11%	3.59%
50	2.44%	2.85%
55	1.92%	2.26%
60	1.51%	1.79%
65	1.19%	1.42%

## Promotional salary scale (using GAD table b9)

In addition to the assumption made about annual salary increases, we have also included an allowance for a promotional salary scale which applies at each age and some sample rates are set out in the table below:

Age	Males	Females
25	1.0368	1.0165
30	1.1177	1.0526
35	1.1741	1.0820
40	1.2137	1.1033
45	1.2472	1.1040
50	1.2715	1.1043
55	1.2716	1.1044
60	1.2717	1.1045

## Appendix 3 Rates and Adjustment Certificate

### Regulatory background

In accordance with Regulation 62 of the Local Government Pension Scheme Regulations we have made an assessment of the contributions that should be paid into the Fund by participating employers for the period 1 April 2017 to 31 March 2020.

The method and assumptions used to calculate the contributions set out in the Rates and Adjustments certificate are detailed in the Funding Strategy Statement and our report on the actuarial valuation dated 31 March 2017.

The primary rate of contribution as defined by Regulation 62(5) for each employer for the period 1 April 2017 to 31 March 2020 is set out in the table overleaf. The primary rate is the employer's share of the cost of benefits accruing in each of the three years beginning 1 April 2017. In addition each employer pays a secondary contribution as required under Regulation 62(7) that when combined with the primary rate results in the minimum total contributions as set out below. This secondary rate is based on their particular circumstances and so individual adjustments are made for each employer.

### Primary and secondary rate summary

The primary rate for the whole Fund is the weighted average (by payroll) of the individual employers' primary rates, and is 12.8% of payroll. The secondary rates across the entire Fund (as a percentage of projected payroll and as an equivalent monetary amount) in each of the three years in the period 1 April 2017 to 31 March 2020 is set out in the table below.

Secondary contributions	2017/18	2018/19	2019/20
Average as a % of payroll	7.8%	7.9%	7.9%
Total monetary amounts	£9,863,000	£10,143,000	£10,415,000

### General notes

Employers may pay further amounts at any time and future periodic contributions, or the timing of contributions, may be adjusted on a basis approved by us as the Fund Actuary. The Administering Authority, with the advice from us as the Fund Actuary may allow some or all of these contributions to be treated as a prepayment and offset against future certified contributions.

The certified contributions include an allowance for expenses and the expected cost of lump sum death benefits but exclude early retirement strain and augmentation costs which are payable by participating employers in addition. The monetary amounts are payable in 12 monthly instalments throughout the relevant year unless agreed by the Administering Authority and an individual employer.

Employer Code	Employer name	Primary rate (% pay)	Secondary rate (% pay plus monetary adjustment)			Total contributions (% pay plus monetary adjustment)		
			2017/18	2018/19	2019/20	2017/18	2018/19	2019/20
54	City of London	12.9%	8.1%	8.1%	8.1%	21.0%	21.0%	21.0%
1	Irish Society	12.9%	8.1%	8.1%	8.1%	21.0%	21.0%	21.0%
3	Museum of London	10.7%	4.4%	5.0%	5.4%	15.1%	15.7%	16.1%
7	City Academy	12.6%	4.5%	4.5%	4.5%	17.1%	17.1%	17.1%
9	Brookwood	12.9%	8.1%	8.1%	8.1%	21.0%	21.0%	21.0%
10	Enterprise	17.9%	3.1%	3.1%	3.1%	21.0%	21.0%	21.0%
14	Agilisys	13.5%	7.5%	7.5%	7.5%	21.0%	21.0%	21.0%
15	Cook and Butler	12.9%	8.1%	8.1%	8.1%	21.0%	21.0%	21.0%
16	Agilisys (Police)	11.4%	9.6%	9.6%	9.6%	21.0%	21.0%	21.0%
17	London CIV	11.8%	9.2%	9.2%	9.2%	21.0%	21.0%	21.0%
18	Westminster Drug Unit	8.9%	12.1%	12.1%	12.1%	21.0%	21.0%	21.0%