ITEM 8

NORTH YORKSHIRE COUNTY COUNCIL

PENSION FUND COMMITTEE

24 MAY 2018

CASHFLOW PROJECTION OF THE FUND

Report of the Treasurer

1.0 Purpose of the Report

1.1 To provide Members with an update on the cashflow position of the Fund and the estimated date at which the Fund will go cashflow negative.

2.0 Background

2.1 As Pension Funds mature the monitoring of the inflows and outflows of the Fund is of increasing importance as benefits payable can begin to overtake the contributions in from employers, putting the Fund into a cashflow negative position. In recent PFC meetings Members have discussed the importance of this issue for NYPF in particular given that the cashflow is moving closer to a cashflow negative position.

2.2 In the last meeting of the PFC Members requested an indication of when the Fund is likely to go cashflow negative so that it can plan ahead to ensure that the Fund is able to cover its outflows through other sources, for example, income generating investments.

2.3 The Actuary, Aon Hewitt, was asked to provide this information in a report that is attached as **Appendix 1**.

3.0 Purpose and Assumptions of the Report

3.1 The report provides an indication of how the contributions to and benefit payments from the Fund will progress over the next 10 year period under the following two scenarios:

- **Scenario 1**- assumes that there will be no new entrants to the Fund to replace any leavers, i.e. the scheme is closed.
- **Scenario 2**- assumes a steady membership, i.e. all leavers are replaced and active membership therefore remains stable over the longer term.

3.2 The key assumptions listed below used to produce the results of the report have all been based on the 2016 Triennial Valuation. Further details on these assumptions used in the 2016 Triennial Valuation are in the 31 March 2016 Actuarial Report that is attached as **Appendix 2**:

- Membership data

- Employer contribution rates and deficit contributions
- Life expectancy
- Age of drawing pensions
- Pay and pension increases

3.3 It is also important to note that the results do not take into account transfers in and out of the Fund or any redundancies. Under scenario 2 the Actuary have provided two versions, one that takes into account the annual costs of running the Fund and one that does not.

4.0 Results of the Report

4.1 Under Scenario 1, it is estimated that the Fund will remain cashflow positive until 2021/22 at which point it will switch to a cashflow negative position.

4.2 Whilst scenario 1 can demonstrate the effects of declining active membership numbers on the cashflow position of the Fund, the most realistic scenario is Scenario 2. The results under this scenario are that the Fund is estimated to become cashflow negative in 2025/26 when the costs of administering the Fund are taken into account and 2027/28 when they are not included. The costs of administering the Fund that have an impact on the cashflow are currently estimated at £12.6m p.a., as detailed in the 2018/19 budget and cashflow statement in the Budget and Statistics paper.

5.0 Conclusion and Next Steps

5.1 To ensure that the outflows of the Fund are covered by the inflows as the Fund moves closer to a cashflow negative position alternative income generating opportunities will need to be considered.

5.2 The issue of income generating investments will feature in future investment strategy deliberations. The monitoring of the cashflow position will continue and features as part of the new Budget report.

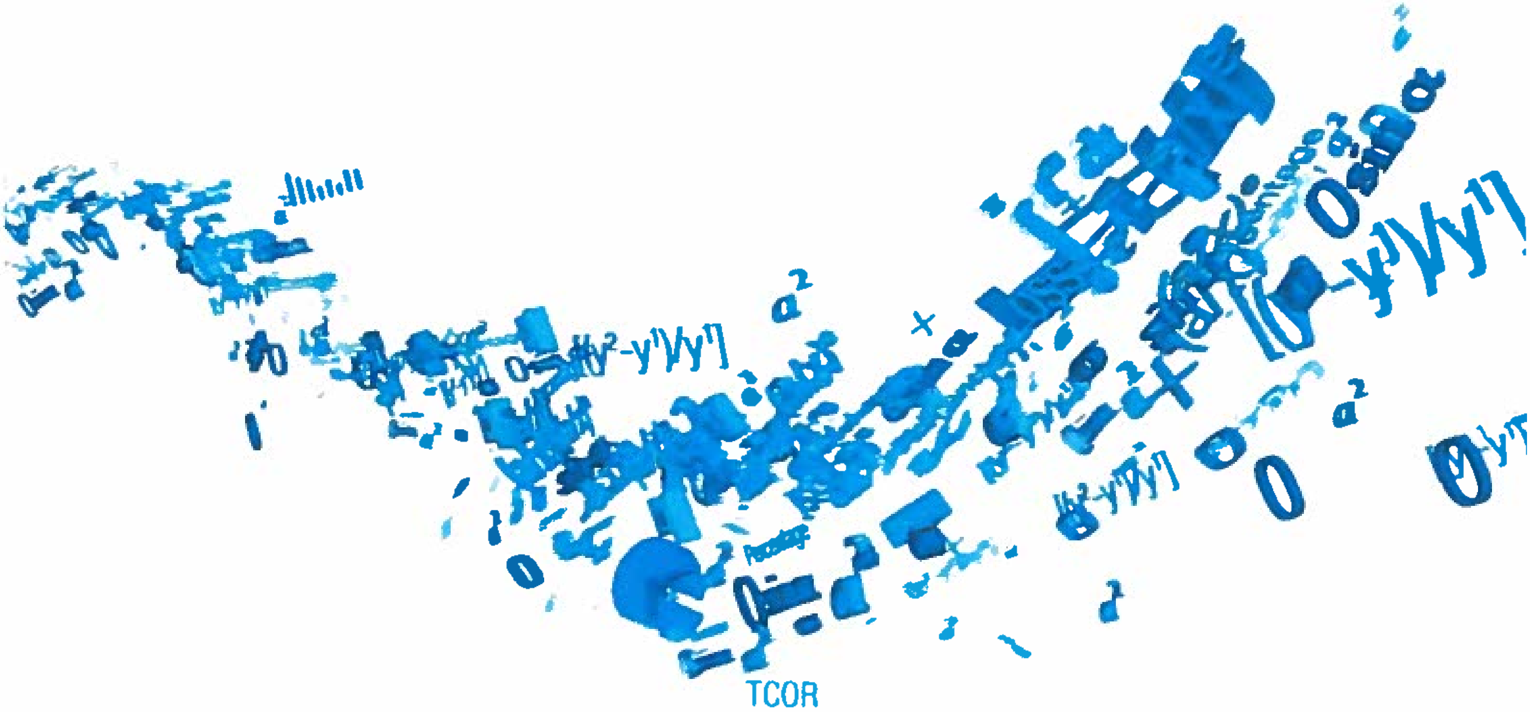
6.0 RECOMMENDATIONS

6.1 Members to note the contents of the cashflow report produced by the Actuary (Appendix 1).

GARY FIELDING
Treasurer to North Yorkshire Pension Fund
NYCC
County Hall
Northallerton

10 May 2018

Appendix 1



Cashflow Projections

North Yorkshire Pension Fund

Prepared for	North Yorkshire County Council, in its role as the Administering Authority of the North Yorkshire Pension Fund
Prepared by	
Date	15 May 2018

QAS Institute and Faculty of Actuaries Quality Assurance Scheme

Aon Empower Results®

Executive Summary

The key results of our cashflow projection calculations are set out below.

Scenario 1: Closed Scheme

This scenario projects cashflows in relation to scheme membership up to the 2016 valuation date. No allowance is made for any new entrants joining after the valuation date.

Under this scenario the net cashflow position is slightly positive over the next few years.

The net cashflow position reduces gradually each year and becomes negative over 2021/22 as active members are assumed to leave or retire resulting in contribution income falling and benefit outgo increasing.

This can be considered as an extreme scenario showing how the cashflow position could change over time if there were no new entrants.

Scenario 2: Steady Membership

This scenario projects cashflows assuming that all leavers are replaced such that the active membership profile is stable over time.

Under this scenario the net cashflow position is positive at the start of the projection period and remains at broadly the same level for the first seven years before reducing gradually and becoming negative over 2027/28.

This scenario provides a more realistic indication of future cashflows as the Fund's largest employers continue to admit new members.

As requested, under this scenario we have also provided approximate figures to include an allowance for expenses incurred by the Fund in relation to the cost of running the Fund as provided to us by the Administering Authority.

If you require a more accurate allowance for these costs then please let us know.

Notes

Please note the following:

- Under both scenarios no allowance has been made for investment income in the cashflows. In practice, the Fund may be able to make use of investment income to meet (at least some of) the cashflow gap rather than disinvest assets to meet benefit payments.
- The cashflow projections set out in the report are intended to give an indication of how contributions to, and benefit payments from, the Fund will progress over the next 10 years. These projections are based on a number of assumptions which are summarised in the Introduction section of this report. The actual cashflows will differ from those projected and we provide some commentary on the potential differences in the section entitled 'Comparison with actual cashflows'.

Introduction

The purpose of this report is to set out the projected contributions to, and benefit payments from, the Fund based on the 2016 actuarial valuation of the Fund. It also provides an indication of how these would change if all leavers are replaced by new entrants such that the overall membership of the Fund is stable over time.

Users of this document

This report has been commissioned by the Administering Authority to the North Yorkshire Pension Fund ("the Fund") and this advice is provided to our client, in its capacity as Administering Authority to the Fund. **This advice should not be passed to any other party without our advance written permission.** We accept no responsibility to any party other than our client in relation to the advice.

Purpose of this document

The purpose of this document is to set out estimated projected contributions to, and benefit payments from, the Fund should the assumptions underlying the 2016 actuarial valuation of the Fund be borne out in practice based on the membership of the Fund at the valuation date.

We also show, on an approximate basis, how those cashflows would develop should all active members leaving the Fund (i.e. those that become deferred members and pensioners) be replaced such that the active membership profile is stable over time.

Data

The projections are based on the data underlying the 2016 actuarial valuation of the Fund, i.e. as at 31 March 2016. Further details are set out in the report on that valuation, dated 31 March 2017.

Assumptions

The projections are based on the 2016 valuation, the purpose of which is to assess the financial position of the Fund and set employer contributions. They are not cashflow forecasts and should not be treated as such.

The assumptions underlying our projections are based on the 2016 valuation of the Fund and are summarised in the report on that valuation, dated 31 March 2017. In particular, assumptions have been made in relation to:

- the life expectancy of members
- the age at which members will elect to draw their pension
- the rate at which pay and pensions will increase
- the rate at which members retiring will exchange pension for cash

No allowance has been made for the following:

- transfers into or out of the Fund, on an individual or bulk basis
- redundancy / efficiency early retirements
- membership changes since 31 March 2016 which are different to our valuation assumptions
- pay or pension increases different to our valuation assumptions
- changes to the average part-time % or average employee contribution rate
- age retirements other than at the age assumed in the 2016 valuation
- any expenses incurred by the Fund although an approximate allowance has been made for the cost of running the Fund on scenario 2 as shown in Appendix B)
- any benefits which are granted at the discretion of an employer

Please note that we have assumed that deficit contributions will be paid in line with those certified at the 2016 valuation, i.e. as set out in the Rates and Adjustments Certificate and then increasing in line with our pay increase assumption of 3.25% p.a. throughout the projection period.

Scenario 1: Closed Scheme

This scenario projects

– expected benefit payments (cash outflow) for members as at 31 March 2016 based on the assumptions underlying the actuarial valuation of the Fund as at 31 March 2016, including an allowance for future service accrual for the existing membership;

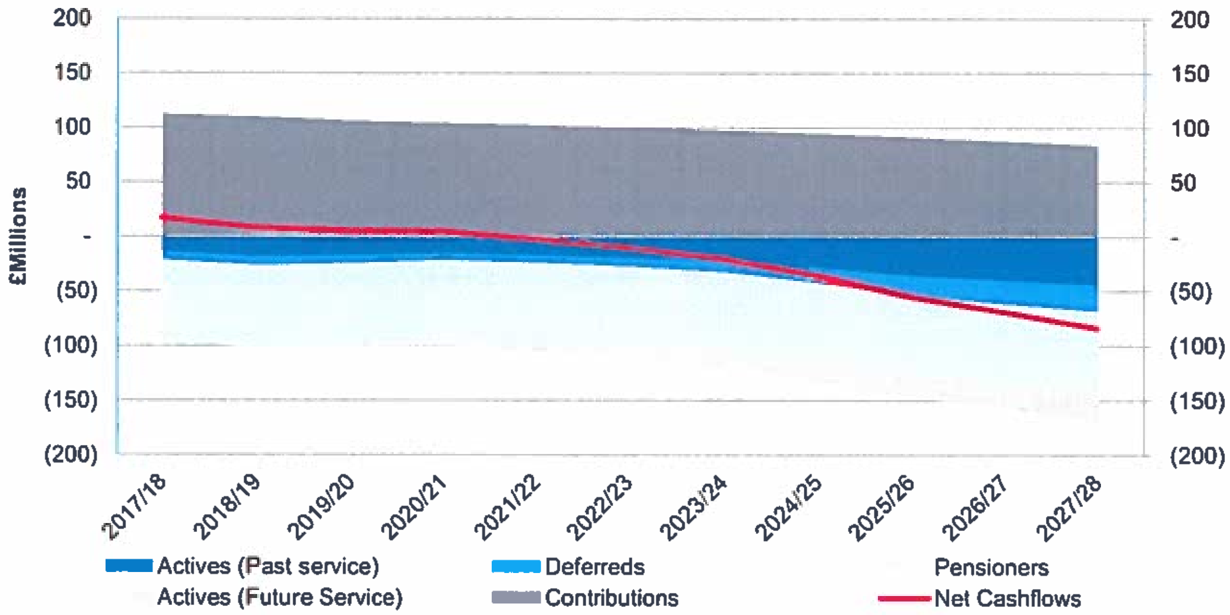
– expected contribution income based on contributions certified at the 2016 valuation and assuming overall pensionable payroll increases at 3.25% p.a. from 2016 onwards before allowing for decrements (e.g. retirements, mortality, withdrawal rates).

Notes:

– All figures are in nominal terms, i.e. are not converted to today's prices.

– The projected benefit payments reflect the valuation assumption that all members over the assumed retirement age on 31 March 2016 will retire in the year following the valuation date.

Cashflow Projections - Closed Scheme



Commentary

The projected net cashflow position over the next few years is slightly positive (i.e. contributions are greater than benefit payments). However, from around 2021 the net cashflow gradually falls as contributing members are assumed to leave or retire and therefore contribution income falls, while benefit outgo increases. In this scenario leavers are not replaced. This leads to a negative cashflow position.

It is worth noting that a negative net cashflow position does not mean the funding level of the Fund will worsen over time, as cashflows paid out will also reduce the liabilities of the Fund. However, a negative net cashflow position does make it more likely that assets will have to be disinvested to meet benefit payments.

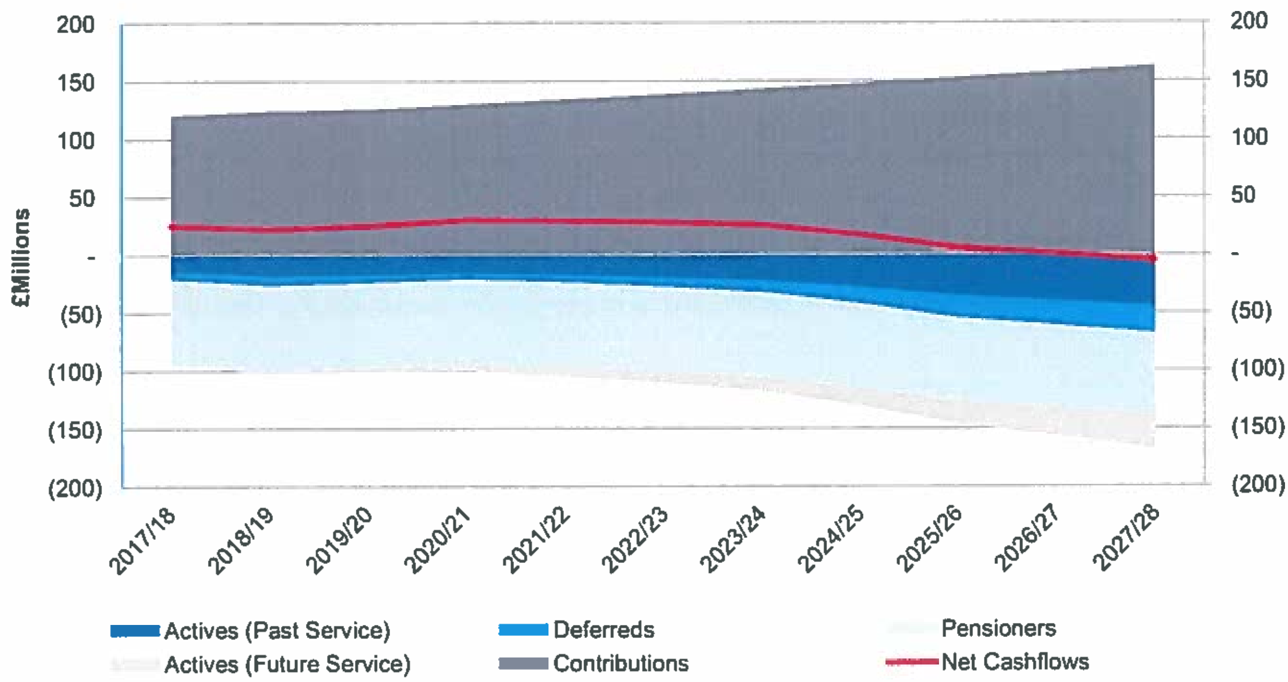
Scenario 2: 100% replacement of active members

This scenario projects
– expected benefit payments (cash outflow) for members as at 31 March 2016 based on the assumptions underlying the actuarial valuation of the Fund as at 31 March 2016, including an allowance for future accrual for the existing membership and new entrants;
– expected contribution income based on contributions certified at the 2016 valuation and assuming overall pensionable payroll increases at 3.25% p.a. from 2016 onwards;

– expected contribution income and benefit outflow for new members joining from 1 April 2016 assuming a stable Fund membership over the projection period.

Notes:
– The allowance for new members is approximate and assumes leavers are immediately replaced by someone on the same pay and assumes new members are more than 10 years away from drawing benefits.
– All figures are in nominal terms, i.e. are not converted to today's prices
– The projected benefit payments reflect the valuation assumption that all members over the assumed retirement age

Cashflow Projections - Steady Membership



Commentary

After allowing for new entrants to replace leavers the projected net cashflow position remains positive (i.e. contributions are greater than benefit payments) for most of the projection period.

The net position is more stable than under scenario 1, and the Fund will be less likely to need to disinvest assets to meet benefit payments over the 10 year projection period, especially once investment income is taken into account (not included in above cashflows), assuming this is not automatically reinvested. This is a function of contributions being made for new entrants but those members typically not drawing benefits in the short to medium term.

If we make approximate allowance for the expenses incurred by the Fund the net cashflow becomes negative during 2025/26. This can be seen in the figures set out in Appendix B.

Comparison with actual cashflows

It would be possible to compare the actual cashflows paid from and to the Fund with those projected under scenario 2. However, even if the assumptions regarding replacement rates were borne out in practice we would not expect the figures to be identical. We have set out below some commentary on the potential differences.

From active/deferred

The valuation assumes that all active and deferred members above retirement age will retire in the year following the valuation date (i.e. 2016/17). These members may in fact retire later than this, leading to lower projected retirement lump sums and pension payments based on the valuation assumptions compared to the actual benefit payments over 2017/18 and the following few years. The actual retirement lump sums are likely to exceed the projections over the following 5 years as members over retirement age as at 31 March 2016 start to draw their benefits at a more gradual rate than assumed in the valuation for these members.

Pensions for those over the assumed retirement age on the valuation date are expected to become payable half-way through the year, and whilst this is a reasonable approximation, it is unlikely to be true in practice.

Pensioners

The actual pensions paid will be subject to pension increases in line with CPI inflation. Whilst we have made an allowance for inflation in line with our best estimate of long term CPI, this is unlikely to match the actual rate of inflation in any given year. The total amount of pensions paid will also depend on the number of pensioners. This will be affected by the number of members retiring and mortality experience during the period. We have also made best estimate allowances for these, but they are, again, unlikely to exactly match actual experience in any year.

In addition, under scenario 2 we have assumed that leavers will be replaced with new members that are more than 10 years away from drawing benefits. In reality, it is likely that some new joiners will start drawing their benefits within the 10 year projection period which would result in benefit payments being higher than those projected (all other things being equal).

Contributions

The projected figures are based on certified contributions and expected payroll including in respect of those active members who were over retirement age on the valuation date. The actual contributions will differ from our projections due to different numbers of leavers to that expected, differing levels of pay increases than expected, or different numbers of new entrants compared to expectations, with different profiles to that assumed.

In addition, actual contributions paid will depend on the actual progression of the payroll of the active members. For periods after the current Rates and Adjustments Certificate actual contributions will also depend on the results of future triennial valuations.

Other assumptions made in our calculations (see page 1), may also give rise to differences between the projected and actual cashflows.

You may wish to consider additional analysis if there have been significant redundancy exercises since 31 March 2016 - e.g. based on updated data. We can set out various options if required.

Expenses incurred by the Fund

The Administering Authority have asked us to make approximate allowance for the annul cost of running the Fund. At this stage we have allowed for this outside of cashflow model by simply adding in an assumed cost of running the Fund to the benefits paid set out in Appendix B. Please note the following:

- As requested by the Administering Authority, we have assumed that the cost of running the Fund will be £12.6M each year. This is in line with the budgeted cost for 2018/19
- No allowance has been made for any inflationary increases
- An allowance for administration expenses is included in the future service contribution rate determined at the 2016 valuation. For the purposes of these illustrative figures we have not made any adjustment for this in the cost of running the Fund.

Appendix A – Table of underlying results

Scenario 1: Closed Scheme

Year	Benefits (£M)	Contributions (£M)	Net Cashflows (£M)
2017/18	(95.4)	112.4	17.0
2018/19	(102.0)	110.2	8.2
2019/20	(101.1)	106.1	5.0
2020/21	(99.9)	104.3	4.4
2021/22	(105.0)	102.4	(2.6)
2022/23	(110.7)	100.1	(10.6)
2024/25	(130.7)	94.9	(35.8)
2025/26	(146.8)	91.5	(55.3)
2026/27	(156.9)	87.9	(69.0)
2027/28	(168.0)	84.1	(83.9)

Scenario 2: 100% replacement of active members

Year	Benefits (£M)	Contributions (£M)	Net Cashflows (£M)
2017/18	(95.4)	120.4	25.0
2018/19	(102.0)	123.9	21.9
2019/20	(101.1)	125.8	24.7
2020/21	(99.9)	129.9	30.0
2021/22	(105.0)	134.1	29.1
2022/23	(110.7)	138.5	27.8
2023/24	(117.8)	143.0	25.2
2024/25	(130.7)	147.6	16.9
2025/26	(146.8)	152.4	5.6
2026/27	(156.9)	157.4	0.5
2027/28	(168.0)	162.5	(5.5)

Appendix B – Table of underlying results (including expected expenses incurred by the Fund)

Scenario 2: 100% replacement of active members

Year	Benefits (£M)	Expenses incurred by the Fund (£M)	Contributions (£M)	Net Cashflows (£M)
2017/18	(95.4)	(12.6)	120.4	12.4
2018/19	(102.0)	(12.6)	123.9	9.3
2019/20	(101.1)	(12.6)	125.8	12.1
2020/21	(99.9)	(12.6)	129.9	17.4
2021/22	(105.0)	(12.6)	134.1	16.5
2022/23	(110.7)	(12.6)	138.5	15.2
2023/24	(117.8)	(12.6)	143.0	12.6
2024/25	(130.7)	(12.6)	147.6	4.3
2025/26	(146.8)	(12.6)	152.4	(7.0)
2026/27	(156.9)	(12.6)	157.4	(12.1)
2027/28	(168.0)	(12.6)	162.5	(18.1)

Appendix C - Compliance and Disclaimer

Compliance with standards published for the Actuarial Profession

This report, and the work relating to it, complies with 'Technical Actuarial Standard 100: Principles for Technical Actuarial Work' ('TAS 100').

The compliance is on the basis that the Administering Authority of the Fund is the addressee and the only user and that the report is only to be used as a guide for cashflow considerations. If you intend to make any other decisions after reviewing this report, please let me know and we will consider what further information we need to provide to help you make those decisions.

This report has been prepared under the terms of the agreement between North Yorkshire County Council as Administering Authority to the Fund and Aon Hewitt Limited on the understanding that it is solely for the benefit of the addressee.

This report should be read in conjunction with:

- The Triennial Valuation Report on the actuarial valuation as at 31 March 2016, dated 31 March 2017
- The reports titled "Actuarial valuation at 31 March 2016 – (3) Financial assumptions dated 15 June 2016 and "Actuarial valuation at 31 March 2016 – (4) Other assumptions" dated 15 June 2016

If you require further copies of any of these documents, please let me know.

In addition, further information on how the Fund operates can be found in the Funding Strategy Statement.

Other important information

Aon Hewitt's current cashflow software forms part of our valuation system. The software provides approximate cashflows, based on grouping the members into model points by age.

The projection software used has been designed to provide cashflow information which is suitable for illustrating the underlying mechanics of actuarial valuations and for use in asset-liability modelling in relation to determining broad investment strategy.

The key steps in the process to produce estimated cashflows were:

- Grouping the member data into a series of model points by members' nearest age at date of calculation.
- Estimating cashflows for each model point. This includes some approximations. e.g. annual pensions were treated as a single payment halfway through each year following the calculation date.
- Scenario 2 assumes new members join the Fund such that the Fund membership is stable over the projection period.
- The estimated cashflows for the Fund were then taken as the sum of the estimated cashflows arising from the model points.
- A sense-check was carried out by discounting the cashflows produced and comparing these against full valuation results.

Disclaimer

The advice set out in this report has been prepared under instruction of our client, the Administering Authority of the Fund, on the understanding that it is solely for the benefit of our client, the Administering Authority. It should be read in conjunction with our report on the triennial valuation of the Fund as at 31 March 2016, dated 31 March 2017.

This advice should not be used or relied upon by any other person for any other purpose, and all third parties are hereby notified the report shall not be used as a substitute for any enquiries, procedures or advice which ought to be undertaken or sought by them. We do not accept any responsibility for any consequences arising from any third party seeking to rely on this report.

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No decisions should be taken on the basis of this advice by any party other than our client, and nothing in this report removes the need for readers to take proper advice in relation to their specific circumstances.

Appendix 2

Aon Hewitt
Retirement & Investment

Proprietary and Confidential

Actuarial valuation as at 31 March 2016

North Yorkshire Pension

Prepared for	North Yorkshire County Council, in its role as the Administering Authority of the North Yorkshire Pension Fund
Prepared by	Alison Murray FFA Scott Campbell FIA
Date	31 March 2017

QAS Institute and Faculty of Actuaries Quality Assurance Scheme

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Disclaimer

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Any third party using this report does so entirely at its own risk and no third party is entitled to rely on this report for any purpose whatsoever.

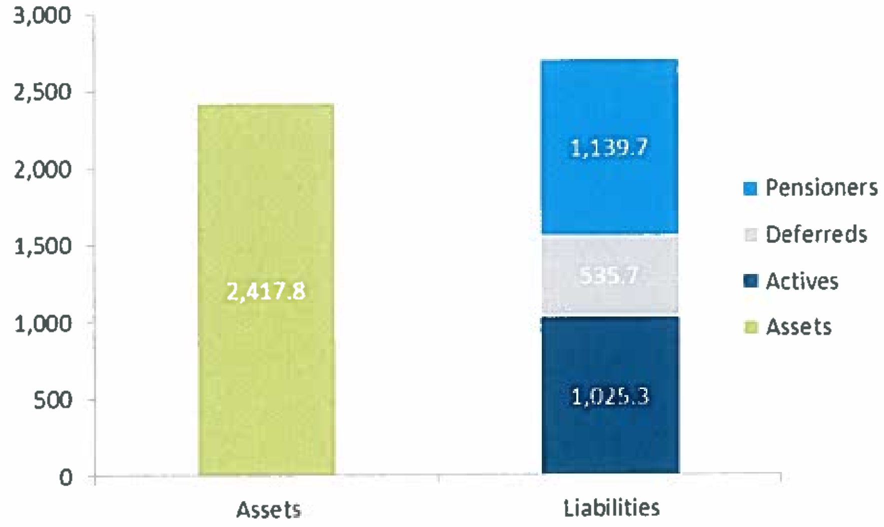
No decisions should be taken on the basis of this report by any party other than our client, North Yorkshire County Council, and nothing in this report removes the need for readers to take proper advice in relation to their specific circumstances.

Executive Summary

The key results of the valuation as at 31 March 2016 are set out below.

There was a shortfall of £282.9M relative to the past service liabilities of £2,700.7M which corresponded to a funding ratio of 90%.

The past service liabilities is the amount of assets agreed with the Administering Authority as being required to meet members' benefits, assuming the Fund continues as a going concern.



The aggregate Employer future service contribution rate (the primary contribution rate, a weighted average of all Employers' primary rates) is 17.8% of Pensionable Pay.

The aggregate Employer total contribution rate (primary plus secondary) required to restore the funding ratio to 100% using a recovery period of 24 years from 1 April 2017 is 20.9% of Pensionable Pay (if the membership remains broadly stable and pay increases are in line with our assumptions). The comparable figure at the previous valuation was 21.1% of Pensionable Pay using a recovery period of 27 years from 1 April 2014.

The contributions payable by each Employer or group of Employers may differ because they allow for each Employer's or group's particular membership profile and funding ratio, and assumptions and recovery periods appropriate to their circumstances.

Actuarial valuation as at 31 March 2016

North Yorkshire Pension Fund

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Introduction

This report has been prepared for the Administering Authority. It sets out the results and conclusions of the funding valuation of the North Yorkshire Pension Fund as at 31 March 2016.

This is our actuarial valuation report. It draws together other pieces of work and advice from throughout the valuation process. Appendix 1 sets out the legal framework within which the valuation has been completed.

Throughout this report, assets and liabilities in respect of defined contribution additional voluntary contributions (or AVCs) have been excluded.

Some shorthand used in this report is explained opposite. Some technical pensions terms are explained in the Glossary.

Shorthand

Fund

North Yorkshire Pension Fund

Administering Authority

North Yorkshire County Council, in its role as the Administering Authority of the Fund

Employers

North Yorkshire County Council, and other employers with employees participating in the Fund

Regulations

The Local Government Pension Scheme Regulations 2013 (and other Regulations as referenced in the Glossary)

Pensionable Pay

As defined in the Regulations in relation to post-2014 membership

Pensionable Service

Periods of membership, as defined in the Regulations

Snapshot view

The report concentrates on the Fund's financial position at the valuation date. As time moves on, the Fund's finances will fluctuate. If you are reading this report some time after the valuation date, the Fund's financial position could have changed significantly.

Update since the previous valuation

The key results from the previous valuation as at 31 March 2013 were:

The Fund's assets were £1,841M and the past service liabilities were £2,509M, which corresponded to a shortfall of £668M and a funding ratio of 73%.

The aggregate Employer future service contribution rate was 13.8% of Pensionable Pay.

The Administering Authority agreed Employer contributions from 1 April 2014 over a range of recovery periods designed to restore the funding ratio to 100% over a period not exceeding 27 years. In some cases allowance was made for the improvement in the funding position after the valuation date.

Total employer contributions were certified as follows:

Year from 1 April	% of Pensionable Pay	Aggregate contribution amounts (£M)
2014	14.2	26.1
2015	14.2	27.2
2016	14.2	28.3

The amount payable over 2016/17 was scheduled to increase on 1 April 2017 and each 1 April thereafter by approximately 4.1% a year.

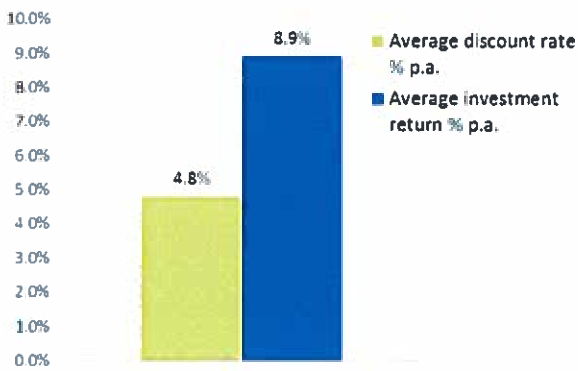
In addition the Employers paid contributions in respect of any additional strains arising on early retirement or due to increases in benefits. Members also paid contributions required by the Regulations.

Financial development

To illustrate the Fund's financial development since the previous valuation, we compare below key financial assumptions made at the previous valuation with what actually happened.

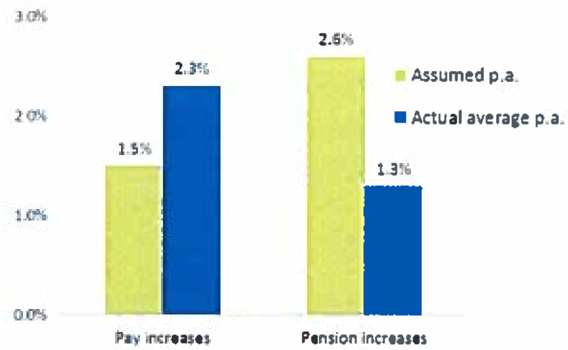
- **Investment return (or discount rate)**

  The net investment return has been higher than the average discount rate assumed.



- **Inflationary pay and pension increases**

  Increases to pay were higher than assumed, and increases to pensions in payment were on average lower than assumed.



Where material we show the financial impact of the above developments later in this report.

Other key developments since the previous valuation

As well as the contributions paid to the Fund since the previous valuation and the returns achieved on the Fund's assets, there have been the following material developments since the previous valuation date:

- **2014 Scheme**

  A new benefit structure was introduced for Pensionable Service from 1 April 2014. The key features are:

  - Career average structure
  - Accrual rate of 49ths
  - Pensions revalued by CPI before retirement
  - Normal Pension Age linked to State Pension Age
  - Changes to member contribution rates
  - Member contribution rates based on actual (previously full time equivalent) pay
  - Introduction of a 50:50 option, with member contribution rate and pension accrual rate both half rate
  - An underpin to pensions for members within 10 years of age 65 in April 2012.

  Benefits for Pensionable Service before 1 April 2014 are protected, and calculated by reference to retirement ages in force before the 2014 Scheme was introduced. The link to final pay, (where pay is calculated using the 2008 Scheme definition), for pre 2014 benefits remains for active members.

  Our understanding is that the introduction of the 2014 Scheme was reflected in the 2013 valuation carried out by Mercer, the previous Fund Actuary.

- **Auto-enrolment**

  Between 2012 and 2018 all UK employers will have a duty to commence automatically enrolling employees who satisfy certain criteria into the National Employment Savings Trust (NEST) or, if it satisfies certain requirements, their own pension scheme. The "staging date", from which the auto-enrolment duty applies, varies between individual employers. Over the period since the previous valuation, a number of the Fund's employers have been impacted and this has led to an increase in new members joining the Fund

- **Probation transfer**

  Since the last valuation, all assets and liabilities held by the Fund in relation to York and North Yorkshire Probation Trust have been transferred to the Greater Manchester Pension Fund.

- **Indexation of GMPs**

  On 6 April 2016 the Government introduced the new State Pension. A consequence of the legislation was that the mechanism which previously provided fully indexed pension payments to public servants ceased to apply in relation to the GMP element of pension.

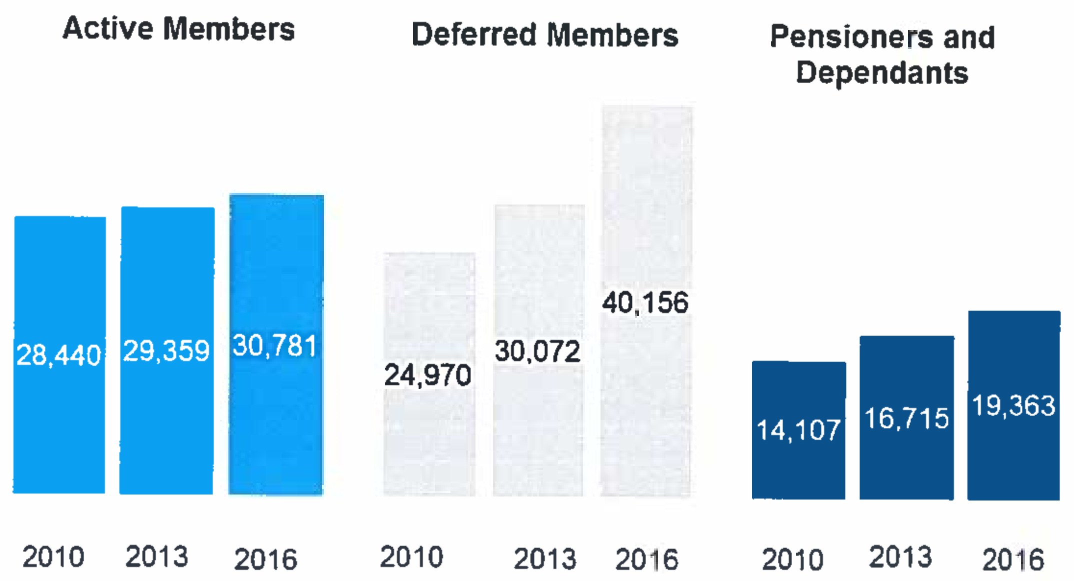
  On 1 March 2016 HM Treasury announced an interim solution to the indexation of GMPs in public service pension schemes, including the Local Government Pension Scheme. The implications of this are that the Fund became responsible for paying full pension increases on the GMP for members who reach their State Pension Age between 6 April 2016 and 5 December 2018 inclusive. The results of this valuation allow for this change.

Membership data

This valuation is based on membership data as at 31 March 2016 supplied to us by the Administering Authority.

A summary of the membership data is included in Appendix 2.

The chart below shows how the membership profile of the Fund has changed over the last three valuations. During this period, the proportion of non-active members has increased from 58% of the Fund's membership at 31 March 2010 to 66% at 31 March 2016.



Notes:

- The deferred membership numbers above includes members who had yet to decide whether to take a refund of contributions
- Pensioners and dependants exclude children

We have carried out some general checks to satisfy ourselves that:

- The information used for this valuation is broadly consistent compared with the information used for the previous valuation and also with that shown in the Fund's Annual Report and Accounts.
- The numbers of members included in this valuation can be reconciled against those included in the previous valuation.

However, the results in this report rely entirely on the accuracy of the information supplied. The Administering Authority should notify us if the data we have used is incomplete or inaccurate.

Benefits valued

Members are entitled to benefits defined in the Regulations. Different benefits apply to Pensionable Service before 1 April 2008, between 1 April 2008 and 31 March 2014, and after 31 March 2014. A summary of the benefits valued is given in Appendix 3.

Discretionary benefits

Employers have discretion over payment of certain benefits and it is not practical to allow for the policies of each Employer. Most discretionary benefits are financed as they occur, so the financial impact on this valuation is minimal. No specific allowance has therefore been made for benefits which are granted at the discretion of the Employer.

State Pension Age changes

Normal Pension Age for Pensionable Service on or after 1 April 2014 is State Pension Age (SPA), or, if higher, age 65. SPA is currently transitioning from age 65 (60 for women) to age 68 by 2046.

On 1 March 2016 the Department for Work and Pensions published the Terms of Reference for a review of SPA. It has subsequently published two reports that will help inform its review. However, as the outcome of the review is not yet known, no allowance has been made within the valuation for any changes in SPA beyond those which have already been announced.

Local Government Pension Scheme Regulations and the cost management mechanism

Our valuation reflects our understanding of the Regulations in force at the valuation date. Any future changes may affect the conclusions in this report.

We have made no allowance in this valuation for any future potential changes to member contributions or benefits resulting from the cost management mechanism under the Regulations. The first valuation for the purposes of calculating the Scheme cost under the cost management process will be carried out by the Government Actuary's Department as at 1 April 2016, but any changes to members' contributions or benefits that may arise will not be known for some time and we do not expect any changes to be implemented before 1 April 2019.

GMP equalisation and indexation

On 28 November 2016 HM Treasury commenced a consultation process on the indexation and equalisation of GMP in public service pension schemes. The outcome of this consultation process is unknown and so this valuation does not allow for any funding of full indexation or equalisation of GMPs beyond those already announced. The results of this valuation do allow for the changes which have already been implemented to the indexation of GMPs for members who reach their State Pension Age between 6 April 2016 and 5 December 2018 inclusive.

Inflation measure

The Consumer Prices Index (CPI) is currently used to index pensions in payment and deferment, and to revalue members' CARE accounts for service after 31 March 2014.

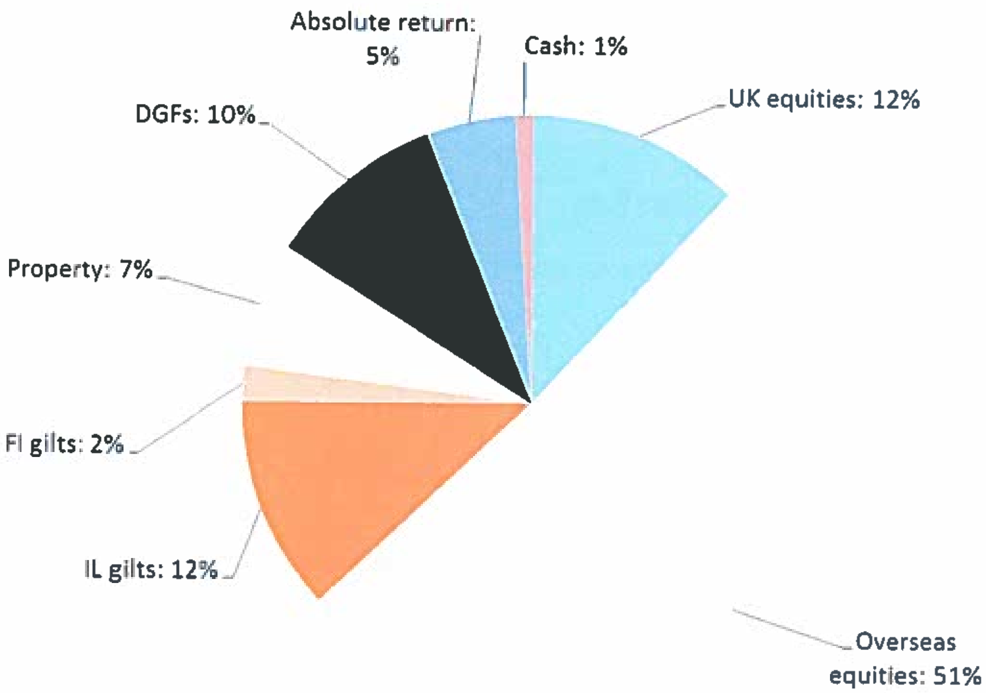
In November 2016 the Office for National Statistics announced that a different index "CPIH" which also makes allowance for owner-occupier housing costs, is to be its preferred inflation measure in future.

The Government has not yet announced whether CPIH will replace CPI as the measure for indexing public service pensions. This valuation therefore continues to make allowance for indexation and revaluation to be based on CPI.

Asset data

The audited accounts for the Fund for the year ended 31 March 2016 show the value of the assets to be £2,417.8M at the valuation date.

The assets of £2,417.8M were invested as follows:



This summary excludes assets for defined contribution AVC accounts.

The Investment Strategy Statement describes the Fund's investment strategy as follows:

- The investment objective of the Fund is to provide for sufficient capital growth of the Fund's assets in a range of market conditions, supplemented by employee and employer contribution income, to meet the cost of benefits as they fall due. It is translated into a suitable strategic asset allocation benchmark designed to address the nature of the Fund's liabilities, and deliver returns over the long term including through periods of volatility in financial markets.

Funding objective

Terminology

Past service liabilities

This is the present value of the benefits to which members are entitled based on benefits accrued to the valuation date, assessed using the assumptions agreed between a Fund's Administering Authority and the Fund Actuary.

Funding objective

To hold sufficient and appropriate assets to meet the past service liabilities.

Funding strategy statement

Sets out the Administering Authority's strategy for meeting the funding objective

The Administering Authority's funding objective is to hold assets which are at least equal to the past service liabilities i.e. to meet the funding objective.

In order to calculate the past service liabilities and the cost to the Employers of future benefit accrual, the benefits paid out by the Fund are estimated for each year into the future. The estimated benefit payments are then 'discounted back' to the valuation date using an agreed rate of interest known as the discount rate.

The benefit payments from the Fund are expected to be made for a very long period – the chart below shows the cashflow pattern for the current membership of a typical LGPS fund (based on past service benefits). Some cashflows will be fixed but others will be linked to future levels of salary growth and inflation.

Source: 2016 valuation for a "typical" LGPS fund

The discount rate

The Funding Strategy Statement describes the risk based approach used to set the funding strategy and hence the discount rate. Under this risk based approach:

- The discount rate for the secure long term scheduled bodies assumes indefinite future investment in assets similar to the Fund's holdings at the valuation date (allowing for any known or planned changes to the long term investment strategy as appropriate).
- For orphan bodies, the discount rate has regard to the possibility that participation might cease at any time and anticipates a move to a low risk investment portfolio made up of long dated Government bonds (of appropriate nature and term) at cessation.
- For subsumption bodies, where a long term scheduled body has agreed to subsume the liabilities of an admission body or other employer on exit, we have agreed with the Administering Authority to use the scheduled body discount rate for that employer.
- This valuation has been undertaken on a prudent basis. Prudence is achieved through the use of discount rates (expected return assumptions) which have a better than evens chance of being achieved by the Fund's assets. Information on the level of prudence (or risk) in the funding strategy is contained in the Fund's Funding Strategy Statement.

An explanation of scheduled bodies, orphan bodies and subsumption bodies is given in the Glossary.

Summary of method and assumptions

The Administering Authority agreed the assumptions used to calculate the past service liabilities and the cost of future benefit accrual. The table below summarises the key assumptions, together with those used for the previous valuation, and the reasons for any change. Further details of all of the assumptions are set out in Appendix 5.

Assumption	This valuation	Previous valuation	Rationale for change
Scheduled and subsumption body funding target (past service/future service)	**4.4% pa / 4.4% pa**	**4.8% pa / 5.6% pa**	Updated to reflect ▪ the Administering Authority's adoption of a risk-based approach and allowing for the outlook for the Fund's actual asset holdings as at 31 March 2016; and ▪ use of the same assumptions for past and future service
Ongoing orphan body funding target In-service discount rate Left-service discount rate	 **4.1% pa** **2.5% pa**	 **N/A** **N/A**	Introduced to reflect use of a gilts-based exit valuation for employers exiting the Fund leaving orphan liabilities. The in-service discount rate allows for some out-performance of the Fund's assets relative to the yield on long-dated gilts. The left-service discount rate reflects our view of the possible future increase in gilt yields over a five year period so is above the prevailing gilt yields on the valuation date.
Rate of revaluation of pension accounts	**2.0% pa**	**2.6% pa**	Updated to reflect the outlook for CPI inflation at 31 March 2016.
Pension increases (on pension in excess of GMPs)	**2.0% pa**	**2.6% pa**	Updated to reflect the outlook for CPI inflation at 31 March 2016.

Assumption	This valuation	Previous valuation	Rationale for change
Pensionable Pay Increases	3.25% pa	4.1% pa with short term allowance for 1.0% pa for first 2 years and 2.6% pa for next 3 years	Updated to reflect financial expectations at 31 March 2016.
Post-retirement mortality assumption – base table	Standard SAPS S2P tables with scaling factors of: Men: 100% Women: 85%	Standard SAPS S1P tables with scaling factors of: Men: 97% Women: 96%	Updated to reflect recent research and the Fund's pensioner mortality experience since the last valuation.
Post-retirement mortality assumption – future improvements	CMI 2014 core projections with long-term improvement rate of 1.5% pa	CMI 2012 core projections with long-term improvement rate of 1.5% pa	Updated to reflect more recent CMI publications and our view of best estimate improvements

We show below the assumed life expectancies for current members resulting from these mortality assumptions:

Assumed Life expectancy at age 65	Member currently aged 65		Member currently aged 45	
	This valuation	Previous valuation	This valuation	Previous valuation
Men	22.7	22.9	24.9	25.1
Women	26.2	25.4	28.5	27.7

In our view these assumptions are appropriate for the purposes of the valuation, and setting Employer contributions to the Fund.

As for the previous valuation, the past service liabilities have been calculated using the projected unit method. This method, with a one year control period, has also been used to calculate the cost of future benefits building up for most Employers. The attained age method has been used for some Employers who do not admit new employees to the Fund.

For orphaned liabilities i.e. liabilities in respect of former employers where there is no future funding from those employers, the discount rate used is a "low risk" discount rate, derived as the yield on long term UK government bonds, with no allowance for outperformance of the Fund's assets above that yield. This discount rate was 2.1% p.a. as at 31 March 2016.

Shared risks

Funding gains or losses arising from the following risks are pooled across all Employers in the Fund:

Risk	Method
Cash sum on death in service	Shared in proportion to the payroll of active members

Past service results

A comparison of the Fund's past service liabilities with the value of assets held by the Fund is shown below. The past service liabilities have been calculated using the assumptions described in the previous section.

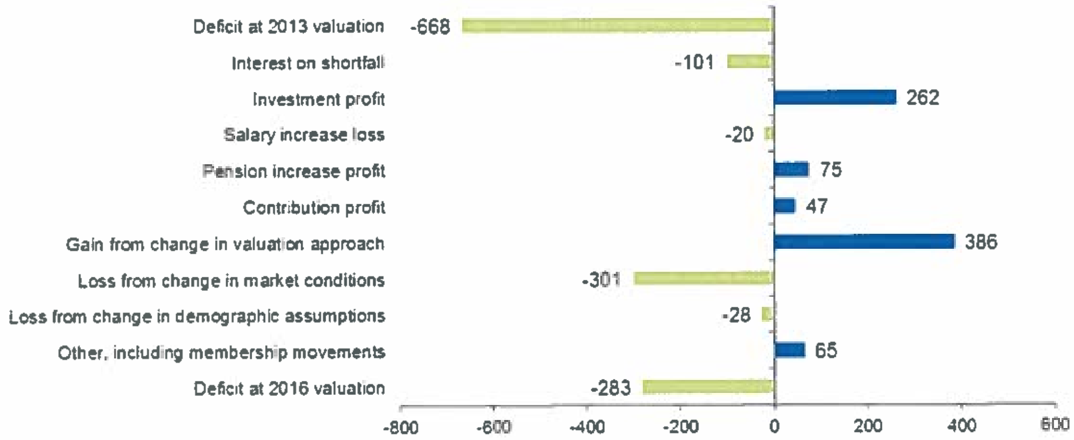
	£M
Value of past service benefits for	
Actives	1,025.3
Deferred members	535.7
Pensioners	1,139.7
Total past service liabilities	2,700.7
Value of assets	2,417.8
Past service surplus / (shortfall)	(282.9)
Funding ratio	90%

Employers will need to pay additional contributions to remove this shortfall. This is considered later.

Reasons for change in past service position

At the previous valuation the Fund had a shortfall of £668M. The funding position has therefore improved by £385M over the period.

The chart below shows the key reasons for the change in funding position.



As the chart shows, the main factors which have led to an improvement in the funding position are:

- Investment returns above the discount rate adopted at the 2013 valuation
- Changes to the Funding Strategy / valuation approach
- Pension increases below the assumption made at the 2013 valuation
- Contributions paid by employers towards paying off the deficit disclosed at the 2013 valuation

These have been partially offset by the following main factors which on their own have led to a worsening of the funding position:

- The change in the financial market conditions
- Changes to the demographic assumptions

Addressing the shortfall

Employers will need to pay additional contributions to remove the shortfall.

We have agreed with the Administering Authority a recovery plan such that the shortfall will be removed by payment of additional contributions by the Employers over a range of different recovery periods not exceeding 24 years.

The assumptions used to calculate the recovery plan are the same as those used to calculate the past service liabilities.

Across the Fund as a whole, the contributions required to remove the shortfall using a recovery period of 24 years from 1 April 2017 would be £13.6M pa increasing at 3.25% pa. This is equivalent to approximately 3.1% pa of Pensionable Pay assuming the membership remains broadly stable and pay increases follow our assumptions.

In practice, different recovery periods apply to individual Employers or groups of Employers in the Fund. The actual contributions to be paid by each Employer or group are set out in the Rates and Adjustments Certificate and reflect each Employer's specific recovery period and funding position.

For some Employers, contribution increases will be phased in over a number of years (or 'steps') as permitted by the Funding Strategy Statement.

Terminology

Recovery plan

A plan for making good any shortfall relative to the past service liabilities.

Recovery period

The period for which contributions are adjusted to remove the shortfall (or surplus).

Shortfall contributions

The additional contributions to remove the shortfall by the end of the recovery period.

Cost to the Employers of future benefits

The table below shows the aggregate calculated cost to Employers at the valuation date of benefits that members will earn in future (the aggregate primary contribution rate). Contributions at the aggregate primary rate would be appropriate if the Fund had no surplus or shortfall.

These rates have been calculated using the same assumptions as used to calculate the past service liabilities.

	% of Pensionable Pay
Value of benefits building up	23.4
Death in service cash sum	0.3
Administration expenses	0.4
Less member contributions	(6.3)
Net cost to the Employers (primary contribution rate)	**17.8**

The aggregate Employer future service contribution rate (the weighted average, by payroll, of the individual employers' primary rates) is 17.8% of Pensionable Pay.

Employers will also pay additional contributions to remove the shortfall for past service liabilities, or, where individual employers are in surplus, pay lower contributions to reflect this surplus.

The cost of future benefits has increased significantly since the previous valuation. The main reasons for this are:

- Changes to the Funding Strategy (adopting the same discount rate for past and future service, leading to a lower discount rate relative to inflation at this valuation)
- Changes to the demographic assumptions

These have been slightly offset by the following factor which on its own has reduced the cost of future benefits:

- Changes in the active membership since the last valuation

Risks and uncertainties

The Fund faces a number of key risks which could affect its funding position.

These risks include:

- Funding risk – the risk that the value placed on the past service liabilities is set too low and contributions paid into the Fund prove insufficient to meet the payments as they fall due.
- Employer risk – the risk that an Employer is no longer able to meet its liabilities in the Fund. For example, due to the insolvency of an Employer.
- Investment risks – the risk that investment returns are lower than allowed for in the valuation, and also that the assets are volatile and move out of line with the liabilities, so the funding position is not stable.
- Longevity risk – the risk that Fund members live for longer than expected and that pensions would therefore need to be paid for longer resulting in a higher cost for the Fund.
- Inflation risk – the risk that inflation is higher than expected, resulting in higher pension increases (and payments to pensioners) than allowed for in the valuation.
- Options for members (or other parties) – the risk that members exercise options resulting in unanticipated extra costs. For example, members could exchange less of their pension for a cash lump sum than allowed for in the valuation.
- Legislative/Regulatory risk – the risk that changes to general and LGPS specific regulations, taxation, national changes to pension requirements, or employment law result in an increased cost of administration, investment or funding for benefits.

To quantify some of these risks, the chart on the following page shows the approximate impact of the following one-off step changes on the Fund's funding position (all other elements of the valuation basis being unchanged):

- Life expectancy at age 65 is two years longer than anticipated (with corresponding increases at other ages).
- A 1% pa fall in long term expected investment returns (the discount rate) with no change in asset values.

  A 1% p.a. increase in expected price inflation (measured by CPI), with no change in asset values.
- A 25% fall in the market value of equities (with no change in bond markets, and no change in the discount rate).
- A 1% p.a. increase in expected real Pensionable Pay increases.

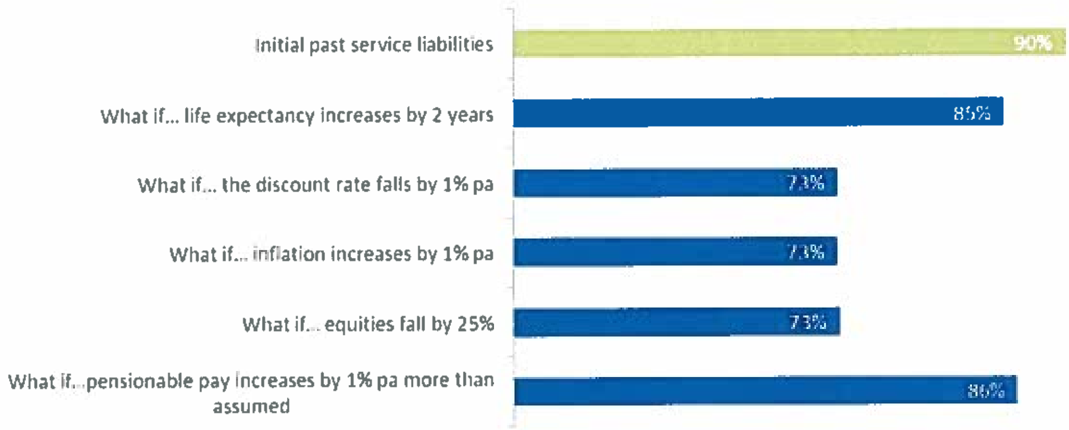
In practice, some of these changes may be partially offset by other changes in the values of the assets or the liabilities. For example, a reduction in the expected investment return or inflation might lead to a compensating change in asset values, or a change in asset values might lead to a compensating change in expected investment returns.

These potential effects are not shown in the chart on the next page.

Further information on the risks and actions taken by the Fund to mitigate them can be found in the Fund's Funding Strategy Statement.

Risks and uncertainties

The chart below shows the approximate impact on the funding ratio of the Fund under a number of different scenarios.



The analysis demonstrates that on the approach used the Fund is susceptible to:

- Falls in expected investment returns (the discount rate) to the extent not matched by higher asset values
- Falls in the market value of equities to the extent not offset by higher expected future returns
- Rising inflation and pay increase expectations
- Members living longer than expected

The scenarios considered are not 'worst case' scenarios, and could occur in combination (rather than in isolation).

The future service contribution rate (primary contribution rate) is also highly sensitive to a number of the above factors: falls in expected investment returns, rising inflation expectations and increases in life expectancy.

All the risks considered have a negative impact on the funding ratio. Opposite movements could also apply for each scenario which would result in an increase in the funding ratio.

Individual Employer contribution rates

Employers, or groups of Employers, are set their own contribution rate which reflects their specific circumstances.

The Employer contribution rates are set by the Fund Actuary taking into account a number of factors including:

- Regulation 62 – which requires the Actuary to have regard to
  - The existing and prospective liabilities
  - The desirability of maintaining as nearly a constant a primary contribution rate as possible
  - The Administering Authority's Funding Strategy Statement, and
  - The requirement to secure the solvency of the Fund and the long-term cost efficiency of the Scheme, so far as relating to the Fund.
- The results of the valuation.
- Developments since the valuation date, including any one-off contributions paid as documented in Appendix 7.
- Discussions between the Fund Actuary, the Administering Authority and Employers.

Contribution rates for Employers which contribute to the Fund are set out in the Rates and Adjustments Certificate in Appendix 8.

Rates of contribution payable by individual Employers, or groups of Employers, differ because they take into account Employers' particular membership profiles and funding ratios and, in some cases, the assumptions and recovery periods are specific to the Employer's circumstances. We have agreed with the Administering Authority that increases in contribution rates for some Employers can be phased as set out in the Funding Strategy Statement.

For certain Employers who are in surplus, it has been agreed with the Administering Authority that the Employer can use some of the surplus to support the payment of contributions to the Fund at a rate below the future service contribution rate.

The contributions payable by individual Employers are set out in Appendix 8.

The aggregate Employer contributions certified for the 3 years from 1 April 2017 can be summarised as follows:

Year from 1 April	% of Pensionable Pay	Aggregate contribution amount (£M)
2017	17.3%	17.2
2018	17.3%	17.4
2019	17.3%	15.8

- The annual contribution amounts above are the aggregate of the additional contribution amounts certified for individual Employers in each year.
- Payments to meet additional costs arising from early retirements and other increases in benefits are payable in addition.
- At the end of the period shown above, the annual contribution amounts for each employer or group are anticipated to increase by approximately 3.25% pa until the end of the relevant recovery period. Thereafter, aggregate contributions are anticipated to be in line with the future service contribution rate of that employer. These contributions will be subject to review at future actuarial valuations.
- Member contributions are payable in addition to the Employers' contribution rates set out above and in Appendix 8. The member contributions are set out in the Regulations. AVCs may be payable in addition.

Individual Employer contribution rates cont.

> **Terminology**
>
> **Rates and Adjustments Certificate**
>
> Specifies the contributions payable by the Employers until March 2020.

- Contributions by active members and Employers should be paid to the Fund at such time and at such frequency as required by the Regulations and the Administering Authority's Pension Administration Strategy. Unless otherwise agreed with the Administering Authority and the Employer, any monetary shortfall contributions have been calculated on the basis that they are payable in monthly instalments over the relevant year.

Final comments

The key results from this valuation are:

The value of the Fund's assets was £2,417.8M and its past service liabilities were £2,700.7M which correspond to

- a shortfall of £282.9M and
- a funding ratio of 90%.

The cost to the Employers of future benefits building up is 17.8% of Pensionable Pay.

If the shortfall is removed over 24 years from 1 April 2017, the aggregate Employer total contributions needed would be equivalent to 20.9%* of Pensionable Pay until 31 March 2041, reverting to 17.8% of Pensionable Pay thereafter.

** if the membership remains broadly stable and pay increases in line with our assumptions.*

Developments since the valuation date

- Market movements since 31 March 2016

  Since 31 March 2016, equity markets have generally risen, although the impact of this has been partially offset by falls in the risk-based discount rate that would be used if the valuation were being carried out at a more recent date (and falls in bond yields for Employers on an Orphan Funding Target).

  Overall, market movements since the valuation date have increased the future service (primary) contribution rate but have had a positive impact on the funding ratio in the period to 31 December 2016. Taking these two offsetting factors together, and bearing in mind the long-term nature of the Fund, our opinion is that certifying contributions based on market conditions as at the valuation date remains appropriate.

- Employers joining or exiting since the valuation date

  Contributions for employers joining since 31 March 2016 will be advised separately. Similarly, a revised Rates and Adjustments will have been prepared as necessary for employers exiting the Fund since 31 March 2016 where this has been requested by the Administering Authority.

Monitoring the Fund

In the light of the volatility inherent in the funding position where investments do not match liabilities, the Administering Authority monitors the financial position of the Fund in an appropriate manner on a regular basis.

The Administering Authority will also consider monitoring the position of individual employers, particularly those subject to the ongoing orphan funding target and those which may exit the Fund before 1 April 2020. Where appropriate and permitted by the Regulations, contributions for those employers may be amended before the next valuation.

Next actuarial valuation

The next formal actuarial valuation is due to take place as at 31 March 2019.

If actual experience before the next actuarial valuation is in line with the assumptions in this report, we expect the Fund's funding ratio to increase to approximately 91%. This improvement would be mainly due to shortfall payments certified to be paid before the next actuarial valuation.

Appendix 1: Legal framework

It is a legal requirement to carry out a full valuation at least once every three years.

This report was commissioned by and is produced solely for the use of the Administering Authority.

It is produced in compliance with:

- Regulation 62 of the Local Government Pension Scheme Regulations 2013.
- The terms of the agreement between the Administering Authority and Aon Hewitt Limited, on the understanding that it is solely for the benefit of the addressee.

Unless prior written consent has been given by Aon Hewitt Limited, this report should not be disclosed to or discussed with anyone else unless they have a statutory right to see it.

We permit the Administering Authority to release copies of this report to the following parties only:

- Any Employer which contributes to the Fund.
- The Department for Communities and Local Government.

We also permit the Department for Communities and Local Government to pass our report to the Government Actuary's Department in connection with their statutory duties. None of the above bodies has our permission to pass our report on to any other parties.

Notwithstanding such consent, Aon Hewitt Limited does not assume responsibility to anyone other than the addressee of this report.

Appendix 2: Membership data

Membership data was provided by the Administering Authority.

Active members		Number	Average age	Total pensionable pay (£000 pa)	Average pension-able pay (£ pa)	Average service Pre 2014 Scheme (years)	Average post 2014 pension (£ pa)
Men	2016	7,215	45.7	137,249	19,023	6.6	704
	2013	*Not known*	*Not known*	*Not known*	*Not known*	*Not known*	*N/A*
Women	2016	23,566	45.7	272,819	11,577	3.7	412
	2013	*Not known*	*Not known*	*Not known*	*Not known*	*Not known*	*N/A*
Total	2016	**30,781**	**45.7**	**410,068**	**13,322**	**4.4**	**481**
	2013	***29,359***	***49.9***	***382,741***	***13,037***	***9.9***	***N/A***

Notes:
The 2013 average ages shown are weighted by pension amount. The 2016 average ages are unweighted.
Pensionable pay at 2016 valuation is actual pay and is based on the 2014 scheme definition.
Average service at the 2016 valuation is to 31 March 2014.

Deferred members		Number	Average age	Total pension (£000s pa)	Average pension (£ pa)
Men	2016	7,268	44.2	11,831	1,628
	2013	*Not known*	*Not known*	*Not known*	*Not known*
Women	2016	24,955	46.2	20,725	830
	2013	*Not known*	*Not known*	*Not known*	*Not known*
Frozen Refunds	2016	7,933	-	-	-
	2013	*Not known*	*Not known*	*Not known*	*Not known*
Total	2016	**40,156**	**46.0**	**32,556**	**1,010**
	2013	***30,072***	***48.8***	***28,367***	***943***

Note:
The 2013 average ages shown are weighted by pension amount. The 2016 average ages are unweighted.

Pensioners		Number	Average age	Total pension (£000 pa)	Average pension (£ pa)
Men	2016	6,275	70.9	38,974	6,211
	2013	*Not known*	*Not known*	*Not known*	*Not known*
Women	2016	10,568	69.4	27,542	2,606
	2013	*Not known*	*Not known*	*Not known*	*Not known*
Dependants	2016	2,520	71.9	6,767	2,685
	2013	*Not known*	*Not known*	*Not known*	*Not known*
Total	**2016**	**19,363**	**70.2**	**73,283**	**3,785**
	2013	***16,715***	***70.4***	***64,250***	***3,844***

Notes:
The 2013 average ages shown in these tables are weighted by pension amount. The 2016 average ages are unweighted.
In addition there were 139 (132 in 2013) members in receipt of a children's pension with pensions totalling £177,254 (£140,111 in 2013) per annum.

Appendix 3: Benefits

The benefits of the Local Government Pension Scheme are set out in Regulations, the principal Regulations currently being:

- the Local Government Pension Scheme (Transitional Provisions, Savings and Amendment) Regulations 2014 (as subsequently amended)
- the Local Government Pension Scheme Regulations 2013 (as subsequently amended)

A broad summary of the benefits payable to active members as at 31 March 2016 is given below. This reflects our understanding of the Regulations at the time of writing. This may however be subject to change and readers should refer to the Regulations for further details.

	Benefits accrued before 1 April 2014	Benefits accrued after 31 March 2014
Type of scheme	Final salary	Career average revalued earnings (CARE)
Normal Retirement / Pension Age	65	Linked to State Pension Age (or age 65 if higher)
Member contributions	No longer applicable	Between 5.5% of pay and 12.5% of actual Pensionable Pay dependent on contribution band the member is in
50:50 option	Not applicable	Members can opt to pay 50% contributions for 50% of member's pension benefit (dependants' benefits not affected)
Pensionable Pay	Generally total pay (excluding non-contractual overtime)	Generally total pay (including non-contractual overtime)
Final Pay	Generally Pensionable Pay over the 12 months prior to retirement or earlier exit or, if higher, in one of the	Not applicable

	Benefits accrued before 1 April 2014	Benefits accrued after 31 March 2014
	preceding two years.	
Pensionable service	Membership of Fund (years and days), plus periods of credited service	Not applicable
Normal retirement pension	1/60 of Final Pay for each year of Pensionable Service on or after 1 April 2008. For each year of Pensionable Service before 1 April 2008: ▪ a pension of 1/80 of Final Pay, plus ▪ a cash sum of 3/80 of Final Pay	1/49 of revalued Pensionable Pay received during membership from 1 April 2014. The resulting accumulated pension is called the 'pension account'.
Retirement cash sum	Pension can be surrendered for additional cash sum to a maximum cash sum of one quarter of the total capital value of benefits. Conversion rate is £12 for each £1 pa of pension given up	
Early retirement pension	Reduced pension payable on retirement after age 60, or after age 55 with Employer consent. Pension calculated as for normal retirement but based on Pensionable Service to early retirement date, and reduced for early payment. Certain categories of member eligible for protection can retire on unreduced pension if their age plus Pensionable Service is greater than or equal to 85 years, with Employer consent required if under age 60.	Reduced pension payable on retirement after age 55. Pension calculated as for normal retirement but based on revalued Pensionable Pay up to early retirement date (in relation to final salary benefits), and reduced for early payment. Certain categories of member eligible for protection can retire on unreduced pension if their age plus Pensionable Service is greater than or equal to 85 years.
Incapacity and ill-health pensions	In each case members must ▪ be permanently incapable of efficiently discharging the duties of the employment they were engaged in to qualify	

	Benefits accrued before 1 April 2014	Benefits accrued after 31 March 2014
	and ▪ be incapable of immediately undertaking any gainful employment	
Incapacity and ill-health pensions (continued)	**Tier 1** ▪ Payable to members with more than 2 years of Pensionable Service. ▪ Immediate payment of accrued pension, plus an enhancement equal to the amount of earned pension the member would have accrued between the date of leaving and Normal Pension Age, based on the current Pensionable Pay. To qualify for this benefit the member must be unlikely to be capable of undertaking any gainful employment before Normal Pension Age. **Tier 2** ▪ Payable to members with more than 2 years of Pensionable Service. ▪ Immediate payment of accrued pension, plus an enhancement equal to 25% of the Tier 1 enhancement. To qualify for this benefit the member must be expected to be capable of undertaking gainful employment at some point after 3 years, but before Normal Pension Age. **Tier 3** Subject to members having qualifying service of 2 years or more: ▪ Payable to members with more than 3 months' Pensionable Service based on Final Pay at exit and Pensionable Service completed to date of exit. ▪ To qualify for this benefit the member must be expected to be capable of undertaking gainful employment at some point within 3 years of date of exit. Payable for 3 years or until gainful employment obtained, if earlier.	
Leaving Pensionable Service	Pension payable on retirement at Normal Retirement Age based on Final Pay at exit and Pensionable Service to date of exit.	Pension payable on retirement at Normal Pension Age calculated as for normal retirement based on revalued Pensionable Pay during period of membership.

	Benefits accrued before 1 April 2014	Benefits accrued after 31 March 2014
	Certain categories of member can retire early on unreduced pension if aged 60 or over and their age plus service is greater than or equal to 85 years. Service in this case includes the period between date of exit and date pension commences.	
CARE revaluation in service	Not applicable	In line with increases in the Consumer Prices Index (CPI)
Deferred pension revaluation after leaving	▪ Guaranteed Minimum Pensions (GMPs) increase in deferment in line with State revaluation factors. ▪ Deferred pensions in excess of GMPs increase in line with CPI	In line with CPI (subject to a minimum of zero)
Pension increases in payment	▪ GMPs accrued after 6 April 1988 increase at the lower of 3% pa and CPI, with the exception of members who reach State Pension Age between 6 April 2016 and 5 December 2018. ▪ Pensions in payment in excess of GMPs, and GMPs for members who reach State Pension Age between 6 April 2016 and 5 December 2018, increase in line with CPI.	In line with CPI (subject to a minimum of zero)
Death benefits	A cash sum of 3 x Assumed Pensionable Pay at exit.	
Death benefits (continued)	A partner's pension of 1/160 of Final Pay for each year of Pensionable Service before 1 April 2014.	A partner's pension of 1/160 of revalued Pensionable Pay received during membership from 1 April 2014 plus an enhancement to pension of 1/160 of Assumed Pensionable Pay at death for each year between death and Normal Pension Age.

	Benefits accrued before 1 April 2014	Benefits accrued after 31 March 2014
Death benefits (continued)	Partners are spouses, civil partners and cohabitees. Children's pensions may be payable.	
State pension scheme	The Scheme was contracted out of the State Second Pension Scheme until contracting-out was abolished in April 2016.	
Protections / underpins	Pre 2014 benefits protected (including link to eventual Final Pay). Underpin of benefits on 2008 Scheme structure for members aged over 55 in April 2012. Rule of 85 retained for members aged over 60 on 31 March 2016. Partial protection of Rule of 85 for members aged over 60 on 31 March 2020. Rule of 85 retained for service before 31 March 2008 for those with scheme membership before 1 October 2006.	
Vesting period	A refund of member contributions is paid for members leaving membership with qualifying service of less than 2 years.	

Appendix 4: Consolidated revenue account

We show a summary of the revenue and outgo of the Fund since the previous valuation below, taken from the Fund's Report and Accounts.

		Total £000
Fund as at 31 March 2013		1,840,733
Income		
Contributions	Employer normal	168,954
	Employer additional	88,085
	Employer special	9,068
	Employee	75,476
Transfers-in		26,682
Investment income		61,801
Underwriting commission		(1,077)
Total income		428,989
Outgo		
Pensions paid		209,775
Retirement cash sums		63,612
Transfers-out		48,549
Death benefits paid out		5,485
Refunds of contributions on leaving		510
Expenses	Investment	18,350
	Administration	6,128
State scheme premiums		-
Other		-
Total outgo		352,409
Change in market value		500,520
Fund as at 31 March 2016		2,417,833

Appendix 5: Assumptions used to value the liabilities

The assumptions used for calculating the past service liabilities and the cost of future benefit accrual are summarised below.

Financial assumptions

In-service discount rate *Scheduled body / subsumption funding target* *Orphan body funding target*	 ***4.4% pa*** ***4.1% pa***
Left-service discount rate *Scheduled body / subsumption funding target* *Orphan body funding target*	 ***4.4% pa*** ***2.5% pa***
Rate of Pensionable Pay increases (service up to 31 March 2014 only) (in addition to promotional increases)	**3.25% pa**
Rate of CPI price inflation	**2.0% pa**
Rate of revaluation of pension accounts	**2.0% pa**
Rate of pension increases on non GMPs on post 88 GMPs	 **2.0% pa** **1.8% pa**
Rate of deferred pension increases non GMP GMP	 **2.0% pa** **3.25% pa**
Administration expenses	**0.4% of Pensionable Pay**

Demographic assumptions

<table>
<tr><td>Pre-retirement base mortality</td><td colspan="2">Males: 70% of Standard SAPS S2P tables
Females: 40% of Standard SAPS S2P tables</td></tr>
<tr><td>Post-retirement base mortality</td><td colspan="2">Males: 100% of Standard SAPS S2P tables
Females: 85% of Standard SAPS S2P tables</td></tr>
<tr><td>Ill-health retirement base mortality</td><td colspan="2">Males: 100% of Standard SAPS S2 Ill Health tables
Females: 130% of Standard SAPS S2 Ill Health tables</td></tr>
<tr><td>Improvements to mortality</td><td colspan="2">An allowance for improvements in line with the CMA 2014 improvements (for men or women as appropriate) with a long term rate of improvement of 1.5% pa.</td></tr>
<tr><td>Promotional salary increases</td><td colspan="2">Allowance has been made for age-related promotional increases (see sample rates below).</td></tr>
<tr><td>Withdrawals</td><td colspan="2">Allowance has been made for withdrawals from service (see sample rates below). On withdrawal, members are assumed to leave a deferred pension in the Fund.</td></tr>
<tr><td rowspan="7">Retirement age</td><td colspan="2">Members were assumed to retire at the following ages:</td></tr>
<tr><td>Member group</td><td>Assumed age at retirement</td></tr>
<tr><td>Active members with protected Rule of 85 age (joined LGPS before 1 October 2006 and attained age 60 before 1 April 2020)</td><td>Rule of 85 age (or age 60 if higher).
Any part of their pension payable from a later age will be reduced.</td></tr>
<tr><td>Active members who joined before 1 April 2014 and not included in the above group</td><td>Age 65.
Post 2014 pensions will be reduced if the member's State Pension Age is projected to be over age 65 at that point.</td></tr>
<tr><td>Deferred members who joined the Fund before 1 April 2014 with protected Rule of 85 age</td><td>Rule of 85 age (or age 60 if higher).
Any part of their pension payable from a later age will be reduced.</td></tr>
<tr><td>Deferred members who joined the Fund before 1 April 2014 with no protected Rule of 85 age</td><td>Age 65.</td></tr>
<tr><td>All other active and deferred members</td><td>State Pension Age (or age 65 if higher)</td></tr>
<tr><td>Retirement cash sum</td><td colspan="2">Each member is assumed to surrender pension on retirement, such that the total cash received is 75% of the permitted maximum.</td></tr>
</table>

Family details	Each man was assumed to be three years older than his wife/partner. 75% of non-pensioners were assumed to be married or have a spouse, civil partner or cohabitee ('partner') at retirement or earlier death. 75% of pensioners were assumed to be married or have a partner at age 65. Partners were assumed to exhibit the same mortality as pensioners of the same sex who retired in normal health. No allowance for children's pensions.
Retirement due to ill-health	Allowance has been made for retirements due to ill-health (see below). Proportions assumed to fall into the different benefit tiers are: Tier 1 90% Tier 2 5% Tier 3 5%
Take up of 50:50 scheme	All members are assumed to remain in the scheme they are in at the date of the valuation.

Sample rates

The table below illustrates the allowances made for withdrawals from service and ill-health retirement at various ages. Also shown is the allowance included for promotional pay increases, which is shown as the percentage increase over the next year.

Current age	Percentage promotional pay increase over next year	Percentage leaving the Fund each year as a result of withdrawal from service	Percentage leaving the Fund each year as a result of Ill-health retirement	
	Males and Females	Males and Females	Men	Women
20	3.9%	12.5%	0.01%	0.00%
25	3.3%	12.5%	0.02%	0.00%
30	2.6%	9.0%	0.02%	0.01%
35	1.8%	7.5%	0.03%	0.02%
40	1.1%	6.0%	0.06%	0.03%
45	0.3%	5.0%	0.09%	0.05%
50	0.0%	4.0%	0.25%	0.11%
55	0.0%	2.5%	0.41%	0.18%
60	0.0%	1.0%	0.57%	0.25%
65	0.0%	0.0%	0.00%	0.00%

Appendix 6: Membership experience

We have compared the actual numbers of deaths, retirements and other exits since the previous valuation with the numbers expected on the assumptions used for the 2016 valuation:

Type of exit	Men	Women
Death after retirement in normal health		
Actual	450	376
Expected	379	344
Death after retirement in ill health		
Actual	146	99
Expected	119	83
Death in service		
Actual	27	39
Expected	32	51
Withdrawals (excluding refunds)		
Actual	1,746	5,595
Expected	1,230	3,945
Ill-health retirements		
Actual	45	53
Expected	48	63

Appendix 7: Additional contributions paid before 31 March 2017

We understand that certain Employers have paid additional shortfall contributions in the year ended 31 March 2017 beyond those certified. We have taken these into account in assessing the contributions required for the period after 1 April 2017 as set out within the Rates and Adjustments Certificate.

The following Employers have paid additional shortfall contributions to the Fund over 2016/17 beyond those certified:

Employer	Amount paid	Date paid
Selby District Council	£9.391M	27 March 2017

Appendix 8: Rates and Adjustments Certificate

Actuarial certificate given for the purposes of Regulation 62 of the Local Government Pension Scheme Regulations 2013.

In accordance with Regulation 62 of the Local Government Pension Scheme Regulations 2013 ('the 2013 Regulations'), we certify that contributions should be paid by Employers at the following rates for the period 1 April 2017 to 31 March 2020.

- Primary contribution rates for individual employers as shown below. The primary rate for the whole Fund, calculated as a weighted average of the employers' individual rates, is 17.8% of Pensionable Pay.
- Individual adjustments (i.e. secondary contribution rates) which, when added to or subtracted from the primary rate for that employer, produce the following minimum Employer contribution rates.

Employer	Employer code(s)	Primary Contribution rate % Pensionable Pay	Secondary contributions (% Pensionable pay and £s) in year commencing 1 April			Total contributions (% Pensionable pay and £s) in year commencing 1 April		
			2017	2018	2019	2017 £	2018 £	2019 £
Schedule 2 Part 1 bodies / Schedule 2 Part 2 bodies (Scheduled bodies), and Schedule 2 Part 3 bodies (Admission bodies) where the Subsumption Funding Target applies								
Archbishop Holgates School	103	19.9%	£59,800	£61,700	£63,700	19.9% plus £59,800	19.9% plus £61,700	19.9% plus £63,700
Arete Learning Trust (Stokesley School)	144	18.7%	£61,200	£63,200	£65,300	18.7% plus £61,200	18.7% plus £63,200	18.7% plus £65,300
Askham Bryan College	61	16.6%	£76,900	£79,400	£82,000	16.6% plus £76,900	16.6% plus £79,400	16.6% plus £82,000
Be Independent	131	20.1%	0.0%	0.0%	0.0%	20.1%	20.1%	20.1%
Bishop Wheeler Catholic Academy Trust	153	17.7%	£37,400	£38,600	£39,800	17.7% plus £37,400	17.7% plus £38,600	17.7% plus £39,800

Employer	Employer code(s)	Primary Contribution rate % Pensionable Pay	Secondary contributions (% Pensionable pay and £s) in year commencing 1 April			Total contributions (% Pensionable pay and £s) in year commencing 1 April		
			2017	2018	2019	2017 £	2018 £	2019 £
Brotherton & Byram	148	15.6%	£6,900	£7,100	£7,300	15.6% plus £6,900	15.6% plus £7,100	15.6% plus £7,300
Churchill Security	120	22.5%	0.0%	0.0%	0.0%	22.5%	22.5%	22.5%
City of York Council	8, 20, 96, 97, 114, 116, 121, 123, 134, 135, 136, 137, 138, 141, 142, 143, 151, 157	17.9%	£2,051,300	£2,118,000	£2,186,800	17.9% plus £2,051,300	17.9% plus £2,118,000	17.9% plus £2,186,800
Craven College	62	17.3%	0.0%	0.0%	0.0%	17.3%	17.3%	17.3%
Craven District Council	14	17.7%	£576,966 Paid in April 2017	£576,967 Paid in April 2017	£576,967 Paid in April 2017	17.7% plus £576,966 Paid in April 2017	17.7% plus £576,967 Paid in April 2017	17.7% plus £576,967 Paid in April 2017
Craven Educational Trust (The Skipton Academy)	133	18.6%	£23,300	£24,100	£24,900	18.6% plus £23,300	18.6% plus £24,100	18.6% plus £24,900
David Ross Educational Trust (Thomas Hinderwell Primary)	125	16.0%	£9,700	£10,000	£10,300	16.0% plus £9,700	16.0% plus £10,000	16.0% plus £10,300
Easingwood Town Council	85	19.5%	£1,000	£1,100	£1,100	19.5% plus £1,000	19.5% plus £1,100	19.5% plus £1,100
Ebor Academy Filey	152	18.3%	£28,900	£29,800	£30,800	18.3% plus £28,900	18.3% plus £29,800	18.3% plus £30,800

Employer	Employer code(s)	Primary Contribution rate % Pensionable Pay	Secondary contributions (% Pensionable pay and £s) in year commencing 1 April			Total contributions (% Pensionable pay and £s) in year commencing 1 April		
			2017	2018	2019	2017 £	2018 £	2019 £
Enquire Learning Trust (Roseberry Academy)	139	18.8%	£9,800	£10,100	£10,400	18.8% plus £9,800	18.8% plus £10,100	18.8% plus £10,400
Enterprise	92	23.0%	-5.0%	-5.0%	-5.0%	18.0%	18.0%	18.0%
Filey Town Council	2	19.5%	£1,900	£2,000	£2,000	19.5% plus £1,900	19.5% plus £2,000	19.5% plus £2,000
Foss Internal Drainage Board	38	19.5%	£10,200	£10,500	£10,800	19.5% plus £10,200	19.5% plus £10,500	19.5% plus £10,800
Fulford Parish Council	1	19.5%	£4,700	£4,800	£5,000	19.5% plus £4,700	19.5% plus £4,800	19.5% plus £5,000
Glusburn Parish Council	35	19.5%	£300	£300	£300	19.5% plus £300	19.5% plus £300	19.5% plus £300
Great Ayton Parish Council	4	19.5%	£800	£900	£900	19.5% plus £800	19.5% plus £900	19.5% plus £900
Gt Smeaton Primary School	109	20.1%	£400	£400	£400	20.1% plus £400	20.1% plus £400	20.1% plus £400
Hambleton District Council	9	16.5%	£277,600 Paid in April 2017	£277,600 Paid in April 2017	£277,600 Paid in April 2017	16.5% plus £277,600 Paid in April 2017	16.5% plus £277,600 Paid in April 2017	16.5% plus £277,600 Paid in April 2017
Harrogate Borough Council	11, 120	18.0%	£1,963,450 Paid in April 2017	£1,963,450 Paid in April 2017	0.0%	18.0% plus £1,963,450 Paid in April 2017	18.0% plus £1,963,450 Paid in April 2017	18.0%

Employer	Employer code(s)	Primary Contribution rate % Pensionable Pay	Secondary contributions (% Pensionable pay and £s) in year commencing 1 April			Total contributions (% Pensionable pay and £s) in year commencing 1 April		
			2017	2018	2019	2017 £	2018 £	2019 £
Harrogate High Academy	113	18.6%	£63,300	£65,400	£67,500	18.6% plus £63,300	18.6% plus £65,400	18.6% plus £67,500
Haxby Road Primary	127	16.9%	£1,100	£5,200	£9,400	16.9% plus £1,100	16.9% plus £5,200	16.9% plus £9,400
Haxby Town Council	72	19.5%	£2,700	£2,700	£2,800	19.5% plus £2,700	19.5% plus £2,700	19.5% plus £2,800
Housing and Care 21	132	5.0%	0.0%	0.0%	0.0%	5.0%	5.0%	5.0%
Hunmanby Town Council	71	19.5%	£800	£800	£800	19.5% plus £800	19.5% plus £800	19.5% plus £800
Huntington Primary School	146	18.3%	£10,100	£10,400	£10,700	18.3% plus £10,100	18.3% plus £10,400	18.3% plus £10,700
Knaresborough Town Council	47	19.5%	£1,900	£2,000	£2,000	19.5% plus £1,900	19.5% plus £2,000	19.5% plus £2,000
Make It York	147	19.1%	-2.0%	-2.0%	-2.0%	17.1%	17.1%	17.1%
Malton Town Council	56	19.5%	£2,500	£2,600	£2,700	19.5% plus £2,500	19.5% plus £2,600	19.5% plus £2,700
Manor CE School	106	16.0%	£48,800	£50,300	£52,000	16.0% plus £48,800	16.0% plus £50,300	16.0% plus £52,000
Marston Moor Internal Drainage Board	44	19.5%	£1,100	£1,100	£1,200	19.5% plus £1,100	19.5% plus £1,100	19.5% plus £1,200

Employer	Employer code(s)	Primary Contribution rate % Pensionable Pay	Secondary contributions (% Pensionable pay and £s) in year commencing 1 April			Total contributions (% Pensionable pay and £s) in year commencing 1 April		
			2017	2018	2019	2017 £	2018 £	2019 £
New Park Primary Academy	158	16.3%	£6,200	£6,400	£6,600	16.3% plus £6,200	16.3% plus £6,400	16.3% plus £6,600
North York Moors National Park	52	18.0%	0.0%	0.0%	0.0%	18.0%	18.0%	18.0%
North Yorkshire County Council	25, 26, 27, 29, 30, 48, 54, 58, 59, 69, 75, 93, 94, 95, 110, 115, 124, 132, 140	17.9%	£8,399,366 Paid in April 2017	£8,399,367 Paid in April 2017	£8,399,367 Paid in April 2017	17.9% plus £8,399,366 Paid in April 2017	17.9% plus £8,399,367 Paid in April 2017	17.9% plus £8,399,367 Paid in April 2017
North Yorkshire Fire & Rescue	51	16.9%	£95,100 Paid in April 2017	£98,200 Paid in April 2018	£101,400 Paid in April 2019	16.9% plus £95,100 Paid in April 2017	16.9% plus £98,200 Paid in April 2018	16.9% plus £101,400 Paid in April 2019
Northallerton & Romanby Burial Board	18	19.5%	£1,300	£1,300	£1,400	19.5% plus £1,300	19.5% plus £1,300	19.5% plus £1,400
Northallerton Town Council	60	19.5%	£4,100	£4,200	£4,300	19.5% plus £4,100	19.5% plus £4,200	19.5% plus £4,300
Norton College	104	19.1%	£54,000	£59,400	£74,100	19.1% plus £54,000	19.1% plus £59,400	19.1% plus £74,100
Norton on Derwent Town Council	46	19.5%	£2,600	£2,700	£2,800	19.5% plus £2,600	19.5% plus £2,700	19.5% plus £2,800
NY Chief Constable	129	15.8%	-4.5%	-4.5%	-4.5%	11.3%	11.3%	11.3%
NY Police and Crime Commissioner	128	16.1%	-12.2%	-12.2%	-12.2%	3.9%	3.9%	3.9%

Employer	Employer code(s)	Primary Contribution rate % Pensionable Pay	Secondary contributions (% Pensionable pay and £s) in year commencing 1 April			Total contributions (% Pensionable pay and £s) in year commencing 1 April		
			2017	2018	2019	2017 £	2018 £	2019 £
Outwood Grange Academies Trust (Outwood Academy, Ripon)	108	19.0%	£44,200	£45,700	£47,200	19.0% plus £44,200	19.0% plus £45,700	19.0% plus £47,200
Pickering Town Council	70	19.5%	£1,800	£1,900	£1,900	19.5% plus £1,800	19.5% plus £1,900	19.5% plus £1,900
Poppleton Ousebank School	145	19.3%	£18,900	£19,500	£20,200	19.3% plus £18,900	19.3% plus £19,500	19.3% plus £20,200
Red Kite Learning Trust	98, 155	18.3%	£52,700	£88,000	£124,200	18.3% plus £52,700	18.3% plus £88,000	18.3% plus £124,200
Richmond Town Council	50	19.5%	£700	£700	£800	19.5% plus £700	19.5% plus £700	19.5% plus £800
Richmondshire District Council	12	18.7%	£308,033 Paid in April 2017	£308,033 Paid in April 2017	£308,034 Paid in April 2017	18.7% plus £308,033 Paid in April 2017	18.7% plus £308,033 Paid in April 2017	18.7% plus £308,034 Paid in April 2017
Richmondshire Leisure Trust	82	19.4%	£3,200	£3,300	£3,400	19.4% plus £3,200	19.4% plus £3,300	19.4% plus £3,400
Ringway	110	23.3%	0.0%	0.0%	0.0%	23.3%	23.3%	23.3%
Ripon City Council	28	19.5%	£2,500	£2,500	£2,600	19.5% plus £2,500	19.5% plus £2,500	19.5% plus £2,600
Robert Wilkinson Academy	126	17.1%	£13,100	£24,400	£37,700	17.1% plus £13,100	17.1% plus £24,400	17.1% plus £37,700

Employer	Employer code(s)	Primary Contribution rate % Pensionable Pay	Secondary contributions (% Pensionable pay and £s) in year commencing 1 April			Total contributions (% Pensionable pay and £s) in year commencing 1 April		
			2017	2018	2019	2017 £	2018 £	2019 £
Rossett School	105	19.5%	£58,200	£60,100	£62,000	19.5% plus £58,200	19.5% plus £60,100	19.5% plus £62,000
Ryedale District Council	10, 73	18.7%	£326,000 Paid in April 2017	£326,000 Paid in April 2017	£326,000 Paid in April 2017	18.7% plus £326,000 Paid in April 2017	18.7% plus £326,000 Paid in April 2017	18.7% plus £326,000 Paid in April 2017
Sanctuary Housing	140	7.0%	0.0%	0.0%	0.0%	7.0%	7.0%	7.0%
Scarborough Borough Council	7, 89	18.2%	£1,759,366 Paid in April 2017	£1,759,367 Paid in April 2017	£1,759,367 Paid in April 2017	18.2% plus £1,759,366 Paid in April 2017	18.2% plus £1,759,367 Paid in April 2017	18.2% plus £1,759,367 Paid in April 2017
Scarborough VI Form College	68	19.5%	-2.4%	-1.2%	0.0%	17.1%	18.3%	19.5%
Selby College	65	18.5%	-1.3%	£2,500	£30,500	17.2%	18.5% plus £2,500	18.5% plus £30,500
Selby District Council	13	16.7%	0.0%	0.0%	0.0%	16.7%	16.7%	16.7%
Selby Town Council	34	19.5%	£8,900	£9,200	£9,500	19.5% plus £8,900	19.5% plus £9,200	19.5% plus £9,500
Skipton Girls High School	101	18.3%	£33,900	£35,000	£36,200	18.3% plus £33,900	18.3% plus £35,000	18.3% plus £36,200
Skipton Town Council	41	19.9%	£3,600	£3,700	£3,800	19.9% plus £3,600	19.9% plus £3,700	19.9% plus £3,800

Employer	Employer code(s)	Primary Contribution rate % Pensionable Pay	Secondary contributions (% Pensionable pay and £s) in year commencing 1 April			Total contributions (% Pensionable pay and £s) in year commencing 1 April		
			2017	2018	2019	2017 £	2018 £	2019 £
SLM Ltd Scar Leisure	149	17.8%	0.0%	0.0%	0.0%	17.8%	17.8%	17.8%
South Craven Academy Trust	102	19.1%	£131,900	£136,100	£140,600	19.1% plus £131,900	19.1% plus £136,100	19.1% plus £140,600
Sutton in Craven Parish Council	5	19.5%	£1,400	£1,500	£1,500	19.5% plus £1,400	19.5% plus £1,500	19.5% plus £1,500
Tadcaster Town Council	48	39.1%	-6.4%	-3.2%	0.0%	32.7%	35.9%	39.1%
The Grove Academy	122	17.8%	£2,800	£2,900	£3,000	17.8% plus £2,800	17.8% plus £2,900	17.8% plus £3,000
The Woodlands Academy	119	15.6%	£36,800	£38,000	£39,200	15.6% plus £36,800	15.6% plus £38,000	15.6% plus £39,200
Thornton Internal Drainage Board	49	19.5%	£900	£900	£900	19.5% plus £900	19.5% plus £900	19.5% plus £900
University of Hull	55	18.6%	£122,700	£126,700	£130,800	18.6% plus £122,700	18.6% plus £126,700	18.6% plus £130,800
Veritau Ltd	90	18.1%	-2.9%	-2.9%	-2.9%	15.2%	15.2%	15.2%
Veritau North Yorkshire	111	15.9%	-6.4%	-6.4%	-6.4%	9.5%	9.5%	9.5%
Whitby Town Council	3	19.5%	£4,200	£4,300	£4,500	19.5% plus £4,200	19.5% plus £4,300	19.5% plus £4,500
York College	64, 67, 74	18.1%	-0.7%	-0.1%	£23,500	17.4%	18.0%	18.1% plus £23,500

Employer	Employer code(s)	Primary Contribution rate % Pensionable Pay	Secondary contributions (% Pensionable pay and £s) in year commencing 1 April			Total contributions (% Pensionable pay and £s) in year commencing 1 April		
			2017	2018	2019	2017 £	2018 £	2019 £
York Libraries & Arc	130	17.7%	0.5%	0.5%	0.5%	18.2%	18.2%	18.2%
York Museums Trust	76	14.9%	0.0%	0.0%	0.0%	14.9%	14.9%	14.9%
York St John University	16	15.8%	£56,600	£58,400	£60,300	15.8% plus £56,600	15.8% plus £58,400	15.8% plus £60,300
Yorkshire Causeway Schools Trust (Richard Taylor Primary Academy)	156a	19.1%	£16,300	£16,900	£17,400	19.1% plus £16,300	19.1% plus £16,900	19.1% plus £17,400
Yorkshire Causeway Schools Trust (St Aidans Church of England High School)	107	19.1%	£108,900	£112,500	£116,100	19.1% plus £108,900	19.1% plus £112,500	19.1% plus £116,100
Yorkshire Causeway Schools Trust (St Peter's CE Primary School)	156b	19.1%	£24,400	£25,100	£26,000	19.1% plus £24,400	19.1% plus £25,100	19.1% plus £26,000
Yorkshire Coast Homes	80	16.3%	-3.6%	-3.6%	-3.6%	12.7%	12.7%	12.7%
Yorkshire Collaboration Academy Trust	154	18.1%	£29,000	£29,900	£30,900	18.1% plus £29,000	18.1% plus £29,900	18.1% plus £30,900
Yorkshire Dales National Park	53	18.6%	0.0%	0.0%	0.0%	18.6%	18.6%	18.6%
Schedule 2 Part 3 bodies (Admission Bodies) where the Orphan body funding target applies								
Joseph Rowntree Trust	40	27.7%	£5,600	£22,000	£38,500	27.7% plus £5,600	27.7% plus £22,000	27.7% plus £38,500

Employer	Employer code(s)	Primary Contribution rate % Pensionable Pay	Secondary contributions (% Pensionable pay and £s) in year commencing 1 April			Total contributions (% Pensionable pay and £s) in year commencing 1 April		
			2017	2018	2019	2017 £	2018 £	2019 £
Sheffield Int Venues	118	29.5%	-7.3%	£1,900	£29,900	22.2%	29.5% plus £1,900	29.5% plus £29,900
Superclean Services	86	36.3%	-17.4%	£800	£2,900	18.9%	36.3% plus £800	36.3% plus £2,900
Welcome to Yorkshire	15	27.4%	-0.4% plus £140,000	-0.4% plus £150,000	-0.4% plus £160,000	27.0% plus £140,000	27.0% plus £150,000	27.0% plus £160,000
Wigan Leisure	91	38.0%	-8.9%	-4.5%	0.0%	29.1%	33.5%	38.0%
York Archaeological Trust	17	25.2%	£20,700	£29,700	£38,700	25.2% plus £20,700	25.2% plus £29,700	25.2% plus £38,700
Total		17.8%	-0.5% plus £17,200,000	-0.5% plus £17,400,000	-0.5% plus £15,800,000	17.3% plus £17,200,000	17.3% plus £17,400,000	17.3% plus £15,800,000

Where advance payment of the Secondary contributions has been agreed to be paid by the Employer in April 2017, the total Secondary contribution due is summarised below. This is simply the sum of the Secondary contributions shown in the table above.

Employer	Secondary contribution due in April 2017
Craven District Council	£1,730,900
Hambleton District Council	£832,800
Harrogate Borough Council	£3,926,900
North Yorkshire County Council	£25,198,100
Richmondshire District Council	£924,100
Ryedale District Council	£978,000
Scarborough Borough Council	£5,278,100

The contributions shown above represent the minimum contributions to be paid by each Employer. Employers may choose to pay additional contributions from time to time subject to the Administering Authority's agreement.

Where payments due from an Employer are expressed as monetary amounts, the amounts payable by that Employer may be adjusted to take account of any amounts payable, in respect of a surplus or shortfall to which those monetary payments relate, by new employers created after the valuation date which have been credited with proportions of the assets and liabilities of the relevant Employer.

Additional contributions may be required in respect of any additional liabilities that arise under the provisions of Regulations 30, 31, 35 and 38 of the 2013 Regulations and Employers will be notified of such contributions separately by the Administering Authority.

Additional contributions may be payable by any Employers which have ceased to participate in the Fund since 31 March 2016 and these will be certified separately.

Contribution rates for Employers commencing participation in the Fund after 31 March 2016 will be advised separately.

This certificate should be read in conjunction with the notes overleaf.

Signed on behalf of Aon Hewitt Limited

Alison Murray FFA	Scott Campbell FIA
Fellow of the Institute and Faculty of Actuaries	Fellow of the Institute and Faculty of Actuaries

31 March 2017

Aon Hewitt Limited
25 Marsh Street
Bristol BS1 4AQ

Notes to Fund Actuary's certificate

The contribution rates certified have been assessed using the actuarial methods and assumptions detailed in our actuarial valuation report dated 31 March 2017. In particular the following assumptions have been made regarding retirement liabilities from active membership status:

Normal, late and voluntary retirement under Regulations 30(1), 30(3) and 30(5) of the 2013 Regulations

The assumptions regarding retirement at each age are as summarised in Appendix 5 of our valuation report.

Where some or all benefits are drawn before the assumed retirement age, but no reduction for early payment applies or members elect to draw their benefits after the assumed retirement age there may be a funding strain or loss respectively. This will come through as an item of experience at the next actuarial valuation.

Additional funding would not normally be required if actual retirements exceed the number anticipated, unless retirements occur before Normal Pension Age and the employer waives the reduction for early payment as permitted by Regulation 30(8). The Administering Authority requires separate funding of any additional liabilities arising from such retirements and, as such, the financial impact of these retirements is broadly neutral.

Ill-health under Regulation 35 of the 2013 Regulations

The assumptions regarding ill health retirement at each age are as summarised in Appendix 5 of our valuation report.

Such retirements increase costs due to the early payment of enhanced benefits. If actual retirements exceed the number anticipated, and no action is taken before the next valuation, this would be identified as a source of loss at the next valuation.

Severance and redundancy under Regulation 30(7) of the 2013 Regulations

No allowance is made in the valuation for retirements in these circumstances.

Such retirements increase costs due to the early payment of benefits. Any enhancement of benefits through the Fund would increase costs further. If actual retirements exceed the number anticipated, and no action is taken before the next valuation, this would be identified as a source of loss at the next valuation. The Administering Authority requires separate funding of liabilities arising from such retirements and, assuming the factors used to calculate the additional Employer payments are updated as proposed, the financial impact of these retirements is broadly neutral.

Flexible retirement under Regulation 30(6) of the 2013 Regulations

No allowance is made in the valuation for retirements in these circumstances.

Such retirements are generally 'cost neutral' (although there may be a small gain or loss to the extent that the actuarial reduction factors are based on different assumptions to those adopted for funding purposes). Additional funding would not normally be required if actual retirements exceed the number anticipated, unless retirements occur before Normal Pension Age and no reduction for early payment applies. The Administering Authority requires separate funding of any additional liabilities arising from such retirements and, as such, the financial impact of these retirements is broadly neutral.

In this certificate, references to:

- the 2013 Regulations mean the Local Government Pension Scheme Regulations 2013

Appendix 9: Glossary

Active member

A person who is employed by an employer participating in the Fund, and is paying (or is treated as paying) contributions to the Fund (includes certain members temporarily absent, e.g. due to family leave or sickness).

Admission Body

An employer admitted to the Fund under an admission agreement.

Attained age method

This is one of the methods used by actuaries to calculate a contribution rate to the Fund. This method calculates the present value of the benefits expected to accrue to members over their expected remaining membership of the Fund expressed as a percentage of their expected future pensionable pay. It allows for projected future increases to pay or revaluation as appropriate through to retirement or date of leaving service. The method is based on the current membership and takes no account of the possibility of further members joining the Fund. If there are no new members, this method would be expected to result in a stable contribution rate, once surpluses or shortfalls are taken into account, and if all the other assumptions are borne out. However, if more members join the Fund to replace older leavers, the contribution rate can be expected to fall.

Consumer Prices Index (CPI)

This is the price inflation index that increases to pensions and deferred pensions paid by the Fund are currently based on. It is published every month by the Office of National Statistics.

Deferred members

A former employee who has left active membership, but has not yet received any benefits from the Fund and is prospectively entitled to receive a deferred pension from his/her normal pension age.

Discount rate

This is used to place a present value on a future payment.

Fund Actuary

The actuary to the Fund, who provides actuarial advice to the Administering Authority including carrying out the actuarial valuation contained in this report.

Funding objective

To hold sufficient and appropriate assets to cover the Funding Target.

Funding ratio

This is the ratio of the value of assets to the Funding Target.

Funding Strategy Statement

A document prepared by the Administering Authority in accordance with the Regulations which sets out the funding strategy adopted for the Fund. The Fund Actuary must have regard to this statement in preparing this actuarial valuation.

Funding target

An assessment of the present value of the benefits that will be paid from the Fund in the future, normally based on pensionable service prior to the valuation date. Under the current Funding Strategy Statement the funding target is equal to the past service liabilities calculated using a prudent set of assumptions.

Future service contribution rate

The contribution rate (expressed as a percentage of Pensionable Pay) required to meet the cost of benefits which will accrue to members in future. This is also known as the primary contribution rate.

Guaranteed Minimum Pensions (GMPs)

Most Funds that were contracted out of the State Earnings Related Pension Scheme (SERPS) before April 1997 have to provide a pension for service before that date at least equal to the Guaranteed Minimum Pension (GMP). This is approximately equal to the SERPS pension that the member would have earned had the Fund not been contracted out. GMPs ceased to accrue on 6 April 1997 when the legislation changed.

Long-term cost efficiency

This is not defined in the Regulations but further explanation can be found in the Cipfa guidance 'Preparing and Maintaining a Funding Strategy Statement', dated September 2016:

The notes to the Public Service Pensions Act 2013 state:

Long-term cost-efficiency implies that the rate must not be set at a level that gives rise to additional costs. For example, deferring costs to the future would be likely to result in those costs being greater overall than if they were provided for at the time.

The rate of employer contributions shall be deemed to have been set at an appropriate level to ensure long-term cost efficiency if the rate of employer contributions is sufficient to make provision for the cost of current benefit accrual, with an appropriate adjustment to that rate for any surplus or deficit in the fund.

In assessing whether the above condition is met, GAD may have regard to the following considerations:

- the implied average deficit recovery period
- the investment return required to achieve full funding over different periods, e.g. the recovery period
- if there is no deficit, the extent to which contributions payable are likely to lead to a deficit arising in the future
- the extent to which the required investment return above is less than the administering authority's view of the expected future return being targeted by a fund's investment strategy, taking into account changes in maturity/strategy as appropriate

Orphan employer

This is an employer whose participation in the Fund may cease at some future point in time, after which it is expected that the Administering Authority will have no access to future contributions from that employer for the employer's liabilities in the Fund once any liability on exit has been paid. On exit the employer's liabilities will become 'orphan liabilities' in the Fund.

Ongoing orphan funding target

For active employers whose liabilities are expected to be orphaned on exit, the Administering Authority will have regard to the potential for participation to cease (or for the body to have no contributing members), the potential timing of such exit, and any likely change in notional or actual investment strategy as regards the assets held in respect of the body's liabilities at the date of exit (i.e. whether the liabilities will become 'orphaned' or a guarantor exists to subsume the notional assets and liabilities). This is known as the ongoing orphan funding target.

Typically employers which will ultimately give rise to Orphan liabilities will have a discount rate which is based on the yield on long-dated fixed interest gilts at a duration appropriate for the Fund's liabilities plus an asset out-performance assumption (typically this addition will be different when applied to liabilities in relation to members still in service and to those who have left service). The addition for the left service discount rate is intended to reflect the Fund Actuary's view of the possible future increase in gilt yields over a five year period, and is greater than market expectations of future increases at the valuation date.

Past service liabilities

This is the present value of the benefits to which members are entitled based on benefits accrued to the valuation date, assessed using the assumptions agreed between a Fund's Administering Authority and the Fund Actuary. It generally allows for projected future increases to pay or revaluation as appropriate through to retirement or date of leaving service.

Present value

Actuarial valuations involve projections of pay, pensions and other benefits into the future. To express the value of the projected benefits in terms of a cash amount at the valuation date, the projected amounts are discounted back to the valuation date by a discount rate. This value is known as the present value. For example, if the discount rate was 4% a year and if we had to pay a cash sum of £1,040 in one year's time the present value would be £1,000.

Primary Rate of the Employers' Contribution

This is not defined in the Regulations but further explanation can be found in the Cipfa guidance Preparing and Maintaining a Funding Strategy Statement, dated September 2016:

The primary rate for each employer is that employer's future service contribution rate, which is the contribution rate required to meet the cost of the future accrual of benefits, expressed as a percentage of pensionable pay, ignoring any past service surplus or deficit but allowing for any employer-specific circumstances, such as the membership profile of that employer, the funding strategy adopted for that employer (including any risk-sharing arrangements operated by the administering authority), the actuarial method chosen and/or the employer's covenant.

The primary rate for the whole fund is the weighted average (by payroll) of the individual employers' primary rates.

Projected unit method

One of the common methods used by actuaries to calculate a contribution rate to a Fund.

This method calculates the present value of the benefits expected to accrue to members over a control period (often one year) following the valuation date. The present value is usually expressed as a percentage of the members' pensionable pay. It allows for projected future increases to pay or revaluation as appropriate through to retirement or date of leaving service. Provided that the distribution of members remains stable with new members joining to take the place of older leavers, the contribution rate calculated can be expected to remain stable, if all the other assumptions are borne out. If there are no new members however, the average age will increase and the contribution rate can be expected to rise.

Prudent

Prudent assumptions are such that the actual outcome is considered to be more likely to overstate than understate the amount of money actually required to meet the cost of the benefits.

Rates and Adjustments Certificate

A certificate required at each actuarial valuation by the Regulations, setting out the contributions payable by employers for the 3 years from the 1 April following the valuation date.

Recovery period

The period over which any surplus or shortfall is to be eliminated.

Recovery plan

Where a valuation shows a funding shortfall against the past service liabilities, a recovery plan sets out how the Administering Authority intends to meet the funding objective.

Regulations

The statutory regulations setting out the contributions payable to, and the benefits payable from, the Local Government Pension Scheme and how the Funds are to be administered. They currently include the following sets of regulations:

▪ 1997 Regulations	Local Government Pension Scheme Regulations 1997
▪ Administration Regulations Regulations	Local Government Pension Scheme (Administration) 2008
▪ Benefits Regulations and	Local Government Pension Scheme (Benefits, Membership, Contributions) Regulations 2007
▪ Transitional Regulations 1997	Local Government Pension Scheme (Transitional provisions)
▪ 2013 Regulations	Local Government Pension Scheme Regulations 2013
▪ 2014 Transitional Regulations Savings	Local Government Pension Scheme (Transitional Provisions, and Amendment) Regulations 2014

Scheduled body

Bodies which participate in the Fund under Schedule 2 Part 1 of the 2013 Regulations.

Scheduled body / subsumption funding target

For secure Scheduled Bodies whose participation in the Fund is considered by the Administering Authority to be indefinite and Admission Bodies with a subsumption commitment from such Scheduled Bodies, the Administering Authority assumes indefinite investment in a broad range of assets of higher risk than risk free assets. This is known as the scheduled and subsumption body funding target.

Secondary rate of the employers' contribution

This is not defined in the Regulations but further explanation can be found in the Cipfa guidance 'Preparing and Maintaining a Funding Strategy Statement', dated September 2016:

The secondary rate is an adjustment to the primary rate to arrive at the rate each employer is required to pay. It may be expressed as a percentage adjustment to the primary rate, and/or a cash adjustment in each of the three years beginning with 1 April in the year following that in which the valuation date falls. The secondary rate is specified in the rates and adjustments certificate. For any employer, the rate they are actually required to pay is the sum of the primary and secondary rates.

The Fund Actuary is required to also disclose the secondary rates for the whole scheme in each of the three years beginning with 1 April in the year following that in which the valuation date falls. These should be calculated as a weighted average based on the whole scheme payroll in respect of percentage rates and as a total amount in respect of cash adjustments. The purpose of this is to facilitate a single net rate of contributions expected to be received over each of the three years that can be readily compared with other rates and reconciled with actual receipts.

Shortfall

Where the assets are less than the Funding Target, the shortfall is the Funding Target less the value of assets.

Shortfall contributions

Additional contributions payable by employers to remove the shortfall by the end of the recovery period.

Solvency

This is not defined in the Regulations but further explanation can be found in the Cipfa guidance Preparing and Maintaining a Funding Strategy Statement, dated September 2016:

The notes to the Public Service Pensions Act 2013 state that solvency means that the rate of employer contributions should be set at "such level as to ensure that the scheme's liabilities can be met as they arise". It is not regarded that this means that the pension fund should be 100% funded at all times. Rather, and for the purposes of Section 13 of the Public Service Pensions Act 2013, the rate of employer contributions shall be deemed to have been set at an appropriate level to ensure solvency if:

- the rate of employer contributions is set to target a funding level for the whole fund (assets divided by liabilities) of 100% over an appropriate time period and using appropriate actuarial assumptions; and either
- employers collectively have the financial capacity to increase employer contributions, and/or the fund is able to realise contingent assets should future circumstances require, in order to continue to target a funding level of 100%; or
- there is an appropriate plan in place should there be, or if there is expected in future to be, no or a limited number of fund employers, or a material reduction in the capacity of fund employers to increase contributions as might be needed.

If the conditions above are met, then it is expected that the fund will be able to pay scheme benefits as they fall due.

State Pension Age (SPA)

Age at which State pensions are payable. Current legislation specifies the following ages:

- Currently age 65 for men; transitioning to age 65 for women by 2018.
- Current legislation transitions State Pension Age for both men and women to age 68 by 2046, as follows:
  - to age 66 by 2020
  - to age 67 by 2028
  - to age 68 by 2046

Strains

These represent the cost of additional benefits granted to members under a discretion of the employer or the Administering Authority. They include the cost of providing enhanced benefits on retirement or redundancy.

Subsumption and subsumption body

An employer who is not a secure long term Scheduled Body and where the Administering Authority has obtained an undertaking from a related employer that, if and when the employer exits the Fund, they will be a source of future funding should any funding shortfalls emerge on the original employer's liabilities after exit.

In this document the process of taking on the responsibility for future funding at the point of exit is known as 'subsumption' of an employer's liabilities. The employer whose liabilities will be (or are being) subsumed is referred to as a subsumption body.

Surplus

Where the assets are more than the Funding Target, the surplus is the value of assets less the Funding Target.

Transfer value

Members generally have a legal right to transfer their benefits to another pension arrangement before they retire. In taking a transfer, members give up their benefits in a fund, and a sum of money (called the transfer value) is paid into another approved pension fund. This is used to provide pension benefits on the terms offered in that fund.

About Aon

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