Willis Towers Watson

Local Authorities
Superannuation Fund

Report on the Actuarial Investigation as at 30 June 2020

The Defined Benefit Plan

8 September 2020

Towers Watson Australia Pty Ltd
ABN 45 002 415 349   AFSL 229921

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Section 1: Executive Summary

1.1 We are pleased to present our report on the triennial actuarial investigation of the Defined Benefit plan of the Local Authorities Superannuation Fund (the Fund). This report has been prepared for Vision Super Pty Ltd, the Trustee of the Fund.

Results of previous actuarial investigation

1.2 The previous actuarial investigation was conducted by Matthew Burgess, FIAA, on behalf of Willis Towers Watson as at 30 June 2019. The results of that valuation were published in a report dated 13 September 2019.

1.3 In that review, the recommended funding arrangements comprised of the following:

a Outstanding contributions in respect of calls made at the previous actuarial investigations;

b Contributions equal to 9.5% of salary for employee members (from 30 June 2017 and then increasing with the Superannuation Guarantee rate);

c An additional contribution to cover the excess of the benefits paid as a consequence of retrenchment above the funded resignation or retirement benefit (whereby the funded resignation or retirement benefit is calculated as the minimum of (100% and the VBI) multiplied by the benefit) plus tax; plus

d Additional top up contributions that may be recommended in the future, if the Defined Benefit plan becomes in an unsatisfactory financial position.

Authorities also need to contribute the amount of members' salary sacrifice contributions.

1.4 It was recommended the self-insurance reserve be maintained at $5 million. This was following a recommendation to reduce the reserve from $6 million to $5 million in the actuarial investigation as at 30 June 2018.

1.5 Various recommendations in respect of the ongoing review of the investment strategy, including liquidity, were also made.

1.6 We have been advised that all of the above recommendations were implemented. We have been advised by Vision Super that the project configuring Minimum Requisite Benefits (MRBs) of deferred beneficiaries and pensioners on the administration system is largely completed.

Assumptions for this actuarial investigation

1.7 The investment strategy of the Defined Benefit Plan remains materially unchanged from 2019. The financial assumptions used in this actuarial investigation are summarised below. The estimated future investment returns have been reduced reflecting the capital market assumptions from the investment consultant.

	30 June 2020	30 June 2019
Net Investment Return	5.6% p.a. (gross: 6.50%p.a.)	6.00% p.a. (gross: 6.75%p.a.)
Salary Inflation	2.5% p.a. for two years, 2.75% p.a. thereafter	3.5% p.a.
Price Inflation	2.0% p.a.	2.0% p.a.

1.8 Following a review of the demographic experience, we have updated the following assumptions.

a We increased the proportion of eligible deferred beneficiaries who are assumed to elect to take the maximum allowable 50% of the benefit as a life-time pension from 40% to 45%.

b For Pensioner members, we updated the assumed mortality to be:

- Male mortality rates set as 75% of Australian Life Tables 2015-17 under age 75, gradually increasing to 95% after age 90.
- Female mortality rates set as 80% of Australian Life Tables 2015-17 under age 75, gradually increasing to 95% after age 90.
- Mortality improvement set in line with the 125-year Mortality Improvement tables published in the Australian Life Tables 2015-17.

1.9 We increased the administration expense assumptions from 2.50% to 2.75% of active members' salaries. The assumed expenses in respect of pensioners remained unchanged at 2.0% of pensions in payment.

Results of this actuarial investigation

Funding Status Measure

1.10 This actuarial investigation has shown that the Defined Benefit plan's financial position has reduced following the last review as at 30 June 2019, but remains satisfactory.

	30 June 2020 Funding Indices	30 June 2019 Funding Indices
	%	%
Vested Benefit Index[1]	104.6	107.1
Discounted Accrued Benefit Index[2]	110.7	112.6
Minimum Requisite Benefit Index[3]	142.2	148.2

1. Vested Benefits are the benefits payable if all members resign/retirement immediately
2. Discounted Accrued Benefits discount the future benefits expected to be paid in respect of completed membership to a present value.
3. Minimum Requisite Benefits are the minimum Superannuation Guarantee benefits

1.11 The deterioration in asset coverage of the present value of past benefits is due to:

a Investment returns being lower than expected, although this was partly offset by salary increases and pension increases being lower than expected; and

b The changes in assumptions, and particularly the lower real return assumed for pensioners (excess of return above pension indexation) and the reduced pension mortality assumptions.

1.12 The Defined Benefit plan's assets cover vested benefits at the review date and therefore the Defined Benefit plan was in a satisfactory financial position at that date as defined in SPS 160.

1.13 Our projection below shows that, on the basis of the assumptions made in this actuarial investigation and assuming that the Authorities make contributions in line with the recommendations set out below, the Defined Benefit plan is expected to remain in a satisfactory financial position.

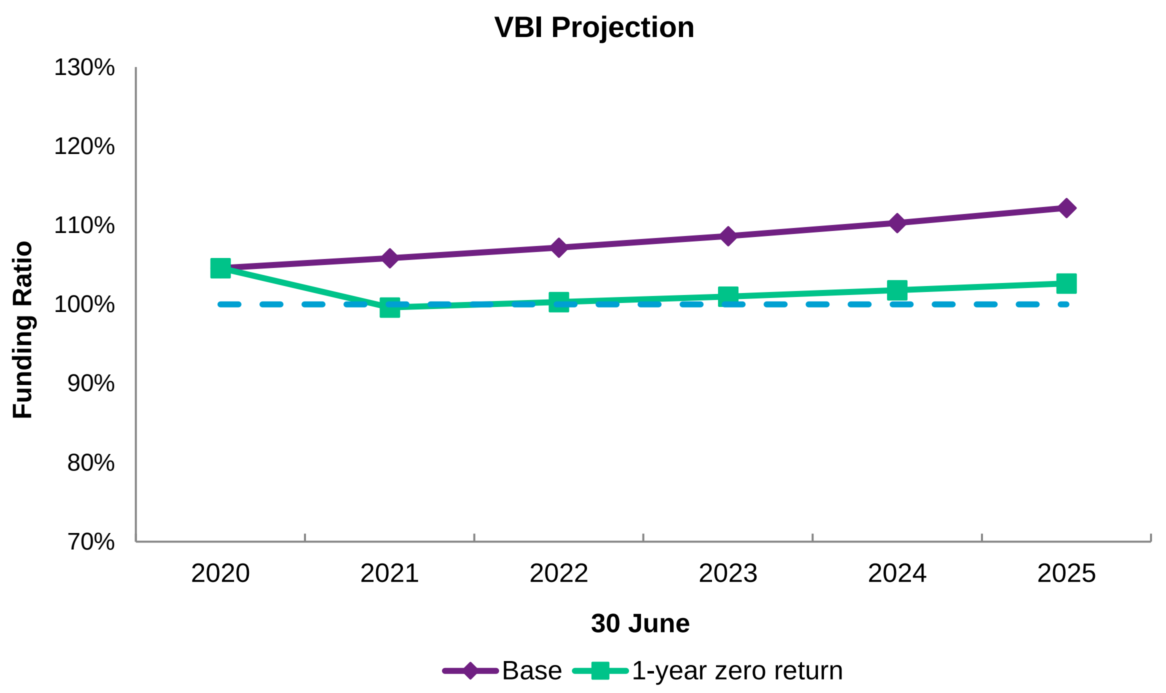
1.14 If experience is as expected the Authorities would not be expected to be required to make any further contributions because of the actuarial surplus that exists (i.e. Authority contributions could be reduced to zero). However, we have been advised that the Trustee's preference is to use surplus to lower investment risk over time to reduce the potential for additional lump sum contributions to be required from Authorities because experience is worse than expected. Hence, we have recommended that contribution rates be retained and that the Trustee continue to consider when de-risking the investment strategy is appropriate.

1.15 Reducing the investment risk in the Defined Benefit plan assets also means that the expected investment return will reduce. This reduction in investment risk reduces the Vested Benefit Index as the present value of pensions increases because of the lower discount rate. In the long term, an investment return of 4.6% p.a. (i.e. 1% p.a. lower than our assumption) is expected to be sufficient to provide all members' benefits, but in the short term such a reduction in the expected return would reduce the VBI to below 100%. Therefore, the Trustee needs to consider the appropriate timeframe to reduce investment risk and the level of investment risk itself. The following table shows the impact on actuarial surplus and the Vested Benefit Index of an alternative investment strategy.

Impact of Alternative Investment Strategy as at 30 June 2020		
	Current 5.6% p.a. expected Investment Return	**De-risked 4.6% p.a. expected Investment Return**
Vested Benefit Index	104.6%	99.9%
Actuarial Surplus	$200m	$54m

1.16 The above table, similar to all the results in this Executive Summary, was prepared as at 30 June 2020 and does not reflect the favourable investment experience during July and August.

1.17 The future funding position, and the potential for additional contributions to be required from Authorities, is dependent upon future experience and particularly future investment returns. The following chart compares the expected Vested Benefit Index (VBI) in the best estimate "base case" to the scenario that there is a nil return in the year to 30 June 2021 (and expected returns thereafter). It should be noted that a nil return is not the worst outcome that could occur.



Recommendations

1.18 We recommend that the Authorities continue to adopt the following funding plan:

a Contributions equal to 9.5% of salary for employee members, increasing with increases in the Superannuation Guarantee rate;

b An additional contribution to cover the excess of the benefits paid as a consequence of retrenchment above the funded resignation or retirement benefit (the funded resignation or retirement benefit is calculated as the minimum of (100% and the VBI) multiplied by the vested benefit), plus contribution tax;

c Outstanding contributions in respect of calls made at the previous actuarial investigations; and

d Additional top up contributions that may be recommended in the future, if the Defined Benefit plan becomes in an unsatisfactory financial position.

Authorities also need to contribute the amount of members' salary sacrifice contributions.

1.19 The ratio of the market value of the Defined Benefit plan's net assets to vested benefits should continue to be measured quarterly, and the Trustee's funding approach be reassessed accordingly.

1.20 In regard to the Defined Benefit plan's investment policy, we recommend that:

- The funding position of the Defined Benefit plan continue to be considered in setting investment policy.

- The Board continue to consider de-risking assets as a means of reducing the risk of subsequent higher contributions due to future poor investment experience. These considerations must be made concurrently with funding implications as they are directly linked.

- The current allocation to illiquid assets is material, and the Defined Benefit plan is closed to new members and has segregated asset. The adequacy of current and projected liquidity should continue to be reviewed, and stress tested, at least annually.

1.21 As required under SPS 160, the Trustee has set the Shortfall Limit for the Defined Benefit plan at 97%. Given the current investment strategy, we consider this Shortfall Limit is appropriate for the Defined Benefit plan.

1.22 We confirm that in our opinion the Defined Benefit plan's self-insurance arrangements remain appropriate. Furthermore, based on our analysis we recommend that the self-insurance reserve be maintained at $5 million.

1.23 The next triennial actuarial review should be carried out as at a date no later than 30 June 2023.

Matthew Burgess

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8 September 2020

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DO: TH, PP | TR: SF |CR: MB | ER: MB | SPR: LC

Section 2: Introduction

2.1 This report was commissioned by Vision Super Pty Ltd, the Trustee of the Local Authorities Superannuation Fund (the Fund).

2.2 This is the thirteenth "triennial" actuarial investigation of the Fund since the Local Authorities Superannuation Act (1988) (the Act) was proclaimed on 25 May 1988. The Act has been replaced and since 1 July 1998, the Fund has been governed by a Trust Deed.

2.3 The Fund is a "regulated fund" under the provisions of the Superannuation Industry (Supervision) Act 1993 ("SIS"). We understand that the Fund is treated as a complying superannuation fund for taxation purposes and is a taxed superannuation fund.

2.4 In accordance with Superannuation Prudential Standard 160 (SPS 160), "triennial" actuarial investigations are required at intervals of not more than three years. Annual actuarial investigations are also required because the Defined Benefit plan provides life-time pensions.

2.5 In accordance with Clause A.20.1, the Trust Deed requires each Authority to contribute to the Fund in respect of a particular employee the amount or rate of contributions determined by the Trustee after obtaining the advice of the actuary, including any unfunded liability amount. The Trustee also has some flexibility in adjusting benefits in accordance with Clause A.21 in the event that an Authority terminates contributions to the Fund.

2.6 A triennial actuarial investigation was completed for the Defined Benefit plan (Division C of the Trust Deed) as at 30 June 2017 and our report was dated 4 October 2017. Annual actuarial investigations were also completed, most recently as at 30 June 2019 in our report dated 13 September 2019. The previous triennial report was signed by Matthew Burgess and Gabrielle Baron and the later annual investigation was signed by Matthew Burgess and Surath Fernando.

2.7 This actuarial investigation report covers the Defined Benefit plan within the Fund, which is a sub-fund as defined in SPS 160. The divisions of the Fund that pay only accumulation benefits are not considered in this report. The actuarial investigations for the City of Melbourne Plan and Parks Victoria Plan, which are also sub-funds as defined in SPS 160, are covered in separate reports.

2.8 The purpose of this report is to:

- examine the sufficiency of the assets in relation to members' accrued benefit entitlements;
- determine the contribution rate required to ensure that the Defined Benefit plan maintains a satisfactory financial position;
- examine the suitability of the Defined Benefit plan self-insurance and investment arrangements;
- provide actuarial certification in respect of the funding of pension entitlements;
- satisfy requirements of the Trust Deed; and
- meet legislative requirements.

This actuarial review has been conducted in order to meet the Trustee's obligations in accordance with SPS160 issued under section 34C of the Superannuation Industry (Supervision) Act (SIS Act) which came into effect from 1 July 2013.

2.9 This report satisfies the requirements of the following Professional Standards and Guidance of the Institute of Actuaries of Australia:

- Practice Guideline 1
- Practice Guideline 499.01 to the extent relevant, noting that it needs updating to be consistent with SPS 160
- Professional Standard 400
- Professional Standard 402
- Professional Standard 404
- Professional Standard 410.

Actuarial Investigation as at 30 June 2019

2.10 The report on the actuarial investigation as at 30 June 2019 concluded that the experience of the Defined Benefit plan over the year to 30 June 2019 had been favourable. Accordingly, the Defined Benefit plan remained in a satisfactory financial position and the current employer contributions were expected to be more than sufficient. We understood that the preference of the Trustee was to retain the existing contributions and reduce the investment risk if the VBI increased.

2.11 We recommended that the following funding plan be adopted:

a Payments for any outstanding unfunded liability from previous actuarial investigations that has already been invoiced (these amounts have almost all now been received); plus

b Contributions equal to 9.5% of salary for employee members (to increase with increases in the Superannuation Guarantee rate); plus

c An additional contribution to cover any excess of the benefits paid as a consequence of retrenchment above the funded resignation or retirement benefit (whereby the funded resignation or retirement benefit is calculated as the minimum of (100% and the VBI) multiplied by the benefit), plus contribution tax; plus

d Additional top up contributions that may be required in the future if the plan becomes in an unsatisfactory financial position.

Authorities also needed to contribute the amount of members' salary sacrifice contributions.

2.12 The Trustee has implemented these recommendations in full. No additional contributions are currently required under recommendation 2.11(d) because the Defined Benefit plan is not in an unsatisfactory financial position.

2.13 The other recommendations in the report were that:

a The self-insurance reserve be maintained at $5 million;

b The funding position of the Defined Benefit plan and future liquidity requirements continue to be considered in setting investment policy;

c The Board continue to consider de-risking assets as a means of reducing the risk of subsequent higher contributions due to the future poor investment experience, whilst considering any subsequent funding implications; and

d Progress the configuration of the MRB for deferred beneficiaries and pensioners on the administration system.

2.14 The first two of these recommendations have been completed since that date. The Board is also continuing to consider de-risking. Vision Super has advised the configuration of all MRBs on the administration system is largely completed.

Events since the 30 June 2019 Actuarial Investigation

2.15 There have been no amendments to the Defined Benefit plan benefits.

2.16 There have been no legislative changes or changes to benefits that have materially impacted on the funding of the Defined Benefit plan.

2.17 Vision Super advised that the Defined Benefit plan investment return for the year to 30 June 2020 was 4.7% p.a., which was lower than the return of 6.0% p.a. assumed in the 30 June 2019 actuarial investigation.

Reliance Statement and Data

2.14 This report is provided subject to our agreed Terms and Conditions of Engagement dated 8 May 2020. This report is provided solely for the Trustee's use and for the specific purposes indicated above. It may not be suitable for use in any other context or for any other purpose.

2.15 Except where we expressly agree in writing, this report should not be relied on by any third party. In the absence of such consent and an express assumption of responsibility, no responsibility whatsoever is accepted by us for any consequences arising from any third party relying on this report or any advice relating to its contents.

2.16 The Trustee may make a copy of this report available to its auditors, Authorities and to any person to whom the Trustee may be required to provide a copy under relevant legislation, but we make no representation as to the suitability of this report for any purpose other than that for which it was originally provided and accept no responsibility or liability to the Trustee's auditors, Authorities or any third party in this regard. The Trustee should draw the provisions of this paragraph to the attention of its third parties when passing this report to them.

2.17 In conducting this review, we have relied upon information and data provided to us orally and in writing by the Trustee and other persons or organisations designated by the Trustee. We have relied on all the data and information provided, including plan provisions, membership data and asset information, as being complete and accurate. We have not independently verified the accuracy or completeness of the data or information provided, but we have performed limited checks for consistency.

2.18 The results presented in this report are directly dependent upon the accuracy and completeness of the underlying data and information. Any material inaccuracy in the data, assets, plan provisions or other information provided to us may have produced results that are not suitable for the purposes of this letter and such inaccuracies may produce materially different results that could require that a revised letter be issued.

Content of this Report

2.19 The remainder of this report is structured in the following manner:

- Sections 3 to 5 consider the data, assets, assumptions and methodology;
- Section 6 considers the financial position of the Defined Benefit plan at 30 June 2020.
- Section 7 considers the adequacy of funding of the Defined Benefit plan.
- Section 8 considers self-insurance.
- Section 9 considers material risks.
- Appendices A to F include supporting details of benefits, membership, accounts, actuarial assumptions, assets and actuarial surplus;
- Appendix G contains the statements required under SPS 160.

Section 3: Data and Experience

3.1 This section deals with the data used in the investigation and comments on the more significant factors bearing upon the experience of the Defined Benefit plan.

Membership

3.2 For the purposes of this investigation, we were supplied with information on active members of the Defined Benefit plan, deferred beneficiaries and pensioners as at 30 June 2020 together with details of exits during the period from 1 July 2017 to 30 June 2020. While we have relied upon the data provided, from our checking processes we believe that the data is sufficiently accurate for the purposes of this investigation.

3.3 In summary, the active membership of the Defined Benefit plan has decreased by 901 (or 31.6%) from 2,855 at 30 June 2017 to 1,954 at 30 June 2020. The number of life-time pensioners has decreased by 408 (or 8.9%) from 4,597 to 4,189 over the same period.

Summary of Defined Benefit Plan Membership Data		
Active Members	**30 June 2017**	**30 June 2020**
Number	2,855	1,954
Average Age	56.3 years	57.3 years
Average Past Membership	29.5 years	32.2 years
Average Salary	$86,885	$93,843
Life-time Pensioners		
Number	4,597	4,189
Average Age	78.5 years	77.4 years
Average Annual Pension	$11,187	$14,184
Fixed Term Pensioners		
Number	14	5
Deferred Beneficiaries		
Number	1,584	1,292
Average Age	54.3 years	56.3 years
Average Account Balance	$204,048	$240,311

^ includes one suspended pensioner

A detailed summary of the movement in active and pensioner membership is set out in Appendix B.

Salaries

3.4 We have examined the salary experience of Defined Benefit plan members over the three year period ending 30 June 2020. The data showed that the full time equivalent salary of Defined Benefit plan members who remained members as at 30 June 2020 grew by 2.8% p.a. over the period. This compares to growth of 3.4% p.a. over the three year period to 30 June 2017 in the last actuarial investigation.

3.5 The actual increase over the three years ending 30 June 2020 was lower than the assumed rates of 3.5% p.a. in the 30 June 2017 actuarial investigation.

3.6 It is of interest to compare the average rate of salary increase with the increase in Australian Average Weekly Ordinary Time Earnings (AWOTE). Over the three years period ending 30 June 2020, AWOTE increased by 3.6% p.a. On average, members received salary increases which are lower than those of the wider community.

Pension Indexation

3.7 The pensions are indexed semi-annually based on the change in the Consumer Price Index (CPI). Over the three year period ending 30 June 2020, the pension increase was 1.8% p.a.. This was lower than the rate of 2.5% p.a. assumed in the 30 June 2017 actuarial investigation.

Demographic Experience of Active Members

3.8 The demographic experience of active members of the Defined Benefit plan over the two year period to 30 June 2019 has been examined in detail for each of the major types of exit and is set out below. We have also broadly considered the experience over the year to 30 June 2020 and noted that this experience does not impact on the changes to the assumptions that we have made in this valuation.

3.9 The following table summarises the number of actual exits compared to the expected exits during the investigation period. "Expected" figures are based on the funding assumptions used in the 2017 investigation:

<table>
<tr><th colspan="3">Actual and Expected Exits Over The Period
From 1 July 2017 to 30 June 2019</th></tr>
<tr><th></th><th>Actual</th><th>Expected</th></tr>
<tr><td>Resignation
Cash 5
Deferred 21
Pending 9</td><td>35</td><td rowspan="2">45</td></tr>
<tr><td>Retrenchments (< age 55)</td><td>9</td></tr>
<tr><td>Retirements</td><td>594</td><td>528</td></tr>
<tr><td>Deaths</td><td>9</td><td>16</td></tr>
<tr><td>Disablements</td><td>9</td><td>22</td></tr>
</table>

3.10 The demographic experience of active members is further examined in the following table, with commentary in the following paragraphs, by giving the ratio of the actual number of exits to the "expected" number on the same basis:

Ratio of Actual To Expected Numbers Over The Period From 1 July 2017 To 30 June 2019					
Age Band	**Resignation**	**Resignation & Retrenchment**	**Death**	**Disablement**	**Retirement**
41-45	0.6	0.8	-	0.7	-
46-50	0.8	1.1	-	1.0	-
51-55	-	-	0.5	0.1	0.7
56-60	-	-	0.9	-	1.1
61-65	-	-	-	-	1.2
Total	**0.8**	**1.0**	**0.6**	**0.4**	**1.1**

3.11 The experience during this two year period has been similar to expected in respect of all major forms of exit from the Defined Benefit plan, although lower for death and disablement.

3.12 The number of exits over the two year period ending 30 June 2019 has been sufficient to enable a valid demographic analysis to be carried out for resignation/retrenchment and retirement, while the death and disablement experience will vary over time due to relatively small numbers exiting for these reasons.

Resignation (and Deferred Election)

3.13 The table in 3.10 shows that the number of resignations over the period has been lower than expected. Overall, for each 10 resignations expected, 8 resignations actually occurred.

3.14 Members resigning from active service have the option to receive their benefit in cash or as a deferred benefit. As shown in table 3.9, out of the 35 resignations, 26 members have exercised an election to either receive the immediate lump sum benefit or have deferred their benefits (with 9 pending exits yet to make an election). Of these 26 resignations, 21 (81%) members who resigned elected the deferred option, which was very close to the assumed deferred election rate of 80%.

3.15 In this investigation we have retained the assumed deferred election rate at 80%. We have also confirmed that this assumption remains appropriate when the experience to 30 June 2020 is considered.

Resignation and Retrenchment

3.16 Under the current funding arrangements, additional funding by the Authorities is required to cover the excess of the retrenchment benefit over the "funded" resignation benefit or retirement benefit.

3.17 Consequently, retrenchments under age 55 are effectively "resignations" from the perspective of the Defined Benefit plan's financial position and do not create any funding shortfall.

3.18 At the 2017 actuarial investigation, an explicit assumption was not made for the number of retrenchments. Instead the resignation decrements were kept at a higher level than justified by resignations alone, in order to implicitly allow for some retrenchments.

3.19 For this reason we have also included a combined "resignation and retrenchment" column in the table in 3.10 above. On this combined basis the actual to expected ratio averaged 1.0 to one which shows that the combined level of retrenchments and resignations was very similar to the assumed level.

3.20 As the combined rate of retrenchment and resignation were broadly equal to expected, we have retained the resignation rates assumed in the previous investigation for this actuarial investigation.

Death

3.21 The death benefit payable in respect of a particular member would normally exceed the reserve held in respect of that member, often substantially at young ages. Thus it is important that the expected mortality rates do not understate the number of deaths.

3.22 During the two year period to 30 June 2019, the ratio of actual to expected deaths was 0.6 to one. On the basis of the small number of deaths, possible delays in processing death benefits and the importance of not understating the number of deaths, we have retained the mortality rates from the 2017 investigation.

Disability

3.23 Like the death benefit, the disability benefit would normally exceed the reserve held in respect of a member. Ideally, the expected disability rates would exceed the actual rates. This is particularly important because no separate allowance is made for the Temporary Disablement benefit. It is also important to include some margin to allow for "Incurred But Not Reported" claims as industry experience suggests an increasing number of emerging disability claims will take years to be reported.

3.24 The ratio of actual to expected disablements based on the experience of the past two years was 0.4 to one. The recent experience has had a favourable impact on the Defined Benefit plan. On the basis of the small number of disablements, lags in reporting and processing and the importance of not understating the number of disablements, we have retained disability rates from the 2017 investigation.

Retirements

3.25 The closer a member is to age 65, the closer the retirement benefit is to the "actuarial reserve" held in respect of that member. Hence a deviation of actual retirements from those expected will have a small effect on the financial status of the Defined Benefit plan.

3.26 Over the two years to 30 June 2019, the ratio of actual to expected retirements was equal to 1.1. This is broadly consistent with the experience over the two years to 30 June 2016 (with a ratio of one). Accordingly, we have retained the retirement decrements from the 2017 actuarial investigation.

Pension Election

3.27 Members who joined the Defined Benefit plan prior to 25 May 1988 have a choice to convert up to 50% of their retirement benefit into an annual pension.

3.28 The previous investigation assumed that 60% of eligible active members elect a pension upon retirement by converting the maximum 50% of their benefits into a pension. Over the two years to 30 June 2019, approximately 58% of retiring members elected at least some pension. We also understand that not all members have taken the maximum 50% pension allowed (although a majority do take the maximum). As the pension benefit is more valuable than the lump sum benefit and in light of recent experience, we retained the pension election assumption of 60% of eligible active members exercising this option by converting 50% of their benefit to a pension.

3.29 The previous investigation assumed 40% of eligible deferred beneficiaries elect a pension at retirement. Over the two years to 30 June 2019, the proportion of deferred beneficiaries who took a pension upon retirement was around 50%. Accordingly, we have increased the deferred beneficiary pension election proportion from 40% to 45% for the 2020 actuarial investigation. Members who exercise this option are assumed to take 50% of their benefit as a pension.

3.30 We have also confirmed that these assumptions remain appropriate when the experience to 30 June 2020 is considered.

Mortality Experience of Pensioners

3.31 The mortality experience of pensioners over the two year period ending 30 June 2019 has been examined for males and females, and by type of pension. The key results are separated based on age ranges and are summarised in the following table. The “expected” figures are based on the assumptions that were used in the 30 June 2017 actuarial investigation. Given the limited exposure, experience will vary from period to period.

Ratio Of Actual To Expected Numbers For The Period From 1 July 2017 To 30 June 2019		
	Age Range	**Retirement/Spouse Pensioners**
Male	Less than 80	63%
	80 and over	91%
Female	Less than 80	65%
	80 and over	87%

3.32 As shown in the table above, the actual deaths among both male and female retirement and spouse pensioners during the investigation period are lower than expected at ages before 80. Actual mortality trends towards assumed mortality at the higher ages

Given the small number of deaths, we have shifted the assumptions towards experience and considered the experience for other groups of pensioners in setting the assumption. We also consider recent pensioner mortality experience relative to the Australian Life Tables 2015-2017 and subsequent mortality improvement tables. As a result of this analysis, we have adopted current Australian mortality data (and future expectations) with some adjustments to reflect the experience of the Defined Benefit plan pensioners as set out below:

a Males: 75% of Australian life tables 2015-2017 under age 75, gradually increasing to 95% after age 90.

b Females: 80% of Australian life tables 2015-2017 under age 75, gradually changing to 95% after age 90.

c Mortality improvement based on the 125-year experience from the Australian life tables 2015-2017.

3.33 Mortality experience for disability pensioners was not considered due to insufficient data. Given the lack of data, we have opted to retain the same mortality assumptions for disability pensioners as used in the 2017 actuarial investigation.

Administration Expenses

3.34 In the 30 June 2017 investigation, the administration expense was assumed to be set as 2.5% of salaries for active members plus 2.0% of pensions in payment for current pensioners.

3.35 Actual expenses over the two years ending 30 June 2019 have been higher than expected, partly reflecting the reducing number of members and the fixed costs that must be covered. Accordingly, we have increased the assumed level of expenses to 2.75% of salaries for active members and retained 2.0% of pensions in payment for current pensioners.

Investment Returns

3.36 Vision Super has advised that the rate of return (net of tax and investment expenses) earned by the Defined Benefit plan for the three years ending 30 June 2020 was 6.7% p.a..

Investment Return	
Year ended	**% p.a.**
30 June 2018	8.5
30 June 2019	7.1
30 June 2020	4.7
Average	6.7

3.37 Comparison of the 6.7% p.a. return for the intervaluation period with the average salary increase rate (from paragraph 3.4) of 2.8% p.a. shows a real return of approximately 3.9% p.a. which is higher than the 3.0% p.a. real return assumed in the 2017 investigation and the 2.5% p.a. real return assumed in the 2019 actuarial investigation.

3.38 In respect of pension liabilities, pension increases averaged 1.8% p.a., providing a net of tax real return of 4.9% p.a. The gross of tax real return would be of the order of 5.8% p.a. which is higher than the 4.75% p.a. assumed in both the 2017 and 2019 actuarial investigations.

3.39 The real returns over the valuation period have had a slight positive effect on the Defined Benefit plan's financial position.

Section 4: Assets and Investments

Assets

4.1 Copies of the Fund's draft financial statements as at 30 June 2020 were supplied by Vision Super for the investigation together with details of the investment strategy at 30 June 2020. We were also provided a breakdown of the draft market value of assets by sub-plan. We have been advised by Vision Super that the unaudited financial statements have been prepared consistently with AASB1056 and have relied on these statements as being materially reflective of final audited financial statements. A summary of cash flows over the period 1 July 2017 to 30 June 2020 is set out in Appendix C.

4.2 The fair value of the Defined Benefit plan assets (including pensioners and deferred beneficiaries) as at 30 June 2020 used in the valuation was $2,227.0 million. No amounts are included in respect of accumulation accounts of members, except certain defined benefit offset accounts. The unaudited financial statements include the fair value of assets for the three defined benefit sub-plans and this value is consistent with that amount. Vision Super has confirmed draft financial statements are expected to be materially same as audited financial statements.

4.3 The asset value includes the remaining contributions receivable in respect of past calls for additional contributions by Vision Super. We have been advised that the vast majority of the additional contributions have been paid by the Authorities.

4.4 The fair value of assets above excludes $5.0 million in respect of the Death and Disability reserve from the assets because we have not included an amount for incurred but not reported claims in the calculation of the funding position. In Section 8 we have reviewed the amount of this reserve. Vision Super has excluded the Operational Risk Financial Requirement from the Defined Benefit plan assets in the financial statements.

4.5 We believe that the most suitable approach for this investigation is to adopt the fair value of assets for all purposes. The funding position of the Defined Benefit plan may be variable because of the current high volatility in asset valuations.

Asset Allocation

4.6 The Defined Benefit plan invests in a wide range of asset classes such as equity, property and fixed interest investments. Appendix E shows the Strategic Asset Allocation and the Actual Asset Allocation as at 30 June 2020. This asset allocation does not apply for deferred benefits where members have investment choice, nor for the assets for small number of fixed term pensioners that are invested in defensive assets.

4.7 The Strategic Allocation to Growth Assets as at 30 June 2020 was 64.9%, while the actual growth allocation was slightly lower at 64.3%. The Trustee also has a very small allocation towards derivative strategies to reduce equity tail risk.

4.8 In our opinion the allocation to growth assets is among a range of allocations that could reasonably be used by the Defined Benefit plan.

4.9 Setting the Strategic Asset Allocation is a balance between:

a A high allocation to growth assets, which is expected to produce relatively high but more variable investment returns and therefore lower but more variable Authority contributions; and

b A low allocation to growth assets, which is expected to produce relatively low but less variable investment returns and therefore higher but less variable Authority contributions.

4.10 The Defined Benefit plan has been closed to new members since 31 December 1993. Therefore, its liabilities will reduce significantly over the next ten years in real terms. If future investment returns are higher or lower than expected it is possible that a significant "actuarial surplus" or "actuarial shortfall" will again result. Therefore, it is recommended that the funding position of the Defined Benefit plan continues to be considered when setting investment policy.

Liquidity

4.11 As at 30 June 2020, 26.1% of the investments are in illiquid asset classes which include Infrastructure, Opportunistic Investments, Direct Property and some Alternative Debts.

4.12 This is close to the Strategic Target allocation for illiquid assets of 23.0%. This has increased from 17.1% at 30 June 2017. We note that while some of the illiquid assets are in fixed ended funds which will become liquid over time, others such as the Direct Property and Infrastructure investments will need to be sold or transferred from the defined benefit assets in the future.

4.13 In the long term, the defined benefit plans will require full liquidity. The current allocation to illiquid assets is material, particularly for a closed and segregated defined asset pool of this maturity. However, whether it is too high depends both on the forecast cashflows and the ability to share illiquidity with the other (non-defined benefit) assets within Vision Super. A detailed review of the liquidity of the Defined Benefit plans assets is beyond the scope of this investigation and we have not seen the results of the reviews completed by Vision Super.

4.14 Therefore, we recommend that Vision Super should continue to consider the time frame over which they will reduce the exposure to illiquid assets in the defined benefit plans to zero. We suggest that consideration of the liability run off under various adverse scenarios should continue to form part of this consideration.

Unit Pricing

4.15 Within the Fund there are defined contribution members as well as defined benefit members. The assets and liabilities of the defined contribution members are equal, subject to timing differences, with daily unit pricing being used. There is no investment reserving. We have been advised that the assets of the defined contribution members are segregated from the defined benefit assets and Vision Super has in place processes to limit cross subsidies between defined contribution and defined benefit members.

4.16 We have been advised that the Trustee has for practical purposes completed a project to segregate the accounting process for the defined benefit and defined contribution plans.

4.17 The Fund's Investment Governance Framework states that "Defined Benefit Investment options are considered separately from the Accumulation Investment options for rebalancing purposes." This means that the Defined Benefit plan's asset allocation should not be materially impacted by the experience of the defined contribution plans.

Shortfall Limit

4.18 The Trustee has set a Shortfall Limit in accordance with SPS 160 of 97% for the Defined Benefit plan. This means that between actuarial investigations, a restoration plan to restore the VBI to 100% is required when the Defined Benefit plan's VBI reduces to below 97%.

4.19 A Shortfall Limit is defined in paragraph 10 of SPS 160 as:

"the extent to which an RSE licensee considers that a fund can be in an unsatisfactory financial position with the RSE licensee still being able to reasonably expect that, because of corrections in the temporary negative market fluctuations in the value of fund assets, the fund can be restored to a satisfactory financial position within one year."

4.20 We believe that the current Shortfall Limit remains appropriate. We have considered that:

a The actual asset allocation retains an allocation to growth assets in the order of 64.3%, with a 64.9% strategic allocation to growth assets;

b Vested benefits are higher than Minimum Requisite Benefits; and

c The Authorities have a contractual obligation to pay contributions determined by the Trustee.

Section 5: Valuation Assumptions and Funding Method

5.1 An appropriate set of both financial and demographic assumptions must be determined before values can be placed on the Defined Benefit plan's liabilities and assets. The assumptions relating to benefit liabilities and assets are discussed under separate headings below.

5.2 In setting both the financial and demographic assumptions, the current COVID 19 pandemic has been considered. The financial assumptions were set well after the pandemic emerged and reflect known information.

Valuation of Benefit Liabilities

5.3 The assumptions for this actuarial investigation have been determined on a "best estimate" basis.

5.4 "Best estimate" describes assumptions which reflect "mean" estimates for the various factors, rather than choosing assumptions with explicit margins to cope with uncertainty about future experience. These "best estimate" assumptions might be described as being realistic. They are equally likely to prove to be conservative or to be optimistic and are less likely to be able to absorb fluctuations in future experience.

5.5 As the Defined Benefit plan is closed to new members and as a result has declining membership, "best estimate" assumptions continue to be relevant because using conservative assumptions would be expected to eventually result in excess assets. Best estimate assumptions are also required by the Actuaries Institute's Professional Standards.

5.6 Appendix D contains a summary of the assumptions used.

Key Financial Assumptions

5.7 Financial assumptions for investment earnings, salary inflation and pension increases are required to value the liabilities.

5.8 The factor of major significance in the investigation of the Defined Benefit plan's active member benefit liabilities is the differential between the assumed future rate of investment earnings and the assumed rate of salary growth due to inflation. (These factors are almost exactly compensating in their effect upon the present value of the employed members' Defined Benefit plan's future benefit liabilities - hence, the difference between the rates is important, rather than their absolute values.)

5.9 For valuing the current pensioner liabilities, the differential between investment earnings and the rate of price inflation is relevant because pensions are indexed semi-annually to the change in the Consumer Price Index (CPI). The historical long-term differential between the changes in CPI and AWE (salary inflation) has generally ranged between 0% and 2% p.a.

5.10 The "best estimate" financial assumptions adopted at the 30 June 2019 actuarial investigation were:

- 2.5% p.a. real investment return over salary inflation. This comprised a 6.0% p.a. net of tax investment return assumption and a 3.5% p.a. salary inflation assumption.
- 4.75% p.a. real investment return over price inflation. This comprised a 6.75% p.a. gross of tax investment return and a 2.0% p.a. CPI assumption.

Investment Return

5.11 In order to determine the best estimate assumptions for this investigation, we have considered the capital market assumptions of Willis Towers Watson and the Fund's asset consultants, Frontier. A net investment return of 5.6% p.a. has been adopted for this investigation.

5.12 The assumed gross of tax investment return used in this investigation is 6.5% p.a.. The additional 0.90% p.a. investment return takes into account the fact that no investment tax is paid on assets backing pensioner liabilities.

5.13 The assumptions are net of investment management fees.

CPI Increases

5.14 The Reserve Bank's target CPI range of 2.0% p.a. to 3.0% p.a.. We have retained our assumption of 2.0% after considering the price inflation expectations of asset consultants and the need to be consistent with the assumed investment return.

Salary Inflation

5.15 The actual salary increases of Defined Benefit plan members have been lower than AWOTE (refer 3.5-3.6). As the average age of Defined Benefit plan members is now over 57 years, significant benefit payments are expected in the next few years and the short term salary inflation assumption is important. The Board has confirmed that in the opinion of Directors the salary inflation assumption of 2.5% p.a. for two years and a long term rate of 2.75% p.a. thereafter is reasonable in light of their understanding of Authorities' expectation of the future salary growth and therefore this rate has been adopted for this investigation.

5.16 A long term salary increase assumption of 2.75% p.a. is 0.75% p.a. above the assumed 2.0% p.a. CPI, which is within the historical long term 0% to 2% p.a. differential. Given recent experience, the current market climate and the maturity of the Defined Benefit plan, we believe that this is appropriate. No promotional salary increases are being assumed.

5.17 Therefore, the "best estimate" financial assumptions adopted for the 30 June 2020 investigation are:

- 3.1% p.a. for two years and 2.85% p.a. thereafter real investment return over salary inflation. This comprised a 5.6% p.a. net of tax investment return assumption and a 2.5% p.a. for two years and 2.75% p.a. thereafter salary inflation assumption. This is between 0.35% and 0.6% p.a. higher than assumed as at 30 June 2019 and will improve the expected long term funding position.

- 4.5% p.a. real investment return over price inflation. This comprised a 6.5% p.a. gross of tax investment return and a 2.0% p.a. CPI assumption. This is 0.25% p.a. lower than assumed as at 30 June 2019 and will have a detrimental impact on the expected funding.

5.18 The investments for fixed term pensions are matched to the liabilities by investing in fixed interest securities including CPI linked bonds. Based on current CPI indexed bond interest rates a real discount rate (i.e. discount rate above CPI) of 1.0% has been assumed. This discount rate is net of investment management fees and administration costs.

Demographic Assumptions

5.19 The demographic assumptions that affect the Defined Benefit plan have been discussed in Section 3 in light of the Defined Benefit plan's experience over the period 1 July 2017 to 30 June 2019 (with consideration also given to experience over the year to 30 June 2020). The recommended changes to the demographic assumptions are set out in Section 3. Appendix D summarises the demographic assumptions adopted for this investigation.

Benefits

5.20 The benefits which have been valued are summarised in Appendix A. Members of the Defined Benefit plan on 25 May 1988 have certain guarantees or options in relation to benefits provided under the 1958 Act. As discussed in Section 3, we have assumed that 60% of eligible retirees, who joined the Defined Benefit plan prior to 25 May 1988, elect to take the pension option and 45% of eligible deferred beneficiaries elect to take the pension option. We have made no allowance for any other guarantees and options these members may be entitled to, as we continue to believe they are not likely to have a material impact on the results of this investigation.

Valuation of Assets

5.21 In the previous investigation we adopted the approach of market value of assets for all purposes, while in this investigation we are using fair market value because of changes to accounting and actuarial standards. In Sections 4, 6 and 9 we note that the funding position of the Defined Benefit plan in the short term may be variable because of the current high volatility in asset valuations.

Actuarial Funding Method

5.22 In recommending a funding plan which aims to be sufficient to fund the members' benefits in the long-term, it is necessary to project the operation of the Defined Benefit plan into the future, using the actuarial assumptions set out above.

5.23 Briefly the projection operates in the following manner:

a project total benefits and expenses expected to emerge in all future years in respect of current members, deferred beneficiaries and pensioners. The projection is based on the long-term actuarial assumptions including allowance for the contingencies under which benefits can be paid (retirement, death, disablement and resignation), salary and pension increases;

b discount these projected benefits to a present value at the assumed long-term investment return;

c in a similar manner to (a) and (b), project the ongoing employer contribution and member contributions over all future years for current members, and discount them to present values; and

d determine the additional funding required by the Authorities by comparing (b) with (c) plus the appropriate value of the assets at the investigation date.

5.24 This projection is known as the aggregate funding method, which is considered to be appropriate for a closed fund. The purpose of the calculation is to assess if the existing contribution rates and assets are sufficient to provide all future benefits on current assumptions.

5.25 Under SPS 160, APRA requires superannuation funds to put in place a plan that is expected to fully fund their vested benefits within three years if the fund's assets are less than the vested benefits at an actuarial investigation, also known as being in an "Unsatisfactory Financial Position". A funding plan is also required when the VBI reduces to below the shortfall limit, currently 97%, between actuarial investigations.

5.26 The shortfall or surplus relative to vested benefits is likely to vary from the actuarial shortfall or surplus calculated using the method set out in 5.24. It is possible that the recommended funding amount under this funding method may not be sufficient to be expected to maintain the Defined Benefit plan's Vested Benefits Index (VBI) to 100% within the timeframe required by APRA if it is below 100%. In this situation additional contributions would be recommended as required by APRA.

5.27 Additional contributions can be made to target a VBI of 100% but where these contributions are higher than any actuarial shortfall calculated using the aggregate funding method described above a surplus would be expected to result in the long term if experience is as expected. Vision Super may also be able to manage any such shortfalls or surpluses through a combination of changes to funding and investment strategy.

As at 30 June 2020 the assets held in respect of the 5 fixed term pensioners was slightly less than $1.2 million and the liabilities were valued at slightly more than $1.0 million. As a result, there is a funding surplus. In our funding considerations, the fixed term pensioners are included as part of the Defined Benefit plan and Vision Super has confirmed that the Defined Benefit plan's assets will be available to meet these liabilities.

5.28 In the next section we review the financial position as at 30 June 2020 and in Section 7 we discuss the adequacy of the long term funding arrangements.

Section 6: Financial Position of Defined Benefit Plan

6.1 The financial position of the Defined Benefit plan at the investigation date provides some insight into the progress towards fully funding members' benefits in the long-term.

6.2 A convenient means of assessing the financial position of the Defined Benefit plan involves the calculation of various indices of benefits compared to assets.

Vested Benefits Index

6.3 The first of the indices is the "Vested Benefits Index" (VBI). Vested Benefits are defined as the benefits that would be due and payable if all the members voluntarily terminated their service with their employers at the investigation date.

- For active members, the Vested Benefits are the resignation benefit or the early retirement benefit (if aged 55 or more). Upon resignation from LASF, a member has the choice of an immediate lump sum or a more valuable deferred benefit. Also, upon retirement certain members have the option of taking a pension. In calculating the vested benefits, we have allowed for the best estimate assumption regarding the take up of deferred benefits and pensions.
- For deferred beneficiaries, the vested benefit will be the present value of the liabilities, allowing for the pension take up rate.
- For pensioners, the vested benefit is the present value of expected future pension payments.

6.4 The Vested Benefits Index is calculated as follows:

$$\text{VBI} = \frac{\text{fair value of assets}}{\text{total of vested benefits}}$$

6.5 The Vested Benefit Index as at 30 June 2020 is:

VBI as at 30 June 2020	
Defined Benefit plan assets ($m)	$2,227.0
Vested Benefits ($m)	
Active Members	$1,083.2
Life-time Pensioners	$726.5
Fixed term Pensioners	$1.0
Deferred beneficiaries	$318.7
Total Vested Benefits	$2,129.4
Vested Benefit Index	104.6%

6.6 The calculated VBI for the Defined Benefit plan at 30 June 2020 is 104.6%. This compares with a VBI of 107.1% at the 30 June 2019 investigation. The Defined Benefit plan was not in an unsatisfactory financial position as at 30 June 2020.

6.7 The VBI for the Defined Benefit plan has reduced since 30 June 2019 mainly due to the negative impact of the assumption changes (lighter pension mortality and reduced real return above price inflation) coupled with a lower than expected gap between investment returns and salary increases during the year to 30 June 2020. The changes in financial and demographic assumptions reduced the VBI of the order of 1.6%.

Discounted Accrued Benefits Index

6.8 Discounted Accrued Benefits means the present value of the benefit payable in the future (based on the assumptions) accrued in respect of service to the investigation date. The method of apportioning active members' benefits to past service for the main Defined Benefit plan is as follows, effectively recognising the portion of future benefits arising due to service to date:

a Retirement, disablement and deferred resignation– the past service benefit (based on accrued lump sum multiples and accrued pensions where relevant) at the calculation date, with allowance for future salary growth to the assumed exit date.

b Death benefits – the total projected death benefit at the assumed exit date multiplied by the ratio of service to the calculation date divided by service to the retirement date.

c Immediate Resignation Benefit – the past service benefit at the calculation date (based on the multiples at the calculation date) with allowance for future salary growth up to the assumed resignation date.

6.9 The Discounted Accrued Benefits are not subject to a minimum of the Vested Benefits.

6.10 The index is more a measure of the Defined Benefit plan's on-going capacity to meet Accrued Benefits in the long run.

6.11 The "Discounted Accrued Benefits Index" (DABI) is calculated as follows:

$$\text{DABI} = \frac{\text{fair value of assets}}{\text{total of discounted accrued benefits}}$$

6.12 The Discounted Accrued Benefit Index as at 30 June 2020 is:

DABI as at 30 June 2020	
Defined Benefit plan assets ($m)	$2,227.0
Discounted Accrued Benefits ($m)	
Active Members	$965.4
Life-time Pensioners	$726.5
Fixed term Pensioners	$1.0
Deferred beneficiaries	$318.7
Total Discounted Accrued Benefits	2,011.6
Discounted Accrued Benefit Index	110.7%

6.13 The calculated DABI for the Defined Benefit plan at 30 June 2020, based on the "best estimate" assumptions, used in this investigation, is 110.7%. The DABI was estimated to be 112.6% at the 30 June 2019 investigation. The reduction in DABI was mainly due to the lower than expected real investment return over the year coupled with the impact of the changes in assumptions.

6.14 Because the DABI is more than 100%, it means current assets are expected to be sufficient to provide the benefits of members' accrued benefits based on service to 30 June 2020.

Minimum Requisite Benefits Index

6.15 We have also considered the asset coverage of members' Minimum Requisite Benefits.

6.16 The Minimum Requisite Benefits (MRBs) are the minimum amount of benefit that must be provided to enable Authorities to satisfy their Superannuation Guarantee obligations. The method to calculate the amount of MRBs for the active members is specified in my Benefit Certificate dated 17 June 2015.

6.17 The MRBs for Defined Benefit active members have been configured on the administration system. We have therefore used the MRB data provided by the administrator for the purposes of this valuation.

6.18 In relation to the determination of the MRBs for deferred beneficiaries and pensioners, DLA Piper has advised that the MRB should be crystallised when a member ceases to be an employee and there was no basis to adopt a higher benefit beyond their MRB entitlements.

6.19 In accordance with this legal advice, we have estimated the MRB for these members on the following basis:

a For deferred beneficiaries, their MRBs has been calculated as the following amounts (plus interest):

i. For members who resigned prior to 1 July 2013, the immediate cash resignation benefit, as the MRB was defined as equal to this amount in the Benefit Certificate applicable at that time;

ii. For members who resigned from and after 1 July 2013, the MRB is expected to be different to the immediate cash resignation benefit. We understand that the resignation benefits provided by Vision Super have already been subject to a minimum of the MRB, if this minimum applies. Hence we have assumed that the MRB is equal to the resignation benefit provided, which will overstate the estimated MRB where the actual MRB is less than the immediate resignation benefit. We do not think this will materially overstate the amount of the MRB.

b For the current pensioners who retired after 1992 (since the introduction of the Superannuation Guarantee legislation), their MRBs are expected to be less than their retirement benefits; whereas for those current pensioners who retired prior to 1992, their MRBs are assumed to be their retirement benefit. On retirement, all Defined Benefit plan members are required to take at least half of their benefit as a lump sum, which means that the portion of the pension that is funded by the MRB will often be low. Vision Super is unable to provide information regarding members' MRB at the time of retirement. For the last actuarial investigation, we estimated that the proportion of MRB benefits relative to the retirement pensions was of the order of 65% for all current pensioners. We have reviewed this assumption and believe the proportion of MRB benefits relative to the retirement pensions is closer to 70% for all current pensioners. We have updated this assumption to 70% for this actuarial investigation. Vision Super has almost completed the configuration of the MRB for pensions on its administration system and they are expected to be available for the next actuarial investigation.

6.20 The Minimum Requisite Benefit Index is calculated as follows:

$$\text{MRBI} = \frac{\text{fair value of assets}}{\text{total of Minimum Requisite Benefits}}$$

6.21 The Minimum Requisite Benefit Index as at 30 June 2020 is:

MRBI as at 30 June 2020	
Defined Benefit plan assets ($m)	$2,227.0
Minimum Requisite Benefits ($m)	
Active Members	$745.7
Life-time Pensioners	$508.5
Fixed term Pensioners	$1.0
Deferred beneficiaries	$310.5
Total Minimum Requisite Benefits	1,565.8
Minimum Requisite Benefit Index	142.2%

6.22 As at 30 June 2020 we estimate that the ratio of the market value of assets to the amount of Minimum Requisite Benefits was approximately 142.2%. This compares with a MRBI of 148.2% at the 30 June 2019 investigation. The reduction in MRBI was mainly due to the lower than expected investment return during the year and the increase in the assumed MRB percentage for life-time pensioners.

6.23 In accordance with the legal advice from DLA Piper, this ratio has been calculated including the pension MRBs and the deferred MRBs in the total of MRBs (rather than a deduction from the market value of assets).

6.24 If this ratio for the entire Fund falls to below 100%, it becomes Technically Insolvent as defined in the SIS Regulations. If this occurs the Trustee must take certain steps to restore solvency. The Trustee needs to continue to monitor the “Notifiable Events” defined in the Funding and Solvency Certificate to identify if the Fund is at risk of becoming, or becomes, Technically Insolvent so appropriate action can be taken.

Other Measures of Financial Position

6.25 In accordance with Clause A.21.1(a) of the Trust Deed, an Authority requires the approval of the Board to terminate its contributions to the Defined Benefit plan. We assume this approval would not be provided unless any future funding risk is adequately managed. Also, in accordance with Clause A.21.1(b), such an Authority remains responsible for its share of any actuarial shortfall.

6.26 However, if an Authority does terminate its contributions, Clause A.21 of the Trust Deed states that:

> *“the Trustee, after obtaining the advice of the Actuary and subject to A.21.5, may adjust any benefit which is or may become payable to or in respect of any person whom the Trustee may consider is affected by that termination to the extent and in the manner the Trustee considers appropriate and equitable”*

6.27 Further it states in Clause A.21.5 that:

> *"…Unless otherwise agreed between the Trustee and the Employer, an adjustment made …must not increase the amount of any benefit which, in the opinion of the Trustee after obtaining the advice of the Actuary, has accrued in respect of a person immediately prior to the effective date of that adjustment in respect of the period up to that date or improve the basis upon which benefits accrue during or in respect of any period after that date."*

6.28 Therefore, in the case of the termination of contributions by one or more Authorities the Trustee has some flexibility in respect of the benefits provided, subject to superannuation law, and there is no alternative measure of financial position that needs to be calculated in respect of this situation.

6.29 On retrenchment, members are entitled to an accrued retirement benefit. For members over age 55 this is equal to their vested benefit (i.e. retirement benefit) but for members under age 55 it will be higher than their vested benefit. For active members, retrenchments benefits as at 30 June 2020 were $1,098.0 million. As at 30 June 2020, the ratio of the market value of assets to the amount of retrenchment benefits was 103.9%. This ratio includes the value of pensioner and deferred beneficiaries' benefits. The corresponding index as at 30 June 2019 investigation was 106.2%. This reduction in the index was mainly due to achieving lower investment returns than expected and changes to assumptions.

6.30 An additional contribution is required from the relevant Authority in respect of each retrenchment under the current funding plan so that there is no additional financial strain on the Defined Benefit plan.

6.31 The liabilities of pensioners used to determine all of the funding measures have been calculated using the funding assumptions and assuming the liabilities will be met by continuing to make pension payments until all pensioners have died. It should be noted that if the current pension liabilities were to be transferred to a life insurance office, the assets required to be transferred could be significantly higher than the amount of the vested benefits calculated in this investigation because the assumptions used for this purpose would need to be calculated consistently with the capital adequacy requirements of life insurance offices. The increase in pension liability on this basis as at 30 June 2020 is approximately $460 million, which would result in a 19% lower VBI (i.e. reducing the 105% VBI to 86%).

6.32 In Appendix E the Defined Benefit plan's asset allocation is shown and there is currently a 26.1% allocation to illiquid assets. The funding indices have been calculated based on the valuation of these assets at fair market value from the 30 June 2020 draft financial statements (excluding disposal costs). In the unlikely event that these assets had to be quickly liquidated it is possible that this could occur at discounted values resulting in lower funding ratios. For example, a 20% discount on forced sale of illiquid assets would reduce the funding indices by approximately 5%.

6.33 The Authorities have ten years to make each of the three lump sum contributions requested by Vision Super as at 30 June 1997, 30 June 2002 and 30 June 2012 and fifteen years to make the contributions requested as at 30 June 2013. Outstanding amounts are included in the market value of assets as contributions receivable. If these amounts are not paid the funding position would be worse than set out in this report. We have been advised by Vision Super that the vast majority of the outstanding amounts have been received by 30 June 2020.

6.34 The VBI and DABI would increase (or decrease) if a lower (or higher) proportion of employee members were assumed to defer upon resignation or take a pension upon retirement. If it was assumed that 100% of eligible members elected the pension option and 100% of resigning members elected the deferred option, the impact on the VBI and the DABI would be a reduction of 3% and 2% respectively.

6.35 There was no material deferred tax asset in the Fund as at 30 June 2020. Therefore, the funding is not significantly dependent upon being able to utilize such an amount.

Probability of making Pension Payments

6.36 In order to satisfy the requirements of SPS 160 to provide an opinion of whether at 30 June 2020 "there is a high degree of probability that the fund will be able to pay the pensions as required under the fund's governing rules", without any clear priorities for benefits being specified in the Fund Trust Deed, we looked to the following points in relation to contributions:

a As envisaged by Circular 12/97 (issued by the Board under the 1988 Act), any future funding shortfall arising from pension liabilities can be funded under the Unfunded Liability Amount provisions in the Trust Deed.

b Under Part A.21 of the Fund's Trust Deed, participating employers are generally able to terminate their contributions to the Fund at any time. However:

i. Under clause A.21.1(b), a participating employer in Division C (the Defined Benefit plan) with an "Unfunded Liability Amount" is not able to terminate contributions. The "Unfunded Liability Amount" is the amount identified in respect of each participating employer using the methodology set out in Circular 12/97.

ii. A participating employer without an "Unfunded Liability Amount" is able to terminate contributions to the Fund under clause A.21.1(a) after giving 60 days' notice and obtaining the Trustee's approval. Presumably, the Trustee would not give approval to terminate if there is an unfunded liability or material future funding risk.

c The Participating Employer Agreement signed by each defined benefit employer imposes a contractual obligation on that employer, in addition to the contribution requirements in the Trust Deed. The Agreement also provides that employers with Unfunded Liability Amounts cannot terminate contributions and that those who do not have an Unfunded Liability Amount must follow clause A.21.1(a) of the Trust Deed.

d The combination of the Trust Deed provisions and the Participating Employer Agreements essentially mean that an employer cannot unilaterally cease contributions to the Fund unless it ceases to exist:

i. Under the terms of the Participating Employer Agreement, if such an employer does cease to exist, the terms of the Agreement are binding on that employer's successor at law and that employer's "Unfunded Liability Amount" obligation (if any) must be assumed by any successor body.

ii. If there was no direct successor, the Trustee could initiate action to identify a relevant successor (possibly the State Government as most, if not all, of these employers would be engaged in the provision of essential public services which the state is constitutionally bound to provide). Such a situation is expected to be very rare.

6.37 Legal advice has been obtained by the Fund from DLA Piper that confirms the Employers cannot avoid their contribution responsibilities. We have relied upon the legal advice.

6.38 When forming a statement of opinion in accordance with PS 410, the assets and future contributions from which future pension payments are assumed to be met need to be identified. Under normal circumstances, it is considered inappropriate to take future employer contributions into account when determining the assets available to cover pension payments. However, paragraph 6.2 of PS 410 provides allowance for future contributions to be taken into account in limited circumstances, in order to form a positive opinion.

6.39 We believe that the historical circumstances of Vision Super's funding arrangements fall within the scope of the 'limited circumstances' referred to in paragraph 6.2 of PS 410.

6.40 For much of its history, Vision Super was a public sector fund and was operated on a pay-as-you-go basis rather than on a fully funded basis. It has only been a Regulated fund under SIS since 1 July 1998 and employers remain public sector employers.

6.41 Changes to the Fund benefit design and funding policy in 1988 included a process to eventually achieve full funding of the accrued benefit liabilities, including the pension liabilities.

6.42 To achieve this full funding target over time, the contractual contribution arrangements outlined above were instigated.

6.43 In conclusion, this analysis allows us to confirm that in our opinion there is a high degree of probability that the Defined Benefit plan will be able to pay the pensions required under the Trust Deed.

Section 7: Assessing the adequacy of the Funding Arrangements

The Present Funding Arrangements

7.1 The Authority funding arrangements for the Defined Benefit plan recommended in the previous triennial actuarial investigation comprise the following components:

a contributions in respect of each Authority's share of any funding short fall that arises. This has included:

- $321 million unfunded liability at 30 June 1997, plus contribution tax; and
- $127 million unfunded liability as at 31 December 2002, plus contribution tax;
- $71 million unfunded liability as at 31 December 2008, plus contribution tax (this amount plus interest was invoiced at 30 June 2012);
- $406 million unfunded liability as at 31 December 2011, plus contribution tax and interest from 31 December 2011. This was $453 million (plus contribution tax) as at 30 June 2013.

b An additional contribution to cover the excess of the benefits paid as a consequence of retrenchment above the funded resignation or retirement benefit (the funded resignation or retirement benefit is calculated as the VBI, capped at 100%, multiplied by the benefit), plus contribution tax; plus

c An ongoing Authority contribution rate based on current members' salaries, needed to fund the balance of benefits for current members and pensioners at 9.5% of salaries from 1 July 2014 and increases with legislated increases in the Superannuation Guarantee Charge; plus

d Additional top up contributions that may be required in the future so that Defined Benefit plan is no longer in an unsatisfactory financial position.

Authorities also need to contribute the amount of members' salary sacrifice contributions.

7.2 The final component of this funding plan is consistent with the funding requirements of SPS 160 because it refers to additional top-up contributions to restore the VBI to 100%. SPS 160 requires restoration plans to be developed to restore the VBI to 100% within three years, when prescribed circumstances apply. The prescribed circumstances are a VBI below the Trustee adopted shortfall limit (i.e. currently 97%) at any time or below 100% at the date of an actuarial investigation or while an actuarial investigation is being undertaken.

7.3 Our calculations at 30 June 2020 using the "best estimate" funding assumptions show that the present funding arrangements are expected to be adequate to meet the expected Defined Benefit plan liabilities.

Total Service Liability Surplus/ Deficit as at 30 June 2020

7.4 As at 30 June 2020 there was a total service liability surplus of $200 million. This means that the current value of assets plus expected future contributions is more than the value of expected future benefits and expenses by $200 million, assuming that the Authorities contribute at a rate in line with the currently legislated Superannuation Guarantee Charge as a percentage of salaries (i.e. currently 9.5% of salaries but increasing in the future). Full details of these calculations are set out in Appendix F.

7.5 The total service liability surplus as at 30 June 2019 was $233 million. The actuarial surplus has reduced over the year mainly due to financial experience (excess of investment return above salary increase) being lower than assumed coupled with a change in assumptions.

7.6 The existing funding arrangements are expected to be adequate if the current assumptions are borne out in practice. In fact, the total service liability surplus of $200 million is higher than the expected value of all future Authority contributions (less tax) of $78 million (refer to Appendix F). This means that if experience is as expected from 30 June 2020, Authorities would not need to make any further contributions to the Defined Benefit plan. The long term Authority contribution rate implied by the aggregate funding method would be zero.

7.7 The above amounts assume that the Superannuation Guarantee Charge will increase from 9.5% to 12.0% and that Authorities contributions will increase in line with this. However, if this does not occur the amount of the total service liability surplus remains material, and as stated in the previous paragraph no future Authority contributions are expected to be required if experience is as expected.

7.8 Nevertheless, it needs to be recognised that the ultimate cost of benefits for members of the Defined Benefit plan will depend on the actual future experience of all the relevant factors (investment earnings, salary growth, pensioner mortality, turnover rates, etc.). Therefore, the contribution arrangements will need to be varied as the actual experience unfolds.

Sensitivity of Funding Arrangements to Future Assumptions

7.9 As outlined in Section 5, factors that affect the future experience of the Defined Benefit plan are split into two broad categories. They are the financial assumptions and the demographic assumptions. The results are more sensitive to changes in the financial assumptions and the sensitivity of the “actuarial surplus” to the financial assumptions is considered below.

7.10 As well as calculating the sensitivity to the financial assumptions we have also calculated the sensitivity to the following demographic assumptions:

a All eligible members elect the maximum pension or deferred benefit. There have been an increasing number of members who have elected a pension over the last few years. The value of the pension is generally greater than the lump sum benefit. A higher pension election will therefore increase the funding cost.

   Upon resignation, the Defined Benefit plan members have the option to defer their benefits until age 55 to be entitled to a higher benefit. The value of the deferred benefit is generally greater than the immediate cash benefit. The funding cost is likely to be higher if more members elect this option in the future.

b We have also considered the likelihood of pensioners living longer than expected by lowering the mortality rate by 10%.

7.11 To quantify the potential impact of variations in financial and demographic experience the following table shows the impact of changing some of the assumptions on the “actuarial surplus” as at 30 June 2020.

Impact of Changes in Key Assumptions

	Actuarial Surplus $ Million	
Best estimate assumptions	200	
Higher investment return (+1% pa)	326	(+126)
Lower investment return (-1% pa)	54	(-146)
Higher salary inflation rate (+1.0% pa)	151	(-49)
Lower salary inflation rate (-1.0% pa)	246	(+46)
Higher pension indexation (+1.0% pa)	100	(-100)
Lower pension indexation (-1.0% pa)	286	(+86)
100% of entitled members elect deferred and pension option	158	(-42)
Pensioner mortality 10% lighter	180	(-20)

7.12 The table shows that a variation in the financial assumptions has a very significant impact on the actuarial surplus or shortfall. It is possible that the actual rate may vary from our best estimate assumption by significantly more than 1% and the impact would be greater than what was shown in this sensitivity analysis.

Note that the variations selected in the sensitivity analysis do not indicate upper or lower bounds of all possible outcomes.

7.13 There is also a risk that the demographic experience may differ from our assumption which would lead to a lower or higher funding cost.

7.14 This table also shows that with the $200 million total service liability surplus as at 30 June 2020, a net of tax investment return of 5.6% p.a. was expected to be sufficient to fund all liabilities. Even if the investment strategy was changed so that the expected investment return was 4.6% p.a. there remains an actuarial surplus of $54 million. This means that in the long term there may be opportunity to de-risk the investment strategy and target a lower expected investment return. This assumes Authorities continue to contribute 9.5% of salary (increasing with any changes to the Superannuation Guarantee Charge).

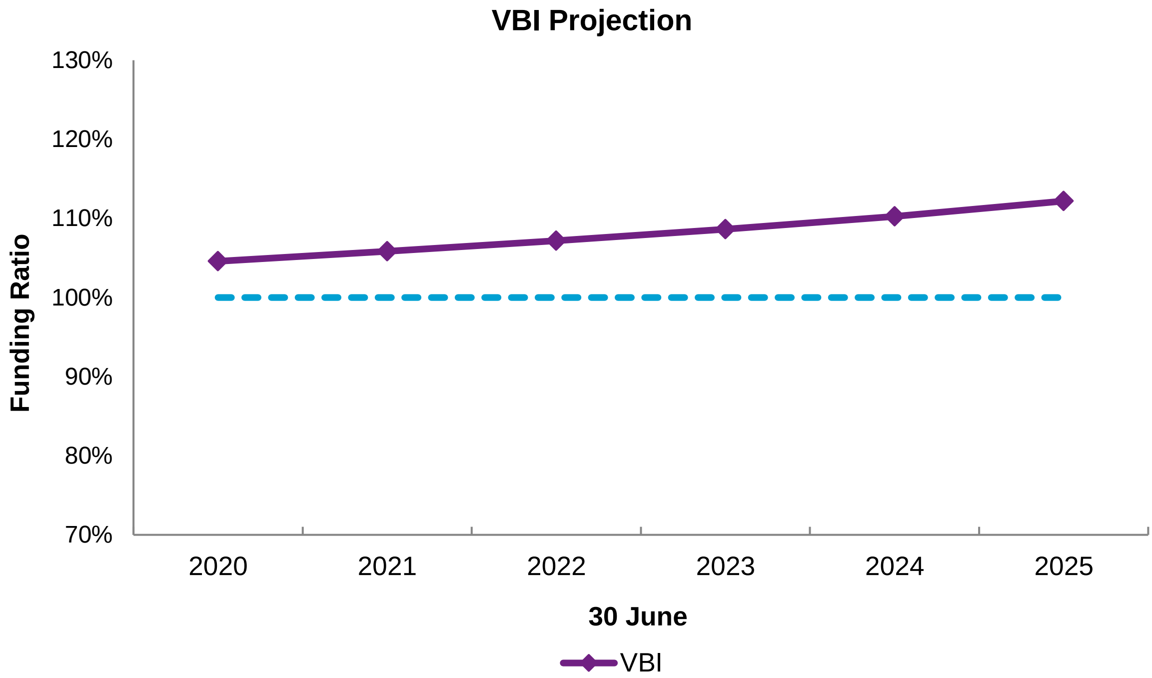
7.15 However, if the investment strategy was changed so that the expected net return reduced to 4.6% p.a., the VBI as at 30 June 2020 would have reduced to about 99.9%. This is because the vested benefit for pensioners is dependent upon the discount rate, and increases if the discount rate reduces, because it is equal to the present value of the future pension payments.

7.16 While an investment return of 4.6% p.a. is expected to be sufficient in the long term, if the Trustee wants to maintain the VBI above 100% in the short term then a reduction in investment risk may need to be either lower or deferred until the VBI improves. Of course, there is a risk that experience could be worse than expected in both the short and long term.

Projection of Funding Levels

7.17 This section considers the adequacy of the funding by projecting the Defined Benefit plan's future funding level. This projection is based on the "best estimate" funding assumptions set out in Appendix D.

7.18 The graph below shows the projected Vested Benefits (VBI) of the Defined Benefit plan for the next five years.



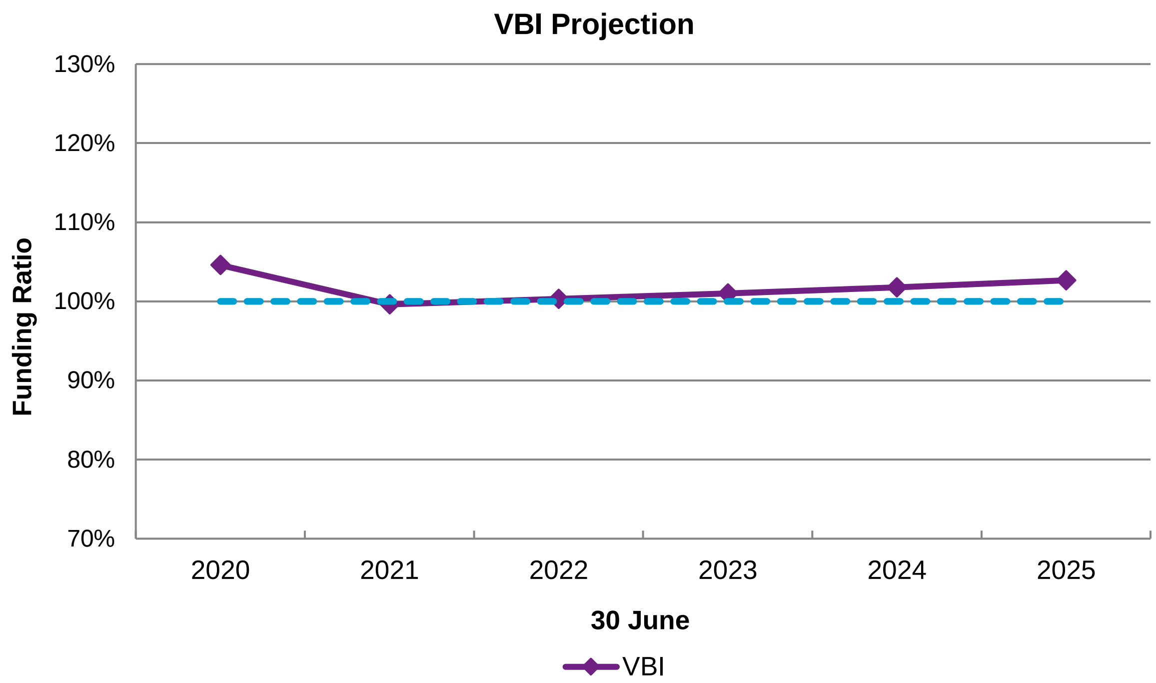
7.19 The chart shows the VBI is expected to stay above 100% over the next five years and hence no additional contribution is expected to be required from the Authorities to meet the funding requirement under SPS 160. However, in practice actual experience will be different to what is expected and the VBI may decrease or increase more quickly than expected.

7.20 The above chart shows that the VBI is expected to slowly increase over time. This is consistent with the total service liability surplus of $200 million at 30 June 2020.

Other Funding Issues

7.21 The Defined Benefit plan is mature and its funding is very sensitive to future experience. As shown in Section 7.11 a lower than expected investment return would significantly reduce the "actuarial surplus".

7.22 The chart below shows the impact on the VBI in an adverse scenario where the return is 0% for the year to 30 June 2021 and all other experience is as expected. A best estimate return of 5.6% p.a. is assumed from 1 July 2021.



7.23 If the return is 0% in 2020/21, the VBI is expected to fall slightly below 100% (i.e. an unsatisfactory financial position) and return to 100% in 2022.

7.24 On the other hand, if experience is favourable an even larger "actuarial surplus" could result. The Board would need to consider how to treat such an "actuarial surplus" in the long term. We understand that if this occurs any residual assets would eventually be distributed to relevant Authorities in accordance with Clause A.15 of the Trust Deed. The Board may also wish to consider adopting a more defensive investment strategy in order to reduce the investment risk.

Events since 30 June 2020

7.25 Vision Super has advised that the investment returns for the months of July and August 2020 for the Defined Benefit plan were 1.3% and 1.4% respectively (equivalent to 17.3% p.a.). This is higher than the expected return of 5.6% p.a. and therefore will have had a positive impact on the financial position. We continue to expect the VBI of the Defined Benefit plan will be above 100 and does not impact our recommendations.

7.26 We are not aware of any other events subsequent to 30 June 2020 that would materially impact upon the results of the actuarial investigation of the Defined Benefit plan.

Recommendation

7.27 Section A.20.1 of the Trust Deed states:

> *"each Employer must contribute to the Fund in respect of a particular Employee at any particular time the amount or rate of contributions determined by the Trustee after obtaining the advice of the Actuary, including the Unfunded Liability Amount…."*

7.28 The VBI was 104.6% as at 30 June 2020 (refer Section 6.5). Given that this rate is not significantly above 100%, and given the current investment strategy, the VBI could quickly fall below 100% if experience is worse than expected. We therefore have recommended that the current contributions remain unchanged. In making this recommendation, we have also considered what we understand to be the preferences of the Trustee.

7.29 In summary, we recommend that the current funding plan continue, whereby the Authorities will pay:

a Outstanding amounts in respect of the prior funding calls from the 1997, 2002, 2008 and 2011 actuarial investigations;

b Contributions equal to 9.5% of salary for employee members, increasing with changes in the Superannuation Guarantee Charge;

c An additional contribution to cover the excess of the benefits paid as a consequence of retrenchment above the funded resignation or retirement benefit (the funded resignation or retirement benefit is calculated as the minimum of (100% and VBI) multiplied by the vested benefit), plus contribution tax;

d Additional top up contributions that may be required in the future if the plan is in an unsatisfactory financial position.

Authorities also need to contribute the amount of members' salary sacrifice contributions.

7.30 However, given the $200 million total liability surplus, these contributions are expected to be more than sufficient if future experience is as expected. In fact, if experience is as expected Authorities would not need to make further contributions. Hence, we recommend Vision Super continue to regularly consider whether it is appropriate to reduce the investment risk in the current investment strategy, which could be considered together with alternative funding plans.

7.31 It is very important to understand that each of the components of the funding arrangements is very dependent on the actual future experience of the Defined Benefit plan. Consequently all contribution components are subject to regular review by the Trustee using actuarial advice and could vary from the current recommendations at any time in the future.

Section 8: Insurance

Self Insurance Arrangements

8.1 The Defined Benefit plan provides death and disablement benefits that are significantly higher than the resignation/retirement benefits. The Fund self insures this risk. This approach continues to be reasonable in light of the Defined Benefit plan's size, experience, present membership and benefit levels. The arrangements are reviewed annually as part of the actuarial investigations which is reasonable.

8.2 The death and disablement benefits are funded by the Authorities' contributions to the Defined Benefit plan. The total liability surplus calculated in Section 7 includes the expected death and disablement benefits. It is ultimately the Authorities that bear the financial risk if the amount of death and disablement benefits paid is significantly higher than expected. The following table summarises the Defined Benefit plan's exposure to future service death and disablement risk as at 30 June 2020.

Statistics as at 30 June 2020	
Net Assets Available[1] (Defined Benefits plan assets available to meet benefits)	$1,180.8m
Expected Annual Future Service death and disablement benefits to be paid for 2020/21[2]	$1.2m
Total Future Service death benefits[3]	$222.3m
Average Future Service death benefit	$114,000
Maximum Future Service death or disablement benefit of any Member	$940,000

1. Active Defined Benefit plan assets excluding assets in respect of pensioners and deferred beneficiaries.
2. Based on assumptions adopted in this investigation.
3. The total amount of future service death benefits shown is the sum of individual death benefit in excess of the lesser of the value of the vested benefit and accrued retirement benefit for all active members. Future service disablement benefits are similar.

8.3 Because of the large number of members, it is unlikely that the actual future service death and disablement benefits would be double the expected number in any year. If this occurred in the 2020/21 year, additional benefits of approximately $1.2 million would be expected to be paid. This represents 0.1% of the Defined Benefit plan's available assets so would not alone place a significant additional financial strain on its funding.

8.4 The following table shows the distribution of the future service death benefits. The death benefit has been used because it is generally slightly higher than the disablement benefit.

Distribution of Future Service Benefits as at 30 June 2020				
	Total Future Service Benefits $ million	**% of Total Future Service Benefits**	**Number of Members**	**% of Total Defined Benefit Membership**
Nil	-	-	9	0%
$1 - $99,999	49.8	22%	1157	59%
$100,000 – $249,999	94.8	43%	569	29%
$250,000 - $499,999	64.7	29%	199	10%
$500,000 or more	13.0	6%	20	1%
TOTAL – all active members	**222.3**	**100%**	**1,954**	**100%**
Oldest 10% of members	6.6	3%		
Youngest 10% of members	54.1	24%		
Highest salaried 10% of members	47.6	21%		
Largest 10% of future service benefits	71.6	32%		

8.5 From this table, we can determine that:

a 99% of members have future service death and disablement benefits of $500,000 or below and that the aggregate for these members' benefits is 94% of the total amount;

b the average future service benefit is approximately $114,000; and

c there is no small sub group of members that expose the Defined Benefit plan to significant additional risk in respect of future service death and disablement benefits.

8.6 The Defined Benefit plan's membership is spread throughout Victoria, reflecting the distribution of Authorities. There is a relatively low concentration of risk.

8.7 The Defined Benefit plan also includes a temporary disability benefit. The funding of this benefit is allowed for approximately by a margin in disablement funding. If a disablement benefit is subsequently paid to the member, the amount of the disablement benefit is reduced by the amount of any temporary disability benefit payments.

8.8 There is a very remote possibility of a catastrophe occurring that may result in around 100 death or disablements benefits. If this occurred, and assuming the average future service death or disablement benefit was $114,000 for each member, the total claim amount would be approximately $11.4 million. This represents 1.0% of net available assets of $1,180.8 million and is therefore considered a manageable risk. This report is being prepared during a COVID 19 pandemic, but based on its impact to date it would be expected to have a negligible impact on the death and disablement self-insurance experience.

8.9 While a larger catastrophe is possible the risk is extremely low. If the Trustee is concerned about the risk it could consider catastrophe insurance.

Incurred but not Reported Claims

8.10 Currently, the Defined Benefit plan holds an insurance reserve in respect death and disability claims which have been incurred but are still pending payment or have not yet been reported (IBNR). The amount of the reserve is excluded from the Defined Benefit plan assets for the purpose of assessing the financial position and adequacy of funding arrangement.

8.11 In the 30 June 2017 actuarial investigation, we recommended an insurance reserve of $5.0 million be held by the Fund to cover the pending claims and incurred but not reported death and disablement claims.

8.12 As part of this investigation, we have estimated the reserve required to cover pending and IBNR claims as at 30 June 2020 based on data from 1 July 2017 to 30 June 2020.

8.13 For death claims, the average lag between the date of death and the payment date is about 7 months based on historical claim data and hence we have allowed for 7 months of notional premium in the provision and allowance for pending and IBNR payments, which is about $0.4 million in total.

8.14 The disability claims data received for the three years ending 30 June 2020 did not include details surrounding date of injury. Without an injury date, we have not been able to accurately determine run off pattern in respect of the Vision Super membership.

8.15 Accordingly, in estimating the pending and IBNR claims for disability benefits, we assume that the claims emerging in the future will follow a certain run-off pattern based on industry based development patterns. Given the low level of claims and inherent uncertainty within a small pool of insured risk, we assume a conservative industry development pattern. For the most recent years, where few claims have been paid, we used expected claims to assist in estimating the claims that are still to emerge.

8.16 Under this approach we have estimated that the pending and IBNR claims for disability benefits to be of the order of $4.0 million.

8.17 Due to the uncertainly of the claims and the limitation of the data, we have also included a small margin in the reserve for the IBNR claims. If future death and disablement claims are higher (or lower) than expected then the shortfall (or excess) in the reserve would be funded from other Defined Benefit plan assets, and ultimately the Authorities.

8.18 Hence, we have determined that the appropriate insurance reserve in respect of the pending and IBNR claims for the Defined Benefit plan as at 30 June 2020 continues to be $5 million. We therefore do not recommend a change to this reserve.

8.19 The death and disablement claims are expected to reduce over time as employed members reduce in number and increase in average age. The total future service death benefits have reduced from $264.2 million at 30 June 2019 to $222.3 million at 30 June 2020. Unless we advise otherwise or a catastrophe event occur, in our opinion, it would be sufficient to review the amount of the reserve at the next triennial actuarial investigation.

Section 9: Material Risks

9.1 The funding of the Defined Benefit plan is dependent upon future experience. We have briefly considered below the material risks in respect of funding. If experience is materially adverse the Authorities will be required to make additional contributions.

Investment Risk

9.2 The most significant risk facing the Defined Benefit plans is that investment returns will not be as high as expected. There is also a risk a surplus could arise that could be difficult to utilize if not managed carefully. These risks occur because the income generated from the existing assets are not matched to the expected future benefit payments.

9.3 A change to the assumed investment return could also have a material impact on Authority contribution requirements in the short term, but would not be expected to impact the ultimate cost of funding benefits unless the change in assumption was because of change in investment strategy. This also applies for other assumptions.

9.4 As per current practice, the Trustee should continue to consider the liabilities and the funding position when determining the Defined Benefit plans' investment strategy.

Salary and Price Inflation Risk

9.5 Salary increases or price inflation exceeding expectations will have a negative impact on funding.

9.6 It is the excess of the investment return above the rates of salary and price inflation increases that is most important because the assets increase with the investment return and the liabilities with salary or price inflation.

Catastrophe Risk

9.7 The Defined Benefit plan self insures the death and disability benefits and is therefore subject to the risk of higher than expected claims. The self-insurance risk is considered in Section 8.

9.8 While the catastrophe risk is very low, particularly given the geographic spread of members, a high number of death or disability (or terminal medical condition) benefits caused by a single event or events is likely to put significant strain on the funding.

Pensioner Longevity Risk

9.9 At 30 June 2020 there were 4,189 life-time pensioners in the Defined Benefit plan. There is a risk that pensioners may live longer than expected and this would have a negative impact on the funding position.

9.10 Increased pensioner longevity risk is less significant than investment risk and salary risk. The impact of a 10% reduction in pensioner mortality is shown in Section 7.11.

Liquidity Risk

9.11 In Section 4 liquidity risk is discussed and it is recommended that the liquidity of the Defined Benefit plan continue to be reviewed regularly by the Trustee. Also, Section 6.32 considered the potential impact on funding of having to liquidate investments at a discount.

9.12 A review of the cash flows and sensitivity of the liquidity position to adverse scenarios is completed for Vision Super periodically. We understand that Vision Super considers the long term liquidity requirements in setting its strategic asset allocation and plans to reduce exposure to illiquid assets in the Defined Benefit plan to zero in the long term given the maturity of the plan.

Retrenchments Risk

9.13 The retrenchment benefit is larger than the resignation benefit for many members. A significant number of retrenchments would have a negative impact on funding and liquidity unless additional contributions are required to fund the shortfall when a member is retrenched. Depending upon the VBI, this can also be appropriate when a member over or under 55 is retrenched even if it is not a retrenchment benefit being paid from the Defined Benefit plan.

9.14 This risk has greatly reduced over time because:

a the average age of members is now over age 55. From this age members are entitled to the accrued retirement benefit upon retirement, which is equal to the retrenchment benefit so that there is no additional funding strain; and

b the funding assumptions assume 80% of resigning members elect a deferred benefit. The deferred benefit is also equal to the amount of the retrenchment benefit so that there is no additional funding strain.

9.15 The current funding plan includes top-up contributions by the Authorities to manage this risk.

Legislation Risk

9.16 There is a risk that legislation changes could impact on funding. For example:

a Changes to legislation may impact investment returns or other aspects of experience; and

b Changes to tax may impact funding.

Other

9.17 Operational risks (e.g. unit pricing and administration) are not considered in this report.

9.18 A higher proportion of members could elect to defer their resignation benefit or take a life-time pension than expected which would be expected to increase the cost of funding benefits.

9.19 There are many other risks in respect of the funding of the Defined Benefit plans but we have not included those that we do not consider to be currently material.

Appendix A: Summary of Benefits and Conditions

The benefits are set out in the Fund's Trust Deed. The Fund has been governed by the Trust Deed originally dated 26 June 1998 on and from 1 July 1998. The Trust Deed has subsequently been amended numerous times. This report is based on a copy of the Trust Deed including amendments up to 1 July 2014.

Membership

The Defined Benefit plan was closed to new members on 31 December 1993. From that date, new employees have joined Vision Super Saver, which provides accumulation style benefits.

The benefits and conditions described below relate to Defined Benefit plan members only.

Contributions

Members contribute at a rate of 6% of salary. Their contributions cease after 40 years of service. Authorities pay the balance required to provide the benefits.

Retirement Benefit

A lump sum benefit calculated as a percentage of final salary for each year (part years counting pro rata) of membership to retirement. The percentage is 21% for membership completed prior to 1 July 1993 and 18.5% for membership completed after 30 June 1993. A maximum of 40 years of membership counts towards the retirement benefit. Members may retire from age 55 and benefits cease to accrue at age 65.

Death Benefit

For members under 60 years of age, a lump sum of 21% of final salary for each year of actual and prospective membership to age 60. For members aged 60 or over, a lump sum of 21% of final salary for each year of actual membership. A maximum of 40 years of membership counts toward the death benefit.

Members with a medical classification of Grade B, C or D are entitled to a lower death benefit.

Total and Permanent Disablement Benefit

For members under 60 years of age, a lump sum equal to a percentage of final salary for each year of actual and prospective membership to age 60. The percentage is 21% for actual membership completed prior to 1 July 1993, 18.5% for actual membership completed after 30 June 1993, and 21% for prospective membership between the date of disablement and age 60. For members aged 60 or more, the benefit is a lump sum equal to the retirement benefit. A maximum of 40 years of membership counts towards the total and permanent disablement benefit.

"Disablement" generally means a continuous or recurring impairment of health of a member which renders him or her unable to perform his or her duties, or any other duties for which he or she is suited by education, training or experience, or would be suited as a result of retraining.

Members with a medical classification of Grade B, C or D are entitled to a lower disability benefit.

Ill-Health and Retrenchment Benefits

The accrued retirement benefit (i.e. counting membership to date of ill health or retrenchment).

There is also a Temporary Disability benefit.

Resignation Benefit

A lump sum of either:

a an immediate benefit equal to the sum of:

- 15% of final salary for each year (if any) of membership prior to 1 July 1993, excluding any portion of the last five years relating to pre 1 July 1993 membership;
- 13.5% of final salary for each year (if any) of membership after 30 June 1993, excluding the last five years;
- 9% of final salary for the last five years of membership; or

b a deferred benefit payable from age 55 equal to the accrued retirement benefit at the date of leaving, increased with the relevant investment return to payment after age 55.

Part of the immediate resignation benefit may be subject to preservation regulations.

"Old Benefit" Entitlements

Members who joined prior to 25 May 1988 have the option of taking up to 50% of their lump sum retirement benefits as a pension, based on prescribed conversion factors. The conversion factors reduce from 13.6 at age 55 to 12.6 at age 60 and 12.0 at age 65. This option also applies to members who joined prior to 25 May 1988 and elect to defer their benefit upon resignation until after age 55.

Certain other minimum benefits apply in respect of previous entitlements for certain groups of members.

Minimum Requisite Benefit

All benefits are subject to a minimum of the Minimum Requisite Benefit specified in the Benefit Certificate.

Appendix B: Membership Movements

Defined Benefit Plan

Membership as at 1 July 2017		2,855
Transfers/Rejoiners		1
Exits		
Retirement, Resignations and retrenchments	880	
Death	10	
Total and Permanent Disablement	12	
Total exits		(902)
Membership as at 30 June 2020		1,954

Pensioners

Pensioners as at 1 July 2017	4,597
New pensioners	513
Pensions ceasing	921
Pensioners as at 30 June 2020	4,189

Appendix C: Summary of Income and Expenditure

	($'000)
Market Value at 1 July 2017	**8,597,435**
Plus	
Net Investment Revenue	1,380,771
Contribution Revenue	2,015,634
Other Revenue	492,340
	3,888,745
Less	
Benefits paid	1,779,665
Administration Expenses	70,183
Superannuation Contribution Surcharge	0
Insurance Premium	62,802
Taxation Provision	208,874
	2,121,524
Market Value at 30 June 2020	**10,364,656**
Comprised of:	
Defined Benefit Plan	2,226,980
City of Melbourne	54,608
Parks Victoria including Ports	31,221
Accumulation Accounts & Reserves	6,176,284

Appendix D: Summary of Valuation Assumptions

Financial Assumptions

The most significant financial assumptions are:

- Active members:
  - investment returns (net of tax; expenses) — 5.6% p.a.
  - salary inflation growth — 2.5% p.a. for two years, 2.75% p.a. thereafter
- Pensioners:
  - investment returns (gross of tax; expenses) — 6.5% p.a.
  - CPI increases — 2.0% p.a.
- administration expenses: — 2.75% of salaries and 2.0% of pension

For Fixed term pensions a real investment return of 1%p.a. has been assumed.

Demographic Assumptions

Active Members

The table below illustrates the decrement rates assumed for active members. The decrement rates represent the percentage of members leaving the plan each year by each cause.

Year of Age	Deaths %	Disablements %	Resignations %	Retirements %
20	0.03	-	13.42	-
30	0.02	0.01	6.48	-
40	0.05	0.05	3.77	-
50	0.14	0.27	2.44	-
60	0.43	0.82	-	15.0
64	0.66	0.00	-	15.0

Pensioners – Defined Benefit plan

The table below illustrates the rates of mortality assumed for pensioners. The figures represent the percentages dying in the years of age shown.

Year of Age	Retirement /Spouse Male %	Disability Male %	Retirement /Spouse Female %	Disability Female %
60	0.49	1.26	0.30	0.58
65	0.73	1.95	0.45	0.99
70	1.16	3.00	0.76	1.68
75	2.11	4.56	1.40	2.84
80	3.99	6.84	2.77	4.74
85	7.81	10.06	5.73	7.73
90	14.43	14.39	11.60	12.18

Mortality improvement based on the 125-year experience from the Australian life tables 2015-2017.

Deferred Benefit Option on Resignation – Defined Benefit plan

It has been assumed that 80% of those who resign will take the deferred benefit option. Deferred benefits are assumed to be accessed at age 60.

Pension Option – Defined Benefit plan

It has been assumed that 60% of active members and 45% of deferred beneficiaries who joined the Defined Benefit plan prior to 25 May 1988 will elect to take the pension option upon retirement. Members who take this option are assumed to take 50% of their benefit as a pension.

Other Pension Assumptions

Males (pensioners or reversionary spouses) are assumed to be 3 years older than their female spouses. For current active members and deferred beneficiaries, the age based proportion married assumptions are applied at the date of commencement of a pension; for current pension members, the age based proportion married assumptions are applied at the date of the valuation.

Appendix E: Asset Allocation

Asset Class	Actual Asset Allocation 30 June 2020 (%)	Strategic Asset Allocation 30 June 2020 (%)
Australian Equity	19.2	18.3
International Equity	18.5	18.1
Private Equity	2.1	2.2
Infrastructure	11.1	10.9
Property*	8.0	7.8
Opportunistic Investments	7.4	7.3
Alternative Debt	13.3	14.3
Fixed Interest	10.0	10.3
Cash	10.3	10.8
Total	**100.0**	**100.0**
Allocation to Illiquid Assets	26.1	23.0
Allocation to Growth Assets	64.3	64.9

* 6.33% of actual property is illiquid.

Appendix F: Total Service Liability Surplus/(Deficit)

		($million)
Present Value of Active Member Liabilities		1,086.3
Retirement	1,011.0	
Death	25.2	
Disablement	27.8	
Resignation	22.3	
plus Deferred Beneficiary Liability		318.7
plus Present Value of Life-Time Pensions		712.2
plus Present Value of fixed Term Pensions		1.0
less Family Offset and Surcharge Account balances		(6.8)
plus Present Value of Future Expenses		39.9
plus Allowance for tax on Contributions		5.8
Total Benefit Liability		**2,157.1**
Compared to:		
Assets		2,227.0
plus Value of ongoing member contributions (6%)		46.4
plus Value of ongoing Authority contributions (SG)		83.7
Total Assets		**2,357.1**
Surplus of Total Assets over Total Benefit Liability		200.0

Appendix G: Actuarial Statements required under SPS 160 Paragraph 23(a) – (h)

Defined Benefit Plan – Division C (LASF)

The following statements are prepared for the purposes of actuarial statements and Paragraphs 23(a) to (h) of SPS160.

Background

The effective date of the most recent actuarial review of the Defined Benefit plan is 30 June 2020. The actuarial investigation was undertaken by Matthew Burgess, Fellow of The Institute of Actuaries of Australia, on behalf of Towers Watson Australia Pty Ltd (AFSL 229921).

This statement has been prepared for the Trustee of Vision Super as part of the actuarial investigation in accordance with the Professional Standards issued by The Institute of Actuaries of Australia.

Assets (SPS160 23(a))

The fair value of the Defined Benefit plan assets at 30 June 2020 was $2,226.980 million.

This value of assets at 30 June 2020 excludes amounts held to meet the Operational Risk Financial Requirement (ORFR) and was used to determine the required contributions.

Financial Condition SPS160 23(b)

The projected likely future financial position of the LASF Defined Benefit plan during the three years following the valuation date and based on my best estimate assumptions is as follows.

Date	Vested Benefits Index (%)
30 June 2020	104.6%
30 June 2021	106%
30 June 2022	107%
30 June 2023	109%

The projected financial position is shown only for the defined benefit members.

Accrued Benefits (SPS160 23(c))

Accrued Benefits have been determined as the present value of expected future payments arising from membership completed as at the review date plus any additional accumulation benefits at face value. Accrued Benefits have not been subjected to a minimum of vested benefits.

In determining Accrued Benefits, the major assumptions adopted were:

- 3.1% p.a. for two years and 2.85% p.a. thereafter real investment return over salary inflation. This comprised a 5.6% p.a. net of tax investment return assumption and a 2.5% p.a. for two years and 2.75% p.a. thereafter salary inflation assumption.
- 4.50% p.a. real investment return over price inflation. This comprised a 6.50% p.a. gross of tax investment return and a 2.0% p.a. CPI assumption.
- The investments for fixed term pensions are matched to the liabilities by investing in fixed interest securities including CPI linked bonds. Based on current CPI indexed bond interest rates a real discount rate (i.e. discount rate above CPI) of 1.0% has been assumed.

The future rate of investment return used to determine the accrued benefits is the anticipated rate of return on the Defined Benefit plan assets.

Assumptions were also made about rates members would withdraw from service because of death, total and permanent disablement and resignation. Under these assumptions, the average expected future membership period of the members is around 8 years.

The past membership component of all benefits payable in future from the Defined Benefit plan in respect of the current membership are projected forward allowing for future salary increases and then discounted back to the valuation date at the assumed rate of investment return.

Using the above method, the total value of accrued benefits and the actuarial value of the Defined Benefit plan assets at 30 June 2020 were:

Value of accrued benefits:	$2,011.6 million
Net Market Value of Assets:	$2,226.980 million. The ratio of the actuarial value of the assets to the value of the total accrued benefits was 110.7% which indicates an adequate coverage of the value of the accrued benefits as at the date of the actuarial investigation.

In our opinion, the value of the assets of the Defined Benefit plan at 30 June 2020 was adequate to meet the liabilities of the Defined Benefit plan in respect of accrued benefits in the Defined Benefit plan. The assets are considered adequate in the longer term based on the contributions recommended below, and assumptions as to the future experience which we regard as appropriate.

Vested Benefits (SPS160 23(d))

Vested benefits are the benefits to which members would be entitled if they voluntarily left service.

At the date of the actuarial investigation, the total vested benefits and net market value of the Defined Benefit plan total assets were:

Total Vested Benefits:	$2,129.4 million
Net Market Value of Assets:	$2,226.980 million

The ratio of the net market value of the Defined Benefit plan assets to total vested benefits was 104.6%, which indicates a satisfactory coverage of Vested Benefits as at the date of the actuarial investigation.

In our opinion, the Fund's financial position is satisfactory.

The Trustee has determined the short fall limit to be 97%. In my opinion this does not need to be reviewed.

Minimum Benefits and Funding and Solvency Certificates (SPS160 23(e) and (f))

Funding and Solvency Certificates (FSC) for the Fund covering the period from 1 July 2019 to 30 June 2020 as required by the Superannuation Industry (Supervision) Act have been provided.

In our opinion, the solvency of the Fund will be able to be certified in any Funding and Solvency Certificate required under the Superannuation Industry (Supervision) Regulations during the three year period to 30 June 2023 if experience is as assumed.

We note that for the purpose of issuing an FSC, the appropriate funding measure is in respect of coverage of minimum benefits (MRBs), which in this fund are considerably less than vested benefits, and are covered sufficiently by Defined Benefit plan assets. At 30 June 2020, the ratio of assets to MRBs is 142.2%. The total Minimum Requisite Benefits as at 30 June 2020 was $1,565.8 million.

Recommended Contributions (SPS160 23(g))

We recommend that the Authorities contribute the following amounts from 1 July 2020:

a Any outstanding unfunded liability from the 30 June 1997, 31 December 2002, 31 December 2008 and 31 December 2011 actuarial investigations; plus

b An additional contribution to cover the excess of the benefits paid as a consequence of retrenchment above the funded resignation or retirement benefit (the funded resignation or retirement benefit is calculated as the minimum of (100% and VBI) multiplied by the vested benefit), plus contribution tax; plus c 9.5% of members' salaries, increasing with increases in the Superannuation Guarantee Charge; plus

d Additional top up contributions that may be recommended in the future, if the Defined Benefit plan becomes in an unsatisfactory financial position.

Authorities also need to contribute the amount of members' salary sacrifice contributions.

The amounts of required contributions will be reviewed in the next triennial actuarial review of the Defined Benefit plan to be conducted with an effective date no later than 30 June 2023. However, an earlier actuarial review should be undertaken if there are any significant changes in the Defined Benefit plan.

Pensions (SPS160 23(h))

In our opinion, there is a high degree of probability that the Defined Benefit plan will be able to pay the pensions as required under the Defined Benefit plan's Trust Deed. We expect that this position will continue to be able to be certified during the three year period to 30 June 2023.

These statements can only be expressed as an expectation and not as a certainty because the future financial position of the Defined Benefit plan depends on unknown factors such as future investment returns, future Plan membership changes, etc.

Matthew Burgess
Fellow of the Institute of Actuaries of Australia

Surath Fernando
Fellow of the Institute of Actuaries of Australia

8 September 2020