

# Actuarial Investigation as at 30 June 2023 of the Police Superannuation Scheme

SA Police Super

5 June 2024

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## Section 1

# Key Results and Recommendations

## Purpose of Report

This report on the actuarial investigation as at 30 June 2023 of the Police Superannuation Scheme (the Scheme) has been prepared at the request of the State Superannuation Office (Super SA), a branch within the Department of Treasury and Finance (the Department) of the Government of South Australia (the Government), on behalf of the Minister for Finance (the Minister) and the Police Superannuation Board (the Board).

The primary purpose of the actuarial investigation is to satisfy the requirements of Section 15 of the *Police Superannuation Act 1990* (the Act). This section of the Act requires the Minister to obtain an actuary's report:

- on the cost of the Scheme to the Government at the time of the report and in the foreseeable future; and
- estimating the proportion of future benefits under the Act that can be met from the Fund (that is, the value of accumulated member contributions).

The costs of the Scheme have been estimated in two ways:

- The future service contribution rates for the employer share of benefits of the Scheme; and
- The Government's projected annual outlays for the employer share of benefits of the Scheme.

Additionally, the actuarial investigation considers:

- The experience of the Scheme since the previous investigation;
- The financial position of the Scheme; and
- The key risks to which the Fund and/or the employers are exposed.

I have undertaken the actuarial investigation in accordance with the requirements of the Actuaries Institute's Professional Standard 400, to the extent that these are relevant to the Scheme.

This actuarial investigation does **not** consider the adequacy of assets held in the Police Employer Account to meet the employer share of past service liabilities under the Scheme. The Government's contributions in respect of the employer share of past service liabilities are reviewed annually as part of the Government's budget process.

## Key Results

As at 30 June 2023, the actuarial value of the Fund share of Scheme benefits (based on the existing Prescribed Proportion of 24%) and expenses is \$625.5 million. The actuarial value of the assets of the Fund (including the value of future member contributions) as at 30 June 2023 is \$656.3 million. Therefore, the assets of the Fund are projected to be more than sufficient to meet a Prescribed Proportion of 24%, if the assumptions are borne out in practice. The expected excess of \$30.8 million represents a margin of 4.9% over the Fund share of liabilities.

As at 30 June 2020, the calculated margin was \$4.1 million, or 0.7% of the Fund share of liabilities. The increase in margin reflects the experience of the Scheme since 30 June 2020. Although investment returns were higher than assumed, the positive impact of this was partly offset by:

- CPI also being higher than assumed; and
- An increase in the first year CPI assumption to reflect known CPI experience.

Based on the actuarial assumptions used for this investigation, the Fund's assets are projected to support a **maximum** Prescribed Proportion of 25.2%. However, at this level, there would be no reserve in the Fund to provide a margin against adverse experience, such as lower than assumed investment returns or higher than assumed CPI indexation

I therefore recommend no change to the current Prescribed Proportion of 24%.

The actuarial value of the employer share of benefits expected to accrue to members after 30 June 2023 and expenses associated with those benefits is \$45.2 million. This represents an average future service cost of 22.4% of contributors' salaries (an increase from the rate of 21.5% calculated at the previous investigation). The Government is currently required to contribute at the rate of 22.0% of salaries to meet the cost of accruing benefits.

Given that the calculated future service cost is very close to the current contribution rate I recommend maintaining the existing employer contribution rate of 22.0% of contributors' salaries.

## Projected Outlays

The projected costs to Government of the employer share of benefits and expenses, as well as the total cost of benefits payable from the Scheme and expenses (i.e. including the Fund share of benefits and expenses) over the next five years are shown in the table below:

Year ended 30 June	Nominal Projected Costs (\$ millions)		Today's Dollar Projected Costs <sup>^</sup> (\$ millions)	
	Government	Total (including Fund share)	Government	Total (including Fund share)
2024	122.9	160.6	120.6	158.6
2025	129.9	169.8	121.7	160.1
2026	134.3	175.6	121.0	159.2
2027	139.5	182.4	120.8	159.0
2028	143.7	187.9	119.7	157.5
2029	147.2	192.5	117.9	155.1
2030	150.2	196.3	115.6	152.1
2031	152.5	199.3	112.9	148.5
2032	153.7	200.8	109.4	143.9
2033	155.1	202.6	106.1	139.6

<sup>^</sup>Today's dollar figures represent the nominal figures deflated to 2023 in line with assumed salary inflation of 2.5% for the first year and 4.0% per annum thereafter.

## Suitability of Policies

I am satisfied that the following policies adopted by the Board are generally suitable:

- The investment strategy in respect of Fund assets;
- The self-insurance arrangements; and
- The crediting rate policy.

## Risks

The results in this report are based on the assumptions adopted, which represent a single scenario from a range of possibilities. The future is uncertain and the Scheme's actual experience will differ from these assumptions; these differences may be minor in their overall effect, or they may be significant and material. In addition, different sets of assumptions or scenarios may also be within the reasonable range and results based on those alternative assumptions would be different.

Section 8 provides further information on the key risks and their potential impact on the Fund and/or the cost to the Government of providing Scheme benefits.

The most significant risks relate to investment returns, inflation, and longevity. Lower than assumed investment returns, higher than assumed inflation or greater longevity than assumed would increase the costs of providing the Scheme benefits and reduce the proportion of Scheme benefits which can be financed from Fund assets. This would increase the amounts which need to be financed by the Government.

## **Recommendations**

Based on the results of this actuarial investigation, I recommend that:

- The funding proportion for the Scheme of 24.0% be retained; and
- The Government contribution rate of 22.0% of salaries for future service liabilities be retained.

## Section 2

# Overview of the Scheme

## Background

The Scheme is governed by the *Police Superannuation Act 1990* (the Act) and the *Police Superannuation Regulations 2017* (the Regulations).

Under the Act, members who joined the Scheme before 1 June 1990 are able to receive benefits in pension form. Members who joined the Scheme on or after 1 June 1990 were transferred to the Triple S Scheme effective 1 July 2008.

An overview of the benefits and contributions under the current legislation is provided in Appendix A.

The Scheme is not a regulated fund within the meaning of the Superannuation Industry (Supervision) (SIS) legislation and is therefore not required to comply with SIS. However, the Government has undertaken to observe the major principles of SIS under the Heads of Government Agreement between the Commonwealth and the States. The Scheme is classified as an exempt public sector superannuation scheme under SIS.

The Scheme is a constitutionally protected and exempt public sector superannuation scheme. No tax is payable by the Scheme. Benefits are paid to members as 'untaxed benefits.'

The previous actuarial investigation of the Scheme was conducted as at 30 June 2020 by me. The results of that investigation are contained in a report dated 30 June 2021.

## Amendments to Legislation

Since the time of the previous report, there have been no amendments to the Act or the Regulations.

## Scheme Financing

Payment of Scheme benefits is made as they fall due from a Special Deposit Account held by the Department or otherwise from the Government's Consolidated Account. The Special Deposit Account (or Consolidated Account) is then reimbursed from Fund assets for the member share of providing Scheme benefits, and from the Police Employer Account for the employer share of providing Scheme benefits.

## Members' Contributions

Members make contributions to the Scheme based on a percentage of their salary. Scheme members who joined after their 30th birthday contribute at 6% of salary, while members who joined before their 20th birthday contribute at 5% of salary. Contribution rates decrease from the level of 6% of salary to 5% of salary for members who joined between these ages.

The average rate of member contribution for current members at 30 June 2023 was 5.2% of salary.

All members' contributions are paid into the Fund which is invested and managed by the Superannuation Funds Management Corporation of South Australia (Funds SA).

The member share of providing Scheme benefits and expenses is financed from the Fund's assets.

## **Employer Contributions**

As described above, the Board determines the proportion of Scheme benefits to be paid from the Fund assets. This proportion is adjusted from time to time based on actuarial advice and the financial position of the Scheme as a whole. The Government is responsible for meeting the cost of the remainder of the benefit (the employer share).

Since 1 July 1994, the Government has undertaken a program that is intended to progressively fund its accrued past service superannuation liabilities. This program has been set out over a 40-year period, with the intention of achieving complete funding of accrued past service superannuation liabilities by the year 2034.

This program has produced a pool of externally invested assets, which are currently managed by Funds SA. These assets are maintained in distinct employer accounts for each of the State schemes that are supported by the Government. In respect of the Scheme, the employer account is known as the Police Employer Account. The employer share of providing Scheme benefits is paid from the Police Employer Account to the Special Deposit Account (or Consolidated Account) as benefits arise.

Regular contributions are paid by the Government to the Police Employer Account with the intention of meeting the future service cost of contributors' accruing Scheme benefits. Additional contributions are paid by the Government to the Police Employer Account with the intention of fully financing the employer share of each Scheme's past service liabilities by the target date.

The scope of this report does not include an assessment of the adequacy of the Police Employer Account or consider the level of contributions which should be made to the Police Employer Account in respect of past service liabilities. These contributions are reviewed annually as part of the Government's budget process.

However, the report does include a projection of the Government's expected annual outlays for the employer share of benefits and expenses of the Scheme.

## **Cost Sharing Proportion**

The proportion of benefits met from the Fund is set by the Board under sub-section 14(3) of the Act. This is effectively the proportion of lump sum and pension benefits that must be funded out of the assets held in the Fund. As mentioned in Section 1, this report must provide an estimate of the proportion.

For all resignations involving a return of the member's contribution account balance the prescribed proportion is 100% of the member's contribution account balance (with the balance of this benefit being fully met by the Government).

The prescribed proportion for other types of entitlement is currently 24.0%. This means that the Government is responsible for meeting the remaining 76.0% of benefits at the time a



member is paid their benefit. The Government's share of the benefit is met from the assets of the Police Employer Account.

## **Share of Administration Costs**

Regulation 17, pursuant to Section 10(7)(b) of the Act, specifies that the proportion of administration costs that must be met by the Fund is 30%. The balance of the administration costs is met by the Government.

## **Insurance Arrangements**

The Scheme provides benefits on the death or disablement of a contributor member. The Scheme does not insure these benefits, which means that:

- The Fund share of death and disablement benefits is met entirely from Scheme assets;
- The employer share of death and disablement benefits is met entirely by the Government.

Thus, there is a "self-insured" component to the extent that an additional benefit is payable in respect of death or disablement, over and above the accrued benefit which would be payable on resignation or retirement.

However, the self-insured components are now negligible, as for most members the actuarial value of the accrued retirement benefit exceeds the actuarial value of the invalidity and death benefits.

## Section 3

# Assets and Membership Data

## Details of Assets

Based on audited financial information provided by Super SA, the net assets of the Scheme as at 30 June 2023 were:

- \$648.3 million in the Fund Account; and
- \$1,726.9 million in the Police Employer Account.

The movement in the value of Scheme assets over the three years was as follows:

	Fund Account (\$ millions)	Police Employer Account (\$ millions)	Total (\$ millions)
<b>As at 1 July 2020</b>	<b>566</b>	<b>1,375</b>	<b>1,941</b>
Net investment revenue	188	473	661
Contributions	10	231	241
Benefit payments	(97)	(305)	(402)
Expenses	(19)	(47)	(66)
<b>As at 30 June 2023</b>	<b>648</b>	<b>1,727</b>	<b>2,375</b>

## Investment Policy

Funds SA is responsible for the investments of the Scheme. Both Fund assets and Police Employer Account assets are invested in a customised Defined Benefit Strategy investment portfolio. The objective of this portfolio is to achieve a long-term rate of return of CPI + 4.5% per annum net of fees and gross of tax.

The actual asset allocation as at 30 June 2023 and the long-term strategic asset allocation for the Defined Benefit Strategy is shown in the table below:

As at 30 June 2023	Actual	Strategic
<b>Australian Equities</b>	20.2%	20%
<b>International Equities</b>	27.9%	30%
<b>Property</b>	17.0%	18%
<b>Diversified Strategies - Growth</b>	18.5%	16%
<b>Diversified Strategies - Income</b>	13.9%	14%
<b>Cash</b>	2.5%	2%
<b>Total</b>	<b>100.0%</b>	<b>100%</b>

Source: Funds SA 2022-2023 Annual Report.

The target allocation to growth-type assets such as equities and property is currently 80%. 'Growth' assets are expected to earn higher returns over the long term compared to 'defensive' assets, but at the same time to exhibit more variation in returns from year to year.

A detailed review of the investment policy is outside the scope of this actuarial investigation. Based on the main features, I consider the current policy to be suitable, taking into account the financing approach for the Scheme, and the long-term nature of the benefit liabilities.

## Crediting Rate Policy

Based on the Scheme's Product Disclosure Statement, I understand that the main features of the crediting rate policy are as follows:

- End of financial year crediting rates are based on the money weighted net rate of return (net of investment fees and the Board's administration costs) each year, as advised by Funds SA; and
- Exit crediting rates<sup>1</sup> are calculated on a weekly basis and are based on the year-to-date annualised rate of return for each week, as advised by Funds SA.

A detailed review of the crediting rate policy is outside the scope of this actuarial investigation. Based on the main features, I consider the current policy to be suitable.

I note that crediting rates are generally only relevant to the calculation of certain withdrawal benefits for members who exit service prior to age 50. As there are no remaining contributors under age 50 future crediting rates are expected to have little if any impact on the benefits payable to members.

## Membership

I have relied upon membership data provided by Super SA which was extracted from the database used for the ongoing administration of the Scheme.

The Board is ultimately responsible for the validity, accuracy, and comprehensiveness of the data. I have not independently verified or audited the data provided but have performed a range of broad "reasonableness" checks and tested for consistency with previous records. I am satisfied that the quality of the data is sufficiently accurate for the purposes of this actuarial investigation. Any inaccuracies in the data are expected to have no material impact on the conclusions or recommendations in this report.

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<sup>1</sup> Applied to members who separate under Age 50 from SA Police during a particular financial year and elect to take a withdrawal benefit which consists of a refund of member contributions plus accrued interest.

The membership of the Scheme as at 30 June 2023 is summarised below:

### Summary of Contributor Details as at 30 June 2023

Contributors	Number of members	Average annual salary (\$)	Average contributions (\$)	Average account balances (\$)	Average age (years)
Males	356	139,767	5,469	417,499	57.3
Females	112	140,003	6,319	361,814	55.5
<b>Total</b>	<b>468</b>	<b>139,824</b>	<b>5,672</b>	<b>404,173</b>	<b>56.9</b>

Preserved Members	Number of members	Average annual salary (\$)	Average age (years)
Males	18	*	53.2
Females	2	*	53.5
<b>Total</b>	<b>20</b>	<b>105,949</b>	<b>53.2</b>

\*not separately disclosed for privacy reasons

### Summary of Pensioner Details as at 30 June 2023

	Number of Members	Average Annual Pension (\$)	Average Age (years)
<b>Current Act</b>			
Males	1,601	67,879	68.5
Females	378	44,018	68.5
<b>Total Current Act</b>	<b>1,979</b>	<b>63,322</b>	<b>68.5</b>
<b>Repealed Act</b>			
Males	71	49,416	82.2
Females	171	37,238	83.8
<b>Total Repealed Act</b>	<b>242</b>	<b>40,811</b>	<b>83.4</b>
<b>All Pensioners</b>			
Males	1,672	67,095	69.1
Females	549	41,906	73.2
<b>Total All Pensioners</b>	<b>2,221</b>	<b>60,869</b>	<b>70.1</b>

## Section 4

# Scheme Experience

## Investment Returns

The table below shows the rates of investment earnings (net of fees and gross of tax) for the Defined Benefit Strategy investment portfolio over the three-year period to 30 June 2023:

Year ended	Rate of Return
30 June 2021	23.7%
30 June 2022	-1.8%
30 June 2023	8.1%
<b>Compound Annual Average</b>	<b>9.5%</b>

Source: Funds SA 2022-23 Annual Report.

Over the three years ending 30 June 2023, the average rate of return on the assets has been 9.5% per annum. This is above the assumed return for the previous review of 6.5% per annum and has contributed to an improvement in the financial position of the Scheme.

## CPI Indexation

Pensions are increased each 1 October and 1 April, according to the change in the Adelaide Consumer Price Index for the 6 months to the previous 30 June and 31 December respectively. Where the increase in CPI is negative, no adjustment to pensions is made and the pension increase for the following 6 months is based on the increase in CPI for the period since the last adjustment.

During the period, the CPI rates used to index pensions were as follows:

Month of Increase	CPI %
October 2020	-0.69%
April 2021	1.66%
October 2021	1.12%
April 2022	2.21%
October 2022	4.07%
April 2023	4.39%
<b>Compound Average (per annum)</b>	<b>4.30%</b>

The average rate of CPI increase over the three years to 30 June 2023 was 4.3% per annum, which is higher than the previous assumption of 2.0% per annum.

## Salary Increases

The average annual increase in salaries over the three-year period was 2.53% per annum (including promotional increases), which was less than the previous assumption of 2.5% per annum (excluding promotional increases).

Year ended	Actual Increase
30 June 2021	2.46%
30 June 2022	2.27%
30 June 2023	2.86%
<b>Compound Average (per annum)</b>	<b>2.53%</b>

## Membership Movements

The table below shows a reconciliation of membership during the period since the previous actuarial investigation:

	Number of members at 1 July 2020	Increase / (decrease)	Number of members at 30 June 2023
<b>Contributor</b>	770	(302)	468
<b>Preserved</b>	42	(22)	20
<b>Retirement</b>	1,375	217	1,592
<b>Invalidity</b>	224	(11)	213
<b>Spouse</b>	396	5	401
<b>Children</b>	23	(8)	15
<b>Total</b>	<b>2,830</b>	<b>(121)</b>	<b>2,709</b>

The most significant change in membership is the continued decrease in the number of contributors and the increase in the number actual retirements for females are greater than expected. The results of an analysis of the Scheme's decrement experience are shown in Appendix B.

## Section 5

# Actuarial Assumptions and Method

In order to value the Scheme liabilities and estimate the cost to the employer of providing Scheme benefits, it is necessary to make assumptions regarding the incidence, timing and amount of future benefits and associated expenses. These assumptions fall into two broad categories:

- economic assumptions relating to the future rates of investment earnings, salary increases and pension indexation; and
- demographic assumptions relating to the type and timing of benefits to which Scheme members become eligible, and future pensioner mortality rates.

It is expected that the assumptions will not be precisely borne out in practice, but rather that, in combination, they will produce a model of possible future experience that is a suitable basis for estimating the costs of the employer share of benefits of the Scheme.

It must be appreciated that the ultimate cost of the employer share will depend on the actual experience of the Scheme, not on the assumptions used for the actuarial investigation.

## Economic Assumptions

The key economic assumptions include:

- Future investment earnings for assets held in the Fund and the Police Employer Account;
- Future increases in members' salaries (as benefits are directly related to salary at the date of ceasing service); and
- Future increases in the CPI (as preserved benefits and pension payments are adjusted in line with increases in CPI).

It is the relationship between these economic assumptions that has a greater bearing on the results than any individual assumption in isolation. Accordingly, the economic assumptions have been set based on expectations for longer term trends and to be mutually consistent.

The key economic assumptions adopted for this investigation are shown in the table below. Assumptions for the previous investigation are also shown for comparative purposes.

Assumption	30 June 2023 (per annum)	30 June 2020 (per annum)
Investment returns	7.0%	6.5%
CPI indexation		
- First year (2023-24)	4.0%	2.0%
- Thereafter (2024-25 onwards)	2.5%	2.0%
Salary increases		
- First year (2023-24)	2.5%	2.5%
- Thereafter (2024-25 onwards)	4.0%	2.5%
	<b>including</b> promotional increases	<b>plus</b> promotional increases
Long-term “real return” over CPI indexation	4.5%	4.5%
Long-term “real return” over salary increases	3.0%	4.0% <sup>^</sup>

<sup>^</sup> Excluding promotional increases, which are estimated to average approximately 0.5% per annum.

Assumed investment earnings are determined by reference to the expected long-term returns on each asset class and the return objective set by Funds SA for the investments of the Fund and the Police Employer Account (i.e. to achieve long-term returns of 4.5% per annum in excess of inflation).

The long-term salary increase assumption is based on 1.0% per annum real growth (i.e. salary increases in excess of price inflation) over the longer term, plus an approximate allowance of 0.5% per annum for promotional increases. This represents a change to the previous approach of making a separate allowance for promotional increases using an age-based scale.

The first year salary increase assumption reflects the current Enterprise Bargaining Agreement (EBA) applying to members of the Scheme, which provides for a 2% increase during 2023-24, plus promotional increases.

Both the first year and long-term assumptions for CPI indexation have increased since the previous investigation, reflecting changes in the outlook for inflation. The first year assumption reflects known experience to the date of this report. The long-term assumption for CPI indexation represents the mid-point of the Reserve Bank of Australia’s target range for inflation.

The most important economic assumption above is the long-term real return over CPI, which is unchanged since the previous investigation.



## Alternative of Adverse Scenario

The potential consequence of actual future experience being worse than assumed is considered under an “adverse assumptions” scenario. The adverse assumptions scenario involves an immediate 10% fall in the value of the Fund’s investments and 1% per annum higher rates of CPI indexation and salary increases.

As at 30 June 2023	Investigation Assumptions (per annum)	Adverse Assumptions (per annum)
Investment returns	7.0%	7.0%^
CPI indexation		
- First year (2023-24)	4.0%	5.0%
- Thereafter (2024-25 onwards)	2.5%	3.5%
Salary increases (including promotional increases)		
- First year (2023-24)	2.5%	3.5%
- Thereafter (2024-25 onwards)	4.0%	5.0%
Long-term “real return” over CPI indexation	4.5%	3.5%
Long-term “real return” over salary increases	3.0%	2.0%

^ After an immediate -10% return as at 1 July 2023.

## Demographic Assumptions

Assumptions for the rates of retirement and pensioner mortality reflect the results of an analysis of the Scheme’s membership experience. The results of the analysis for the three years to 30 June 2023 are shown in Appendix B. The changes to the demographic assumptions used for this investigation are discussed below. The assumptions are summarised in Appendix C.

The changes in assumptions compared with the previous valuation relate to:

- rates of invalid pensioner mortality; and
- rates of age and preserved member retirement.

## Invalid Pensioner Mortality

Previously, we assumed higher rates of mortality for invalid pensioners in the first and second years after commencement of the pension.

For this investigation we have assumed the same age based rates for all invalid pensioners, irrespective of when the pension commenced. This is a simplification, which has no material impact on results due to the very small number of new invalid pensions commencing in recent years and expected to commence in future.

## Rates of Retirement

We have increased the assumed rates of retirement for female contributors to better reflect experience. In particular, we have increased the rate of retirement at age 60 and above to 100%, as the experience indicated that very few females remain in active service after age 60.

We have also increased the assumed rate of retirement for preserved members to 100% at all ages from 55 onwards. This is a simplification due to the very small number of preserved members remaining in the Scheme. The impact on the results is negligible.

## Expenses

In the previous investigation, fund administration expenses were valued based on an assumed annual cost per member of \$250, indexed in line with assumed general salary inflation, and the projected future number of members of the Scheme.

However, in practice many of the expenses associated with the Scheme are relatively fixed, meaning that the total cost “per member” basis is likely to increase by more than salary increases in the future (as the membership continues to decrease). Therefore, it is likely that this approach will underestimate the future administrative costs.

Total annual Scheme expenses increased from an average of \$584,000 per annum for the three years ended 30 June 2020 to an average of \$893,000 per annum for the three years ended 30 June 2023.

For this investigation we have assumed that **total** Scheme administration expenses (rather than per member administration expenses) will increase from those incurred in the year ended 30 June 2023 in line with assumed salary increases, and will continue to be incurred for a period of 40 years following the investigation date. This is an approximation which is considered reasonable for the purposes of this investigation, given that expenses represent a relatively small proportion of the total cost of providing the Scheme benefits. In practice it is expected that expenses will reduce significantly once there are no active or preserved members remaining in the Scheme, but will continue to be incurred until all benefits payable to members have been paid. Further analysis would be required to more accurately model future Scheme administration expenses.

For the purpose of allocating expenses between past and future service the total expenses have been notionally allocated between contributor, preserved and pensioner members in proportion to the projected number of each type of member in each future year. All expenses allocated to contributors are assumed to relate to future service and all other expenses are assumed to relate to past service.

## Tax

It is assumed that income of the Scheme, including investment income on assets held in the Fund, remains exempt from income tax.

No allowance has been made for tax which is payable by the member such as Division 293 tax on contributions for those with high incomes.

## Impact of Changes in Assumptions

The following table shows the impact of the change in the actuarial assumptions on the net financial position of the Scheme:

Impact	Scheme (\$ million)
Investment returns	34.9
CPI indexation	(40.9)
Salary increases	(3.0)
<b>Demographic assumptions</b>	<b>(3.2)</b>
<b>Change in expense assumption</b>	<b>(5.3)</b>
<b>Total</b>	<b>(17.5)</b>

That is, the change in actuarial assumptions has **decreased** the expected excess of Fund assets over liabilities by \$17.5 million.

## Superannuation Guarantee

Superannuation Guarantee (SG) legislation requires employers to provide a minimum level of superannuation benefits for their employees. The SG rate is currently legislated to increase from 11.0% by 0.5% each year until it reaches 12% from 1 July 2025.

Should any shortfall exist between the benefit provided under the Scheme and the minimum SG benefit as described in the Scheme's actuarial Benefit Certificate, an amount equal to that shortfall is required to be credited to the member in the Triple S Scheme.

In estimating the costs of the Scheme, I have not explicitly allowed for the impact of future increases in the SG rate. The Scheme benefits are expected to be greater than the minimum SG benefit for most members, and any benefit augmentations which may be required are expected to be immaterial to the Government's costs of the Scheme.

## Funding Method

The future service cost has been determined using the "Attained Age Normal" method, which was also used at the previous investigation.

Under this method, the "normal cost" is the estimated level rate of Employer contributions required to provide benefits in respect of future service (i.e. service after the investigation date) for existing members. The normal cost ignores any surplus or deficiency of assets over accrued liabilities.

The proportion of future benefits which can be met from Fund assets has been estimated based on the "Aggregate Cost" funding method. This method involves determining an average, level contribution rate (share of benefits) that, together with future member contributions and existing assets, is sufficient to meet expected benefits and costs for existing members if the actuarial assumptions used are borne out in practice. This contribution rate represents the maximum share of benefits which could be met from the Fund. The "Aggregate Cost" funding method was also used at the previous investigation.

## Method for Attributing Benefits to Past Membership

The past membership components of all benefits payable in the future from the Scheme in respect of current membership are projected forward allowing for future salary increases, credited investment earnings and pension indexation, and are then discounted back to the investigation date at the assumed investment return rate.

For contributors, the past membership component for each type of benefit is calculated by adjusting the total expected benefit in proportion to the accrued contribution points at the investigation date divided by the accrued contribution points at the projected date of ceasing employment.

The calculation methodology is consistent with the requirements of PS402 *“Determination of Accrued Benefits for Defined Benefit Superannuation Funds”* issued by the Actuaries Institute.

The method used for the determination of the accrued benefit liabilities is the same as that used at the previous actuarial investigation.

Based on the actuarial assumptions used for this investigation, the weighted average term of the accrued liabilities of the Scheme is 11.7 years.

## Section 6

# Valuation Results

## Calculation of Funding Proportion

To assess the financial position of the Scheme, we have projected the future benefit payments and expenses in respect of current contributors and pensioners, and then discounted these payments to the current date. The resulting values are the present value of projected liabilities for members of the Scheme, the prescribed proportion of which must be compared with the value of the assets in the Fund and the present value of future member contributions.

We have set out below the results of the calculations using the current Prescribed Proportion of 24% of benefits. The results using more conservative “adverse assumptions” are also shown, along with the equivalent results as at the date of the previous investigation.

As at	30 June 2023		30 June 2020
	Investigation Assumptions (\$ millions)	Adverse Assumptions (\$ millions)	Previous Assumptions (\$ millions)
Net value of Fund assets	648.3	583.4	566.4
Actuarial value of future member contributions	8.0	8.1	17.6
<b>Total Assets</b>	<b>656.3</b>	<b>591.6</b>	<b>584.0</b>
<b>Actuarial value of future benefits (Contributors &amp; Preserved)</b>	<b>157.6</b>	<b>180.8</b>	<b>242.9</b>
<b>Actuarial value of future benefits (Pensioners)</b>	<b>460.5</b>	<b>709.6</b>	<b>333.6</b>
Actuarial value of Fund share of future Scheme expenses	7.4	8.8	3.3
<b>Total Fund Share of Liabilities</b>	<b>625.5</b>	<b>899.3</b>	<b>579.9</b>
<b>Net Financial Position</b>	<b>30.8</b>	<b>(307.7)</b>	<b>4.1</b>
<b>Net Financial Position as a % of Total Liabilities</b>	<b>4.9%</b>	<b>(34.2%)</b>	<b>0.7%</b>

These results show that based on the current prescribed proportion of 24%, the assets of the Fund are projected to be more than sufficient to meet the Fund share of benefits and expenses, provided the assumptions are borne out in practice. The expected excess of Fund assets over liabilities represents a margin of 4.9% of the Fund share of liabilities.

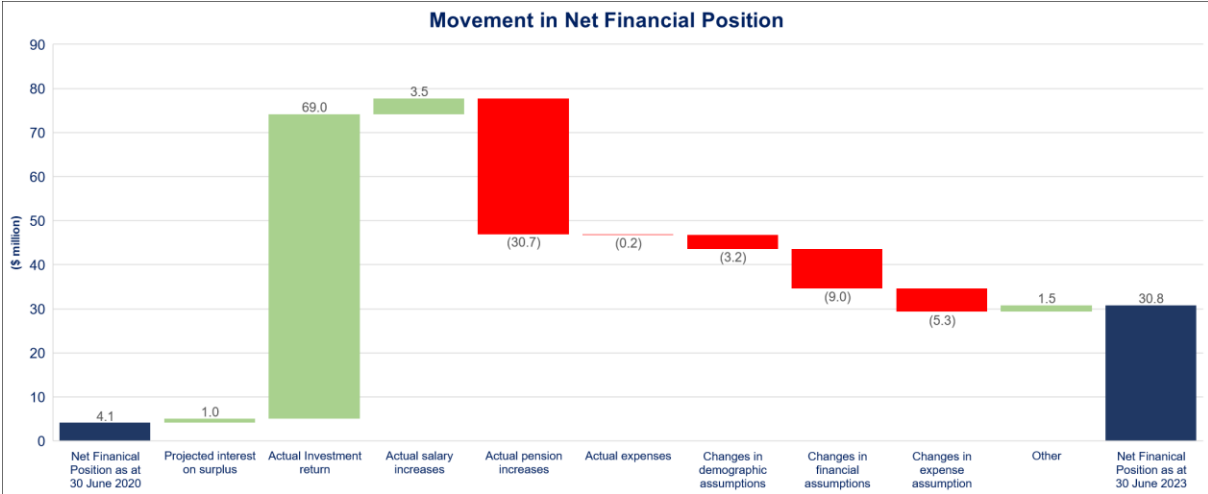
Based on the actuarial assumptions used for this investigation, the Fund’s assets are projected to support a **maximum** Prescribed Proportion of 25.2%. However, at this level, there would be no reserve in the Fund to provide a margin against adverse experience, such as lower than assumed investment returns or higher than assumed CPI indexation.

The results under the alternative “adverse assumptions” illustrate the sensitivity of the results to the assumptions adopted. Under the adverse assumptions, the Fund would have a deficit and the prescribed proportion would need to decrease to 17.5%.

Given the relatively small margin and the sensitivity of the margin to future experience, I recommend no change to the current Prescribed Proportion of 24%.

### Explanation of Change in the Financial Position of the Fund

The major influences affecting the change in the net financial position over the three years to 30 June 2023 are quantified in the following chart:



The net financial position improved from an expected excess of \$4.1 million at 30 June 2020 to an expected excess of \$30.8 million at 30 June 2023, reflecting the experience of the Scheme since 30 June 2020.

Although investment returns were higher than assumed, the positive impact of this was partly offset by:

- CPI which was higher than assumed; and
- An increase in the first year CPI assumption to reflect known CPI experience.

## Experience since the Valuation Date

No allowance has been made for any aspect of Scheme experience since 30 June 2023. This will be reflected in the next actuarial review, which is due to be undertaken as at 30 June 2026.

I am not aware of any significant events that have occurred since 30 June 2023 which would materially impact on the findings or recommendations in this report.

## Accrued Employer Share of Scheme Liabilities

The following table shows the total estimated value of the employer share of liabilities in respect of service prior to 30 June 2023, and the employer share of future Scheme administration expenses in relation to current pensioners, future pensioners, and preserved members. These liabilities are met from the Police Employer Account and are shown here for completeness only. The equivalent results as at 30 June 2020 are also shown for comparison.

As at	30 June 2023		30 June 2020
	Investigation Assumptions (\$ millions)	Adverse Assumptions (\$ millions)	Previous Assumptions (\$ millions)
Actuarial value of employer share of past service benefits	1,957.2	2,819.8	1,742.6
Actuarial value of employer share of past service Scheme expenses	16.9	20.0	7.2
<b>Total</b>	<b>1,974.1</b>	<b>2,839.8</b>	<b>1,749.8</b>

## Future Service Contribution Rate

The future service rate represents the rate of contributions (expressed as a percentage of contributors' salaries), which, when combined with the members' future contributions and accumulated with investment earnings, is expected to fully fund the Scheme benefits accruing to members based on their service after 30 June 2023.

The calculation of the future service rate effectively ignores any excess or deficit of funding for the Scheme benefits which have accrued to members based on their service up to 30 June 2023. If the Scheme benefits which have accrued due to service up to 30 June 2023 were all fully funded, ongoing contributions at the employer's future service rate would be expected to maintain full funding of benefits over time.

In practice, regular contributions are paid by the Government to the Police Employer Account based on the recommended future service contribution rate.

The calculation of the employer's future service rate as at 30 June 2023, based on the actuarial assumptions used for this investigation, is summarised in the table below. The results using more conservative "adverse assumptions" and from the previous investigation are also shown for comparison.

As at	30 June 2023		30 June 2020
	Investigation Assumptions (\$ millions)	Adverse Assumptions (\$ millions)	Previous Assumptions (\$ millions)
Actuarial value of future service benefits	52.5	61.7	109.3
Actuarial value of future Scheme expenses relating to current contributors	0.7	0.7	0.9
Actuarial value of future member contributions	(8.0)	(8.1)	(17.6)
<b>Future service liabilities to be financed by the Employer</b>	<b>45.3</b>	<b>54.3</b>	<b>92.6</b>
Actuarial value of 1% of contributors' future salaries	2.0	2.1	4.3
<b>Employer's Future Service Rate as a % of salaries</b>	<b>22.4%</b>	<b>26.2%</b>	<b>21.5%</b>

This means that, if an amount equivalent to 22.4% of contributors' salaries were set aside as a provision or invested each year, and experience was in line with assumptions, the projected future service benefits and expenses could be met from those future provisions or investments together with future member contributions. This is slightly higher than the contribution rate of 21.5% determined at the 30 June 2020 actuarial investigation, due to the changes in assumptions adopted for this investigation.

Given that the calculated future service cost is very close to the current contribution rate I recommend maintaining the existing employer contribution rate of 22.0% of contributors' salaries.



## Conclusions

Based on the actuarial assumptions used for this investigation:

- The assets of the Fund remain sufficient to maintain the Prescribed Proportion at 24%. Assuming the Prescribed Proportion is maintained at 24%, the expected excess of Fund assets represents a margin of 4.9% of total liabilities.
- The Prescribed Proportion could be increased to a maximum rate of 25.2%. However, at this level, there would be no reserve in the Fund to provide a margin against adverse experience, such as lower than assumed investment returns or higher than assumed CPI indexation.
- The employer's future service rate is calculated to be 22.4% of contributors' salaries.

Given the relatively small margin and the sensitivity of the margin to future experience, I therefore recommend no change to the current Prescribed Proportion of 24%.

I also recommend maintaining the existing employer contribution rate of 22.0% of contributors' salaries.

## Section 7

# Projected Cost to the Government

We have projected the cost of the Scheme using the assumptions described in this report, assuming that the Government continues to be responsible for meeting 76% of the cost of benefits for members of the Scheme.

In the following table we have set out the projected costs of the employer share of benefits and expenses (the cost to Government), as well as the total cost of benefits payable from the Scheme and expenses (i.e. including the Fund share of benefits and expenses).

Year ended 30 June	Nominal Projected Costs (\$ millions)		Today's Dollar Projected Costs <sup>^</sup> (\$ millions)	
	Government	Total (including Fund share)	Government	Total (including Fund share)
2024	122.9	160.6	120.6	158.6
2025	129.9	169.8	121.7	160.1
2026	134.3	175.6	121.0	159.2
2027	139.5	182.4	120.8	159.0
2028	143.7	187.9	119.7	157.5
2029	147.2	192.5	117.9	155.1
2030	150.2	196.3	115.6	152.1
2031	152.5	199.3	112.9	148.5
2032	153.7	200.8	109.4	143.9
2033	155.1	202.6	106.1	139.6
2034	156.3	204.1	102.8	135.2
2035	157.9	206.1	99.8	131.3
2036	159.2	207.8	96.7	127.3
2037	160.4	209.2	93.6	123.2
2038	161.3	210.5	90.6	119.2
2039	162.1	211.4	87.5	115.1
2040	162.5	211.8	84.3	110.9
2045	163.2	212.3	69.4	91.3
2050	157.4	204.2	54.9	72.2
2055	138.1	178.1	39.4	51.8
2060	104.7	133.4	24.2	31.9
2065	56.8	74.8	11.2	14.7
2070	23.0	30.3	3.7	4.9

<sup>^</sup>Today's dollar figures represent the nominal figures deflated to 2023 in line with assumed salary inflation of 2.5% for the first year and 4.0% per annum thereafter.

## Section 8

# Key Risks

There are a number of risks relating to the operation and future funding of Scheme benefits. The more significant financial risks are:

## Investment Returns

The risk is that investment returns will be lower than assumed and the cost to the Government for the employer share of benefits of the Scheme will be greater than projected.

For example, if the assumed future investment return was reduced by 1.0% pa with no change in other assumptions:

- the total Fund share of liabilities of the Scheme as at 30 June 2023 would increase by \$73.4 million;
- the total employer share of liabilities of the Scheme as at 30 June 2023 would increase by \$232.6 million; and
- the required Government contribution rate would increase by 3.8% of contributors' salaries.

The actual investment return achieved by the Scheme in future may vary (positively or negatively) from the rate assumed at this investigation by much more than the illustrative (negative) 1.0% pa.

This risk also affects the assets invested in the Police Employer Account which finances the employer share of Scheme benefits.

## Asset Shock

The risk is that an investment market event causes a sudden reduction to the value of Fund assets and increases the cost to the Government for the employer share of benefits of the Scheme.

The potential impact to the Scheme of a fall in the value of the Fund's investments is demonstrated through the "adverse assumptions" results shown in Section 6. An actual asset shock may vary (positively or negatively) by much more than the illustrative 10% fall in investment values.

This risk also affects the assets invested in the Police Employer Account which finance the employer share of Scheme benefits.

## Salary Increases

The risk is that wages or salaries (on which future benefit amounts will be based) will rise more rapidly than assumed, increasing benefit amounts.

For example, if the assumed future salary increase rate was increased by 1.0% pa, with no change in other assumptions:

- the total Fund share of liabilities of the Scheme as at 30 June 2023 would increase by \$4.5 million;
- the total employer share of liabilities of the Scheme as at 30 June 2023 would increase by \$14.2 million; and
- the required Government contribution rate would increase by 0.8% of contributors' salaries.

The actual rate of future salary increases may vary (positively or negatively) from the rate assumed at this investigation by much more than the illustrative (positive) 1.0% pa.

## Inflation

The risk is that future increases in CPI (which impacts the indexation of benefits) will be higher than assumed, increasing benefit amounts.

For example, if the assumed future CPI indexation were increased by 1.0% pa, with no change in other assumptions:

- the total Fund share of liabilities of the Scheme as at 30 June 2023 would increase by \$71.1 million;
- the total employer share of liabilities of the Scheme as at 30 June 2023 would increase by \$225.0 million; and
- the required Government contribution rate would increase by 2.9% of contributors' salaries.

The actual rate of future inflation may vary (positively or negatively) from the rate assumed at this investigation by much more than the illustrative (positive) 1.0% pa.

## Longevity

The risk is that pensioners live longer than assumed, resulting in pension payments continuing for longer than projected and increasing the cost of providing pension benefits. For example, if all current and potential lifetime pensioners are assumed to have 10% lower mortality rates than currently assumed (e.g. a 3% probability of death becomes 2.7%), with no change in other assumptions:

- the total Fund share of liabilities of the Scheme as at 30 June 2023 would increase by \$9.9 million;
- the total employer share of liabilities of the Scheme as at 30 June 2023 would increase by \$31.2 million; and
- the required Government contribution rate would increase by 0.2% of contributors' salaries.

The actual experience of pensioner longevity may vary from that assumed at this investigation by much more than the illustrative 10% lower mortality rates.

## Legislative

The risk is that legislative changes could be made which increase the cost of providing the defined benefits – for example the introduction of a new tax affecting the Scheme.

## Other

In addition to the above risks, the Board's Risk Management Strategy and Plan should identify a full range of risks faced by the Board, some of which could affect the future costs to the Government of financing the employer share of benefits payable from the Scheme.

## Section 9

# Actuary's Certifications

## Professional Standards

This report has been prepared in accordance with generally accepted actuarial principles, Mercer's internal standards, and the relevant Professional Standards of the Actuaries Institute, in particular PS400 which applies to "*...actuarial investigations of the financial condition of wholly or partially funded defined benefit superannuation funds.*" Where requirements of PS400 are not relevant to or appropriate for the Scheme, I have omitted them.

## Use of Report

This report should not be relied upon for any other purpose or by any party other than the Government and the Board. Mercer is not responsible for the consequences of any other use. Additional calculations may be required for other purposes. This report should be considered in its entirety and not distributed in parts.

The advice contained in this report is given in the context of Australian law and practice. No allowance has been made for taxation, accountancy, or other requirements in any other country.

## Actuarial Uncertainty and Assumptions

An actuarial investigation provides a snapshot of the Scheme's financial condition at a particular point in time, and projections of the Scheme's estimated future financial position based on certain assumptions. It does not provide certainty in relation to the Scheme's future financial condition or its ability to pay benefits in the future.

Future funding and actual costs relating to the Scheme are primarily driven by the Scheme's benefit design, the actual investment returns, the actual rate of salary growth and CPI increases, any discretions exercised by the Board, or choices made by members. The Scheme's actuary does not directly control or influence any of these factors in the context of an actuarial investigation.

The Scheme's future financial position and the estimated long-term cost depend on a number of factors, including the amount of benefits the Scheme pays, the cause and timing of member withdrawals, Scheme expenses, the level of taxation and the amount earned on any assets invested to pay the benefits. These amounts and others are uncertain and unknowable at the investigation date, but are predicted to fall within a reasonable range of possibilities.

To prepare this report, assumptions are used to select a single scenario from a range of possibilities. The results of that single scenario are included in this report. However, the future is uncertain, and the Scheme's actual experience will differ from those assumptions; these differences may be minor in their overall effect, or they may be significant and material. In addition, different sets of assumptions or scenarios may also be within a reasonable range

and results based on those alternative assumptions would be different. For this reason, the impact on the results of various changes in assumptions are also shown in this report.

Actuarial assumptions may also be changed from one investigation to the next because of mandated requirements, evolving Scheme experience and changes in expectations about the future. I did not perform, and thus do not present, an analysis of the potential range of all future possibilities and scenarios.

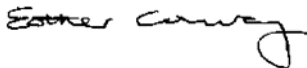
As actual Scheme experience will differ from the assumptions, decisions about benefit changes, investment policy, funding amounts and/or benefit related issues should be made only after careful consideration of possible future financial conditions and scenarios and not solely on the basis of a set of actuarial investigation results.

**Next Actuarial Investigation**

Under the Act, an actuarial report must be prepared every three years. The next actuarial investigation is scheduled to be conducted as at 30 June 2026. At that time, the estimated costs of the Scheme and the proportion of Scheme benefits to be met from Fund assets will be reassessed.

**Further Information**

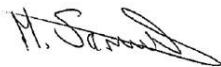
I am available to provide any supplementary information and explanation about this actuarial investigation as may be required.



.....  
**Esther Conway**  
**Fellow of the Institute of Actuaries of Australia**

**5 June 2024**

I have reviewed this report under Mercer’s professional Peer Review Policy. I am satisfied that it complies with the applicable professional standards and uses assumptions and methods that are suitable for the purpose.



.....  
**Mark Samuels**  
**Fellow of the Institute of Actuaries of Australia**

**5 June 2024**

## Appendix A

# Benefits and Contributions

The Scheme's benefit entitlements are complex. A **summary** of the main benefit provisions is set out below. A full description of all the benefits is set out in the Act and Regulations, as amended from time to time. The summary below should not be relied upon to calculate benefits for individuals. Reference must be made to the formal governing documents for definitive statements.

### Contributions

Benefits are based on contribution points. One contribution point is awarded for each month of contribution, with proportional points awarded for part-time employees.

Members contribute at a constant contribution rate, based on their age at the time of entry to the Scheme. Member contribution rates are:

Age at Commencement	Contribution Rate
less than 20	5.0%
20	5.1%
21	5.2%
22	5.3%
23	5.4%
24	5.5%
25	5.6%
26	5.7%
27	5.8%
28	5.9%
29 and over	6.0%

Members who hold the rank of senior sergeant or a lower rank and who have worked on rostered shifts during the contribution period will have their salary increased by 10% for the purpose of determining contributions and benefits.

### Retirement Benefits

The retirement age is 55 for most members. A contributor who has reached this age is entitled to a pension and a lump sum.

(i) The pension is calculated as:



$$P = FS \times A \times \frac{2}{3} \times K \times \left( I + \frac{X}{600} \right)$$

where

FS = the contributor's actual or attributed salary;

A = the lesser of 1.0 and the numerical value obtained by dividing the number of the contributor's accrued contribution points by 360 or, if the contributor has not reached age 60, the total of 300 and the number of months by which the contributor's age exceeds 55;

X = the number of months by which the contributor's age at retirement exceeds age 60;

K = a reduction factor which varies with the contributor's age at retirement.

(ii) The lump sum is calculated as:

$$LS = Pn \left( \frac{FS \times 0.91 \times M}{480} \right)$$

where

FS = the contributor's actual or attributed salary;

M = the number of months of the contribution period after 31 December 1987;

Pn = the proportion of full-time employment during that part of the contribution period after 31 December 1987.

## Early Retirement Benefits

A contributor who retires between age 50 and 55 is entitled to a lump sum benefit calculated as follows:

$$LS = 5.4545 \times A \times FS \times \left( 1 + \frac{0.1667 \times X}{100} \right) + Pn \left( \frac{FS \times 0.91 \times M}{480} \right)$$

where

FS = the contributor's actual or attributed salary;

A = the lesser of 1.0 and the numerical value obtained by dividing the number of the contributor's accrued contribution points by 360;

X = the number of months by which the contributor's age at retirement exceeds age 50;

M = the number of months of the contribution period after 31 December 1987;

Pn = the proportion of full-time employment during that part of the contribution period after 31 December 1987.

## Retrenchment Benefits

A contributor who has contributed to the Scheme for more than five years is entitled on retrenchment to receive a pension equal to the member's accrued pension and a lump sum.

## Disability Pensions

A contributor who is temporarily or permanently incapacitated for work, who is not eligible for weekly workers compensation payments and who has used all available sick leave credits, is entitled to a temporary disability pension. The pension will not be paid for periods of less than one week, and may not be paid if the incapacity is expected to last less than six months. Usually the temporary disability pension will be paid for a maximum of twelve months.

The amount of the pension is calculated as follows:

$$P = A \times \frac{2}{3} \times FS$$

where

FS = the contributor's actual or attributed salary;

A = calculated in the same manner as for the retirement benefit at age 60 but with prospective service to age 60 being included.

While a temporary disability pension is being paid, a contributor is not required to make contributions to the Scheme.

## Invalidity Benefits

When a contributor's employment is terminated because of invalidity, an invalidity benefit is payable. Where the incapacity is assessed as being likely to be permanent and at a level of 60% or more, the contributor is entitled to:

- (i) a pension at the same level as the age 60 pension entitlement; and
- (ii) a lump sum benefit.

Where the contributor's condition does not satisfy this requirement, a lump sum benefit is paid, equal to:

$$LS = 5.4545 \times A \times FS \times \left( 1 + \frac{0.1667 \times X}{100} \right) + Pn \left( \frac{FS \times 0.91 \times M}{480} \right)$$

with a minimum of twice actual or attributed salary.

where

FS = the contributor's actual or attributed salary;

A = the lesser of 1.0 and the numerical value obtained by dividing the number of the contributor's accrued contribution points by 360;

X = the number of months by which the contributor's age at retirement exceeds age 50;

- M = the number of months of the contribution period after 31 December 1987;
- Pn = the proportion of full-time employment during that part of the contribution period after 31 December 1987.

## Pensions Payable on Death of a Contributor

When a contributor dies, a surviving eligible spouse is entitled to a pension equal to two-thirds of the deceased contributor's notional pension, and if employed at death, a lump sum equivalent to the lump sum payable on retirement.

Children of a deceased contributor who are under the age of sixteen years, or who are undertaking full-time study and are under the age of twenty five years, are eligible for children's pensions. The rate of pension paid is dependent on the number of eligible children and on whether a spouse's pension is also payable.

Where a spouse's pension is payable, children's pensions vary from one ninth of the contributor's notional pension for one child to a maximum of one third of the contributor's notional pension divided among three or more eligible children.

Where no spouse's pension is payable, an orphan's benefit is payable varying from 45% of the deceased contributor's notional pension for one child to a maximum equal to 100% of the deceased contributor's notional pension divided among three or more eligible children. If employed at death, a lump sum equal to the greater of the balance of the contributor's contribution account and twice the contributor's final salary plus a lump sum equivalent to the lump sum payable on retirement. Otherwise a lump sum is paid equal to the balance of the contributor's contribution account.

Where no spouse or child pension is payable, a lump sum is payable equal to 7 times the actual or attributed salary reduced by the factor 'A' as used for early retirement benefit calculations plus a lump sum equivalent to the lump sum payable on retirement. If the contributor dies in the course of duty the minimum benefit is 3 times the actual or attributed salary.

## Resignation Benefits

On resignation, contributors may elect either to receive a cash lump sum equal to a return of their contributions with interest, or to preserve their benefit until retirement at or after age 55. Preserved benefits include full vesting of the employer share of benefits.

If contributors elect to receive a cash lump sum, they are also entitled on retirement to a preserved lump sum consisting of a Superannuation Guarantee Minimum Requisite Benefit, and a component calculated as:

$$Pn \left( AFS \times \frac{0.91}{480} \times M \right)$$

where

AFS = the contributor's actual or attributed salary on resignation adjusted for changes in the CPI since the date of resignation;

M = the number of months of the contribution period from 1 January 1988 to 30 June 1992;

$P_n$  = the proportion of full-time employment during that part of the contribution period from 1 January 1988 to 30 June 1992.

This preserved lump sum may also transferred to an approved fund, or paid on resignation if less than \$200 in value.

Where contributors elect to preserve their entitlements, the form of the benefit is determined by the contributor's length of contributory membership before resignation. For contributors with ten years or more membership, the benefit is in the form of a pension and lump sum, while for contributors with less than ten years membership, the benefit is in the form of a lump sum.

The lump sum preserved benefit for less than ten years membership consists of:

- (i) an amount equivalent to the amount standing to the credit of the contributor's contribution account; and
- (ii) an employer component equal to  $2 \frac{1}{3}$  times the balance of the contribution account; and
- (iii) a lump sum calculated as:

$$LS = P_n \left( \frac{AFS \times 0.91 \times M}{480} \right)$$

where

$AFS$  = the contributor's actual or attributed salary on resignation adjusted for changes in the CPI since the date of resignation;

$M$  = the number of months of the contribution period after 31 December 1987;

$P_n$  = the proportion of full-time employment during that part of the contribution period after 31 December 1987.

The preserved benefits for more than ten years membership consist of:

- (i) a pension equal to:

$$P = 0.5181 \times A \times AFS$$

where

$AFS$  = the contributor's actual or attributed salary at the date of resignation, adjusted for changes in CPI to the date of commencement of pension payment;

$A$  = the numerical value obtained by dividing the number of the contributor's accrued contribution points by the greater of 300 and the number of months between the age at entry and 55.

and;

- (ii) a lump sum equivalent to the benefit in part (iii) of 0 above

## Commutation

On commencement of an invalidity pension, up to 20% of the pension may be commuted for a lump sum, with full commutation available at age 55. Full commutation is available for retirement pensions. On attainment of age 55 in the case retrenchment pensioners, up to 50% of a pension entitlement may be commuted for a lump sum. The commutation basis is independent of sex or marital status, with the factor varying by age. The table below shows the amount of lump sum for each \$1.00 of pension commuted.

Age	Factor
65	\$9.50
64	\$9.70
63	\$9.90
62	\$10.10
61	\$10.30
60	\$10.50
59	\$10.70
58	\$10.90
57	\$11.10
56	\$11.30
55 or less	\$11.50

Spouses of deceased contributors may commute their full pension entitlement. Commutation rates are \$11.50 at ages below 50 reducing to \$8.50 at age 65 and continuing to reduce progressively at older ages.

## Indexation of Pensions

Indexation of pension payments occur at 1 October and 1 April each year, using the rate of change in the Consumer Price Index for Adelaide for the 6 month period to the last June and December quarter respectively. All pensions which commenced to be paid under the Police Pensions Act, 1971 are indexed at 1 1/3 times the change in the CPI index. Prior to April 2002, pensions were only adjusted in October.

## Police Occupational Superannuation Scheme – Additional Lump Sum Benefit

In addition to the above “Old Scheme” or “Pension Scheme” benefits, benefits previously payable under the Police Occupational Superannuation Scheme are now paid as an additional lump sum benefit under the Police Superannuation Scheme. This additional benefit is equivalent to 2.275% of final salary for each year of service.

# Reductions to Benefits

The above benefits may be reduced where an amount has been paid (or is payable) in respect of Family Law, Superannuation Surcharge or Division 293 tax.

## Appendix B

# Analysis of Decrement Experience

### Contributors

The experience of contributors during the three years to 30 June 2023 has been examined and compared with that assumed at the previous actuarial investigation.

### Retirements

Actual and expected age retirements for the three years to June 2023 were as follows:

	Males	Females
Actual retirements	235	46
Expected retirements	222	29
Ratio A / E	106%	157%

Actual age retirements were higher than expected for most ages especially for females. The rates have been adjusted to reflect those changes.

### Resignations

A comparison of actual and expected resignations and the rates of resignation, for the three years ending 30 June 2023, are shown below.

	Males	Females
Actual Resignations	3	0
Expected Resignations	1.3	0.6

The resignation rate equal to 0.003 for all ages adopted at the previous investigation has been retained.

## Preservation

The number of members electing to preserve their benefit on resignation is as follows:

	Males	Females
Actual Preserved	3	0
Expected Preserved	3	0

The assumption that 100% of members who resign over age 50 elect a preserved benefit has been retained from the previous investigation. At the previous investigation, lower rates were assumed for members below age 50, but there are no longer any contributors under age 50.

## Deaths

The mortality experience was as follows, with expected deaths determined according to the assumptions used in the previous investigation.

	Males	Females
Actual deaths	4	0
Expected deaths	4	1

The mortality rates used in the previous investigation have been retained.

## Invalidity Retirements

The invalidity experience was as shown below.

	Males	Females
Actual invalidities	13	5
Expected invalidities	14	3
Ratio A / E	93%	167%

The invalid retirement rates used in the previous investigation have been retained.

## Promotional Salary Increases

The total average annual increase in salaries over the three year period was 2.53% pa, of which 2% per annum can be attributed to general salary increases as set out in the 2021 EBA. Due to the relatively small number of contributors remaining we have simplified the assumption regarding promotional increases. In the previous investigation we applied an age based promotional scale in addition to the assumed rate of general salary inflation. In this investigation we have not made separate allowance for promotional salary increases but have included an allowance of 0.5% per annum in the future salary increase assumption.



## Commutation

Contributors can commute up to 100% of their pensions on age retirement. Contributors can commute up to 20% on invalidity retirement before age 55. Invalid pensioners may commute up to 100% of their pension on retirement after age 55 or on attaining age 55. New spouse pensioners may also commute up to 100%.

For the three years ended 30 June 2023 the commutation experience was as follows:

	Average Percentage of pension commuted (%)	
	Actual	Expected
<b>Age retirements:</b>		
Males	9.3%	10.0%
Females	9.0%	10.0%
<b>Invalidity retirements:</b>		
At start of pension	5.7%	7.5%
At age 55	7.7%	7.5%
<b>Spouses</b>	4.9%	0.0%

The commutation rates used in the previous investigation have been retained. Although commutation rates for spouses were higher than assumed, this experience has varied significantly from year to year, which is to be expected given the very small number of spouse pensioners expected to commute part of their pension benefit.

## Pensioners

The mortality experience of pensioners during the three years to 30 June 2023 has been examined and compared with that assumed at the previous actuarial investigation.

### Age Retirees

The mortality experience was as follows, with expected deaths determined according to the assumptions used in the previous investigation.

	Male			Female		
	Actual	Expected	Ratio A / E	Actual	Expected	Ratio A / E
55-59	-	0.6	n/a	-	0.1	n/a
60-64	5	4.5	110%	1	0.2	409%
65-69	9	7.0	129%	-	0.2	n/a
70-74	10	9.2	109%	-	0.2	n/a
75-79	12	10.6	113%	-	0.2	n/a
80-84	7	10.3	68%	-	0.3	n/a
85-89	21	17.7	119%	-	0.0	n/a
90-94	11	10.9	101%	-	0.0	n/a
95-99	7	3.9	180%	-	0.0	n/a
100+	1	0.3	314%	1	0.6	156%
<b>Total</b>	<b>83</b>	<b>75.0</b>	<b>111%</b>	<b>2</b>	<b>1.9</b>	<b>104%</b>

The mortality rates for both males and females have been retained.

## Spouse Pensioners

The mortality experience of spouse pensioners was as follows:

	Male			Female		
	Actual	Expected	Ratio A / E	Actual	Expected	Ratio A / E
55-59	-	0.02	n/a	-	0.1	n/a
60-64	-	0.05	n/a	-	0.3	n/a
65-69	-	0.02	n/a	3	0.7	440%
70-74	-	0.00	n/a	-	1.6	n/a
75-79	-	0.07	n/a	2	3.4	58%
80-84	-	0.04	n/a	8	8.2	97%
85-89	-	0.00	n/a	19	16.6	115%
90-94	-	0.00	n/a	14	19.2	73%
95-99	-	0.00	n/a	14	10.2	137%
100+	-	0.00	n/a	3	2.4	127%
<b>Total</b>	-	<b>0.2</b>	<b>n/a</b>	<b>63</b>	<b>62.7</b>	<b>100%</b>

The mortality rates for both males and females have been retained.

## Invalid Pensioners

The mortality experience of invalid pensioners is summarised below:

	Males			Females		
	Year 1	Year 2	Later Years	Year 1	Year 2	Later Years
Actual deaths	-	-	24	-	-	1
Expected deaths	1.2	*	19	*	*	*

\* Less than one expected death.

Previously, higher rates of mortality were assumed for invalid pensioners in the first and second years after invalidity retirement. Although it may be expected that invalid pensioners will suffer higher rates of mortality in the first few years after retirement, the impact of this assumption is now negligible given the very small number of recent and expected future invalid retirees. We have therefore simplified the assumptions and have no longer assumed higher rates of mortality in the first and second years following retirement, compared with later years.

We have also retained the previous assumed mortality rates for later years. Although the mortality was slightly higher than assumed over the three year investigation period, over the longer term the experience has been in line with the assumptions.

## Family Statistics

The average proportion of pensioners who died with an eligible surviving spouse, and the average age difference between the original member pensioner and their spouse, during the ten years to 30 June 2023 is shown in the table below:

	Percentage married (%)		Age of member less age of spouse (years)	
	Male	Female	Male	Female
Actual	68	33	+3.7	-4.9
Expected	70	59	+3.5	-2.5

Based on this analysis, the existing assumed family statistics remain unchanged from the previous investigation. Although the overall percentage married was lower than assumed for female pensioners, this varies significantly by age. At the younger ages (when this assumption has more significance) the percentage was in line with the assumptions.

# Appendix C

# Demographic Assumptions

## Rates of Retirement

Age	Current Contributors Males (2023)	Current Contributors Females (2023)	Current Contributors (2020)	Preserved Contributors (2023)	Preserved Contributors (2020)
50	0.001	0.100	0.001	-	-
51	0.001	0.100	0.001	-	-
52	0.001	0.100	0.001	-	-
53	0.001	0.100	0.001	-	-
54	0.001	0.100	0.001	-	-
55	0.060	0.100	0.060	1.000	0.950
56	0.060	0.100	0.060	1.000	0.900
57	0.070	0.100	0.070	1.000	0.900
58	0.090	0.100	0.090	1.000	0.900
59	0.120	0.100	0.120	1.000	0.900
60	0.500	1.000	0.500	1.000	1.000
61	0.350	1.000	0.350	1.000	1.000
62	0.350	1.000	0.350	1.000	1.000
63	0.350	1.000	0.350	1.000	1.000
64	0.350	1.000	0.350	1.000	1.000
65	0.350	1.000	0.350	1.000	1.000
66 – 69	0.250	1.000	0.250	1.000	1.000

### Contributor Mortality Rates

Age	Males	Females
50	0.00161	0.00100
55	0.00229	0.00139
60	0.00265	0.00155

### Contributor Invalidation Retirement Rates

Age	Males	Females
50	0.00750	0.00518
55	0.01141	0.00723
60	-	-

### Contributor Resignation Rates

Age	Males & Females
50-54	0.00300

### Preservation Proportions

Age	Proportion (2023)	Proportion (2020)
50+	100%	100%

## Family Statistics – Males

Age	Percentage Married (%)	Age of Husband less age of Wife	No. of dependent children	Average age of dependant children
50	94	3	1	15
55	94	3	-	-
60	92	3	-	-
65	91	3	-	-
70	89	3	-	-
75	85	3	-	-
80	79	3	-	-
85	69	4	-	-
90	53	4	-	-

## Family Statistics – Females

Age	Percentage Married (%)	Age of Husband less age of Wife	No. of dependent children	Average age of dependant children
50	81	3	1	15
55	79	3	-	-
60	76	3	-	-
65	73	3	-	-
70	68	2	-	-
75	61	2	-	-
80	49	2	-	-
85	33	2	-	-
90	16	2	-	-

## Pensioner Mortality Rates

Age	Age Retirees		Invalid Pensioners		Spouse Pensioners	
	Males	Females	Males	Females	Males	Females
40	-	-	0.01500	0.01500	0.00134	0.00074
45	-	-	0.01500	0.01500	0.00194	0.00113
50	-	-	0.01500	0.01500	0.00269	0.00167
55	0.00237	0.00145	0.01500	0.01500	0.00395	0.00241
60	0.00353	0.00206	0.01500	0.01500	0.00588	0.00343
65	0.00514	0.00308	0.01500	0.01500	0.00857	0.00513
70	0.00893	0.00565	0.01644	0.01500	0.01370	0.00867
75	0.01680	0.01090	0.02822	0.01830	0.02352	0.01525
80	0.03378	0.02304	0.05122	0.03493	0.04268	0.02911
85	0.07200	0.05244	0.09760	0.07108	0.08133	0.05923
90	0.14660	0.11821	0.17592	0.14185	0.14660	0.11821
95	0.21960	0.20149	0.26352	0.24179	0.21960	0.20149
100	0.30175	0.30832	0.36210	0.36998	0.30175	0.30832

The pensioner mortality rates have been based on the standard population mortality published in the Australian Life Tables 2015-17 (ALT 2015-17), adjusted for mortality improvement since the date of publication of the table.

For retiree pensioners, we have used the percentage of the population mortality, being 60% at ages below 65, increasing linearly to 100% at age 90 and above.

For spouse pensioners we have used 100% of population mortality at all ages.

For invalidity pensioners we have used 120% of population mortality at all ages, subject to a minimum rate of 1.5%.

These percentages are the same as those used for the 2020 investigation.



## Rates of Mortality Improvement

Age	Males (%)	Females (%)
60	2.553	2.163
70	2.986	2.396
80	2.350	2.029
90	0.889	0.801
100	0.081	-

Allowance is made for mortality improvement since the date of publication of ALT 2015-17 and assumed future improvements (i.e. reductions) in the rates of pensioner mortality. The mortality improvement assumptions are based on the improvement factors published in the ALT 2015-17. These factors have been derived from historical trends of the Australian population over the last 25 years. The table shows the annual rates of decrease of mortality rates at each age.

## Commutation

Pension Type	Percentage Commuted
Age Retiree	10.0
Invalid Retiree	7.5
Spouse	-



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