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WA Fire Brigades Superannuation Fund

Actuarial Report
Main Fund Section
1 July 2001 to 30 June 2002

Prepared by:

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September 2002



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I EXECUTIVE SUMMARY

Outlined below is a summary of the main points resulting from the actuarial review of the WA Fire Brigades Superannuation Fund as at 30 June 2002.

- This report deals with the main defined benefit section of the Fund and does not include the supplementary disablement section of the Fund.
- The overall membership of the Fund increased by 37 over the year to 1,284 members as at 30 June 2002. In particular:
 - the number of Category A defined benefit members reduced from 915 to 910 over the year;
 - Category A accumulation section membership decreased by 2 to 49 members;
 - Category B membership increased by 5 to 56 members;
 - the number of members who have retained all or part of their benefit in the Fund after leaving employment increased from 154 to 181;
 - the number of allocated pensioners increased from 76 to 88 over the year.
- Returns for the Fund were negative this year (as they were for many funds), with the defined benefit section of the Fund earning an investment return of –4.6% net of tax and investment expenses for the year. The smoothed rate of return was 1.6%, with an investment fluctuation reserve of –2.5% as at 30 June 2002. The smoothed return of 1.6% was well below both:
 - the 6.8% increase in average salaries; and
 - the 4.8% increase in three-year final average salaries over the year.
- The Board's investment objective is to achieve investment returns of at least 4.0% per annum above increases in final average salaries over rolling five-year periods. For the five-year period to 30 June 2002, the Fund has not met this objective, achieving average investment returns of 1.4% per annum over and above the increase in final average salaries. This return has reduced substantially from the five-year period to 30 June 2001 when the real return was 6.5% per annum.
- The benefit protection reserve, which is retained in the Fund to cover the shortfall between the expected revenue from contributions each year and the accrual of members' benefits, has been decreased from a ten year reserve of \$13.7 million to a six year reserve of \$10.1 million.
- 6 In terms of the financial position of the Fund, the asset backing index at 30 June 2002 is 85, which is in line with the target funding level. This asset backing index was maintained by reducing the level

- of the benefit protection reserve. If the benefit protection reserve had been maintained at 10 years the asset backing index would have reduced from 85 to 78.
- Although the Fund's financial position has declined, it remains sound and the benefits of all members remain covered by the current level of assets. Accordingly, we recommend that the existing employer contribution rate of 11.75% of salaries remains unchanged. This employer contribution is in addition to the 1% supplementary disablement contribution.
- 8 Projections of the financial position of the Fund over the next 10 years indicate that the Fund is likely to remain in a sound financial position. Projections indicate that the asset backing index is expected to remain at around 85 until the end of year 6, when it is expected to decline as the benefit protection reserve will be exhausted at this point.
- As a result of the continuing economic uncertainty in the USA and globally, and increased volatility in global financial and capital markets, additional projections were undertaken to confirm the Fund's ability to withstand another year of low or even negative investment returns without compromising the solvency position of the Fund. Although the Fund would withstand these losses, the benefit protection reserve would be eroded and the Fund would require a real return of 4.0% per annum to restock the benefit protection reserve in the following years.

Catherine Nance

Authorised Representative of

PricewaterhouseCoopers Securities Ltd

Director,

Financial Advisory Services PricewaterhouseCoopers

Date 7 Odaber



II INTRODUCTION AND BACKGROUND

Annual actuarial investigations have been performed for the WA Fire Brigades Superannuation Fund since its inception in 1977. This actuarial review reports on the period from 1 July 2001 to 30 June 2002 and has been carried out by Catherine Nance of PricewaterhouseCoopers. The last actuarial review of the Fund dated September 2001 pertained to the year ending 30 June 2001 and was also carried out by Catherine Nance of PricewaterhouseCoopers.

Governing rules

The WA Fire Brigades Superannuation Fund came into operation as a defined benefit fund on 29 April 1977. The Fund is governed by the following legislation:

- Fire Brigades Superannuation Act 1985; and
- Fire Brigades (Superannuation Fund) Regulations 1986.

The Regulations that govern the Fund set down the methods and formulae used to calculate the benefits payable from the Fund. A summary of the benefits is provided in Appendix 1.

Amendments to governing rules

No amendments have been made to the Act and Regulations during the 2001/2002 year.

Furthermore, there have been no further amendments gazetted post 30 June 2002.

However, we have been advised that the maximum discount period in the resignation benefits for Category A members will reduce from 30 years to 25 years, effective from 1 July 2002, to ensure that the resignation benefit for younger members is at least equal to the minimum benefit under the Superannuation Guarantee legislation.

The Fund is a complying fund under the Superannuation Industry (Supervision) Act 1993 and qualifies for concessional taxation treatment. The Fund is a taxable entity.

Section 17 of the Fire Brigades Act 1985 requires the Actuary to report in writing to the Superannuation Board on the financial condition of the Fund and to advise the contributions required to ensure the stability of the Fund in future years and to secure the rights of members. This report meets this requirement as well as Professional Standard No. 400 issued by the Institute of Actuaries of Australia.

Data

All membership data used in the actuarial investigation was provided by the WA Fire Brigades Superannuation Board. Extensive reconciliation and checks were made on the membership data to confirm the accuracy of the benefit information provided. At the time of undertaking the actuarial review, the accounting information was still in draft form.

Impact of recent events

In assessing the ongoing funding and solvency position of the Fund, our valuation methodology requires us to make an assessment of expected future investment returns, which can be impacted by general economic conditions and other factors such as interest rates, inflationary expectations, real GDP growth and exchange rates, as well as specific factors relating to particular industries/sectors in which the Fund is invested.

The increased economic uncertainty in the USA and globally, and increased volatility in global financial and capital markets will have a direct effect on equity and asset values, and the assessment of value, particularly in the short term. Consequently, we expect that equity and asset values will remain more volatile in the short-term.

You should be aware that equity and asset values used in this report are as at 30 June 2002, and that the solvency and funding position may change suddenly and that change may be significant if the values of the Fund's investment change substantially.

If you intend to rely on the information set out in this report after the date of this report to make any changes in relation to the Fund, you should only do so after consultation with us to ensure that our recommendations are still valid as at the date of making any decision.



III PROGRESS OF THE FUND

Membership

At 30 June 2002, there were 1,284 members in the Fund consisting of:

Membership category	No. of	Change from 30 June 2001
Category	members	30 June 2001
Active membership:		
Category A Defined Benefit	910	-5
Category A accumulation	49	-2
Category B	<u>56</u>	<u>+5</u>
	1,015	-2
Pensioners and inactive members	ers:	
Allocated pensioners	88	+12
Retained benefits	<u>181</u>	<u>+27</u>
	269	+39
Total membership	1,284	+37

The overall membership of the Fund has increased by 37 members over the year (up from 1,247 members at 30 June 2001).

Contributing membership

A summary of the changes in the active membership (Categories A and B) over the three-year period to 30 June 2002 is shown below:

	1999/00	2000/01	2001/02
Membership at start of year:	1,001	1,018	1,017
New entrants:	81	146	88
Exits: Retirements	15	14	20
Deaths	-	1	2
Total disablements	7	9	7
Partial disablements	7	3	1
Resignations	25	57	41
Transfers between categories	10 64	63 147	19 90
Membership at end of year:	1,018	1,017	1,015

Note:

Members transferring between categories have been included as an exit from the relevant category and a new entrant in the new category in order to balance membership numbers with the next table.

A further breakdown of the changes in membership over the 2001/02 year is as follows:

		2001/02	
	tegory A ned Benefit	Category A t Accumulation	Category B n
Membership at			
start of year:	915	51	51
New entrants:	42	15	31
Exits:			
Retirements	6	11	3
Deaths	2	-	-
Disablements	2	5	-
Partial disablement	s 1	-	-
Resignations	20	-	21
Transfers to Category A Defined Benefit	-	-	2
Transfers to Category A accumulation	15	-	-
Transfers to			
Category B	1 47	1 17	26
Membership at end of year:	910	49	56

Of the 90 members (with total entitlements of \$24.2M) who ceased employment during the year, 59 (or 66%) elected to retain all or part of their benefit (totalling \$17.4M, or 72%) in the Fund as either a retained accumulation account (\$12.0M) or an allocated pension (\$5.4M). Sixteen members purchased allocated pensions during the year, increasing the number of allocated pensioners in the Fund to 88 at 30 June 2002.



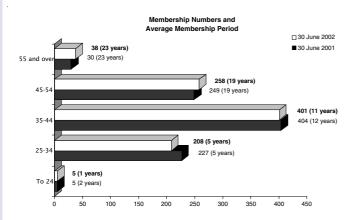
Membership statistics

Membership statistics for both the Category A and B members as at 30 June 2002 are as follows:

	ntegory A ned Benefit	Category A Accumulation	~ •
Number	910	49	56
Average age (years)	41	59	42
Average length of membership (years)	13	31	2
Average salary	\$51,163	\$55,200	\$35,750
Average final average salary	\$47,082	n/a	n/a

Age Distribution

The age distribution of the 910 Category A defined benefit members is shown below along with the average length of membership for each group:



Out of the 910 Category A defined benefit members, 38 (or 4%) are eligible for early retirement.

New entrants

The average age of the 42 Category A defined benefit new entrants over the past year was 36 years old and their average salary was \$42,893.

Economic factors

Actual earning rates

The retirement benefits provided by the Fund are all based on a multiple of the final average salary of the members. The final average salary of a member is calculated as the average of the salary received during the three years immediately prior to retirement. The benefits, and therefore the liabilities of the Fund, increase in line with increases in the members' salaries. It is therefore essential over the longer-term that investment returns exceed increases in the members' salaries to ensure that the Fund keeps pace with its liabilities.

The investment returns of the Fund and the average increase in Category A defined benefit salaries (for continuing members) are summarised below.

Year ending 30 June	Investment returns	Increase in average salary	Real return
	%	%	%
1998	11.0	7.4	3.6
1999	8.3	7.2	1.1
2000	13.0	4.7	8.3
2001	4.8	4.2	0.6
2002	-4.6 ⁽¹⁾	6.8	-11.4
3 Year average (pa)	4.2	5.3	-1.1
5 Year average (pa)	6.3	6.1	0.2
Since Inception (pa)	11.4	7.4	4.0

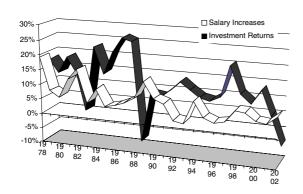
Note (1)The return for the year ending 30 June 2002 quoted above excludes the future income tax benefit. The actual Fund return including future income tax benefit for the year ending 30 June 2002 is -3.5%.

These investment returns are based on the market values of the investments as at 30 June each year and are net of tax and investment manager expenses but not net of the Fund's administration expenses. Net of administration expenses, the return for the year to 30 June 2002 was -4.7%.

The average increase in salaries over the year was 6.8%.

The graph below shows the historical picture of the Fund's annual investment returns since inception in 1977 versus salary increases. A full history of the annual investment returns and salary increases since inception of the Fund is contained in Appendix 3.





Smoothed asset values & investment fluctuation reserve

Superannuation is a long-term investment and employers expect stability in their year-to-year contribution rates whilst members expect stability in year-to-year earning rates. By comparison, certain asset classes, particularly shares and property, can be substantially affected by short-term fluctuations in their market values.

In assessing the financial state of the Fund, the earning rate to be declared to members and the employer contribution rate required for future years, it is preferable to eliminate the effect of any short-term fluctuations from the market valuations of the investments. This helps to ensure that the recommended employer contribution rates are not over or under estimated as a result of a temporary deviation in the market value of the investments.

Accordingly, we calculate a smoothed or adjusted asset value. Smoothed asset values were calculated for both the local and overseas equity investments, as well as the Fund's listed property investments. The calculation is generally based on long-term 10-year trend lines for each of these asset sectors. However in some years, such as the last two financial years, adjustments are made to these trend lines to counter the impact of unusually large changes in asset values. The indices used in calculating the trend lines for each sector were:

Australian shares - S&P/ASX 300

(Merged) Price Index

- Overseas shares - MSCI World (Ex. Aust) Index

(Net Dividends Re-Invested)

Listed property - S&P/ASX

Property Trust Price Index

In recent years, returns from equity markets have been below the long term trends, resulting in write-ups in the values of the Fund's assets in previous valuations. Over the last 12 months, the Australian share sector lost 4.5% (compared to a gain of 9.1% in 2001), resulting in a small write-up on the Australian share component of the Fund.

Returns from overseas share markets were much weaker during the last 12 months, with the overseas share index falling 23.5% (compared to a loss of 6.0% in 2001). Consequently, there has been a large increase in the write-up this year.

The listed property sector had another strong performance this year with a return of 15.2% for the year (following 13.9% in 2001). Consequently, the actual index value for this sector was again above the long-term trend line at 30 June 2002. This resulted in a small write-down on the Fund's listed property assets by 4%.

The adjustments for each of these sectors as at 30 June 2002 are shown below:

Asset sector	Adjustment to 30 June 2002 market value		
Australian shares	+3% (up from –5% in 2001)	write up	
Overseas shares	+10% (up from 2%)	write up	
Listed property	-4% (down from -1%)	write down	

Based on the Fund's asset values as at 30 June 2002, the overall write-up was calculated to be 2.7%. For the purpose of this actuarial review, we have set the overall write-up for the portfolio at 2.5%. A write-up of 2.5% corresponds to an investment fluctuation reserve of -2.5%.

A summary of the accounts showing the net market values, the investment adjustment, and the smoothed market values is provided in Appendix 2.



Adjusted earning rates

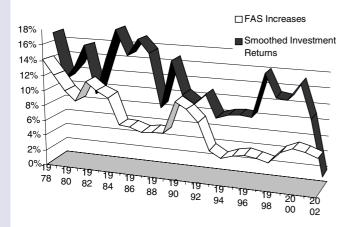
Having eliminated any short-term fluctuations in the asset values by using a smoothed value of assets, we can now calculate the smoothed real rate of return for the Fund during the year.

Since the Fund's liabilities are essentially members' benefits (which are calculated using the "three-year final average" of members' salaries), it is appropriate to compare the "smoothed" investment returns with the increases in the "three-year final average salaries". Increases in smoothed investment returns and final average salaries (for continuing Category A defined benefit members) are summarised below.

Year ending 30 June	Smoothed investment returns	Increase in three-year average salaries	Real return
	%	%	%
1998	11.0	3.6	7.4
1999	10.8	5.1	5.7
2000	13.0	5.8	7.2
2001	8.7	5.5	3.2
2002	1.6	4.8	-3.2
3 Year average (pa)	7.7	5.3	2.3
5 Year average (pa)	8.9	4.9	4.0
Since Inception (pa	11.5	7.2	4.3

These investment returns are based on the smoothed market values of the investments as at 30 June each year and are net of tax and investment manager expenses but not net of the Fund's administration expenses. Net of administration expenses, the return for the year to 30 June 2002 was 1.5% per annum.

The graph below shows the smoothed investment returns versus increases in final average salaries for each year since the inception of the Fund. A full history of the annual smoothed investment returns and increases in final average salaries is contained in Appendix 3.



Investment objective

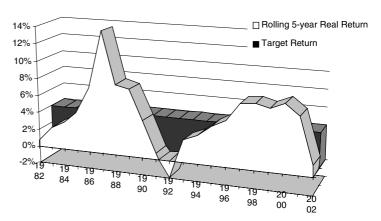
The Fund's overall investment objective is to earn at least 4% per annum in real yields (on an unadjusted basis) over and above final average salary increases over rolling five-year periods.

Over the five-year period to 30 June 2002, the Fund's performance against the benchmark has been as follows:

Investment Returns (unadjusted):
Final Average Salary Increases:
Real Return:
Target Return:
6.3% per annum
4.9% per annum
1.4% per annum
4.0% per annum

For the five years to 30 June 2002, the Fund has not met its investment objective with investment returns on an unadjusted basis exceeding three-year final average salaries increases by 1.4% per annum compared with an objective of 4.0% per annum. The excess has reduced substantially from the five-year period to 30 June 2001 when the real return was 6.5% per annum.

The following chart shows the history of the rolling fiveyear real yields compared to the Fund's investment target of 4% per annum:



A full history of the rolling five-year real yields compared to the Fund's investment target of 4% per annum is detailed in Appendix 3.



IV ASSET BACKING INDEX

Method of calculation

The funding method used for this review is based on an index of asset backing. This index describes the relationship between the assets and the liabilities. By monitoring the index regularly, we can analyse the performance of the Fund. By projecting the index forward, we can determine the appropriate contribution rates for the next three years, as well as the likely progress of the Fund over the next 10 years.

The index is based on the present day value of the accrued retirement benefits. The accrued retirement benefit for a member is the portion of the retirement benefit relating to service completed as at the date of calculation.

The asset backing index reflects the real rate of return which the Fund would need to earn on its investments, in order to meet the retirement benefits accrued to date, as and when they fall due in the future.

The table below shows the asset backing index corresponding to various real rates of returns:

Asset backing index	Corresponding real rate of return per annum	
50	5.0%	
60	4.0%	
70	3.0%	
85	1.5%	
90	1.0%	
100	0.0%	

For example, if your Fund had an asset backing index of 85, it would mean that your investment returns would need to exceed the increase in final average salaries by 1.5% per annum in the future, to ensure that your existing assets would be sufficient to meet the existing liabilities or benefits when they eventually became payable.

If your Fund had an asset backing index of 100, then as long as your investment returns kept pace with the increases in the final average salaries, the existing assets would be sufficient to meet the future payment of benefits accrued to date.

An asset backing index of greater than 100 implies that the Fund is in surplus and has a buffer which could possibly be used for either benefit improvements and/or reductions to the employer's contribution rates.

The asset backing index is a very simple way of understanding the financial state of your Fund. It is easily tracked, and the history of the asset backing index enables the progress of your Fund to be easily followed.

Target asset backing index

In order to assess the financial state of your Fund and provide a basis for determining the future employer contribution rates, it is necessary to establish benchmarks for the asset backing index appropriate to your particular Fund.

The objectives for a suitable "target" level of the asset backing index should:

- reflect expected and realistic long-term investment returns; and
- ensure the security of members' benefits.

The target index for this Fund has been "85" since the introduction of investment tax in 1988 and I see no cause to vary this target. This index assumes that the investment returns will exceed increases in the final average salary by 1.5% per annum on average over the long-term. This assumption reflects historical long-term performance figures generally and is a reasonable estimate for a Fund such as yours.

Minimum asset backing index

In addition to the target index, we also need to establish a suitable minimum level for the asset backing index. If it appeared that your Fund's asset backing index was likely to reduce below the minimum level, then some form of action would be required.

The minimum index should ensure that members' minimum benefit entitlements remain covered by the assets at all times. If all members were to leave on the same day, the minimum entitlements are equivalent to all members taking a resignation benefit or retirement benefit if eligible. The minimum index would represent the assets required to cover the payment of these minimum entitlements.

Under the SG legislation, the current minimum benefit to be provided to all employees is equivalent to a 9% employer-funded benefit. An accrual rate of 21.5% combined with the 2% resignation discount rate (and maximum discount period of 25 years) results in a benefit greater than the minimum SG benefit for all Category A members when they leave employment. However, in order for the Fund's benefits to meet the minimum SG benefit, the discount rate cannot be increased beyond 2% without necessitating a change to the benefits, particularly for those younger members most affected by the discount.

The minimum index appropriate for your Fund is therefore 80 as this corresponds to the maximum discount rate allowed for by the SG legislation with respect to your existing benefits.



Benefit protection reserve

Since the inception of the Fund in 1977, the Trustee has made regular improvements to members' benefits as and when the resources of the Fund permit. These improvements have occurred mainly as a result of the Fund achieving good investment returns.

Over this time, the accrual rate for members' benefits has increased from 12.5% for each year of membership to 21.5%. However, at this level of accrual, the cost of the benefits each year is higher than the contribution revenue being received from both members and the employer. In order to adequately support the future accrual of members' benefits at this level, the Fund needs to retain a sufficient level of reserve within the Fund for the purpose of funding the future accruals of members.

In recent years, the Fund has earned sufficiently high investment returns and has held a reasonable level of reserve to maintain the sound financial position of the Fund and meet the difference between members' accruals and contribution revenue. If the Fund does not hold any reserve in the Fund for the purpose of meeting future accruals, then the Fund needs to earn a real return of at least 3-3.5% per annum in order just to break even. If the Fund does not achieve a real return in the order of 3-3.5% each year, the financial position of the Fund would quickly deteriorate below the target asset backing index of 85.

While real returns of this magnitude have been achieved in the past, real returns have been lower in the last two years (negative last year). We do not believe that it would be prudent to rely solely on achieving such high real rates of return in future years. A real rate of return of 3-3.5% per annum is relatively high in terms of long term historical returns, and we believe that it is more reasonable to assume that real returns are likely to continue to trend down towards the lower long term average in future years.

Accordingly, a benefit protection reserve was introduced in 1999 to explicitly quantify the amount of reserve that is required to be retained in the Fund in order to meet the shortfall between expected contribution revenue and future accruals. This ensures that the Fund will remain in a good financial position in both the good investment return years and the poorer investment return years. The benefit protection reserve is excluded from the asset backing index so that the index only reflects the available surplus (if any) in the Fund (as opposed to reserve required to meet future accruals).

The level of any benefit protection reserve required will depend on the level of future investment returns that the Fund expects to achieve. Over the long term, we believe that a real return of 1.5% per annum is a reasonable estimate for this Fund.

For the purposes of determining a suitable level of the benefit protection reserve, we have based our calculations on the economic assumptions used in our "standard" projection plus other assumptions as detailed in Appendix 5. In particular, we assumed a real rate of return equal to 1.5% per annum over the next 10 years.

In the past, we have set this reserve equal to ten years of contributions which would otherwise be required to maintain the asset backing index of 85. As at 30 June 2002, this reserve would be \$16.2 million. However, this year there are insufficient assets to meet this level of reserve due to poor investment returns over the last year resulting in a greater draw down of the reserve than anticipated. In addition, the required additional contribution has increased from 3.5% to 4.0% per annum as the membership has aged, in particular, the average age of new entrants (36) has been greater than expected (33).

Accordingly, we have had to reduce the benefit protection reserve as at 30 June 2002 to \$10.1 million. This equates to an additional annual contribution equal to 4.0% per annum net of tax for the following six years.

Consequently, to determine the financial position of the Fund, the assets relating to the defined benefits accrued to date are calculated as follows:

Net smoothed value of assets:	\$215,571,438
Less:	
Category A defined benefit	
additional accounts	\$21,120,814
Category A accumulation accounts	\$20,351,123
Category B accounts	\$973,959
Retained Benefits	\$31,869,820
Allocated Pensions	\$21,108,171
Supplementary Disability Pensions	\$5,308,947
	\$114,838,604
Benefit protection reserve	\$10,133,973
Leaving:	
Net assets available for	
accrued defined benefits	\$104,704,631

Asset backing index at 30 June 2002

Taking into account the above, and making an allowance for the benefit protection reserve, the current asset backing index of the Fund as at 30 June 2002 is shown below:



Asset backing index	
Fund's index as at 30 June 2002	
- with 6 year benefit protection reserve 85.0	
- with 10 year benefit protection reserve	78.0
Target index	85.0
Minimum index	80.0

By reducing the benefit protection reserve from ten years to six years, the asset backing index as at 30 June 2002 is retained at 85. However, if the benefit protection reserve was maintained at ten years, the asset backing index would reduce to 78.

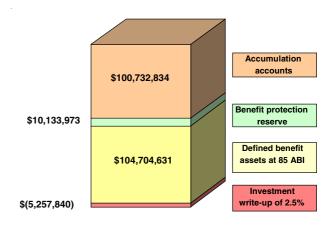
In previous years, the Board has indicated a preference for distributing any surpluses earned over the target ABI index of 85. As the Fund's current asset backing index as at 30 June 2002 does not exceed 85, there is no surplus available for distribution to members.

The asset backing index values for the Fund over the last 5 years are shown in the table below:

1 July	Asset backing ind	ex
	%	
1998	95.9	(no allowance for benefit protection reserve)
	81.9	(includes allowance for benefit protection reserve)
1999	86.8	(prior to surplus distribution)
	85.0	(after surplus distribution of a pproximately \$1.5m)
2000	93.4	(prior to surplus distribution)
	85.0	(after surplus distribution of approximately \$7.7m)
2001	85.0	
2002	85.0	(includes allowance for a 6 year
	78.0	benefit protection reserve) (includes allowance for a 10 year benefit protection reserve)

Note: Except where indicated, all indices include an allowance for a 10 year benefit protection reserve.

The following chart shows how the total net assets of \$210,313,598 are split between the various reserves, accounts and surpluses.



Note: The Accumulation accounts figure shown above includes the Supplementary Disability pension assets.

Appendix 4 provides a history of the asset backing index levels since inception of the Fund in 1977, along with a history of the improvements made to the defined benefit accrual rate and any surplus distributions since commencement of the Fund.

Gains and losses

Generally, the Fund makes a gain when the asset backing index increases, and a loss when the index decreases. The main sources of gains and losses over the past year can be summarised as follows:

Source	Financial effect	Comment
Investment returns	negative	Smoothed investment returns were less than the increase in final average salaries by 3.2%, resulting in a negative impact on the Fund's financial position.
Membership	negative	The liability for benefits which accrued in the past year exceeded the contributions received to fund these benefits.



V PROJECTIONS

Projection assumptions

So that the Board can see the expected future progress of the Fund over the longer-term, we have projected the Fund's asset backing index for the next 10 years.

The projections make a number of assumptions. The most significant of these assumptions are:

- the assumed member and employer contribution rates;
- the level of the benefit protection reserve;
- the assumed real rate of return from the Fund's investments

These are detailed below. The other assumptions are all explained in Appendix 5.

Member contribution rates

For the purposes of the projections, the member contribution rate is assumed to remain at the current level of 6.25% of current salary.

Employer contribution rates

For the purposes of the projections, the employer contribution rate is assumed to remain at the current level of 11.75% of current salary.

Benefit protection reserve

For the purposes of the projections, we have assumed that the benefit protection reserve of \$10.1 million is drawn down at a steady rate of 4.0% of salaries per annum until it is eventually exhausted in Year 6. This is in contrast with earlier years, where the reserve was exhausted in Year 10, as the Fund does not have sufficient assets to establish a reserve for the longer period. In addition, the rate of draw down has increased as the membership has aged.

No further allocations are made to the benefit protection reserve (except for investment earnings on the reserve itself) over the projection period.

Real rate of return

As discussed earlier, we believe that a realistic long-term objective for the Fund's investment returns is a real rate of return equivalent to 1.5% per annum. While it is not possible to say with any certainty what future investment returns and average salary increases will be, we believe that the long term assumption of a real return of 1.5% per annum is reasonable, and have used this assumption as the basis for projecting the likely financial position of the Fund over the next 10 years.

In practice, the Fund could either do better or worse in terms of investment returns than the assumptions used in the projections. To enable you to see the effect of different investment returns to those assumed, we have incorporated two additional projections, assuming better and worse investment returns.

The table below sets out the economic assumptions used for the 10-year projections:

Projection	Final average salary increase	Investment return	Real rate of return	
	% pa	% pa	% pa	
"Standard"	5.0	6.5	1.5	
"Unfavourable	e" 5.0	5.0	0.0	
"Favourable"	5.0	8.0	3.0	

"Standard" projection

The standard projection assumes a 1.5% per annum real rate of return over the next 10 years.

"Unfavourable" projection

The unfavourable projection assumes that the real rate of return underperforms the standard assumption by 1.5% per annum, giving an assumed real rate of return of 0.0% per annum.

"Favourable" projections

The favourable projection assumes that you would earn 1.5% more per annum than that assumed for the standard projection, giving an assumed real return of 3.0% for the next 10 years.

Change of assumptions

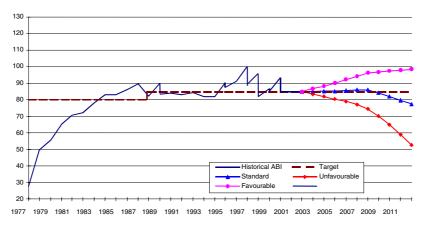
As a result of lower group life insurance premiums since the appointment of Hannover Life Re as the Fund's group life insurer, the assumed rate of expense has been reduced from 2.4% to 2.0% of salaries per annum.

This change has a small favourable impact upon the future asset backing index.



Projection results

The result of the projections are displayed in the following graph, along with the historical progression of the Fund's asset backing index:



These projections show that, under the standard assumptions, the asset backing index of the Fund is expected to remain around 85 over the next six years. At this point the benefit protection reserve is exhausted and the asset backing index declines at the rate of approximately 2 per annum.

Under the favourable assumptions, the asset backing index is expected to increase to around 100 after 10 years.

However, under the unfavourable assumptions, the asset backing index would fall to the minimum level of 80 after three years. This is because the benefit protection reserve is designed to cover the shortfall between the contribution revenue and the cost of each year's additional accrual, not any shortfall from investment earnings. If the Fund does not earn a real rate of return of at least 1.5-2.0% per annum over the average increase in final average salaries, the financial position of the Fund will deteriorate as shown under the unfavourable projection.

These projections show that the Fund's financial position is very sensitive to even a 1% difference in earning rates.

Impact of a poor investment year?

In recent time, returns from equity markets have been less than favourable with concerns over the extent of a global economic slowdown and additional uncertainty generated from the events in the US and the flow-on effects on economic growth and consumer/investor confidence.

In light of these events, we have examined the effect of a poor investment year on the Fund's funding and solvency positions.

If the Fund earned a 0% return on the smoothed assets (which translates to an actual return of approximately 2.5% on the net market value of the assets due to the -2.5% investment fluctuation reserve), then:

- the asset backing index would remain at 85, but the benefit protection reserve would reduce to a one year reserve rather than a six year reserve. The benefit protection reserve effectively acts as a buffer for the asset-backing index;
- the Fund would then need to earn a real return of approximately 3.0% per annum in subsequent years just to maintain the benefit protection reserve at a one year reserve;
- in order to re-stock the reserve back to a 10 year benefit protection reserve, the Fund would need to earn a real return of 4.0% per annum to fully rebuild the reserve after 10 years;
- the assets would cover the vested benefit, but may not do so in the following year.

While a poor investment year would significantly deplete the benefit protection reserve, the Fund does have the potential to withstand one or two years of poor investment market conditions before any action would be required in relation to either the employer contribution rate or adjusting the accrual rate in respect of members' benefits. Although not impossible, it would be unlikely that we would expect to experience three poor investment years in succession. While the benefit protection reserve does not provide any guarantees, it does enable the Fund to weather one or two poor investment years much more easily than if the reserve was not held at all.

In terms of the solvency position, while there is a benefit protection reserve in the Fund, members' vested benefits are covered by the available assets and reserves. Consequently, in the example above, an actual return of 2.5% for the year would still see members' vested benefits covered by the remaining assets. However, unless the investment performance improved considerably, assets could fall below vested benefits in the following year.



VI CONTRIBUTION RATES

Current contribution rates

The rates of contributions that have applied since the Fund's inception in 1977 are as follows:

	Contribution rate as a percentag of current salary				
Effective date	Members	Employer	Total		
29 April 1977 1 January 1988	6.25% 6.25%	8.75% 11.75%	15.0% 18.0%		

Under Regulation 16 of the regulations governing the Fund, we are required to advise the Superannuation Board of the amounts or rates of contribution required from the Western Australian Fire Brigades Board and each associated employer. Each employer is required to contribute at a rate of at least 8.75% of salaries. Currently, the employer contributes at a rate of 11.75% of salaries, representing the minimum 8.75% plus an additional 3% of salaries as a result of an industrial agreement.

The employer also contributes an additional 1% of salaries to the Fund in order to fund the supplementary disablement benefits available through the Fund.

Recommended employer contribution rate

As at 30 June 2002, the asset backing index of the Fund was 85.0 with a reduced benefit protection reserve of \$10.1 million for six years, which was in line with the target funding index of 85. If a ten year benefit protection reserve of \$16.2 million was established, the asset backing index would be 78.

Although the financial position of the Fund has declined, it remains sound. There is no justification for increasing the level of employer contributions at this stage. Furthermore, as the employer is currently contributing at the minimum level as set out in the Regulations governing the Fund and the associated industrial agreement, I recommend that the employer contribution rate remain unchanged at 11.75% until the next actuarial review of the Fund is carried out. This is in addition to the 1% payable in respect of the supplementary disablement benefits section.

VII SOLVENCY

Vested benefits ratios

Although the projections are an important tool for analysing the expected future progress of the Fund under various different investment assumptions, it is also important to assess the Fund's immediate solvency position. For example, if all members were to resign as at the valuation date, would there be sufficient assets to cover the possible transfer out of all benefits?

The immediate solvency position of the Fund can be assessed by several ratios.

Minimum vested benefits

This ratio measures the extent to which the minimum entitlements of members are covered by the net market value of the assets of the Fund. The minimum entitlements are those benefits payable if all members voluntarily resigned or retired (where aged over 55) as at the valuation date.

Before calculating this ratio, the net market value of assets must be reduced for the liabilities relating to non-contributing members, accumulation balances and the amount set aside to cover the supplementary disablement liabilities of the Fund.

Net market value assets	\$210,313,598
Less:	
Category A defined	
benefit additional accounts	\$21,120,814
Category A accumulation accounts	\$20,351,123
Category B accounts	\$973,959
Retained Benefits	\$31,869,820
Allocated Pensions	\$21,108,171
Supplementary Disability Pensions	\$5,308,947
Leaving:	
Net assets	\$109,580,764
Minimum defined vested benefits	
for category A defined benefit members	\$100,110,709
Minimum vested benefits ratio	109%

A ratio in excess of 100% means that the minimum vested benefits are covered by the net market value of the Fund's assets. A ratio of 109% represents a reasonable level of cover for the Fund's minimum vested benefits, although we would prefer a ratio of at least 110%. The minimum vested benefits ratio at the previous actuarial review was 125%.



Undiscounted accrued benefits

This benefits ratio assesses the level of coverage for the partial disablement benefits for all contributing members. The partial disablement benefit is the only benefit provided on an undiscounted basis and therefore, the only benefit likely to strain the Fund.

Net market value assets	\$210,313,598
Less:	
Category A defined	
benefit additional accounts	\$21,120,814
Category A accumulation accounts	\$20,351,123
Category B accounts	\$973,959
Retained Benefits	\$31,869,820
Allocated Pensions	\$21,108,171
Supplementary Disability Pensions	<u>\$5,308,947</u>
Leaving:	
Net assets	\$109,580,764
Partial disablement benefits	
for category A defined benefit members	\$120,555,236
Partial disablement's ratio	91%

As at the valuation date, the assets of the Fund were not sufficient to cover the undiscounted benefits payable on partial disablement. However, a shortfall of 9% is not a concern as it is not expected that all members would take a partial disablement benefit at the same time. The partial disablement's ratio at the previous actuarial review was 104%.

Termination provisions

Regulation 36 addresses the dissolution of an associated employer. In this event, the interest of the employer and the members in the Fund would be determined and then applied towards meeting members' benefits as if they had voluntarily retired, with any balance remaining to be distributed in such manner as is considered equitable. In the event that the associated employers had terminated on the valuation date, members' benefits on voluntary retirement would have been sufficiently covered by the assets. There is no specific provision covering the termination of the principal employer (being the chief executive officer), but in any event, assets are sufficient to cover the vested benefits of all members.

Target level of accrued retirement liabilities

In funding for the accruing retirement liabilities of members, the Fund has a benchmark or target level of the asset backing index of 85. This corresponds to a discount rate of 1.5% per annum and reflects the assumption that, over the longer-term, the real rate of return on the Fund's assets is expected to be 1.5% per annum.

In calculating the target value of the accrued retirement liabilities for Category A members, the accrued retirement benefit was calculated using past membership at the valuation date, current final average salary and the current accrual rate of 21.5% for each year of membership. The liabilities were then discounted at 1.5% per annum (corresponding to the target asset backing index of 85) for each year of age under age 55.

The level of coverage of assets over the target level of accrued liabilities is shown by the ratio below. For the purposes of measuring the funding levels (as opposed to solvency levels), the smoothed value of assets is used. We have also adjusted the assets to take into account the benefit protection reserve for the purposes of measuring the funding level.

Net smoothed value of assets	\$215,571,438
Less:	
Category A defined	
benefit additional accounts	\$21,120,814
Category A accumulation accounts	\$20,351,123
Category B accounts	\$973,959
Retained Benefits	\$31,869,820
Allocated Pensions	\$21,108,171
Supplementary Disability Pensions	\$5,308,947
	\$114,838,604
Future Benefit Protection Reserve	\$10,133,973
Leaving:	
Net assets	\$104,738,631
Target level of accrued benefits (based	
on 1.5% per annum discount rate)	\$104,704,631
Target accrued benefit ratio	100%

The target accrued benefit ratio of 100% means that the level of coverage of members' accrued retirement benefits is currently in line with the target funding level. The target accrued benefit ratio at the previous actuarial review was 100%.



Accrued benefit solvency ratio

For the purposes of measuring the solvency position of the Fund with respect to its accrued retirement liabilities, the level of coverage of the net market value of assets over the actual accrued retirement liabilities is shown below.

Net smoothed value of assets	\$210,313,598
Less:	, ,
Category A defined	
benefit additional accounts	\$21,120,814
Category A accumulation accounts	\$20,351,123
Category B accounts	\$973,959
Retained Benefits	\$31,869,820
Allocated Pensions	\$21,108,171
Supplementary Disability Pensions	\$5,308,947
Leaving:	
Net assets	\$109,580,764
Value of accrued benefits	\$104,704,631
Accrued benefit solvency ratio	104%

The net assets cover the accrued retirement liabilities by a margin of 4%. This represents a fair level of coverage for solvency purposes although we would prefer a ratio of at least 110%. The accrued benefit solvency ratio at the previous actuarial review was 119%.

VIII INVESTMENTS

Management of assets

As at 30 June 2002, the Fund had investments with the following external managers:

Core Managers

- BT Funds Management Limited;
- Invesco;
- Rothschild Australia Investment Management Limited;
- UBS Global Asset Management; and
- Zurich Investment Management.

Non-Core Managers

- AMP Henderson Global Investors (Property);
- BT Funds Management Limited (TAA); and
- JB Were (Australian shares).

The only change to manager composition over the year was the removal of Portfolio Partners and the appointment of UBS. In addition, the benchmark asset allocation of the core BT investment was modified during the year, however this investment has been terminated post June-2002.

As at 30 June 2002, the total assets invested were \$208,730,961. The table below shows the split between the external managers and the assets invested by the Board.

	Amount invested as at 30 June 2002	Invested assets at 30 June 2002	Invested assets at 30 June 2001
		(%)	(%)
Individual Mandates:			
BT	\$25,727,909	12.3%	11.7%
BT (TAA)	\$8,568,952	4.1%	3.9%
Invesco	\$37,597,293	18.0%	18.1%
Rothschild	\$34,777,579	16.7%	17.7%
	\$106,671,733	51.1%	51.4%
Pooled Superannuation T	rusts:		
AMP (Property)	\$4,491,930	2.2%	1.9%
Unlisted Unit Trusts:			
Portfolio Partners	-	-	11.2%
Zurich	\$23,602,292	11.3%	11.5%
UBS	\$24,043,661	11.5%	-
	\$47,645,953	22.8%	22.7%
Distributions Receivable:	\$1,216,282	0.6%	1.5%
Board Investments:	\$48,705,063	23.3%	22.5%
Total Investments	\$208,730,961	100.0%	100.0%

Asset allocation

Of the Fund's external core managers, four of the five have specific investment mandates which set out their asset allocation. These managers have passive asset allocations. The investment with UBS is in a diversified unit trust, which has active asset allocation. All non-core managers are sector specific investments. The Fund has a tactical asset allocation overlay, which is run by BT.

The current asset allocations for the five diversified managers as well as the tactical asset allocation overlay and the Board are shown below:

Asset class	BT %	BT TAA	Invesco %	Rothschild %	Zurich %	UBS %	Board %
	70	70	70	70	70	70	
Australian Shares	18.2	36.8	40.4	30.5	22.4	34.0	51.2
Overseas Shares	_	23.7	21.3	34.5	59.9	19.7	_
Property	0.2	-	6.3	6.9	-	8.1	32.5
Australian Fixed Interest Overseas Fixed	44.9	29.0	27.5	21.0	17.7	8.9	5.9
Interest	30.5	3.0	-	2.7	-	12.6	-
Indexed Bonds	-	-	-	-	-	4.9	-
Cash	6.2	7.5	4.5	4.4	-	11.8	10.4

The above asset allocations are allowed to, and do deviate from their benchmark allocations, as BT is responsible for re-balancing the overall portfolio.



BT tactical asset allocation overlay

The BT tactical asset allocation overlay includes two roles:

- Passive asset re-balancing; and
- Active asset allocation overlay.

The role of the passive asset re-balancing is to rebalance the underlying assets of the Fund back to the passive benchmark allocation.

The role of BT's active asset allocation overlay is to make tactical shifts around the passive benchmark. The primary objective of the tactical asset allocation overlay is to improve the overall investment return of the Fund.

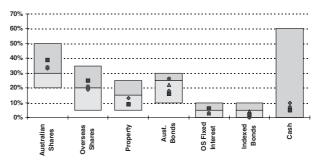
The BT tactical asset allocation overlay service has been in place for just over three years. Over the one-year and three-year periods to 30 June 2002, the active asset allocation overlay has detracted 0.2% pa from the Fund's return, while the passive overlay has added 0.2% pa.

The Fund's strategic asset allocation versus the passive benchmark allocation are both shown in the table below. Also shown is the actual asset allocation as at 30 June 2002.

1		Fund's Strategic Asset Allocation	Passive Benchmark Asset Allocation
Australian Share	es 33%	34%	37%
Overseas Shares	19%	21%	23%
Property Australian	13%	9%	0%
Fixed Interest Overseas	19%	26%	29%
Fixed Interest	6%	3%	3%
Cash	10%	7%	8%

As a result of BT being acquired by Westpac, they will no longer operate the tactical asset allocation mandate, so this investment will cease post 30 June 2002. This issue is addressed in a separate report.

The following graph shows the asset allocation of the Fund at 30 June 2002 and 30 June 2001, compared to the Board's benchmark and asset allocation ranges. Also shown is the medium-term strategic allocation and the asset-weighted average of Intech Pooled Superannuation Trusts as at 30 June 2002:



☐ Below Benchmark ☐ Above Benchmark ▲ Actual 2001 ♦ Actual 2002 ● Strategic ■ Intech

The main points to note about the asset allocation as at 30 June 2002 are as follows:

- 1 Compared to the strategic allocation, the Fund is:
 - overweight property (13% as compared to 9%);
 - underweight Australian bonds (19% as compared to 26%);
 - overweight overseas bonds (6% compared to 3%);
 and
 - overweight cash (10% as compared to 7%).
- 2 By comparison with the average of the Intech Growth Pooled Superannuation Trusts, the Fund is:
 - underweight Australian shares (33% as compared to 39%);
 - underweight overseas shares (19% as compared to 25%);
 - overweight property (13% as compared to 9%);
 - overweight cash (10% as compared to 5%).
- 3 From 30 June 2001 to 30 June 2002, exposure to:
 - Australian and indexed fixed interest reduced; while
 - property, overseas fixed interest and cash exposure increased.

The asset allocation for the Fund as at 30 June 2002 is in accordance with the Investment Policy Statement and is reasonable having regard to the liabilities of the Fund.



Investment performance

Under the existing investment mandates, there are specific performance benchmarks set for each manager and each sector. It is intended that each manager's performance will be measured against these targets over a three-year period.

The following tables show the one year returns by sector. The investment with UBS has not been shown as it has not been in place for a full year.

12-Month returns to 30 June 2002 (pre tax and expenses)	BT %	Invesco	Rothschild %	Index return %	Target return %
Australian Shares	-8.4	-5.4	-9.6	-4.5	-2.5
Overseas Shares		-22.5	-24.7	-23.5	-21.5
Property – Listed		18.2	13.7	15.2	16.2
Australian Fixed Interest	5.6	7.1	6.2	6.2	6.7
Overseas Fixed Interest	7.0		7.3	8.0	8.5
Total Return	1.2	-5.0	-9.6		

12-Month returns to 30 June 2002 (pre tax and expenses)	AMP	Zurich	Index return	Target return
	%	%	%	%
Australian Shares		-4.9	-4.5	-2.5
Overseas Shares		-17.9	-23.5	-21.5
Property	12.0		11.7	12.7
Australian Fixed Interest		6.1	6.2	6.7
Total Return	12.0	-11.7		

Notes:

- 1 The indices used are those shown in Appendix 8.
- 2 The Target Returns are shown in Appendix 9.

The shaded areas indicate the sectors where the standard targets have been met over the past year. The blue text indicates where returns of index or better have been achieved.

To summarise the one year returns:

- All of the Fund's external managers performed below index in the Australian share sector;
- In the overseas share sector, Zurich and Invesco performed above index, with Zurich also achieving the target return. Rothschild performed below index; and
- Invesco achieved the target return in the listed property sector, while Rothschild performed below index.

The following table shows the three-year returns by sector. The investment with UBS has not been shown as it has not been in place for three years.

Returns from 1 July 1999 to 30 June 2002 (pre tax and expenses)	BT % pa	Invesco % pa	Rothschild % pa	Index return % pa	Target return % pa
	// pa	<i>10</i> ра	ло ра	<i>п</i> ра	70 pa
Australian Shares	-0.3	8.0	7.0	6.2	8.2
Overseas Shares		-3.5	-6.7	-3.8	-1.8
Property – Listed		14.7	14.0	13.7	14.7
Australian Fixed					
Interest	6.5	6.8	7.0	6.6	7.1
Overseas Fixed					
Interest	6.3		6.3	7.3	7.8
Total Return	5.5	5.2	2.8		

Notes

1 Returns have been annualised for ease of comparison.

Returns from 1 July 1999 to 30 June 2002 (pre tax and expenses)	AMP % pa	Zurich % pa	Index return % pa	Target return % pa
	% ра	70 ра	70 pa	70 pa
Australian Shares		8.5%	6.2%	8.2%
Overseas Shares		1.9%	-3.8%	-1.8%
Property – Listed	11.7%		11.6%	12.6%
Australian Fixed				
Interest		6.7%	6.6%	7.1%
Total Return	11.7%	4.1%		

To summarise the three year returns:

- BT was the only fund manager to under-perform the index in Australian shares;
- Rothschild was the only manager to under-perform in overseas shares.

As a result of performance and organisational issues, all investment with BT either have or are in the process of being terminated.



Board investments

The Board's investments as at 30 June 2002 and 2001 were as follows:

Asset class	Board I investment	Board's assets as at 30 June 2002	Board's assets as at 30 June 2001
Australian Shares	\$24,942,54	1(1) 51.2%	53.3%
Property	\$15,820,00	00 32.5%	34.5%
Australian Fixed			
Interest	\$2,862,52	26 5.9%	6.0%
Cash	\$5,079,99	96 10.4%	6.2%
Total	\$48,705,00	53 100.0%	6 100.0%

Notes:

1 The Board's share investment excludes uncalled capital for the following:

Rothschild Golden Arrow Fund - \$120,000;

Foundation Millennium 2000 Ltd - \$1,497,286;

Foundation Millennium Unit Trust - \$1,816,781; Rothschild E Fund - \$1,561,643; and

Foundation Millennium 2000 IIF Trust - \$1,816,781.

The sector returns for the Board are shown below for the year to 30 June 2002. For comparison, the target returns applicable to the external managers are also shown.

Bo	ard return for		
Sector	year to 30 June 2002	Index return	Target return
Australian Shares	-5.6%	-4.5%	-2.5%
Property (direct)	1.5%	$8.3\%^{1}$	9.3%
Australian Bonds	9.1%	6.2%	6.7%
Overall Board Return	-1.2%		

Notes:

- 1 Based on the Intech direct property index.
- 2 The overall Board return is the return on the Board's investments, excluding cash holdings. The returns above are shown pre-tax.

Over the year, the Board performed below index in the Australian share and property sectors and outperformed in the Australian bond sector.

The following table shows a five-year history of the performance figures for the Board's investments:

Period ending 30 June %	Board return(pre-tax)
2002	-1.2
2001	7.4
2000	18.0
1999	13.0
1998	16.8

Notes:

1 The Board's returns shown above are pre-tax and exclude the effect of cash holdings or the operating account.

Fund investments

The sector returns for the year to 30 June 2002 for the overall Fund are shown below. For comparison, the target returns applicable to the external managers are also shown.

•	Fund return for		
Sector	year to 30 June 2002	Index return	Target return
Australian Shares	-6.0%	-4.5%	-2.5%
Overseas Shares	-21.3%	-23.5%	-21.5%
Property	6.8%	15.2%	16.2%
Australian Bonds	6.7%	6.2%	6.7%
Overseas Bonds	7.1%	8.0%	8.5%
Overall Fund Return	1 -4.6%		

Notes:

1 The returns shown above are pre-tax.

Over the 12 months to 30 June 2002, the Fund's sector returns were as follows:

- Overseas share and Australian bond returns achieved target; and
- Australian share, property and overseas bond returns were below index.



Declared interest rate

From time-to-time, the Board is required to review the interest rate, which applies to the member accounts, additional voluntary contributions, rollovers contributed by members into the Fund, other additional accumulation accounts and allocated pension accounts.

When determining the interest rate to be credited to members' benefits, the returns calculated are the cashweighted returns taking into account the movement in funds during the year.

The earning rates for the 2001/2002 year are shown below.

enses tion)
4.7%
3.6%
1.5%
4.7%
1.9%

The pre-tax, pre-expenses return on the Fund was -4.6% for the year.

The history of the Fund's crediting rate to members is shown in Appendix 3.

Member Investment Choice (MIC) earning rates

The earning rates for the 2001/2002 year for each of the Fund's investment choice options are shown below.

	Net of tax and expenses
Cash	3.7%
Capital Stable	0.9%
Growth	-4.2%
Shares	-12.6%

IX INSURANCE

The Fund's insurance arrangements in respect of death and total and permanent disablement (TPD) cover are currently insured with Hannover Life Re of Australasia Ltd.

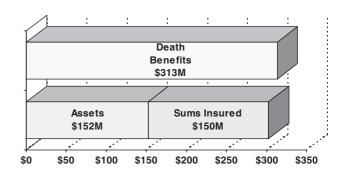
The experience of the Fund over recent years is shown below, along with the cost of the insurance undertaken:

Year ending 30 June	Net premiums paid	Claims
	\$	\$
1998	777,470	496,923
1999	841,771	45,441
2000	808,269	398,127
2001	622,194	503,437
2002	402,800	380,510

There were five insurance claims paid in the 2001/2002 year, totalling \$380,510. The total payouts represent a decrease on the previous year.

In order to ensure the security of members' benefits, the level of insurance should cover the portion of the death and disability benefits not covered by the assets in the Fund.

Depicted below are the total death benefits for active members compared to the assets as at 30 June 2002 (less an allowance for retained benefits, pensioner assets and supplementary pension assets). The insured portion of the death benefits is calculated as the future service component of members' death benefits.



The Fund's assets relating to active members, together with the insured amounts, total \$302 million, which covers 96% of the total death benefits of active members of the Fund. This has fallen below full coverage during the last year due to the negative investment returns during the 2001/2002 year.

We believe the current insurance arrangements remain adequate.



X APPENDICES

Appendix 1 -	Summary of Major Benefits
Appendix 2 -	Summary of Accounts
Appendix 3 -	Comparison of Investment Returns and Crediting Rates
Appendix 4 -	Historical Accrual Rate Improvements
Appendix 5 -	Projection Assumptions
Appendix 6 -	Accrued Benefits for the Purposes of AAS 25
Appendix 7 -	Actuarial Statement
Appendix 8 -	Indices Used
Appendix 9 -	Investment Performance Targets



SUMMARY OF MAJOR BENEFITS

Summary of contributions and benefits

The following is a brief summary of the contributions and benefits for the WA Fire Brigades Superannuation Fund as at 30 June 2002, on which this report is based.

Category A members

This category primarily consists of the defined benefit members of the Fund. Category A members over the age of 55 or with more than 30 years' membership can elect to transfer their defined benefit into an accumulation account.

Contributions

Member contributions

All Category A members contribute 6.25% of salary.

Members can make additional voluntary contributions into the Fund. These contributions form an additional accumulation in respect of the member, to which interest is credited at the end of each year.

Employer contributions

The employer contributes the balance of the cost of providing benefits. The employer is currently contributing at the rate of 11.75% of salaries for all category A members.

In addition, the employer currently contributes 1% of salary in respect of all Category A members to provide the supplementary disablement benefit.

Benefits – Category A Accumulation Members

Where a member has elected to transfer their defined benefit to their accumulation account before their 65th birthday, they will receive the balance of their accumulation account upon leaving service for any reason other than death or total and permanent disablement.

Upon death or total and permanent disablement, the member will receive the greater of:

- a. Accumulation account: and
- b. Death/total and permanent disablement benefit which the member would have received if they had remained as a defined benefit member.

The accumulation account will earn interest at the net fund earning rate and will be debited with any expenses, tax and insurance costs. Category A members who make this election are not entitled to any future surplus distributions.

Benefits – Category A Defined Benefit Members

In the event a Category A member continues in employment to their 65th birthday, their defined benefit is automatically transferred to their accumulation account on their 65th birthday (if they have not already elected to do so). On leaving service for any reason, such a Category A member will receive the balance of their accumulation account.

Retirement benefit

A member who retires on or after their 55th birthday is entitled to receive a lump sum benefit equal to 21.5% of their final average salary for each year of membership of the Fund.

Final average salary is defined as the average salary of the member during the three years immediately preceding retirement.

Death or total and permanent disablement (TPD) benefit

If death occurs before a member reaches the age of 65, the member will receive:

- (a) the lesser of:
 - (i) Retirement Benefit Multiple calculated at age 65: and
 - (ii) a benefit multiple of 6.45 (which is based on 30 years' membership);

times

(b) Final Average Salary

or, if greater, the early retirement benefit (regardless of age at death/disablement).

Partial and permanent disablement benefit

If a member is classified as being partially and permanently disabled, an early retirement benefit is payable (regardless of age at disablement).

Resignation benefit

A member who resigns before their 55th birthday is entitled to receive a lump sum benefit equal to 21.5% of their final average salary for each year of membership of the Fund, reduced by a compound discount factor of 2.0% per annum for the remaining period to age 55 years (with a maximum discount period of 25 years, effective from 1 July 2002).

If a member entitled to a resignation benefit has, in the opinion of the employer, left employment for exceptional reasons, the Board may, at the request of the employer, increase the benefit by such amount as is specified by the employer. However, the total resignation benefit payable to a member is subject to a maximum of the retirement benefit.

WESTERN AUSTRALIAN FIRE BRIGADES SUPERANNUATION BOARD ACTUARIAL REPORT FOR YEAR ENDING 30 JUNE 2002



Supplementary disablement benefit

If a member is partially and permanently disabled and:

- (a) is entitled to and is paid the partial and permanent disablement benefit; and
- (b) has not, before the termination of employment, been offered alternative employment

then that member is entitled to an additional benefit equivalent to the difference between the TPD benefit and the partial and permanent disablement benefit. The member may elect, subject to the discretion of the Board, to receive the benefit as either a lump sum or as an income stream paid over five years.

This benefit applies to both defined benefit and accumulation members of Category A.

Additional accumulation benefits

Additional accumulation amounts, such as voluntary contributions, rollovers (which are not used to purchase additional service) and surplus distributions are accumulated with interest and paid in addition to the above benefits. Any superannuation surcharge paid by the Fund in respect of a member is accumulated with interest and deducted from the member's benefit on ceasing employment.

Category B members

This category consists of temporary employees, casual employees, Board members and any other member who does not wish to join Category A.

Contributions

Member contributions

Members may contribute additional voluntary contributions as outlined above.

The employer contributes the minimum percentage of salary required under the SG legislation. This rate is 9% of salary with effect from 1 July 2002.

Benefits

A Category B member leaving for any reason receives the balance of his or her contribution account.



SUMMARY OF ACCOUNTS

	1999/00	2000/01	2001/02
	\$	\$	\$
Assets at start of period			
Smoothed market value	168,232,068	192,580,456	209,839,867
Investment adjustment	(9,791,284)	(11,208,386)	(5,876,325)
Market value	178,023,352	203,788,842	215,716,192
Additions to assets			
Member contributions	2,071,646	427,180	313,866
Member voluntary contributions	2,152,202	1,494,403	1,610,343
Employer contributions	7,017,404	10,224,782	10,936,134
Transfers in	652,527	1,361,646	880,219
Earnings	25,003,472	9,999,259	(9,971,275)
Group life claims	398,127	503,437	380,510
Changes in net market values of other assets	(16,955)	(11,500)	(8,445)
Total additions	37,278,423	23,999,207	4,141,352
Reductions in assets			
Benefits paid			
- Retirement	1,819,477	2,621,965	2,894,249
- Death	_	_	484,047
- Total disablement	1,970,337	1,841,855	2,255,286
- Partial disablement	911,715	702,809	353,609
- Termination/resignation	513,228	890,810	779,442
- Allocated pensions	2,296,262	2,811,860	2,828,146
- Supplementary pensions	119,317	618,745	47,989
Group life premiums	808,269	622,194	402,800
Administration expenses	474,256	491,263	441,170
Contributions surcharge	15,844	35,699	24,158
Provision for income tax	2,584,228	1,434,657	(966,950)
Total reductions	11,512,933	12,071,857	9,543,946
Assets at end of period			
Market value	203,788,842	215,716,192	210,313,598
Investment adjustment	(11,208,386)	(5,876,325)	5,257,840
Smoothed market value	192,580,456	209,839,867	215,571,438

These figures have been based on audited accounts for the 1999/00 and 2000/01 year, together with the unaudited accounts for the 2001/02 year.



HISTORICAL INVESTMENT RETURNS, SALARY INCREASES AND CREDITING RATES

Historical investment returns and increases in average salary

Shown below is a history of the annual investment returns of the Fund since 1977 and the average increase in Category A defined benefit salaries (for continuing members only).

Year ending 30 June	Annual investment returns	Annual increase in average salary
	%	%
1978	17.1	19.4
1979	12.7	8.2
1980	18.5	6.1
1981	13.1	12.7
1982	0.4	16.0
1983	22.4	5.0
1984	13.8	10.0
1985	21.4	4.4
1986	26.3	5.2
1987	25.2	6.4
1988	-8.2	8.2
1989	8.2	14.2
1990	7.7	8.6
1991	10.2	7.4
1992	13.3	2.3
1993	11.0	1.7
1994	8.7	9.2
1995	7.8	4.1
1996	9.6	2.9
1997	19.9	3.5
1998	11.0	7.4
1999	8.3	7.2
2000	13.0	4.7
2001	4.8	4.2
2002	-4.6	6.8
Since inception	11.4% pa	7.4% pa



Historical smoothed returns & increases in average FAS

Shown below is a history of the annual increases in smoothed investment returns and three-year average salaries (for Category A defined benefit members) since 1977.

Year ending 30 June	Annual smoothed investment returns %	Annual increase in 3-yearaverage salaries %
1978	17.1	14.1
1979	11.0	12.2
1980	12.7	10.3
1981	15.6	9.0
1982	9.5	11.7
1983	14.0	10.6
1984	18.0	9.9
1985	14.8	6.4
1986	16.9	6.3
1987	15.3	5.8
1988	8.4	6.0
1989	14.6	6.0
1990	10.3	10.1
1991	9.3	9.3
1992	10.6	7.8
1993	7.7	4.4
1994	8.2	3.5
1995	8.3	4.0
1996	8.2	4.3
1997	13.8	4.0
1998	11.0	3.6
1999	10.8	5.1
2000	13.0	5.8
2001	8.7	5.5
2002	1.6	4.8
Since inception	11.5% pa	7.2% pa



Historical performance against investment objective

The Fund's overall investment objective is to earn at least 4% per annum in real yields (on an unadjusted basis) over and above the increase in final average salaries on a rolling five year basis.

Shown below is a history of the rolling five year real yields since inception of the Fund compared to the Fund's investment target of 4% per annum.

Year ending 30 June	Rolling five-year real return	Target return
1982	0.7%	4%
1983	2.4%	4%
1984	3.1%	4%
1985	4.4%	4%
1986	7.5%	4%
1987	14.0%	4%
1988	8.1%	4%
1989	7.7%	4%
1990	4.3%	4%
1991	0.7%	4%
1992	-1.9%	4%
1993	2.6%	4%
1994	3.2%	4%
1995	4.4%	4%
1996	5.3%	4%
1997	7.3%	4%
1998	7.4%	4%
1999	7.0%	4%
2000	7.7%	4%
2001	6.5%	4%
2002	1.4%	4%



Comparison of investment returns and crediting rates

Shown below is a history of the actual and smoothed investment rates of return for the defined benefit section and allocated pension section of the Fund, together with a history of the crediting rates declared to members' accounts for comparison.

	Annual invo	Annual investment returns		Crediting rates declared	
Year ending 30 June	Actual returns	Smoothed returns	Non-Pension members	Allocated pension members (untaxed return)	
	% pa	% pa	% pa	% pa	
1978	17.1	17.1			
1979	12.7	11.0			
1980	18.5	12.7			
1981	13.1	15.6			
1982	0.4	9.5			
1983	22.4	14.0			
1984	13.8	18.0			
1985	21.4	14.8			
1986	26.3	16.9			
1987	25.2	15.3			
1988	-8.2	8.4	8.10*		
1989	8.2	14.6	14.50		
1990	7.7	10.3	9.70		
1991	10.2	9.3	9.00		
1992	13.3	10.6	9.70		
1993	11.0	7.7	7.40		
1994	8.7	8.2	7.50		
1995	7.8	8.3	7.60	8.85	
1996	9.6	8.2	7.50	8.25	
1997	19.9	13.8	13.50	14.75	
1998	11.0	11.0	11.00	11.50	
1999	8.3	10.8	10.50	11.00	
2000	13.0	13.0	12.75	13.50	
2001	4.8	8.7	8.5	8.25	
2002	-4.6	1.6	1.5	2.0	

^{*} Crediting rate for the period 1 January 1988 to 30 June 1988.

The Fund also offers investment choice for accumulation only members or members with additional accumulation accounts.



HISTORICAL ASSET BACKING INDEX LEVELS AND RETIREMENT BENEFIT IMPROVEMENTS

Historical asset backing index levels

The historical asset backing index values for the Fund since 1977 are as follows:

1 July	Asset backing index	
1977	27.5	
1978	49.7	
1979	55.6	
1980	65.1	
1981	70.9	
1982	72.2	
1983	78.2	
1984	82.8	
1985	83.0	
1986	86.2	
1987	89.5	
1988	82.3	(benefit improvements made during the year)
1989	90.0	(prior to benefit improvements)
	83.5	(after benefit improvements)
1990	83.9	
1991	83.1	
1992	84.5	
1993	81.8	(benefit improvements made during the year)
1994	82.0	
1995	90.3	(prior to benefit improvements)
	87.3	(after benefit improvements)
1996	91.0	
1997	100.4	(prior to surplus distribution)
	89.1	(after surplus distribution)
1998	95.9	(no allowance for benefit protection reserve)
	81.9	(includes allowance for benefit protection reserve)
1999	86.8	(prior to surplus distribution)
	85.0	(after surplus distribution of approximately \$1.5m)
2000	93.4	(prior to surplus distribution)
	85.0	(after surplus distribution of approximately \$7.7m)
2001	85.0	
2002	85.0	(with a 6 year benefit protection reserve)
	78.0	(with a 10 year benefit protection reserve)

Note: All indices after 1998 include a 10 year benefit protection reserve unless indicated otherwise.



Historical retirement benefit improvements

Shown below is a history of improvements to the Fund's retirement benefit since inception of the Fund in 1977.

Year ending 30 June	Improvements to benefit accrual rate & surplus distributions
1977	Initial accrual rate of 12.5%.
1980	In February 1981, the accrual rate for future membership was increased to 15.0%. Accrual rate for past membership remained at 12.5%.
1985	In late 1984, the accrual rate for past membership was increased to 13.5%. The accrual rate for future membership remained at 15.0%.
1986	In late 1985, the past accrual rate was increased to 15.0%, while the future accrual rate was increased to 16.0%.
1987	In late 1986, past and future accrual rates were increased to a uniform 16.5%.
1988	Effective 14 August 1987, the accrual rate was increased to 17.5% (past and future).
	Effective 28 October 1987, the accrual rate was increased to 19.0% (past and future).
1990	Effective 29 December 1989, the accrual rate was increased to 20.0% (past and future).
1993	Effective 1 October 1992, the accrual rate was increased to 21.0% (past and future).
1996	Effective 25 September 1995, the accrual rate was increased to 21.5% (past and future).
1998	Effective 1 July 1997, \$10m of surplus was distributed to Category A members as an additional accumulation amount (distribution was a proportionate allocation based on fully preserved withdrawal benefits less any additional accumulation balances).
1999	Effective 1 July 1999, approximately \$1.5m in surplus was distributed to Category A members as an additional accumulation amount. Each Category A member received a distribution based on 1.5% of the defined benefit component of their withdrawal benefit.
2000	Effective 1 July 2000, approximately \$7.7m in surplus was distributed to Category A members as an additional accumulation amount. Each Category A member received a distribution based on 7% of the defined benefit component of their withdrawal benefit.



PROJECTION ASSUMPTIONS

The following assumptions were made in the projections of the Fund:

• The following investment return assumptions (net of tax) and salary increase assumptions were made for the purposes of projecting the financial position of the Fund:

Projection	Final average salary increase % pa	Investment return % pa	Assumed real rate of return % pa
"Standard"	5.0	6.5	1.5
"Unfavourable"	5.0	5.0	0.0
"Favourable"	5.0	8.0	3.0

- Current members continue in the Fund until their retirement date when they retire, or leave service due to disablement reasons, and are replaced by "typical" new entrants.
- Expected Retiring Date 50% of the remaining members are assumed to retire each year between age 55 and age 65. Any remaining members at age 65 are assumed to retire at that age.
- Partial Disablement Decrement 5% of members over the age of 40 are assumed to leave service due to partial disablement.
- Typical New Entrants New entrants are assumed to join at age 33, with a starting salary of \$40,000 in current dollars.
- The cost of group life insurance and expenses (net of tax deductions) was assumed to be 2.0% of salaries.
- Employer contributions continue at the current levels, ie at 11.75% of salary.
- Employer contributions, net of group life insurance and expenses, will be taxed at 15%.



STATEMENT OF ACCRUED BENEFITS FOR THE PURPOSE OF AUSTRALIAN ACCOUNTING STANDARD 25

This summary has been prepared as at 30 June 2002 for the purposes of Australian Accounting Standard AAS 25, for the WA Fire Brigades Superannuation Board. The results in this summary should not be used for any other purposes other than the preparation of financial statements in accordance with AAS 25.

The calculation of the accrued benefits for accounting purposes requires the calculation of the present value of expected future benefits payable from the Fund using a "current, market-determined, risk-adjusted discount rate" appropriate to the Fund. Taking this into account, the calculation of accrued benefits was based on the following financial assumptions:

• Future investment returns (net of tax and investment expenses): 6.5% per annum

• Salary inflation assumption: 5.0% per annum

The assumed investment returns (ie the discount rates) have been selected by the Fund Actuary having regard to the liabilities and investments of the Fund, and are based on the expected returns on the Fund's assets. The financial assumptions are consistent with those detailed in Appendix 5 of this report using the "standard" projection basis.

Accordingly, a 1.5% per annum real rate of return was used to determine the accrued benefits as at 30 June 2002.

When calculating the present value of members' accrued benefits, all members were assumed to remain in the Fund until reaching age 55, at which time they were assumed to retire. No discount was applied to those members aged 55 and over. This is consistent with the funding method used in the actuarial valuation, which aims to fully fund for all accrued retirement benefits of members on reaching age 55.

Method of calculation

The past membership component of all benefits payable in the future was calculated on an actual accrual basis, where the accrued retirement multiple is the product of past membership at the valuation date and the current accrual rate of 21.5%.

The current final average salary of each member was inflated to the expected date of leaving service and multiplied by the accrued retirement multiple. The future benefit was then discounted to a present value using the assumptions detailed above.

An adjustment was also made on an individual basis to increase the present value of accrued benefits to the vested benefit for each member if its value was less than the member's vested benefit.

All accumulation-type liabilities were valued at their current nominal value.

The assumptions detailed above are consistent with those used in the most recent actuarial review.



Results

Based on the above assumptions, the present value of the accrued benefits as at 30 June 2002, for the purposes of AAS 25, was calculated to be:

Present Value of Defined Accrued Benefit Liability	
for Category A Members as per AAS25	\$104,704,631
Category A defined benefit accounts	\$21,120,814
Category A accumulation accounts	\$20,351,123
Category B accounts	\$973,959
Retained Benefits	\$31,869,820
Allocated Pensions	\$21,108,171
Supplementary Disability Pensions	\$5,308,947
Present Value of Accrued Benefits for AAS25 purposes	\$205,437,465
Net market value of assets	\$210,313,598

At the valuation date, the ratio of the market value of the Fund's assets to the present value of accrued benefits was 102%. This represents a good level of coverage of accrued benefits.

The average term of the liabilities, weighted by membership, was 9 years as at 30 June 2002.

The present value of accrued benefits has been calculated in accordance with the Guidance Notes issued by the Institute of Actuaries of Australia.

Catherine Nance FIAA

Authorised Representative of

PricewaterhouseCoopers Securities Ltd

Director, Financial Advisory Services

PricewaterhouseCoopers

Date



ACTUARIAL STATEMENTS FOR THE PURPOSE OF THE SUPERANNUATION INDUSTRY (SUPERVISION) ACT 1993

In accordance with Regulation 9.31 of the Superannuation Industry (Supervision) Regulations, I hereby make the following statements regarding the Western Australian Fire Brigades Superannuation Fund:

- The value of the assets of the Fund as at 30 June 2002, taken at market value, was \$210,313,598 when taking into account additional accumulation style benefits.
- The net assets available for members' benefits was more than sufficient to meet the liabilities of the Fund in terms of the:
 - vested resignation/retirement benefits which were \$200,843,543; and
 - accrued retirement liabilities, which were \$205,437,465.
- I have recommended that the employer's contribution for Category A members be maintained at the existing rate of 11.75% of salaries plus the additional 1% of salaries for the supplementary disablement section. Employers contributing for Category B members are required to contribute at the minimum rates applicable under the SG legislation.
- The next actuarial valuation should be conducted as at a date no later than 30 June 2004.
- Although the financial position of the Fund has declined, it remains sound. I believe that:
 - the assets at 30 June 2002; plus
 - member and employer contributions over the next three years; plus
 - expected investment earnings over the next three years are more than sufficient to meet the liabilities of the Fund expected to arise over the next three-year period.
- I believe there is a high degree of probability that the Fund will be able to pay the supplementary disablement pensions as required under the governing rules. This opinion has been given for the purpose of Regulation 9.31(1)(ba) of the Superannuation Industry (Supervision) Act and in accordance with Guidance Note 465 issued by the Institute of Actuaries of Australia.
- As at 30 June 2002, the Fund was not in an unsatisfactory position as defined in Regulation 9.04 of the Superannuation Industry (Supervision) Act 1993, nor is it expected to become unsatisfactory during the next three years.
- The appropriate funding and solvency certificate for the Fund was in place during the year to 30 June 2002 and I believe that funding and solvency certificates covering the next three-year period will be able to be certified.

Catherine Nance

Authorised Representative of

PricewaterhouseCoopers Securities Ltd

Director, Financial Advisory Services

Price waterhouse Coopers

Date 7 Odober



INDICES USED

Sector	Index
Cash	UBSWA Bank Bill Index
Australian Bonds	UBSWA Composite Bond Index
Australian Shares	S&P/ASX 300 (Merged) Accumulation Index
Property – Direct Board	Intech Direct Property Index
Property - Listed	S&P/ASX 300 Property Trusts Accumulation Index
Offshore Shares	MSCI World (ex Australia) Accumulation Index – unhedged
Offshore Bonds	Salomon Bros World Government Bond (ex Australia) Index – hedged



INVESTMENT PERFORMANCE TARGETS

Investment performance targets for managers

Shown below is the investment performance targets for each sector, which were reviewed earlier this year.

Sector	Target out-performance of relevant index	
	(% per annum)	
Cash	+0.0%	
Australian Bonds	+0.5%	
Australian Shares	+2.0%	
Property	+1.0%	
Offshore Shares	+2.0%	
Offshore Bonds	+0.5%	

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