



**PERSI**

Public Employee Retirement System of Idaho

**ACTUARIAL VALUATION**  
**July 1, 2002**

By

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**Milliman** USA

October 14, 2002

Retirement Board  
Public Employee Retirement System  
State of Idaho  
State House  
Boise, ID 83720

Dear Members of the Board:

As requested, we have made an actuarial valuation of the Public Employee Retirement System of Idaho. The major findings of the valuation are contained in this report. This report reflects the benefit provisions and contribution rates in effect as of July 1, 2002. It also discusses the impact of the potential discretionary March 1, 2003 COLA.

In preparing this report, we relied, without audit, on information (some oral and some in writing) supplied by the System's staff. This information includes, but is not limited to, statutory provisions, employee data, and financial information. In our examination of such data, we have found them to be reasonably consistent and comparable with data used for other purposes. It should be noted that if any data or other information is inaccurate or incomplete, our calculations may need to be revised.

On the basis of the foregoing, we hereby certify that, to the best of our knowledge and belief, this report is complete and accurate and has been prepared in accordance with generally recognized and accepted actuarial principles and practices which are consistent with the principles prescribed by the Actuarial Standards Board (ASB) and the Code of Professional Conduct and Qualification Standards for Public Statements of Actuarial Opinion of the American Academy of Actuaries.

We further certify that all costs, liabilities, rates of interest, and other factors for the System have been determined on the basis of actuarial assumptions and methods which are individually reasonable (taking into account the experience of the System and reasonable expectations) and which, in combination, offer our best estimate of anticipated experience affecting the System. Nevertheless, the emerging costs will vary from those presented in this report to the extent that actual experience differs from that projected by the actuarial assumptions. The Retirement Board has the final decision regarding the appropriateness of the assumptions and adopted them as indicated in Appendix A.

Actuarial computations presented in this report are for purposes of determining the recommended funding amounts for the System. Any distribution of this report must be in its entirety including this cover letter, unless prior written consent from Milliman USA is obtained. Actuarial computations under GASB Statements No. 25 and 27 are for purposes of fulfilling financial accounting requirements. The computations prepared for these two purposes may differ as disclosed in our report. The calculations in the enclosed report have been made on a basis consistent with our understanding of the System's funding requirements and goals, and of GASB Statements No. 25 and 27. Determinations for purposes other than meeting these requirements may be significantly different from the results contained in this report. Accordingly, additional determinations may be needed for other purposes.

We would like to express our appreciation to Alan Winkle, Executive Director of the System, and to members of his staff, who gave substantial assistance in supplying the data on which this report is based.

We respectfully submit the following report, and we look forward to discussing it with you.

We, Robert L. Schmidt and Karen I. Steffen, are Consulting Actuaries for Milliman USA. We are members of the American Academy of Actuaries, are Fellows of the Society of Actuaries, and meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion contained herein.

Sincerely,

Robert L. Schmidt, F.S.A., M.A.A.A.  
Consulting Actuary

KIS/RLS/jrh

Karen I. Steffen, F.S.A., M.A.A.A.  
Consulting Actuary

**Public Employee Retirement  
System of Idaho**

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## Public Employee Retirement System of Idaho

### Section 1: Summary of the Findings



Our actuarial valuation of the System as of July 1, 2002 shows that the current schedule of contribution rates will meet the normal costs of the System as they accrue and will amortize the unfunded actuarial accrued liability (UAAL) in 39.3 years. Therefore, the amortization period is greater than the 25-year maximum permitted under Section 59-1322, Idaho Code.

One measure of the adequacy of the contribution rates is the funding ratio, which compares the value of the actuarial assets to the actuarial accrued liability. The following compares the 2001 and the 2002 valuations.

Including Effect of :	Funding Ratio	
	2001	2002
COLA commencing		
March 1, 2001	97.2%	
March 1, 2002	96.6%	84.9%

The funding ratio reflects the current value of the assets. For the 2001 valuation, the table shows the effect of both the discretionary COLA implemented during 2001 and the COLA effective on the March 1, 2002. The potential 2003 discretionary COLA has not been adopted by the Board. Since the amortization period determined by the valuation exceeds 25 years, the Board cannot adopt a discretionary COLA without an increase in contribution rates, according to Section 59-1355, Idaho Code.

The 2002 actuarial valuation indicates that a substantial actuarial loss, \$909.9 million, occurred during the fiscal year just ended. This loss is based on the expected UAAL of \$165.8 million versus the actual UAAL as of July 1, 2002 of \$1,075.7 million. The loss was primarily due to investment losses, as reflected in the -7.36% investment yield for the past year. The effect of the loss can be distributed as shown in Table 0.

**Summary of the Findings  
(continued)**

**Change in Assumptions or Benefits**

The salary increase and termination of employment assumptions were revised for the July 1, 2002 valuation. There were no significant changes in benefits during the year.

**Demographic Experience**

In comparing the actual experience of the System during the past twelve months with the expected experience under the actuarial assumptions, a net actuarial loss occurred as shown in Table 0. In addition to the three major elements of actuarial experience gains and losses (investments, salaries, and membership growth), we also analyzed the termination of the active members by cause, as follows:

	Termination by Cause	
	Actual	Expected
Termination of Employment	5,571	4,382
Retirement	1,060	1,307
Disability	78	75
Death	35	119

Part, but not all, of the actuarial gain from retired and active member experience (\$17.3 million) is attributable to these differences in decrement by cause. Of the 5,571 total terminations of employment, 4,152 were not vested and 1,419 were vested.

**Discretionary COLAS**

The System automatically provides a 1% increase in retirement benefits each year if the Consumer Price Index has increased by at least that amount. The Board is empowered to go beyond 1% and match the full increase in the CPI, up to a total of 6%, subject to rejection or amendment by the Legislature.

The CPI grew at a rate of 1.8% during the last year. The effect of the potential benefit increase beyond 1% is not reflected in the balance of this report, except as shown in Tables 6 and 8. The increase in actuarial liabilities due to the additional 0.8% potential discretionary increase is \$21.1 million. This would maintain the full 100% Restoration of Purchasing Power COLA adopted by the Board in 1998. However, because the amortization period of the UAAL is over 25 years as of July 1, 2002, the Board cannot adopt a discretionary COLA without an increase in contribution rates.

**Summary of the Findings  
(continued)**

**Public Employee Retirement  
System of Idaho**

**Table 0: Gains and Losses for the Year Ended July 1, 2002**

	<b>Actuarial Accrued Liability (in millions)</b>	<b>Assets</b>	<b>Unfunded Actuarial Accrued Liability<sup>(1)</sup> (in millions)</b>	<b>Funded Ratio</b>
Expected from July 1, 2001 Valuation	\$6,679.1	\$6,492.8	\$186.3	97.2%
Effect of March 1, 2002 2.7% CPI COLA	41.9	-	41.9	
Expected at March 1, 2002	\$6,721.0	\$6,492.8	\$228.2	96.6%
Effect of Changes in Actuarial Assumptions:				
New Turnover Assumptions, 4.75% salary scale	(29.5)	-	(29.5)	
Expected at March 1, 2002 with New Assumptions	\$6,691.5	\$6,492.8	\$198.7	97.0%
Expected Change due to Contributions over Normal Cost and Interest on UAAL				
	514.3	547.2	(32.9)	
Expected at July 1, 2002	\$7,205.8	\$7,040.0	\$165.8	97.7%
Effect of Actuarial Experience Gains and Losses:				
Investments (Loss)	-	(977.9)	977.9	
Salaries (Loss)	3.8	-	3.8	
Membership Growth (Loss)	14.4	-	14.4	
Return to Employment (Loss)	1.6	-	1.6	
Retired Member Experience (Gain)	(31.9)	-	(31.9)	
Inactive Member Method Change (Gain) <sup>(2)</sup>	(70.5)	-	(70.5)	
Active and Inactive Member Experience (Loss)	14.6	-	14.6	
Expected at July 1, 2002 with Gains and Losses <sup>(3)</sup>	\$7,137.8	\$6,062.1	\$1,075.7	84.9%
Effect of Potential March 1, 2003 1.8% COLA <sup>(4)</sup>	21.1	-	21.1	
Results at July 1, 2002	\$7,158.9	\$6,062.1	\$1,096.8	84.7%

(1) Amounts are net of expected future ORP Contributions.

(2) The valuation method for vested inactive members was changed (see Appendix A).

(3) The expected amortization period of the UAAL prior to the March 1, 2003 postretirement COLA is 39.3 years.

(4) The Board cannot adopt a discretionary COLA without an increase in contribution rates.



## Summary of the Findings (continued)

### Contribution Rates

This year's experience resulted in an amortization period of 39.3 years. This is greater than the maximum of 25 years, based the requirements of Section 59-1322, Idaho Code and the funding policy established by the Board. As a result of our findings, as summarized above, the current contribution rate of 15.82% is not adequate to maintain the funding of the retirement system benefits according to the funding policy. As shown in Table 8, the contribution rate needs to be increased by at least 0.82% to 16.64% as of January 1, 2004 in order to comply with the funding policy.

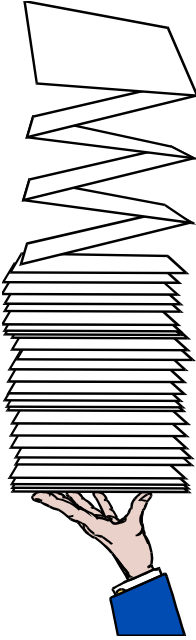
### Gain Sharing

Beginning in 2000, under Section 59-1309, Idaho Code, the Board may allocate all or a portion of "extraordinary gains" to active and retired members and employers as Gain Sharing. Extraordinary gains are defined as the excess, if any, at the close of the fiscal year of the Assets over Actuarial Liabilities plus an amount necessary to absorb a one standard deviation market event without increasing contribution rates, as determined by the Board. Under the Board's current investment policy, assets in excess of a 113% funded ratio are considered extraordinary gains. Therefore, no assets are available for gain-sharing as of July 1, 2002.

## Public Employee Retirement System of Idaho

### Section 2: Scope of the Report

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This report presents the actuarial valuation of the Public Employee Retirement System of Idaho as of July 1, 2002. This valuation was requested by the System's Board.

Your particular attention is called for in reading our cover letter, where we refer to the guidelines employed in the preparation of this report. We also comment on the sources and reliability of both the data and the actuarial assumptions upon which our findings depend. Those comments are the basis for our certification that this report is complete and accurate to the best of our knowledge and belief.

A summary of the findings resulting from this valuation is presented in the previous section. Section 3 describes the assets and investment experience of the System. The assets and investment income are analyzed in Tables 1, 2, and 3. Table 4 presents a brief summary of the investment experience of the fund through July 1, 2002. Sections 4 and 5 describe how the obligations of the System are to be met under the actuarial cost method in use. Section 6 discloses the information required under Statement No. 25 of the Governmental Accounting Standards Board (GASB). Section 7 shows the estimated cash flow of future retirement benefit payments, based on the actuarial assumptions and a distribution of retired members by year of retirement.

We are also preparing and will submit to the staff of the System a supplemental report of this valuation, giving additional details regarding the distribution of the membership data used in the valuation and the valuation assumptions.

This report includes several appendices:

- Appendix A A summary of the actuarial procedures, and assumptions used to calculate liabilities and contributions.
- Appendix B A summary of the current benefit structure, as determined by the provisions of governing law on July 1, 2002.
- Appendix C Schedules of valuation data classified by various categories of contributing members and former contributing members and their beneficiaries; a brief summary of the System's recent experience; and comparative statistics on the System's membership, contribution rates, and investments since June 30, 1968.
- Appendix D A glossary of actuarial terms used in this report.

## Public Employee Retirement System of Idaho

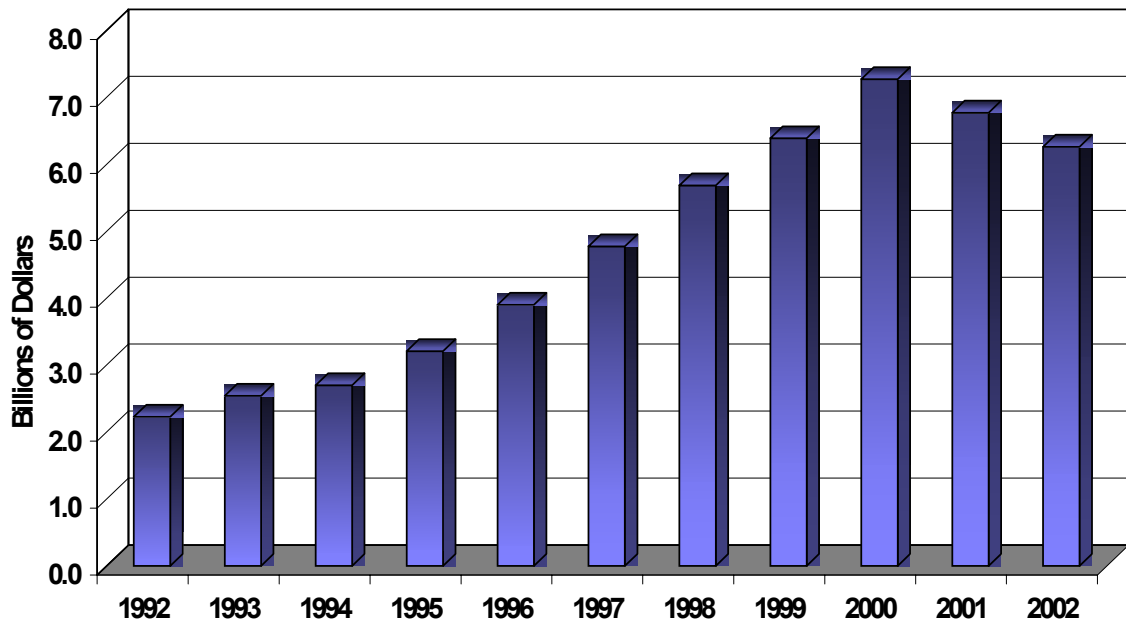
### Section 3: Assets



In many respects, an actuarial valuation can be thought of as an inventory process. The inventory is taken as of the actuarial valuation date, which for this valuation is July 1, 2002. On that date, the assets available for the payment of benefits are appraised. These assets are compared with the actuarial liabilities, which are generally well in excess of the assets. The actuarial process thus leads to a method of determining what contributions by members and their employers are needed to strike a balance.

This section of the report deals with the asset determination. In the next section, the actuarial liabilities will be discussed. Section 5 deals with the process for determining required contributions based on the relationship between the assets and actuarial liabilities.

Total Actuarial Assets



At July 1, 2002, the actuarial value of assets was \$6.263 billion. Table 1 presents a summary of the System's assets, and Table 2 presents an analysis of the investments.

Although the System's assets have grown considerably in the recent past, they declined 7% in the past year after a 7% decline in the previous year.

## **Assets (continued)**

The increase in the actuarial value of total assets has been over 200% since 1992. The chart on the previous page illustrates this growth.

Tables 1 through 4 are derived from data furnished to us by the Retirement System. We have accepted these tables for use in this report without audit, but we have reviewed them for reasonableness and consistency with previous reports.

The net assets at June 30, 2002 of \$6,262,854,130 shown in Table 3 include assets used in plan operations and assets held for the Firefighters' Retirement Fund and the Idaho Falls Policemen's Retirement Fund. The allocation of the fund is shown at the bottom of Table 1.

The yield rates shown at the top of Table 4 on both a market and an actuarial valuation basis are net of investment expenses, but not net of administrative expenses. The summary at the bottom of Table 4 shows the annual yields before expenses, net of investment expenses, and net of both investment and administrative expenses. Each yield should be compared with the appropriate actuarial assumption shown in the left column. The yield on the actuarial valuation basis, net of all expenses, is -7.46% for the year ending June 30, 2002, which is comparable with the actuarial assumption, net of all expenses, of 7.50%.

**Public Employee Retirement  
System of Idaho**

**Table 1: Summary of Assets**

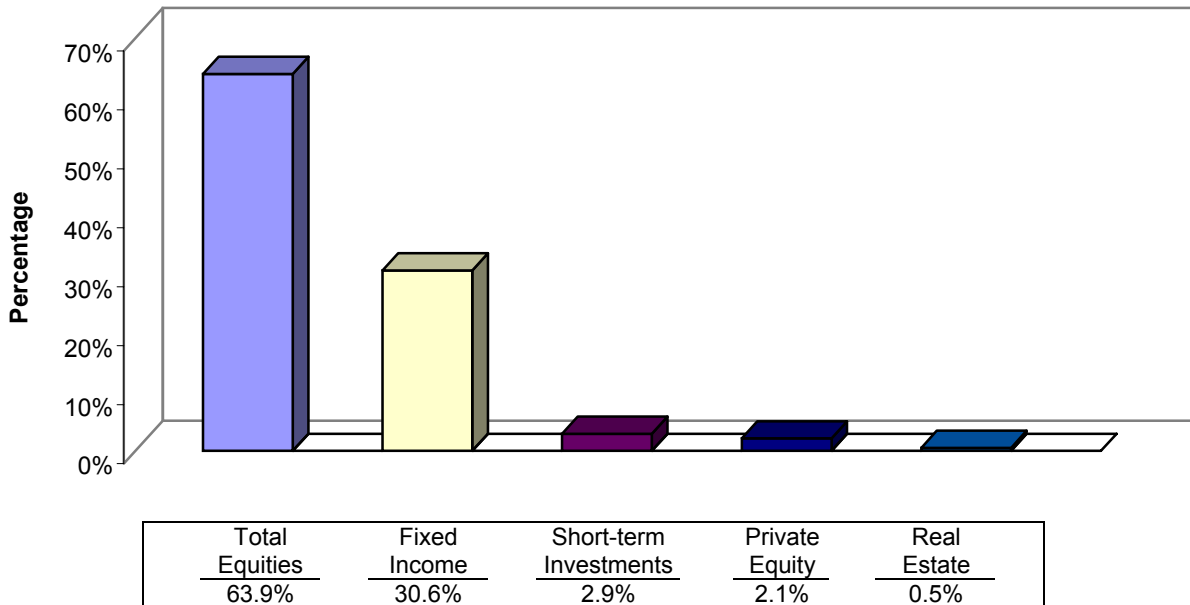
	<u>July 1, 2002</u>	<u>July 1, 2001</u>
<b>Assets</b>		
Cash	\$ 2,731,078	\$ 19,040,333
Investments at Fair Value Receivables	6,256,290,869	6,677,126,456
Investments Sold	926,386,991	654,773,569
Contributions	10,378,684	19,186,217
Interest and Dividends	32,136,233	33,435,045
Assets used in Plan Operations, Net	7,388,436	8,805,493
Retiree Payroll in Process	21,538,485	3,767,201
Other Prepaids	-	-
	<hr/>	<hr/>
Total Assets	\$ 7,256,850,776	\$ 7,416,134,314
<b>Liabilities</b>		
Accrued Liabilities	\$ 5,292,869	\$ 5,410,242
Benefits and Refunds Payable	328,778	482,855
Due to Other Funds	779,826	1,129,875
Investments Purchased	987,595,173	693,818,912
	<hr/>	<hr/>
Total Liabilities	\$ 993,996,646	\$ 700,841,884
<b>Net Assets</b>	<b>\$ 6,262,854,130</b>	<b>\$ 6,715,292,430</b>
<b>Allocation of Net Assets</b>		
Total Assets Held by PERSI	\$ 6,062,060,677	
Firefighters' Retirement Fund Assets	181,505,363	
Idaho Falls Police Retirement Fund Assets	11,899,654	
Assets Used in Plan Operations	7,388,436	
Total Net Assets Held in Trust for Pension Benefits	<hr/> \$ 6,262,854,130	

**Public Employee Retirement  
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**Table 2: Analysis of Investments  
July 1, 2002**

	<u>Valuation Basis*</u>	<u>Percentage</u>
Fixed income investments		
Domestic	\$ 1,586,029,994	25.4%
International	15,995,370	0.3%
Idaho commercial mortgages	<u>306,568,056</u>	<u>4.9%</u>
Total fixed income	\$ 1,908,593,420	30.6%
Short-term investments	179,667,406	2.9%
Real estate	33,450,352	0.5%
Equity securities		
Domestic	2,373,787,981	37.9%
International	<u>1,624,809,820</u>	<u>26.0%</u>
Total equities	\$ 3,998,597,801	63.9%
Private equity	135,981,890	2.1%
Total investments	\$ 6,256,290,869	100.0%

*\*The actuarial valuation basis for all types of assets was set equal to the market value effective June 30, 1994.*



**Public Employee Retirement  
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**Table 3: Reconciliation of Assets**

	<u>Inception to June 30, 2001</u>	<u>July 1, 2001 to June 30, 2002</u>	<u>Inception to June 30, 2002</u>
Investment return:			
Income from stock	\$ 670,818,849	\$ 68,004,543	\$ 738,823,392
Interest	1,421,221,893	120,116,280	1,541,338,173
Capital gains (realized and unrealized)	3,275,057,323	(656,691,598)	2,618,365,725
Other investment income	<u>121,639,174</u>	<u>-</u>	<u>121,639,174</u>
Total investment return	\$ 5,488,737,239	\$ (468,570,775)	\$ 5,020,166,464
Employer contributions	\$ 2,781,696,360	\$ 215,108,401	\$ 2,996,804,761
Member contributions	1,626,712,102	124,367,172	1,751,079,274
Miscellaneous	9,909,675	137,215	10,046,890
Transfers in	<u>11,176</u>	<u>5,725</u>	<u>16,901</u>
Total revenue	\$ 9,907,066,552	\$ (128,952,262)	\$ 9,778,114,290
Administrative expense	\$ 57,000,643	\$ 6,945,939	\$ 63,946,582
Investment expense	197,027,992	26,453,431	223,481,423
Benefit payments and refunds	2,881,184,554	290,066,704	3,171,251,258
Transfers out	<u>56,560,935</u>	<u>19,962</u>	<u>56,580,897</u>
Total expenditures	\$ 3,191,774,124	\$ 323,486,036	\$ 3,515,260,160
Net assets, beginning of period	\$ -	\$ 6,715,292,428	\$ -
Total revenue	<u>9,907,066,552</u>	<u>(128,952,262)</u>	<u>9,778,114,290</u>
	\$ 9,907,066,552	\$ 6,586,340,166	\$ 9,778,114,290
Less total expenditures	<u>3,191,774,124</u>	<u>323,486,036</u>	<u>3,515,260,160</u>
Net assets, end of period	\$ 6,715,292,428	\$ 6,262,854,130	\$ 6,262,854,130

**Public Employee Retirement  
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**Table 4: Analysis of Investment Yield**

	<b>July 1, 2001 to June 30, 2002</b>	
	<b>Actuarial Basis</b>	<b>Market Basis</b>
Investment return	\$ (468,570,775)	\$ (468,570,775)
Less investment expenses	<u>26,453,431</u>	<u>26,453,431</u>
Net return	\$ (495,024,206)	\$ (495,024,206)
Mean assets for period	\$ 6,728,480,855	\$ 6,728,480,855
Annual yield	-7.36%	-7.36%

Analysis of Investment Yield - Net of All Expenses

<b>Expense Basis</b>	<b>Summary of Annual Yields for Year Ending June 30, 2002</b>		
	<b>Actuarial Assumption</b>	<b>Actuarial Basis</b>	<b>Market Basis</b>
Gross - before expenses	8.00%	-6.98%	-6.98%
Net of investment expenses	7.65%	-7.36%	-7.36%
Net of all expenses	7.50%	-7.46%	-7.46%

**Notes:**

1. *Investment return: See Tables 1, 2, and 3 for data used in this table.*
2. *Mean assets for period = 1/2 (beginning net assets + ending net assets - net return). Net assets exclude assets used in plan operations.*
3. *Total yield = (Total investment return less investment expenses)/mean assets.*
4. *Market basis time-weighted yields net of investment expenses for various periods ended June 30, 2002 are:*

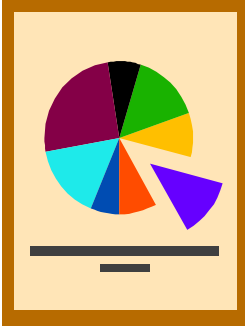
2 years	(6.87%)	20 years	10.65%
3 years	(0.69)	25 years	9.66
5 years	5.00	30 years	7.81
10 years	8.98	35 years	7.60
15 years	8.56		
5. *Plan assets differ for each expense basis, so differences between bases are not comparable.*



## Public Employee Retirement System of Idaho

### Section 4: Actuarial Liabilities

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In the previous section, an actuarial valuation was compared with an inventory process, and an analysis was given of the inventory of assets of the System as of the valuation date, July 1, 2002. In this section, the discussion will focus on the commitments of the System, which are referred to as its actuarial liabilities.

Table 5 contains an analysis of the actuarial present value of all future benefits for contributing members and for former contributing members and their survivors. The analysis is given by type of benefit, by gender, and by class of membership.

The actuarial liabilities summarized in Table 5 include the actuarial present value of all future benefits expected to be paid with respect to each member. For an active member, this value includes measures of both benefits already earned and future benefits to be earned. For all members, active and retired, the value extends over benefits earnable and payable for the rest of their lives and, if an optional benefit is chosen, for the lives of the surviving beneficiaries.

The actuarial assumptions are based on the results of the 2002 Investigation of Experience Report. New assumptions were adopted by the Board effective July 1, 2002.

All liabilities reflect the benefits effective through July 1, 2002. No further increases are considered in determining the liabilities shown, except for Tables 6 and 8, which indicate the liabilities for the potential March 1, 2003 discretionary COLA benefits.

**Public Employee Retirement  
System of Idaho**

**Table 5: Actuarial Present Value of Future Benefits for Contributing Members and Former Contributing Members and Their Survivors  
(All amounts in millions)**

**July 1, 2002**

<b>Contributing Members</b>	<b>Fire &amp; Police</b>	<b>General Employees</b>		<b>Teachers</b>		<b>Grand Total</b>
		<b>Male</b>	<b>Female</b>	<b>Male</b>	<b>Female</b>	
Service retirement and unreduced early retirement	\$ 694.2	\$ 954.2	\$ 923.1	\$ 711.7	\$1,153.4	\$4,436.6
Reduced early retirement	140.9	425.4	556.1	278.6	646.7	2,047.7
Vested retirement	32.6	83.0	129.6	36.4	81.7	363.3
Disability retirement	16.7	68.4	40.9	29.3	43.3	198.6
Death	27.5	66.4	32.4	34.1	36.7	197.1
Refunds of member contributions*	<u>24.8</u>	<u>39.9</u>	<u>51.9</u>	<u>8.0</u>	<u>12.7</u>	<u>137.3</u>
<b>Total</b>	<b>\$ 936.7</b>	<b>\$1,637.3</b>	<b>\$1,734.0</b>	<b>\$1,098.1</b>	<b>\$1,974.5</b>	<b>\$7,380.6</b>
<b>Former Contributing Members &amp; Survivors</b>						
Service retirement	\$ 211.9	\$ 612.4	\$ 432.1	\$ 420.5	\$ 426.4	\$2,103.3
Disability retirement	4.3	20.5	18.0	8.1	20.7	71.6
Survivors' benefits	10.4	6.1	70.4	6.2	32.2	125.3
All other benefits	<u>22.7</u>	<u>96.7</u>	<u>127.3</u>	<u>51.8</u>	<u>66.6</u>	<u>365.1</u>
<b>Total</b>	<b>\$ 249.3</b>	<b>\$735.7</b>	<b>\$ 647.8</b>	<b>\$ 486.6</b>	<b>\$ 545.9</b>	<b>\$2,665.3</b>
 <b>Grand Total</b>	 <b>\$1,186.0</b>	 <b>\$2,373.0</b>	 <b>\$2,381.8</b>	 <b>\$1,584.7</b>	 <b>\$2,520.4</b>	 <b>\$10,045.9</b>

\* Including all benefits provided by voluntary contributions.

## Public Employee Retirement System of Idaho

### Section 5: Employer Contributions

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The previous two sections were devoted to a discussion of the assets and actuarial liabilities of the System. Comparison of Tables 1 and 5 indicates that current assets fall short of meeting the actuarial accrued liabilities. This is expected in all but a fully closed down fund, where no further contributions of any sort are anticipated.

In an active system, there will always be a difference between the actuarial assets and liabilities. This deficiency has to be made up out of future contributions and investment returns. An actuarial valuation method sets out a schedule of future contributions that will deal with this deficiency in an orderly fashion.

The method used to determine the incidence of the contributions in various years is called the actuarial cost method. For this valuation, the entry age actuarial cost method has been used. Under this method — or essentially any actuarial cost method — the contributions required to meet the difference between current assets and current actuarial accrued liabilities are allocated each year between two elements:

- A normal cost amount, which ideally is relatively stable as a percentage of salary over the years; and
- Whatever amount is left over, which is used to amortize what is called the unfunded actuarial accrued liability.

The two items described above — the normal cost and unfunded actuarial accrued liability — are the keys to understanding the actuarial cost method.

#### Normal Cost

The normal cost is the theoretical contribution rate that will meet the ongoing costs of a group of average new employees. Suppose that a group of new employees was covered under a separate fund from which all benefits and to which all contributions and associated investment returns were paid. Under the entry age actuarial cost method, the normal cost contribution rate is that level percentage of pay that would be exactly right to maintain this fund on a stable basis. If experience were to follow the actuarial assumptions precisely, the fund would be completely liquidated when the last payment to the last survivor of the group has been made.

**Normal Cost  
(continued)**

We have determined the normal cost rates for the System separately by class of employee and by type of benefit. These rates are summarized in Table 7. The normal cost rates reflect the new actuarial assumptions adopted by the Board effective July 1, 2002, and the expected long term total contribution rate of 15.82% as adopted by the Board on April 25, 2000. These rates will remain the same until a change is made to the contribution rates, the benefit formula, or the actuarial assumptions.

**Unfunded  
Actuarial Accrued  
Liability**

The term "fully funded" is often applied to a system in which contributions for everyone at the normal cost rate are sufficient to pay for the benefits of existing employees as well as for those of new employees. More often than not, systems are not fully funded, either because of past benefit improvements that have not been completely paid for or because of actuarial deficiencies that have occurred because experience has not been as favorable as anticipated. Under these circumstances, an unfunded actuarial accrued liability (UAAL) exists.

**Amortization of  
UAAL or Funding  
Reserve**

However, even if a system does not have a positive UAAL, a portion or all of the normal cost contribution payments will need to be continued in order to have sufficient funds to pay future benefits. The use of the term "fully funded" may imply no further contributions are required at all. Therefore, a better term is a "well-funded" plan. This occurs when the value of the assets exceeds the actuarial accrued liability and the difference is referred to in the PERSI funding policy as the Funding Reserve.

Table 6 shows how the UAAL or Funding Reserve was derived for the System. Line A shows the total actuarial liability for all future benefits. The portion of the future liability expected to be paid from future normal cost contributions, both employer and employee, is shown on Line B. The difference between lines A and B is the System's actuarial accrued liability as of the actuarial valuation date.

**ORP Contributions**

Under Idaho Code 33-107A each institution participating in the optional retirement program (ORP) is required to pay an amount equal to 3.03% of salaries of their ORP participants to PERSI. This amount is to be paid until July 1, 2015. Likewise, under Idaho Code 33-107B each community college and post-secondary vocational education institution is required to pay an amount equal to 3.83% of salaries of their ORP participants to PERSI. This amount is to be paid until July 1, 2011. These payments from the ORP employers are in lieu of amortization payments and withdrawal contributions otherwise required under PERSI. Line D shows the present value of these future ORP contributions. The difference between the future ORP contributions and the computed actuarial accrued liability is the portion of the actuarial accrued liability that is expected to be funded by PERSI assets and contributions.

Line F in Table 6 indicates the actuarial value of assets. The excess of the actuarial accrued liability for PERSI in Line E over the actuarial assets is the UAAL for PERSI as shown on Line G.

**Funding Adequacy**

A key consideration in determining the adequacy of the funding of the System is how the UAAL is being serviced. If the UAAL amount is positive, that is the actuarial accrued liability to be funded is greater than the assets, then the UAAL is amortized. Idaho law calls for the UAAL to be liquidated in no more than 25 years. Table C-5 (Appendix C) illustrates, for historical comparison purposes only, the contribution rates on a 30-year amortization basis through 1992 and the contribution rates on the 25-year amortization basis beginning in 1993.

From July 1, 1998 to July 1, 2000 there was no UAAL, and the actuarial value of the assets exceeded the value of the actuarial accrued liability to be funded by PERSI, resulting in a Funding Reserve. However, asset losses for the year ending July 1, 2001 resulted in the re-emergence of a UAAL. The UAAL also grew during the year ending July 1, 2002, due to further asset losses. The dollar amount of the UAAL is \$1,075.7 million prior to the adoption of the potential March 1, 2003 COLA benefits. Based on the current contribution rate of 15.82% and a normal cost rate of 13.65%, the remaining 2.17% of pay will amortize the UAAL amount of \$1,075.7 million over 39.3 years. This is greater than the statutory maximum of 25 years. Therefore, the Board will either have to raise the contribution rate or invoke a grace period that would defer a decision on contribution rates until the July 1, 2003 valuation. As shown in Table 8, the contribution rate needs to be increase by 0.82% to 16.64% as of January 1, 2004 to achieve a 25 year amortization period on the UAAL.

## Employer Contributions (continued)

### Discretionary COLA Increases

The costs of providing future automatic postretirement increases of 1% per year are included in the “pre-adjustments” amounts shown in Table 6. The Board may, subject to modification or rejection by the Legislature, grant discretionary increases of an additional 5% per year, provided that the total percentage increase does not exceed the percentage change in the Consumer Price Index (CPI) and that the increase can be supported by the assets of the System. The CPI grew at a rate of 1.8% during the year.

Since prior discretionary increases provided a full 100% restoration of purchasing power to retired members, the potential full CPI 1.8% increase will maintain full purchasing power for all current retirees as of March 1, 2003. The purchasing power of retired members’ benefits in the future will depend on future discretionary increases.

The March 1, 2003 potential discretionary postretirement benefit increases would increase the actuarial present value of all future benefits by \$21.1 million. Thus, the July 1, 2002 Post-adjustment amounts shown on lines A, C, and E in Table 6 have been increased by that amount.

Because the assets of the System are not sufficient to amortize the UAAL over 25 years or fewer, the Board cannot adopt a discretionary COLA without an increase in contribution rates, per Section 59-1355, Idaho Code.

### Gain Sharing

The cost of providing the Gain Sharing allocation, if any, is also included in the “post-adjustments” amounts shown in Table 6. Beginning in 2000, under Section 59-1309, Idaho Code, the Board may allocate all or a portion of “extraordinary gains” to active and retired members and employers as Gain Sharing. Extraordinary gains are defined as the excess, if any, at the close of the fiscal year of the Assets over Actuarial Accrued Liabilities plus an amount necessary to absorb a one standard deviation market event without increasing contribution rates, as determined by the Board. Under the Board’s current investment policy, assets in excess of a 113% funded ratio are considered extraordinary gains. Since the funding ratio as of July 1, 2002 is less than 100%, no assets are available for consideration for Gain Sharing.

Table 8 shows the effect on the valuation of the statutory requirement that member contribution rates must always be a fixed percentage of the employer contribution rate (72% for fire and police and 60% for other employees). Effective July 1, 1993, the employer contribution rate for fire and police members is set at 0.24% higher than for general members, reflecting the 1993 changes in disability provisions for fire and police members.

**Employer Contributions  
(continued)**

**Funding Policy**

The Board has set the total contribution rate at 15.82%. Under this contribution rate, which is in excess of the required normal cost rate, the size of the UAAL will be expected to decrease. A continuation of a total rate in excess of the normal cost rate is expected to meet the criteria of the Board’s Funding Policy. The revised Funding Policy was adopted September 29, 1998 and establishes guidelines for the Board in setting contribution rates. Several of the funding goals under this Policy include establishing a range of safety, while maintaining a stable contribution rate and a well funded status. As shown in Table 8, the current 15.82% contribution rate will not permit the Board to achieve these goals, since the UAAL amortization period is more than 25 years. The contribution rate needs to be increased to at least 16.64% to meet the Funding Policy. The determination of the member and employer contribution rates by class is shown below.

Funding Basis as Percentage of Current Salary Based on Member Class

	Fire/Police	General/ Teachers	Total
A. Employer contribution rate	10.01%	9.77%	9.80%
B. Member contribution rate	7.21	5.86	6.02
C. Total contribution rate [A + B]	17.22%	15.63%	15.82%

The UAAL at any date after establishment of a system is affected by any actuarial gains or losses arising when the actual experience of the system varies from the experience anticipated by the actuarial assumptions used in the valuations. To the extent actual experience, as it develops, differs from that expected according to the assumptions used, so also will the emerging costs differ from the estimated costs disclosed in this report.

**GASB ARC**

Table 8 also shows the ARC as determined in accordance with the GASB Statement 25 requirements (see Section 6). Under these guidelines, a positive UAAL must be amortized over a period of no more than 30 years for the fiscal years commencing after June 15, 2006. Under the Board’s policy, a maximum 25-year period is used for GASB disclosure purposes.

With any change in the total contribution rate, the member contribution rates will change as well due to the 60% (72%) fixed percentage requirements mentioned above. As shown on Line D of Table 8, this requirement causes the normal cost rate and the dollar amount of the UAAL to depend on the assumed contribution rate or chosen funding period. The change in the member rate increases the actuarial present value of the projected future refunds of contributions upon termination of employment, which produces a change in the total normal cost rate.

**Public Employee Retirement System of Idaho**

**Table 6: Unfunded Actuarial Accrued Liability on Current Contribution Basis  
(All amounts in millions)**

	Valuation Date: <b>July 1, 2002</b>		Valuation Date: <b>July 1, 2001</b>	
	Funding Basis: <u>Pre-Adjustments</u>	<u>Post-Adjustments<sup>(1)</sup></u>	<u>Pre-Adjustments</u>	<u>Post-Adjustments<sup>(2)</sup></u>
A. Actuarial present value of all future benefits for contributing members, former contributing members, and their survivors (Table 5)	\$10,045.9	\$ 10,067.0	\$ 9,790.0	\$ 9,831.9
B. Actuarial present value of total future normal costs for present members	<u>2,836.4</u>	<u>2,836.4</u>	<u>3,038.7</u>	<u>3,038.7</u>
C. Actuarial accrued liability [A - B]	\$ 7,209.5	\$7,230.6	\$ 6,751.3	\$ 6,793.2
D. ORP Contributions	<u>71.7</u>	<u>71.7</u>	<u>72.2</u>	<u>72.2</u>
E. Actuarial accrued liability funded by PERSI Contributions [C-D]	7,137.8	7,158.9	6,679.1	6,721.0
F. Actuarial value of assets available for benefits	<u>6,062.1<sup>(3)</sup></u>	<u>6,062.1</u>	<u>6,492.8</u>	<u>6,492.8</u>
G. UAAL (Funding Reserve) [E - F]	\$ 1,075.7	\$1,096.8	\$ 186.3	\$ 228.2
H. Amortization period on valuation date, based on contribution rate established as of benefit date	39.3 Years	40.7 Years	10.2 Years	12.9 Years
I. Funded Ratio [F/E]	84.9%	84.7%	97.2%	96.6%

(1) The Board cannot adopt a discretionary COLA without an increase in contribution rates.

(2) Recognizes the cost of the approved March 1, 2002 postretirement COLA increases: 2.7% (\$41.9 million) in line A.

(3) The total available assets are \$6,262.9 million (Table 1), but are reduced by \$200.8 million for assets used in plan operations and funds earmarked to provide excess benefits to former members of the Firefighters' Retirement Fund and the Idaho Falls Police Retirement Fund. See Table 1.



**Public Employee Retirement System of Idaho**

**Table 7: Normal Cost Rates on Current Contribution Basis**

**July 1, 2002**

	Fire & Police	General Employees		Teachers		Total Rate
		Male	Female	Male	Female	
Service retirement and unreduced early retirement	10.22%	5.00%	5.24%	6.59%	6.96%	6.46%
Reduced early retirement	2.80	3.63	4.40	4.29	5.23	4.21
Vested retirement	0.87	1.01	1.40	0.98	1.13	1.12
Disability retirement	0.38	0.66	0.37	0.55	0.46	0.49
Death	0.46	0.46	0.23	0.43	0.27	0.35
Refunds of member contributions	1.34	1.27	1.30	0.61	0.57	1.02
<b>Total</b>	<b>16.07%</b>	<b>12.03%</b>	<b>12.94%</b>	<b>13.45%</b>	<b>14.62%</b>	<b>13.65%</b>
Less member contributions	7.21	5.86	5.86	5.86	5.86	6.02
<b>Employer normal cost rate</b>	<b>8.86%</b>	<b>6.17%</b>	<b>7.08%</b>	<b>7.59%</b>	<b>8.76%</b>	<b>7.63%</b>

**Analysis of Member Contributions**

Member contributions	7.21%	5.86%	5.86%	5.86%	5.86%	6.02%
Less expected refunds	1.34	1.27	1.30	0.61	0.57	1.02
	<b>5.87%</b>	<b>4.59%</b>	<b>4.56%</b>	<b>5.25%</b>	<b>5.29%</b>	<b>5.00%</b>

**Public Employee Retirement System of Idaho**

**Table 8: Recommended Contribution Rates as a Percentage of Total Salary**

Valuation Date:	July 1, 2001	July 1, 2002		
	Post-Adjustments <sup>(1)</sup>	Pre-Adjustments <sup>(2)</sup>	Post-Adjustments <sup>(2)(3)</sup>	Minimum Contribution Rate <sup>(4)</sup>
Funding Basis:				
A. Employer contribution rate	9.80%	9.80%	9.80%	10.31%
B. Member contribution rate	5.98	6.02	6.02	6.33
C. Total contribution rate [A + B]	15.78%	15.82%	15.82%	16.64%
D. Total normal cost rate	14.74	13.65	13.65	13.70
E. Amount available to amortize liability [C - D]	1.04%	2.17%	2.17%	2.94%
F. Dollar Amount of UAAL in millions (if negative, Funding Reserve) <sup>(5)</sup>	\$228.2	\$1,075.7	\$1,096.8	\$1,069.7
G. Amortization period measured from July 1, 2001	12.9 years	39.3 years	40.7 years	25.0 years

(1) Includes the cost of the March 1, 2002 postretirement COLA increase: 2.7% (\$41.9 million).

(2) These rates are scheduled to continue for payrolls submitted after September 30, 2002 and ending September 30, 2003. The total aggregate contribution rate is assumed to remain at 15.82%. The change in the total contribution rate from July 1, 2001 to July 1, 2002 is due to a change in the mix of class members.

(3) The Board cannot adopt a discretionary COLA without an increase in contribution rates.

(4) Per the Board's policy, the UAAL is amortized over a 25-year period for GASB disclosure purposes. The minimum contribution rate permitted by statute would not permit the total rate to be less than normal cost rate. The minimum contribution rate is expected to become effective January 1, 2004, based on the statute.

(5) Reflects only the amount funded by PERSI contributions. Excludes the present rate of 3.03% of salaries of university members in the Optional Retirement Plan (ORP) until 2015 and 3.83% of salaries of junior college members in the ORP until 2011. The present value of these expected contributions is \$71.7 million.

## Public Employee Retirement System of Idaho

### Section 6: Accounting Information

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For fiscal years beginning after June 15, 1996, GASB reporting standards are required for defined benefit pension plan reporting and disclosures (Statement No. 25). The System adopted the new reporting standards beginning in 1996.

The reporting requirements for Statement No. 25 include certain supplementary information that must be added to the financial statements. These include:

- (1) A Schedule of Funding Progress
- (2) A Schedule of Employer Contributions

The Schedule of Funding Progress compares actuarial assets and liabilities of the System, based on the actuarial funding method used. The required Schedule of Employer Contributions compares the employer contributions required based on the actuarial valuation (the actuarial required contribution, or ARC) with the employer contributions actually made. The ARC must be calculated based on certain parameters required for disclosure purposes.

We believe the actuarial methods and assumptions used in this valuation to determine the employer's contribution for funding purposes satisfy the GASB reporting requirements.

For fiscal years beginning after June 15, 1997, GASB Statement No. 27 is required for pension accounting by state and local governmental employers. The System is a cost sharing multiple employer defined benefit plan. The only disclosures required by Statement No. 27 by employers is a description of the pension plan and the funding policy adopted to fund the plan benefits, including the required contribution rates.

The comparability of the data from year to year can be affected by changes in actuarial assumptions, benefit provisions, accounting policies, etc. Between July 1, 2001 and July 1, 2002, a Cost-of-Living Adjustment was granted to inactive members and beneficiaries. The Actuarial assumptions were also changed effective July 1, 2002. No other significant changes occurred.

**Public Employee Retirement System of Idaho**

**Table 9: Schedule of Funding Progress**  
(All dollar amounts in millions)

<b>Actuarial Valuation Date</b>	<b>Actuarial Value of Assets</b>	<b>Actuarial Accrued Liabilities (AAL)<sup>(1)</sup></b>	<b>Present Value of Future ORP Contributions</b>	<b>Unfunded Actuarial Accrued Liabilities (UAAL)<sup>(2)</sup></b>	<b>Funded Ratio<sup>(3)</sup></b>	<b>Covered Payroll<sup>(4)</sup></b>	<b>UAAL as a Percentage of Covered Payroll</b>
July 1, 1993	\$2,434.7	\$3,206.3	\$31.6	\$740.0	76.7%	\$1,309.0	56.5%
July 1, 1994	2,591.4	3,666.1	34.1	1,040.6	71.3	1,402.0	74.2
July 1, 1995	3,087.3	4,077.8	38.4	952.1	76.4	1,525.0	62.4
July 1, 1996	3,761.2	4,461.5	60.8	639.5	85.5	1,497.4	42.7
July 1, 1997	4,609.8	4,801.9	63.2	128.9	97.3	1,575.5	8.2
July 1, 1998	5,488.2	5,060.0	65.7	(493.9)	109.9	1,627.7	(30.3)
July 1, 1999	6,171.9	5,536.8	68.9	(704.0)	112.9	1,733.5	(40.6)
July 1, 2000	7,032.9	6,105.1	70.5	(998.3)	116.5	1,827.2	(54.6)
July 1, 2001	6,492.8	6,751.3	72.2	186.3	97.2	1,975.3	9.4
July 1, 2002	6,062.1	7,209.5	71.7	1,075.7	84.9	2,047.1	52.5

(1) Actuarial present value of benefits less actuarial present value of future normal costs based on entry age actuarial cost method.

(2) Actuarial accrued liabilities less actuarial value of assets and present value of future ORP contributions. Amounts reported in this table do not include the value of any discretionary COLA or Gain Sharing allocations granted after the valuation date.

(3) Funded Ratio is the ratio of the actuarial value of assets over the actuarial accrued liabilities less the present value of future ORP contributions.

(4) Covered Payroll includes compensation paid to all active employees on which contributions are calculated. Covered Payroll differs from the Active Member Valuation Payroll shown in Table C-1, which is an annualized compensation of only those members who were active on the actuarial valuation date. For years prior to 1996, Covered Payroll is estimated.

**Public Employee Retirement System of Idaho**

**Table 10: Solvency Test**  
(All dollar amounts in millions)

Actuarial Valuation Date	Actuarial Value of Assets	Actuarial Accrued Liabilities for			Portion of Actuarial Accrued Liabilities Covered by Assets		
		Active Member Contributions (A)	Retirees and Beneficiaries (B)	Active Members (Employer Financed Portion) (C)	(A)	(B)	(C)
July 1, 1993	\$2,434.7	\$703.5	\$1,076.7	\$1,426.1	100.0%	100.0%	45.9%
July 1, 1994	2,591.4	768.5	1,227.2	1,670.4	100.0	100.0	35.7
July 1, 1995	3,087.3	850.0	1,341.3	1,886.5	100.0	100.0	47.5
July 1, 1996	3,761.2	941.2	1,471.7	2,048.6	100.0	100.0	65.8
July 1, 1997	4,609.8	1,019.5	1,617.0	2,165.4	100.0	100.0	91.1
July 1, 1998	5,488.2	1,089.7	1,766.1	2,204.2	100.0	100.0	100.0
July 1, 1999	6,171.9	1,158.1	1,978.1	2,400.6	100.0	100.0	100.0
July 1, 2000	7,032.9	1,329.7	2,173.8	2,601.6	100.0	100.0	100.0
July 1, 2001	6,492.8	1,502.0	2,487.6	2,761.7	100.0	100.0	90.6
July 1, 2002	6,062.1	1,622.4	2,665.3	2,921.8	100.0	100.0	60.7

**Public Employee Retirement System of Idaho**

**Table 11 - A: Schedule of Contributions from the Employer and Other Contributing Entities (All dollar amounts in millions)**

<b>Fiscal Year Ending</b>	<b>Covered Employee Payroll<sup>(1)</sup></b>	<b>Actual PERSI Employer Contributions Dollar Amount<sup>(2)</sup></b>	<b>Actual ORP Contributions Dollar Amount</b>	<b>Total Actual Employer Contributions</b>	<b>Annual Required Contribution (ARC)<sup>(3)</sup></b>	<b>Percentage of ARC Dollars Contributed</b>
6/30/97	\$1,575.5	\$183.4	\$2.5	\$185.9	\$185.9	100%
6/30/98	1,627.7	169.5	2.8	172.3	172.3	100
6/30/99	1,732.3	169.8	3.3	173.1	173.1	100
6/30/00	1,827.2	179.1	3.8	182.9	155.7	117
6/30/01	1,975.3	193.6	4.3	197.9 <sup>(5)</sup>	152.2	130
6/30/02	2,047.1	200.6	4.9	205.5	155.1	132

**Table 11 –B : Schedule of Contributions from the Employer Expressed as a Percentage of Payroll**

<b>Fiscal Year Ending</b>	<b>Actual PERSI Employer Contribution %<sup>(2)</sup></b>	<b>Annual Required Contribution (ARC) %<sup>(3)</sup></b>	<b>Percentage of ARC Contributed</b>
6/30/97	11.64%	11.64%	100%
6/30/98	10.413	10.413	100
6/30/99	9.80	9.80	100
6/30/00	9.80	8.315	117
6/30/01	9.80	7.490	130
6/30/02	9.80	7.335 <sup>(4)</sup>	132

(1) Computed as the dollar amount of the actual PERSI employer contribution made as a percentage of payroll divided by the Actual PERSI contribution rate, expressed as a percentage of payroll.

(2) The actual PERSI employer contributions are expressed as a percentage of payroll. Employer contributions are made as a percentage of actual payroll in accordance with statute and the Board's Funding Policy. Thus, the actual employer contributions set by both statute and the Board's Funding Policy may differ from the computed ARC employer contribution rate for GASB disclosure purposes. Dollar amounts shown exclude additional receipts due to merger of retirement systems.

(3) For PERSI employers, the Annual Required Contribution (ARC) is equal to the normal cost rate plus a 25-year amortization of any Unfunded Actuarial Accrued Liability or minus a 25-year amortization of any Funding Reserve amount. The ARC determined as of the valuation date is applicable for employer fiscal years commencing October 1, of the calendar year following the valuation date. For Optional Retirement Plan (ORP) employers, the ARC is equal to 3.03% of salaries of university members in the ORP until 2015 and 3.83% of salaries of junior college members in the ORP until 2011.

(4) See Table C-5 for further disclosures. The ARC of 7.335% for the PERSI fiscal year ending June 30, 2002 is based on three months at 7.38% as computed in the 1999 valuation and 9 months at 7.32% as computed in the 2000 valuation.

(5) Includes \$77,690,500 of gain sharing credits. Actual cash contributions were \$120,220,992.

## Public Employee Retirement System of Idaho

### Section 7: Supplemental Information

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#### Cash-Flow Projections

Table 12 summarizes the historical cash flows for all Idaho PERS funds prior to 1996 and the projected cash flows for PERSI only after 1995, and for the next 10 years. Contributions include both employer and member contributions. The table shows that whereas net cash flow increased until the late 1990s, it has now begun to decrease. This is a typical pattern in the maturing of a retirement system. At some point, it is expected that contributions will be less than benefits and the System will begin drawing on the fund that has been built. The projection shows that benefits are expected to exceed contributions beginning in 2009.

The historical cash flows include contributions made for Optional Retirement Program (ORP) members as well as contributions, expenses and excess benefits paid by the Firefighters Retirement Fund and the Idaho Falls Police Retirement Fund prior to 1996.

The historical cash flows for 1996 through 2002 and the projected cash flows include PERSI contributions, benefits and expenses only. They are based on the actuarial assumptions as stated in Appendix A. The total contribution rate is assumed to stay at 15.82% for the entire ten-year projection. Expenses are based on the expenses for the year ended June 30, 2002, increased annually with the actuarial inflation assumption of 4.00%. Any increases in future contribution rates will increase net cash flow.

The projected cash flows do not include:

- Projected contributions for ORP members
- Projected benefits payable to the spouses of disabled members
- Projected benefits to currently inactive members
- Future discretionary COLA payments, including the potential March 1, 2003 COLA.
- Future discretionary Gain Sharing allocations.

#### Distribution of Retired Members

Table 13 shows two charts. The top chart illustrates the average monthly benefit payment for each group of retired members, based on the year of retirement. The bottom chart illustrates the number of members receiving a monthly benefit as of July 1, 2002, based on the year of retirement. Although the PERSI was not established until 1965, the older Teachers Retirement System was merged into PERSI in 1967, which accounts for years of retirement prior to 1965.

**Public Employee Retirement  
System of Idaho**

**Table 12: Cash Flow History and Projections  
(All dollar amounts in millions)**

Year	Historical Cash Flows <sup>(1)</sup>		
	Contributions	Benefits & Administrative Expenses	Net Cash Flow
1993	199	129	70
1994	231	143	88
1995	273	160	113
1996	286	166	120
1997	297	180	117
1998	278	198	80
1999	279	212	67
2000	295	237	58
2001	242 <sup>(2)</sup>	336 <sup>(3)</sup>	(94)
2002	330	282	48

Year	Projected Cash Flows (PERSI Funds Only)		
	Contributions <sup>(4)</sup>	Benefits & Administrative Expenses <sup>(5)</sup>	Net Cash Flow <sup>(6)</sup>
2003	339	293	46
2004	355	311	44
2005	372	333	39
2006	390	359	31
2007	408	389	19
2008	428	423	5
2009	448	462	(14)
2010	469	505	(36)
2011	492	552	(60)
2012	515	603	(88)

(1) Prior to 1996, includes total PERS funds, since historical data is not available for PERSI benefits only prior to 1996. After 1995, includes PERSI funds only.

(2) Contributions for 2001 do not reflect \$78 million in employer Gain Sharing credits.

(3) Benefits and administrative expenses for 2001 reflect Gain Sharing payments of \$59 million for active members and \$19 million for retired members.

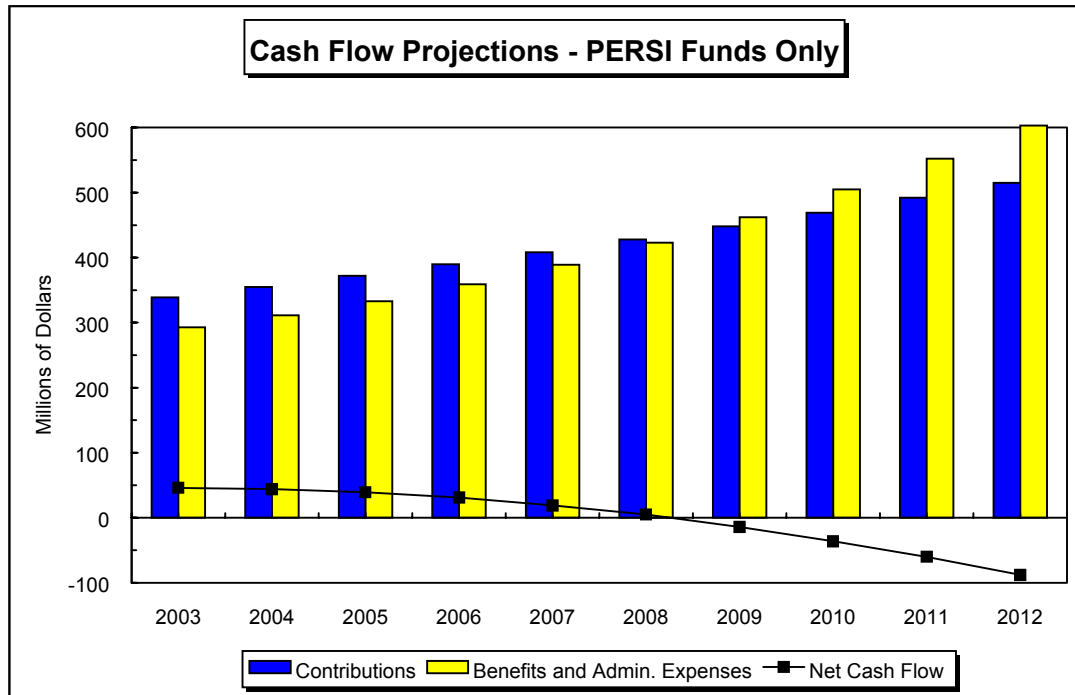
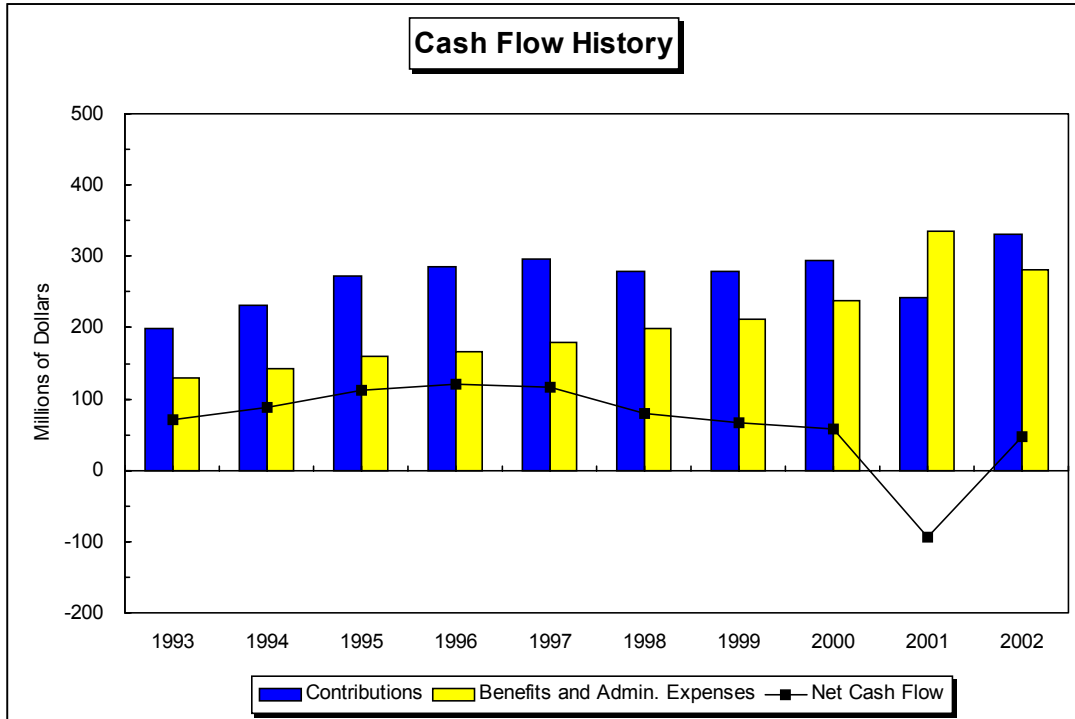
(4) All projected contributions are based on a total contribution rate of 15.82%.

(5) Projected expenses are based on expenses for FYE 2002 and the annual inflation assumption of 4.00%.

(6) A negative cash flow means a portion of the fund's investment income will need to be used to cover expected benefit payments. This could impact the fund's future asset allocations and asset liquidity needs.

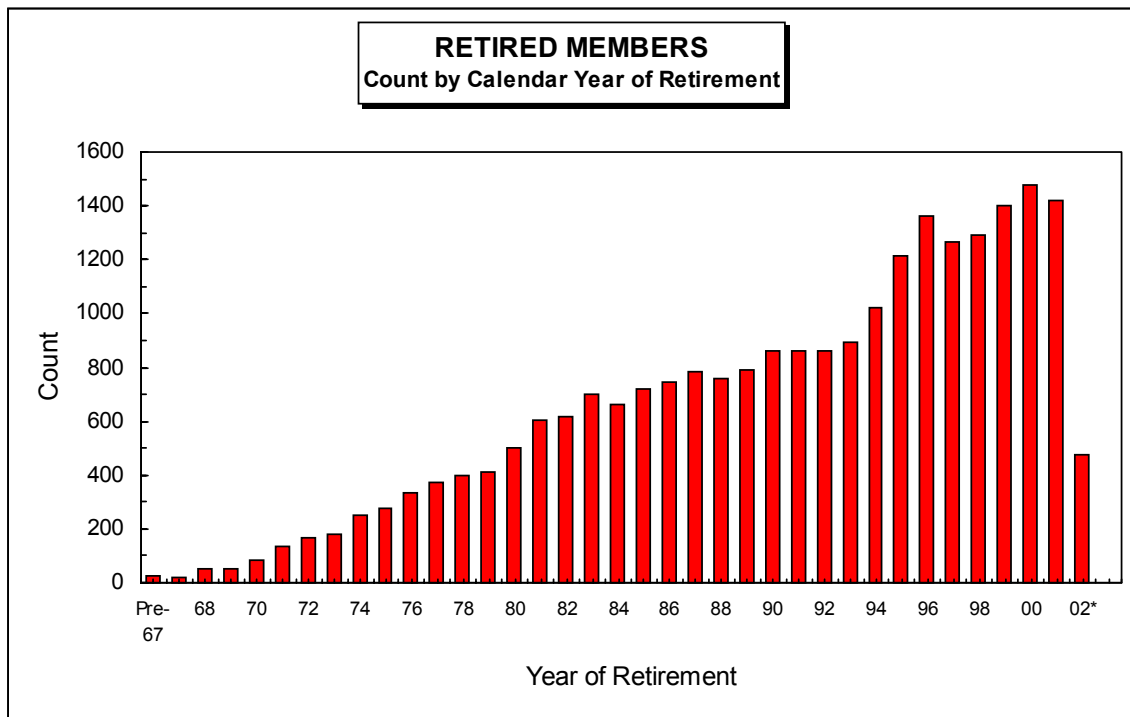
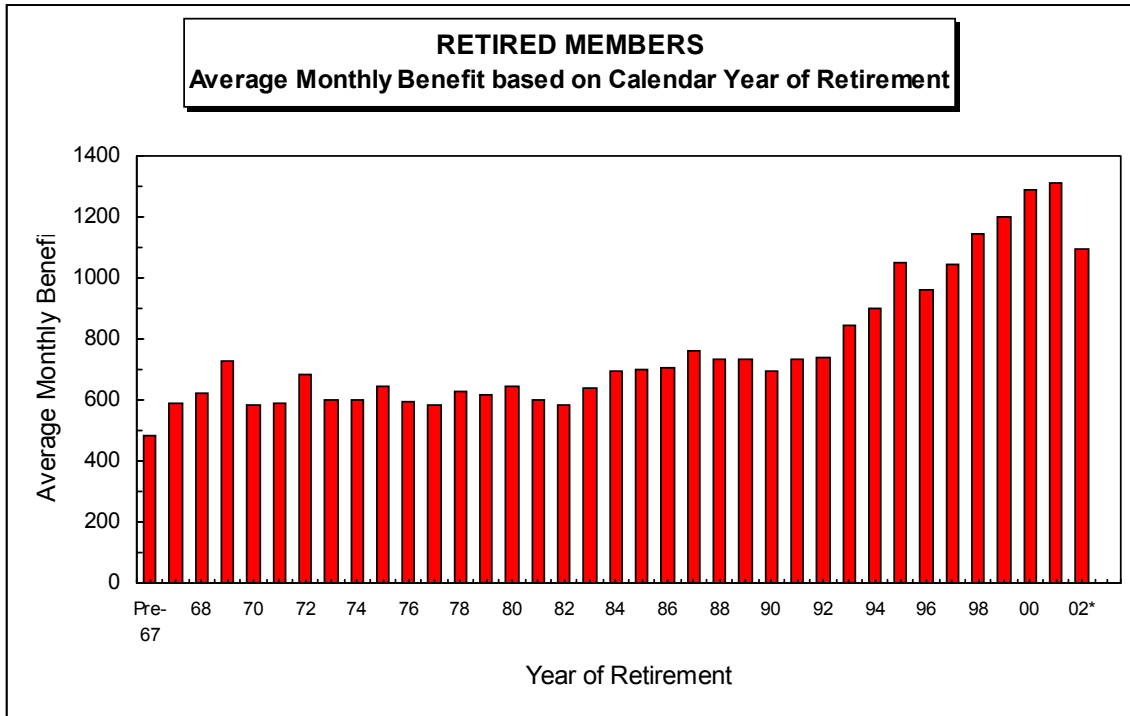


## Public Employee Retirement System of Idaho



## Public Employee Retirement System of Idaho

**Table 13: Distribution of Retired Members by Calendar Year of Retirement**



\* 2002 reflects only a partial year of retirements.

## Public Employee Retirement System of Idaho

### Appendix A: Actuarial Procedures and Assumptions

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The actuarial procedures and assumptions used in this valuation are described in this section. Termination rates for reasons other than retirement, death, or disability and the general wage inflation component of salary scale were changed July 1, 2002 as a result of our 2002 Investigation of Experience Study. Retirement rates and disablement rates were changed July 1, 2000 as a result of our 2000 Investigation of Experience Study.

The actuarial assumptions used in the valuations are intended to estimate the future experience of the members of the System and of the System itself in areas that affect the projected benefit flow and anticipated investment earnings. Any variations in future experience from that expected from these assumptions will result in corresponding changes in the estimated costs of the System's benefits.

Table A-1 summarizes the assumptions. The mortality rates are taken from the sources listed. The other rates were developed from the experience of the System and are illustrated in Tables A-5 through A-10, as noted.

Tables A-2 through A-4 show how current active members are expected to leave active status. Subgroups by age and employment class are analyzed according to the expected termination cause, based on the actuarial assumptions used in this valuation.

Table A-5 presents the expected annual percentage increase in salaries. Table A-10 presents the probability of refund of contributions upon termination. The other tables in this section give central rates of decrement expressed as percentages. The central rates of decrement are referred to in actuarial notation by the general symbol "m.." The underlying theory is described more fully in Jordan, *Life Contingencies*, Society of Actuaries (Second Edition, 1967), page 273.

**Actuarial Cost Method**

The actuarial valuation is prepared using the entry age actuarial cost method. Under the principles of this method, the actuarial present value of the projected benefits of each individual included in the valuation is allocated as a level percentage of the individual's projected compensation between entry age and assumed exit. The portion of this actuarial present value allocated to a valuation year is called the normal cost. The portion of this actuarial present value not provided for at a valuation date by the sum of (a) the actuarial value of the assets, and (b) the actuarial present value of future normal costs is called the unfunded actuarial accrued liability (UAAL). The UAAL, if positive, is amortized as a level percentage of the projected salaries of present and future members of the System (and ORP) during various amortization periods.

Prior to the July 1, 2000 valuation the methodology for calculating normal cost rates was based on a representative group of new entrants. Effective July 1, 2000, the method was changed. The normal cost rates used in this valuation were calculated based on all current active members as of July 1, 2000, for each sex and type of employee in that valuation. The actuarial present values of projected benefits and of projected salaries for all active members were calculated. The ratio of the two is the aggregate normal cost rate. Under current Board policy, the normal cost rate will not change unless there is a change in benefits or assumptions. Separate normal cost rates for each sex and type of employee are shown in Table 7. The separate rates are for illustrative purposes and are not used otherwise in the actuarial valuation.

**Records and Data**

The data used in this valuation consist of financial information and the age, service, and income records for contributing and former contributing members and their survivors. All of the data were supplied by the System and are accepted for valuation purposes without audit.

**Growth in Membership**

For benefit determination purposes, no growth in the membership of the System is assumed. For funding purposes, the total payroll of covered members is assumed to grow due to the combined effects of future wage increases of current active members and the replacement of the current active members by new employees. No growth in the total number of active members is assumed.

<b>Employer Contributions</b>	The employer contribution rate has been set by the Retirement Board effective October 1, 2001 at 10.01% for fire and police members and 9.77% for general members.
<b>ORP Contributions</b>	Until July 1, 2015, 3.03% of the university ORP members' salaries will be used to finance the actuarial accrued liability. Until July 1, 2011, 3.83% of the junior college ORP members' salaries will be used to finance the actuarial accrued liability.
<b>Member Contributions</b>	The member contribution rate is set by law to be 60% of the employer contribution rate for all members except fire and police members, whose member contribution rate is set at 72% of the employer rate. Effective November 1, 1997, the general member rate is 5.86% and the fire and police rate is 7.21%.
<b>Valuation of Assets</b>	All assets are valued at market as of the valuation date. The market-value valuation basis for all assets was effective July 1, 1994.
<b>Investment Earnings and Expenses</b>	The future investment earnings of the assets of the System are assumed to accrue at an annual rate of 8.00%, compounded annually. Investment earnings of 0.50% are assumed sufficient to cover the expenses of the System, allocated 0.35% for investment expenses and 0.15% for general administrative expenses. These rates were adopted July 1, 1992.
<b>Postretirement Benefit Increases</b>	A nondiscretionary postretirement increase of 1% per year is assumed for the primary valuation. The report also shows the estimated cost of a potential discretionary increase effective March 1, 2003.
<b>Interest on Employee Contributions</b>	The credited interest rate on employee contributions is assumed to be 7.5%. The actual credited interest rate will depend on the returns earned by the System's assets. This assumption was adopted July 1, 2000, the first valuation after the Board adopted a policy to credit interest during each calendar year equal to the greater of PERSI's actual rate of return, net of expenses for the prior fiscal year (ending June 30) or a rate based on US Treasury Bills.
<b>Gain Sharing</b>	The report shows the cost of Gain Sharing, if any, to be distributed in Tables 0, 6, and 8. Gain Sharing is reflected as a reduction in assets. No Gain Sharing is available for 2003.

**Future Salaries**

The rates of annual salary increase assumed for the purpose of the valuation are illustrated in Table A-5. In addition to increases in salary due to promotions and longevity, this scale includes an assumed 4.75% per annum rate of increase in the general wage level of the membership. These rates were adopted July 1, 2002.

**Retirement**

After members attain age 55 (50 for fire and police) and have five years of service, they may retire early with a reduced benefit. These early retirement rates are shown in Table A-6-c.

During the year after first satisfying the age and service requirements for unreduced benefits, whether for service or early retirement, members are assumed to retire at the rates shown in Table A-6-a. After the first year of eligibility, members are assumed to retire at the rates shown in Table A-6-b.

All general members who attain or who have attained age 75 in active service and all other members who have attained age 70 in active service are assumed to retire immediately.

The assumption regarding termination of employment, early retirement, and unreduced service retirement are treated as a single set of decrements with regard to a particular member. For example, a teacher member hired at age 30 could be expected to possibly withdraw from the System due to death, disability, or other termination of employment until age 55. After age 55, the member could still withdraw due to death or disability. From age 55-60, the member could also withdraw with an early retirement and a reduced benefit as shown in Table A-6-c. At age 60 (Rule of 90), the member is first eligible to retire with an unreduced benefit. The probability of retiring at age 60 is shown in Table A-6-a. Thereafter, the probabilities of retirement for this member are indicated in Table A-6-b. Thus, in no year during the member's projected employment would more than one of the decrements shown in Table A-9 or Tables A-6-[a, b, c] be applied.

Tables A-6-[a, b, c] probabilities were revised July 1, 2000.

**Disablement**

The rates of disablement used in the valuation are illustrated in Table A-7. These rates were revised July 1, 2000.

**Mortality – Other Than Disabled Members**

Several different sets of mortality rates are used in the valuation for contributing members, members retired for service, and beneficiaries. These rates are illustrated in Table A-8. These rates were adopted July 1, 1998.

**Teachers**

*Males* 1994 Group Annuity Mortality Table for males, set back two years.

*Females* 1994 Group Annuity Mortality Table for females, set back one year.

**Fire and Police**

*Males* 1994 Group Annuity Mortality Table for males with no offset.

*Females* 1994 Group Annuity Mortality Table for females, set forward two years.

**General Employees and all Beneficiaries**

*Males* 1994 Group Annuity Mortality Table for males with no offset.

*Females* 1994 Group Annuity Mortality Table for females, set back one year.

**Mortality – Disabled Members**

For disabled members, the mortality rates used in the valuation are the rates from the 1983 Railroad Retirement Board Totally Disabled Annuitants Mortality Table, with no adjustment for males and with a ten-year age setback for females. These rates are illustrated in Table A-8. These rates were adopted July 1, 1992.

**Other Employment Terminations**

Table A-9 shows the rates assumed in this valuation for future withdrawal from active service for reasons other than death, disability, or retirement with an unreduced benefit. These rates were revised July 1, 2002.

Terminating employees may withdraw their contributions immediately upon termination of employment and forfeit the right to further benefits, or they may leave their contributions with the System. Former contributing members whose contributions are on deposit may later elect to receive a refund, may return to work, or may remain inactive until becoming eligible to receive a retirement benefit.

All terminating members who are not eligible for vested benefits are assumed to withdraw their contributions immediately.

**Other Employment  
Terminations  
(continued)**

Table A-10 gives the assumed probabilities that vested members will withdraw their contributions immediately upon termination. These rates were adopted July 1, 1996.

Note: Effective July 1, 1985, certain police officers were reclassified and included in the general employee group. For this class of members, the actuarial assumptions are the same as those shown for fire and police, except for the disablement rates, which are assumed to follow the general member rates.

**Probability of  
Marriage**

If death occurs in active or disability retirement status, 75% of all members were assumed to have eligible surviving spouses. The spouse is assumed to be three years younger than the male members and three years older than the female members.

**Inactive Members**

For vested inactive members not currently receiving benefits, the present value of benefits is determined based on the estimated benefit payable for retirement at earliest eligibility. This method was adopted July 1, 2002, due to improvements in the PERSI member database. The prior method used 2.5 times accumulated member contributions.

For nonvested inactive members not currently receiving benefits, the present value of benefits is equal to the accumulated member contributions.



**Public Employee Retirement  
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**Table A-1: Summary of Valuation Assumptions  
July 1, 2002**

I.	Economic assumptions	
A.	General wage increases	4.75%
B.	Investment earnings (including 0.50% for expenses)	8.00
C.	Growth in membership	0.00
D.	Postretirement benefit increases	1.00
E.	Implied inflation assumption	4.00
II.	Demographic assumptions	
A.	Salary increases due to service	Table A-5
B.	Retirement	Table A-6
C.	Disablement	Table A-7
D.	Mortality among contributing members, service retired members, and beneficiaries	Table A-8

Basis – 1994 Group Annuity Mortality Table  
for respective sexes, as adjusted:

<u>Class of Members</u>	<u>Adjustment</u>
Teachers - men	-2 years
Teachers - women	-1 year
Fire and police - men	0 years
Fire and police - women	+2 years
General employees and all beneficiaries - men	0 years
- women	-1 year

E.	Mortality among disabled members	Table A-8
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Basis - 1983 Railroad Board Disabled Annuitants  
Mortality Table, as adjusted:

Men	No adjustment
Women	-10 years

F.	Other terminations of employment	Table A-9
G.	Refund of contributions on vested termination	Table A-10

**Public Employee Retirement  
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**Table A-2: Analysis of Current Active Membership by Expected Cause of Termination – Fire and Police**

Tables A-2 through A-4 summarize, quinquennially, all causes of termination by type of termination and member's current age. For example, of the 985 fire and police members currently age 30-34, 41.4%, or 408, are expected to eventually terminate membership due to a service retirement. Likewise, 45.3%, or 446, are expected to leave employment prior to retirement, death or disability.

<u>Age</u>	<u>Number Active</u>	<u>Service Retirement</u>	<u>Early Retirement</u>	<u>Death &amp; Disability</u>	<u>Other Terminations</u>
15-19	-	0.0%	0.0%	0.0%	0.0%
20-24	174	30.0	2.0	2.8	65.2
25-29	648	35.4	5.1	3.6	55.9
30-34	985	41.4	9.0	4.3	45.3
35-39	897	46.0	14.3	4.9	34.8
40-44	795	51.3	19.7	5.3	23.7
45-49	783	57.3	26.1	5.4	11.2
50-54	689	66.2	25.4	5.0	3.4
55-59	390	78.3	13.5	4.5	3.7
60-64	120	93.0	0.0	3.4	3.6
65-69	16	90.2	0.0	4.0	5.8
70-74	2	100.0	0.0	0.0	0.0
75+	-	0.0	0.0	0.0	0.0
Totals	5,499	51.8%	15.3%	4.6%	28.3%

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**Table A-3: Analysis of Current Active Membership by Expected Cause of Termination - General Members**

<u>Age</u>	<u>Number Active</u>	<u>Service Retirement</u>	<u>Early Retirement</u>	<u>Death &amp; Disability</u>	<u>Other Terminations</u>
<b>MALE</b>					
15-19	21	14.7%	0.0%	2.9%	82.4%
20-24	400	17.7	0.9	3.7	77.7
25-29	920	21.3	2.8	4.7	71.2
30-34	1,270	26.5	5.9	5.9	61.7
35-39	1,483	28.4	12.2	6.9	52.5
40-44	2,291	28.3	20.1	7.6	44.0
45-49	2,734	31.8	28.8	8.5	30.9
50-54	2,864	36.1	38.9	8.9	16.1
55-59	2,290	41.9	43.6	7.5	7.0
60-64	1,258	56.4	31.2	5.4	7.0
65-69	392	84.7	0.0	6.0	9.3
70-74	123	82.9	0.0	6.3	10.8
75+	<u>74</u>	100.0	0.0	0.0	0.0
Totals	16,120	35.7%	25.0%	7.3%	32.0%
<b>FEMALE</b>					
15-19	32	11.8%	0.0%	1.2%	87.0%
20-24	699	15.3	0.6	1.6	82.5
25-29	1,418	18.8	2.3	2.0	76.9
30-34	1,897	22.4	5.5	2.6	69.5
35-39	2,535	22.7	12.6	3.2	61.5
40-44	3,787	22.8	22.0	3.8	51.4
45-49	4,479	26.7	31.9	4.4	37.0
50-54	4,134	31.5	45.1	4.7	18.7
55-59	2,935	36.8	52.8	4.3	6.1
60-64	1,496	55.0	35.7	3.3	6.0
65-69	334	89.9	0.0	3.3	6.8
70-74	85	90.7	0.0	3.3	6.0
75+	<u>27</u>	100.0	0.0	0.0	0.0
Totals	23,858	29.5%	27.9%	3.8%	38.8%

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**Table A-4: Analysis of Current Active Membership by Expected Cause of Termination - Teachers**

<u>Age</u>	<u>Number Active</u>	<u>Service Retirement</u>	<u>Early Retirement</u>	<u>Death &amp; Disability</u>	<u>Other Terminations</u>
<b>MALE</b>					
15-19	-	0.0%	0.0%	0.0%	0.0%
20-24	17	32.4	3.3	4.9	59.4
25-29	315	35.0	6.9	5.7	52.4
30-34	617	39.2	12.2	6.7	41.9
35-39	542	40.8	19.6	7.2	32.4
40-44	639	40.5	28.1	7.6	23.8
45-49	725	41.8	34.8	7.6	15.8
50-54	1,046	49.9	36.8	7.0	6.3
55-59	944	57.5	36.1	5.3	1.1
60-64	385	69.1	26.0	3.7	1.2
65-69	49	96.8	0.0	2.5	0.7
70-74	3	100.0	0.0	0.0	0.0
75+	<u>1</u>	100.0	0.0	0.0	0.0
Totals	5,283	47.7%	27.7%	6.5%	18.1%
<b>FEMALE</b>					
15-19	-	0.0%	0.0%	0.0%	0.0%
20-24	143	31.0	2.6	3.1	63.3
25-29	969	37.2	5.1	3.8	53.9
30-34	1,174	42.7	10.2	4.6	42.5
35-39	1,109	43.2	18.4	5.1	33.3
40-44	1,408	38.9	29.9	5.2	26.0
45-49	1,917	38.1	39.2	5.1	17.6
50-54	2,588	40.4	47.8	4.5	7.3
55-59	1,644	41.9	53.5	3.3	1.3
60-64	575	53.1	43.6	2.2	1.1
65-69	75	96.9	0.0	1.6	1.5
70-74	13	100.0	0.0	0.0	0.0
75+	<u>1</u>	100.0	0.0	0.0	0.0
Totals	11,616	41.2%	33.7%	4.4%	20.7%

**Public Employee Retirement  
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**Table A-5a: Future Salaries**

Years of Service	Annual Increase in Salary Due to Promotions and Longevity				
	Fire and Police	General Employees		Teachers	
		Men	Women	Men	Women
1	4.8%	4.8%	4.8%	6.7%	5.8%
2	4.8	4.8	4.8	6.7	5.8
3	4.1	4.1	4.1	4.3	4.8
4	3.6	3.4	3.6	4.1	4.6
5	3.1	2.6	3.1	3.8	4.3
6	2.9	2.4	2.9	3.6	4.1
7	2.7	2.2	2.7	3.4	3.8
8	2.5	1.9	2.5	3.1	3.4
9	2.3	1.7	2.3	2.9	3.1
10	2.1	1.5	2.1	2.6	2.9
11	1.9	1.4	1.9	2.4	2.6
12	1.7	1.3	1.7	2.2	2.4
13	1.4	1.2	1.4	1.7	2.2
14	1.2	1.2	1.2	1.4	1.9
15	1.0	1.1	1.0	1.2	1.7
16	0.7	1.0	0.7	1.0	1.4
17	0.7	0.7	0.7	0.7	1.2
18	0.7	0.7	0.7	0.7	1.0
19	0.7	0.7	0.7	0.7	0.7
20	0.7	0.7	0.7	0.7	0.7
21 or more	0.7	0.7	0.7	0.7	0.7

**Public Employee Retirement  
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**Table A-5b: Future Salaries**

Years of Service	Total Annual Increase in Salary*				
	Fire and Police	General Employees		Teachers	
		Men	Women	Men	Women
1	9.8%	9.8%	9.8%	11.8%	10.8%
2	9.8	9.8	9.8	11.8	10.8
3	9.0	9.0	9.0	9.3	9.8
4	8.5	8.3	8.5	9.0	9.5
5	8.0	7.5	8.0	8.8	9.3
6	7.8	7.3	7.8	8.5	9.0
7	7.6	7.0	7.6	8.3	8.8
8	7.4	6.8	7.4	8.0	8.3
9	7.2	6.6	7.2	7.8	8.0
10	7.0	6.4	7.0	7.5	7.8
11	6.8	6.3	6.8	7.3	7.5
12	6.5	6.2	6.5	7.0	7.3
13	6.3	6.1	6.3	6.5	7.0
14	6.0	6.0	6.0	6.3	6.8
15	5.8	5.9	5.8	6.0	6.5
16	5.5	5.8	5.5	5.8	6.3
17	5.5	5.5	5.5	5.5	6.0
18	5.5	5.5	5.5	5.5	5.8
19	5.5	5.5	5.5	5.5	5.5
20	5.5	5.5	5.5	5.5	5.5
21 or more	5.5	5.5	5.5	5.5	5.5

\* The total expected increase in salary is the increase due to promotions and longevity, shown in Table A-5a, adjusted for an assumed 4.75% per annum increase in the general wage level of the membership. The total result is compounded rather than additive.

**Public Employee Retirement  
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**Table A-6-a: Immediate Retirement**

Age	Retirement Rates in First Year Eligible for Unreduced Benefits				
	Fire and Police	General Employees		Teachers	
		Men	Women	Men	Women
55*	30.0%	20.0%	20.0%	20.0%	20.0%
56	30.0	20.0	20.0	20.0	20.0
57	30.0	20.0	20.0	20.0	20.0
58	30.0	20.0	20.0	20.0	20.0
59	30.0	20.0	20.0	20.0	20.0
60	30.0	25.0	25.0	20.0	30.0
61	30.0	35.0	35.0	20.0	30.0
62	50.0	80.0	80.0	50.0	50.0
63	50.0	50.0	55.0	50.0	60.0
64	50.0	50.0	55.0	60.0	70.0
65	50.0	85.0	60.0	70.0	75.0
66	50.0	55.0	55.0	40.0	40.0
67	50.0	40.0	40.0	40.0	40.0
68	50.0	40.0	40.0	40.0	40.0
69	50.0	40.0	40.0	40.0	40.0
70	**	40.0	40.0	**	**
71		40.0	40.0		
72		40.0	40.0		
73		40.0	40.0		
74		40.0	40.0		
75		**	**		

\* 20% rate assumed for fire and police members eligible from age 50 to 54.

\*\* For all ages older than the age indicated, retirement is assumed to occur immediately.

**Public Employee Retirement  
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**Table A-6-b: Service Retirement**

Age	Retirement Rates Among Persons Who Have Been Eligible for Unreduced Benefits for At Least One Year				
	Fire and Police	General Employees		Teachers	
		Men	Women	Men	Women
55*	15.0%	10.0%	10.0%	10.0%	10.0%
56	15.0	10.0	10.0	10.0	10.0
57	15.0	10.0	10.0	10.0	10.0
58	15.0	10.0	10.0	10.0	10.0
59	20.0	15.0	15.0	15.0	10.0
60	25.0	15.0	15.0	15.0	10.0
61	30.0	15.0	20.0	20.0	20.0
62	35.0	55.0	55.0	30.0	20.0
63	35.0	40.0	30.0	30.0	20.0
64	35.0	40.0	30.0	30.0	20.0
65	40.0	80.0	55.0	65.0	70.0
66	30.0	40.0	40.0	35.0	50.0
67	30.0	30.0	30.0	35.0	40.0
68	30.0	30.0	30.0	35.0	40.0
69	23.0	30.0	30.0	35.0	40.0
70	**	30.0	30.0	**	**
71		30.0	30.0		
72		30.0	30.0		
73		30.0	30.0		
74		30.0	30.0		
75		**	**		

\* Age 55 rate assumed for fire and police members eligible from age 50 to 54.

\*\* For all ages older than the age indicated, retirement is assumed to occur immediately



**Public Employee Retirement  
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**Table A-6-c: Early Retirement**

Age	Retirement Rates Among Persons Eligible for Reduced Early Retirement Benefits				
	Fire and Police	General Employees		Teachers	
		Men	Women	Men	Women
50	5.0%				
51	5.0				
52	5.0				
53	5.0				
54	5.0	*	*	*	*
55	10.0	4.0%	3.5%	4.0%	3.5%
56	7.0	4.0	4.0	5.5	4.5
57	7.0	4.0	4.5	6.5	5.0
58	7.0	5.0	5.5	8.0	6.5
59	7.0	5.5	6.0	10.0	9.5
60		7.8	9.5	13.0	15.0
61		12.0	12.0	18.0	25.0
62		36.0	35.0	25.0	36.0
63		20.0	20.0	25.0	25.0
64		15.0	15.0	25.0	20.0

\* Not eligible for retirement.

**Public Employee Retirement  
System of Idaho**

**Table A-7: Disablement**

Age	Annual Rates				
	Fire and Police	General Employees		Teachers	
		Men	Women	Men	Women
20	0.01%	0.01%	0.01%	0.01%	0.02%
25	0.01	0.05	0.01	0.01	0.02
30	0.01	0.06	0.01	0.05	0.02
35	0.01	0.10	0.01	0.05	0.02
40	0.02	0.10	0.05	0.05	0.03
45	0.06	0.10	0.05	0.05	0.08
50	0.16	0.11	0.10	0.10	0.16
55	0.24	0.50	0.20	0.35	0.20
60	0.00	0.50	0.30	0.35	0.20
65	0.00	0.00	0.00	0.00	0.00

**Public Employee Retirement  
System of Idaho**

**Table A-8: Mortality**

Age	Annual Rates							
	Beneficiaries, Contributing Members, and Members Retired for Service						Disabled Members	
	Fire and Police		General Employees		Teachers		Men	Women
	Men	Women	Men	Women	Men	Women		
20	.051%	.029%	.051%	.028%	.046%	.028%	1.066%	1.066%
25	.066	.030	.066	.029	.059	.029	1.066	1.066
30	.080	.040	.080	.033	.075	.033	1.066	1.066
35	.085	.055	.085	.045	.085	.045	1.147	1.066
40	.107	.083	.107	.065	.094	.065	1.359	1.066
45	.158	.111	.158	.092	.135	.092	2.020	1.147
50	.258	.174	.258	.131	.210	.131	3.215	1.359
55	.444	.292	.444	.209	.359	.209	3.854	2.020
60	.801	.585	.801	.387	.632	.387	4.338	3.215
65	1.464	1.082	1.464	.765	1.154	.765	5.255	3.854
70	2.402	1.664	2.402	1.279	2.006	1.279	6.983	4.338
75	3.792	2.877	3.792	2.059	3.170	2.059	8.637	5.255
80	6.401	5.039	6.401	3.600	5.150	3.600	11.381	6.983
85	10.221	8.771	10.221	6.290	8.606	6.290	15.495	8.637
90	16.559	15.282	16.559	11.037	13.559	11.037	20.772	11.381

**Public Employee Retirement  
System of Idaho**

**Table A-9: Other Terminations of Employment**

Years of Service	Annual Rates				
	Fire and Police	General Employees		Teachers	
		Men	Women	Men	Women
1	20.0%	30.0%	30.0%	14.0%	20.0%
2	13.0	20.0	20.0	12.0	14.0
3	11.0	14.0	14.0	10.0	12.0
4	9.5	12.0	12.0	8.0	9.0
5	8.0	10.0	10.0	6.0	7.0
6	7.0	8.5	9.0	5.0	6.0
7	6.0	7.0	8.0	4.5	5.0
8	5.0	6.5	7.0	4.0	4.0
9	4.5	6.0	6.0	3.5	3.5
10	4.0	5.5	5.6	3.0	3.0
11	3.7	5.0	5.4	2.8	2.8
12	3.4	4.5	5.2	2.5	2.5
13	3.1	4.0	5.0	2.2	2.2
14	2.8	3.5	4.7	1.9	1.9
15	2.5	3.0	4.4	1.7	1.7
16	2.0	2.5	4.0	1.6	1.6
17	2.0	2.5	3.8	1.6	1.6
18	2.0	2.5	3.5	1.6	1.6
19	2.0	2.5	3.5	1.6	1.6
20	2.0	2.5	3.5	1.6	1.6
21 or more	2.0	2.5	3.5	1.6	1.6

**Public Employee Retirement  
System of Idaho**

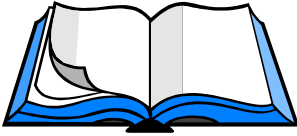
**Table A-10: Immediate Refund of Contributions Upon Termination of Employment  
While Vested**

Age	Probabilities of Immediate Refund				
	Fire and Police	General Employees		Teachers	
		Men	Women	Men	Women
25	77%	70%	64%	77%	41%
30	72	64	57	57	32
35	67	54	52	39	27
40	62	47	47	32	22
45	51	42	39	27	17
50	0	34	32	19	12
55	0	0	0	0	10

## Public Employee Retirement System of Idaho

### Appendix B: Provisions of Governing Law

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All actuarial calculations are based on our understanding of the statutes governing the Public Employee Retirement System of Idaho, as contained in Sections 59-1301 through 59-1399, inclusive, of the Idaho Code, with amendments effective through July 1, 2002. The benefit and contribution provisions of this law are summarized briefly below, along with corresponding references to the Idaho Code. This summary does not attempt to cover all the detailed provisions of the law. Only those benefits in effect through July 1, 2002 are considered in this valuation.

The items in parentheses are the provisions applicable to firefighters and police officers.

#### Effective Date

The effective date of the Retirement System was July 1, 1965.

#### Member Contribution Rate

The member contribution rate effective October 1, 2002 is 5.86% (7.21%) of salary. This rate will remain in effect until the employer contribution rate is changed from the current 9.77% (10.01%), at which time the member contribution rate will be fixed at 60% (72%) of the employer contribution rate. Member contributions have been “picked up” on a pre-tax basis by the employer since June 30, 1983. (Sections 59-1331 and 59-1332)

#### Employer Contribution Rate

The employer contribution rate is set by the Retirement Board. (Section 59-1322)

#### Service Retirement Allowance

##### **Eligibility**

Age 65 (60) with five years of service, including six months of membership service (Section 59-1341).

##### **Amount of Allowance**

For each year of credited service, the annual service retirement allowance is 2.0% (2.3%) of the highest 42-month average salary (Section 59-1342).

##### **Minimum Benefit**

\$60 (\$72) annual allowance for each year of service. The dollar amounts increase after 1974 according to the rate of cost-of-living increases in retirement allowances (Section 59-1342).

**Service Retirement Allowance (continued)**

**Maximum Benefit**

In no case may a member's regular retirement benefit exceed the highest three-year average salary of the member (Section 59-1342).

**Normal Form**

Straight life retirement allowance plus any death benefit (Section 59-1351).

**Optional Form**

Actuarial equivalent of the normal form under the options available, according to the mortality and interest basis adopted by the Board (Section 59-1351).

**Early Retirement Allowance**

**Eligibility**

Age 55 (50) with five years of service, including six months of membership service (contributing members only) (Section 59-1345).

**Amount of Allowance**

Full accrued service retirement allowance if age plus service equals 90 (80); otherwise, the accrued service retirement allowance, reduced by 3% for each of the first five years by which the early retirement date precedes the date the member would be eligible to receive the full accrued benefit, and by 5.75% for each additional year (Section 59-1346).

**Vested Retirement Allowance**

**Eligibility**

Former contributing members with five years of membership service are entitled to receive benefits after attaining age 55 (50) (Section 59-1345).

**Amount of Allowance**

Same as early retirement allowance (Section 59-1345).

**Disability Retirement Allowance**

**Eligibility**

Five years of membership service. For a police officer or a firefighter hired after July 1, 1993, who is disabled from an occupational cause, there is no service requirement (Section 59-1352).

**Amount of Allowance**

Projected service retirement allowance based on accrued service plus service projected to age 65 (60) (latter limited to excess of 30 years over accrued service) less any amount payable under workers' compensation law (Section 59-1353).

**Disability  
Retirement  
Allowance  
(continued)**

***Normal Form***

Temporary annuity to age 65 (60) plus any death benefit.  
Service retirement allowance becomes payable at age 65 (60)  
(Section 59-1354).

**Death Benefits**

***After Retirement***

Under the normal form of the retirement allowance, the excess, if any, of the member's accumulated contributions with interest at retirement over all payments received. Otherwise, payable according to the option elected (Section 59-1361).

***Before Retirement***

- A. An automatic joint and survivor option applied to the actuarial equivalent of the member's accrued service retirement allowance is paid to the surviving spouse of a member with at least five years of service who dies while:
- i. contributing;
  - ii. not contributing, but eligible for benefits; or
  - iii. retired for disability

or

- B. If a member with at least five years of service has no spouse, a lump sum payment is made equal to twice the accumulated contributions with interest (Section 59-1361).

or

- C. If a member has less than five years of service, a lump sum payment is made equal to the accumulated contributions with interest (Section 59-1361).

**Withdrawal Benefits**

Accumulated contributions with interest (Section 59-1358).  
The interest rate is determined by the Board (Section 59-1301(26)).

**Postretirement  
Increases**

A 1% annual postretirement increase is effective March of each year. An additional postretirement increase of up to 5% each year may be authorized by the Board, subject to the approval of the Legislature, if it finds that the System's assets are no less in value than its actuarial liabilities, including those created by the additional increase.

Increases are based on a cost-of-living factor reflecting the changes in the Consumer Price Index, subject to a maximum total increase of 6% in any year (Section 59-1355).



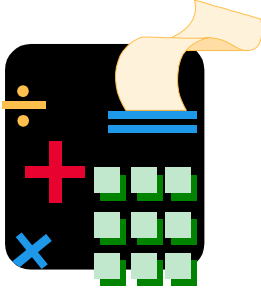
**Gain Sharing**

Beginning in 2000, under Section 59-1309, Idaho Code, the Board may allocate all or a portion of “extraordinary gains” to active and retired members and employers as Gain Sharing. Extraordinary gains are defined as the excess, if any, at the close of the fiscal year of the Assets over Actuarial Accrued Liabilities plus an amount necessary to absorb a one standard deviation market event without increasing contribution rates, as determined by the Board. Under the Board’s current investment policy, assets in excess of a 113% funded ratio are considered extraordinary gains. The Board has the authority to rescind the Gain Sharing up to the date of distribution

## Public Employee Retirement System of Idaho

### Appendix C: Valuation Data and Comparative Schedules

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This valuation is based on the membership of the System as of June 30, 2002.

The membership of the System includes employees of the State of Idaho and participating political subdivisions. The membership is divided into three categories:

1. *Fire and Police*

State police officers, most local police officers and sheriffs, local firefighters, penitentiary employees, employees of the Youth Services Center, and employees of the adjutant general and military department.

2. *Teachers*

Faculty members of local school districts and institutions of higher learning who are not members of an Optional Retirement Program.

3. *General Employees*

Other state employees and general employees of the political subdivisions, local school districts, and colleges and universities.

The data for all contributing members, former contributing members, and their survivors are summarized in Table C-1. Table C-2 summarizes their age and service statistics. Table C-3 summarizes the active members by age groups.

Detailed statistics regarding the distributions of members receiving service or disability retirement benefits, beneficiaries of deceased members, and active members in each category of membership have been reported separately to the System.

Tables C-4 through C-7 summarize the experience of the System since June 30, 1968. Earlier data are not comparable, since the Idaho Teachers' Retirement System merged with the Public Employee Retirement System of Idaho just prior to that date.

Table C-4 shows a summary of the active members and the annuitants covered as of the various valuation dates.

## Appendix C (continued)

Table C-5 summarizes the contribution rates, the amortization period, and the UAAL determined at each annual actuarial valuation.

Table C-6 presents a brief history of the financial experience of the System's investments.

Any review of these comparative schedules should be made in the light of Tables C-7 and C-8, which show the significant changes affecting the actuarial valuations in recent years.

The total salaries paid to ORP members who are contributing 3.03% for the year ending June 30, 2002 was \$146,105,411. The total salaries paid to ORP members who are contributing 3.83% for the year ending June 30, 2002 was \$13,579,015. These salaries are used to finance the UAAL.

**Public Employee Retirement System of Idaho**

**Table C-1: Summary of Membership Data**

	Active Members			Annuitants		
	Number <sup>(1)</sup>	Annual Salaries in Thousands	Average Annual Salaries	Number	Annual Benefits in Thousands	Average Annual Benefits
<b><u>July 1, 2002</u></b>						
Fire and Police	5,499	\$227,249	\$41,326	1,508	\$22,487	\$14,912
General Employees:						
Male	16,120	527,988	32,754	7,325	74,621	10,187
Female	23,858	570,559	23,915	9,529	63,584	6,673
Teachers:						
Male	5,283	250,593	47,434	2,204	46,130	20,930
Female	11,616	459,615	39,567	3,452	48,552	14,065
<b>Total</b>	<b>62,376</b>	<b>\$2,036,004</b>	<b>\$32,641</b>	<b>24,018</b>	<b>\$255,374</b>	<b>\$10,633</b>
<b><u>July 1, 2001</u></b>						
Fire and Police	5,455	\$210,908	\$38,663	1,417	\$19,670	\$13,882
General Employees:						
Male	16,013	496,981	31,036	7,186	69,456	9,665
Female	24,179	550,662	22,774	9,296	60,469	6,505
Teachers:						
Male	5,247	241,367	46,001	2,068	41,393	20,016
Female	11,231	424,471	37,795	3,286	44,281	13,476
<b>Total</b>	<b>62,125</b>	<b>\$1,924,389</b>	<b>\$30,976</b>	<b>23,253</b>	<b>\$235,269</b>	<b>\$10,118</b>

(1) Not included in these figures are the following:

	Vested Inactive Members Not Currently Receiving Benefits			Nonvested Inactive Members	Total Inactive Members
	Number	Annual Benefits in Thousands <sup>(2)</sup>	Average Annual Benefits		
2002	7,330	\$33,642	\$4,590	10,937	18,267
2001	6,585	26,882	4,082	12,138	18,723

(2) At earliest retirement date

Note: In 2002, 201 vested annuitants of the Firefighters' Retirement Fund were not eligible for a PERS benefit. In 2001, 194 were not eligible.

## Public Employee Retirement System of Idaho

**Table C-2: Summary of Age and Service Statistics**

	Active Members			Average Current Age	Average Current Service	Inactive Members Not Currently Receiving Benefits	Members Receiving Service or Early Retirement Benefits		
	Vested	Nonvested	Total				Number	Average Current Age	Average Retirement Age
<b><u>July 1, 2002</u></b>									
Fire and Police	3,400	2,099	5,499	40.6	9.4	259	1,508	65.8	56.3
General Employees:									
Male	9,514	6,606	16,120	46.7	9.5	2,265	7,325	73.2	62.7
Female	12,805	11,053	23,858	45.4	8.1	3,088	9,529	74.3	61.3
Teachers:									
Male	4,030	1,253	5,283	46.4	14.7	545	2,204	70.1	61.2
Female	8,390	3,226	11,616	45.3	12.3	1,173	3,452	72.6	61.4
Total	38,139	24,237	62,376	45.4	10.0	7,330	24,018	72.8	61.4
<b><u>July 1, 2001</u></b>									
Fire and Police	3,271	2,184	5,455	40.2	9.1	213	1,417	65.8	56.6
General Employees:									
Male	9,494	6,519	16,013	46.4	9.3	2,094	7,186	73.3	62.8
Female	12,851	11,328	24,179	45.0	7.9	2,615	9,296	74.4	61.4
Teachers:									
Male	4,013	1,234	5,247	46.5	14.9	535	2,068	70.1	61.3
Female	8,062	3,169	11,231	45.2	12.2	1,128	3,286	72.7	61.6
Total	37,691	24,434	62,125	45.1	9.7	6,585	23,253	72.9	61.6

*Note: The averages shown in this table are for general information purposes. The valuation results depend upon the personnel data underlying the averages, rather than upon the averages themselves.*

**Public Employee Retirement System of Idaho**

**Table C-3: Age Distribution of Active Members**

	Age Groups					Total
	0-29	30-39	40-49	50-59	60+	
<b><u>July 1, 2002</u></b>						
Fire and Police	822	1,882	1,578	1,079	138	5,499
General Employees:						
Male	1,340	2,754	5,025	5,154	1,847	16,120
Female	2,148	4,433	8,266	7,069	1,942	23,858
Teachers:						
Male	332	1,159	1,364	1,990	438	5,283
Female	1,112	2,283	3,325	4,232	664	11,616
Total	5,754	12,511	19,558	19,524	5,029	62,376
Percentage of Total	9.22%	20.06%	31.36%	31.30%	8.06%	100.00%
<b><u>July 1, 2001</u></b>						
Fire and Police	841	1,915	1,567	1,023	109	5,455
General Employees:						
Male	1,280	2,952	5,081	4,988	1,712	16,013
Female	2,225	4,792	8,511	6,892	1,759	24,179
Teachers:						
Male	351	1,100	1,354	2,011	431	5,247
Female	1,045	2,157	3,471	4,014	544	11,231
Total	5,742	12,916	19,984	18,928	4,555	62,125
Percentage of Total	9.24%	20.79%	32.17%	30.47%	7.33%	100.00%

## Public Employee Retirement System of Idaho

**Table C-4: Membership Data**

Valuation Date (July 1)	Active Members					Annuitants			
	Number	Annual Salaries in Millions	Average Annual Salary	Average Age	Average Years of Service	Number	Annual Benefits in Thousands	Average Annual Benefit	Average Age**
1968	16,014	\$ 95	\$ 5,906	*	*	2,498	\$ 3,207	\$ 1,284	*
1969	19,796	124	6,247	*	*	2,977	4,351	1,462	*
1970	21,048	140	6,672	*	*	3,565	5,261	1,476	*
1971	23,505	160	6,805	*	*	4,298	6,442	1,499	*
1972	29,648	203	6,832	*	*	4,862	7,255	1,492	*
1973	30,174	219	7,255	*	*	5,659	8,494	1,501	*
1974	30,603	243	7,953	41.6	6.3	6,301	12,993	2,062	69.7
1975	32,545	286	8,771	41.2	6.2	7,058	15,098	2,139	69.7
1976	35,658	342	9,596	40.3	6.7	7,745	16,981	2,193	69.3
1977	37,559	381	10,135	40.1	6.7	8,573	20,172	2,353	69.5
1978	38,122	418	10,967	40.8	6.7	9,235	23,176	2,510	70.8
1979	38,848	459	11,826	40.9	6.8	9,982	26,593	2,664	71.0
1980	39,510	497	12,580	41.1	7.0	10,606	29,876	2,817	71.2
1981	40,722	550	13,518	41.2	7.0	11,279	34,073	3,021	71.3
1982	40,537	596	14,700	41.4	7.3	12,035	39,103	3,249	72.3
1983	40,495	630	15,557	41.6	7.6	12,766	44,597	3,493	71.5
1984	41,779	678	16,234	41.8	7.7	13,336	48,784	3,658	71.8
1985	42,626	739	17,336	42.0	7.9	13,955	54,583	3,911	71.9
1986	43,030	768	17,855	42.2	8.1	14,615	59,182	4,049	72.1
1987	43,843	797	18,187	42.4	8.2	15,281	64,558	4,225	72.3

\* *Not calculated*

\*\* *Excludes survivors and disabled members.*

**Table C-4  
(continued)**

Valuation Date (July 1)	Active Members					Annuitants			
	Number	Annual Salaries in Millions	Average Annual Salary	Average Age	Average Years of Service	Number	Annual Benefits in Thousands	Average Annual Benefit	Average Age**
1988	45,262	859	18,969	42.6	8.3	15,801	69,416	4,393	72.5
1989	46,106	911	19,763	42.9	8.4	16,344	74,809	4,572	72.7
1990	48,251	961	19,919	43.0	8.4	16,880	82,262	4,873	72.9
1991	49,854	1,039	20,842	43.1	8.4	17,464	92,040	5,270	73.2
1992	51,557	1,134	21,994	43.3	8.6	17,847	100,854	5,651	73.3
1993	52,532	1,191	22,663	43.7	8.9	18,283	111,545	6,101	73.5
1994	53,763	1,254	23,322	43.9	9.0	18,683	124,254	6,651	73.4
1995	55,811	1,388	24,866	43.9	9.0	19,272	136,327	7,074	73.6
1996	56,802	1,452	25,558	44.1	9.2	19,903	148,740	7,473	73.5
1997	57,237	1,511	26,403	44.3	9.5	20,499	160,908	7,850	73.2
1998	57,528	1,562	27,156	44.6	9.7	21,134	173,519	8,210	73.2
1999	59,248	1,673	28,243	44.8	9.8	21,756	193,441	8,891	73.1
2000	60,388	1,798	29,778	45.0	9.8	22,456	209,549	9,332	73.1
2001	62,125	1,924	30,976	45.1	9.7	23,253	235,269	10,118	72.7
2002	62,376	2,036	32,641	45.4	10.0	24,018	255,374	10,633	72.7

\* *Not calculated*

\*\* *Excludes survivors and disabled members.*



**Public Employee Retirement System of Idaho**

**Table C-5: Contribution Rates**

Valuation Date (July 1)	Calculated Statutory Minimum Employer Rates 25/30-Year Funding <sup>(8)</sup>			GASB Determined ARC <sup>(9)</sup>	Actual Rates Employee <sup>(1)</sup>			Prior to Subsequent Year COLA Adjustment	
	Current Normal Cost Rate <sup>(1)</sup>	Amortization Payment Rate	Total Rate <sup>(2)</sup>		Employer <sup>(2)</sup>	Fire & Police	Other	Amortization Period (Years)	Unfunded Actuarial Accrued Liability <sup>(5)</sup> (in Millions)
1968	2.01	4.68	6.69	NA	7.25	(3)	(4)	under 30 <sup>(6)</sup>	\$ 72.2
1969	2.53	5.17	7.70	NA	7.25	(3)	(4)	under 50 <sup>(6)</sup>	106.4
1970	2.51	4.71	7.22	NA	7.25	(3)	(4)	under 30 <sup>(6)</sup>	110.1
1971	3.26	4.96	7.33	NA	6.80	(3)	(4)	41	132.1
1972	3.40	3.65	7.05	NA	6.80	(3)	(4)	36	123.0
1973	3.31	3.43	6.74	NA	6.78	(3)	(4)	30	125.0
1974	2.45	4.09	6.54	NA	6.80	5.40	4.50	28	216.3
1975	2.43	4.14	6.57	NA	6.80	5.40	4.50	28	256.5
1976	3.38	3.58	6.96	NA	6.81	5.40	4.50	28	306.8
1977	5.76	4.11	9.87	NA	7.11	5.40	4.50	-- (7)	392.2
1978	4.92	4.04	8.96	NA	7.11	5.40	4.50	28	423.1
1979	4.93	4.02	8.95	NA	8.36	5.40	4.50	27	462.9
1980	5.20	4.43	9.63	NA	9.50	5.60	4.67	31	553.1
1981	5.20	4.21	9.41	NA	9.50	5.80	4.84	29	582.8
1982	5.07	4.39	9.46	NA	9.05	6.05	5.05	32	653.5
1983	5.11	4.22	9.33	NA	8.75	6.30	5.26	34	664.6
1984	5.09	4.30	9.39	NA	8.82	6.35	5.30	35	729.4
1985	6.02	3.29	9.31	NA	8.89	6.40	5.34	35	614.8
1986	5.97	2.84	8.84	NA	8.89	6.40	5.34	29	555.7
1987	5.97	2.60	8.67	NA	8.89	6.40	5.34	26	526.7

**Table C-5  
(continued)**

Valuation Date (July 1)	Calculated Statutory Minimum Employer Rates 25/30-Year Funding <sup>(8)</sup>			GASB Determined ARC <sup>(9)</sup>	Actual Rates Employee <sup>(1)</sup>			Prior to Subsequent Year COLA Adjustment	
	Current Normal Cost Rate <sup>(1)</sup>	Amortization Payment Rate	Total Rate <sup>(2)</sup>		Employer <sup>(2)</sup>	Fire & Police	Other	Amortization Period (Years)	Unfunded Actuarial Accrued Liability <sup>(5)</sup> (in Millions)
1988	5.85	3.21	9.01	NA	8.89	6.40	5.34	32	\$ 699.1
1989	5.86	2.53	8.54	NA	8.89	6.40	5.34	24	589.1
1990	6.07	2.34	8.41	NA	8.89	6.40	5.34	22	578.7
1991	6.07	2.34	8.41	NA	8.89	6.40	5.34	22	622.7
1992	6.77	2.44	9.21	NA	9.75	7.02	5.84	21	677.3
1993	7.13	2.94	10.07	NA	10.65	7.82	6.38	18	740.0
1994	7.47	3.91	11.38	NA	11.63	8.53	6.97	22	1,040.6
1995	7.68	3.23	10.91	NA	11.63	8.53	6.97	18	952.1
1996	8.37	2.25	10.62	10.413	11.64	8.53	6.97	13	639.5
1997	8.98	0.45	9.43	9.80	11.64 <sup>(10)</sup>	8.53	6.97	2	128.9
1998	9.22	(1.40)	9.22	7.82	11.03 <sup>(10)</sup>	8.10	6.60	N/A	(493.9)
1999	9.44	(2.06)	9.44	7.38	11.03 <sup>(10)</sup>	8.10	6.60	N/A	(704.0)
2000	10.04	(2.72)	10.04	7.32	9.80	7.21	5.86	N/A	(998.3)
2001	8.94	0.50	9.44	9.44	9.80	7.21	5.86	10	186.3
2002	7.37	2.94	10.31	10.31	9.80 <sup>(11)</sup>	7.21	5.86	39	1,075.7

## Notes on Table C-5

- (1) Normal cost rates and employee rates prior to 1986 are based on actual employer rates. They would vary from the rates shown if employer rates were changed.
- (2) Excludes additional administrative contributions required before 1980. Aggregate weighted employer rate since 1993. Can't be less than the normal cost rate.
- (3) 3.6% of annual salary up to \$4,800, plus 7.2% of excess.
- (4) 3.0% of annual salary up to \$4,800, plus 6.0% of excess.
- (5) Calculated as of the valuation date, prior to any COLA adjustment or Gain Sharing allocation. Beginning in 1991, amounts funded by ORP contributions are not included in the UAAL.
- (6) For actuarial valuations prior to 1971, an explicit amortization period was not calculated. The current employer contribution rate was compared to a contribution rate based on either a 30 or 50 year amortization period.
- (7) Based on the results of the 1977 experience study, the valuation results indicated that the employer contribution rate in effect at the time of the valuation would be insufficient to amortize the UAAL over a reasonable period. Subsequent increases in the employer contribution rate in 1979 and 1980 resulted in a reasonable amortization period.
- (8) Amortization rates in 1992 and before represent 30-year funding. Amortization rates in 1993 and after represent 25-year funding.
- (9) GASB required an ARC to be computed for all plan years after June 15, 1996. As long as a positive UAAL exists and is being amortized over a reasonable period of time, generally less than 30 years, the ARC is equal to the actual contribution rate set by the Board. If a Funding Reserve exists, GASB requires the amortization of the reserve and a calculated ARC less than the normal cost rate. The actual PERSI rate cannot be less than the normal cost rate under the statutory requirements. The ARC calculated as of the valuation date is applicable to the employer fiscal year commencing October 1 of the calendar year following the valuation date. The ARC includes the discretionary COLA increases if approved by the Board prior to the completion of the valuation report.
- (10) Permanent rate is shown; temporary rate of 9.80% was effective November 1, 1997, until Board adopted permanent 9.80% rate April 2000.
- (11) The rate shown as ARC is the minimum contribution rate calculated according to statute and is assumed to be effective January 1, 2004, rather than October 1, 2003.

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**Table C-6: Investments**  
**(Dollar Amounts in Millions)**

Valuation Date (July 1)	Total Investments Held on Valuation Date		Yield Net of Investment Expenses During Previous Year	
	Market Basis	Valuation Basis	Market Basis	Valuation Basis
1968	\$ 30.6	\$ 30.6	6.38%	6.38%
1973	102.4	111.0	(7.39)	4.85
1978	211.2	213.0	1.61	2.80
1983	658.5	628.6	40.36	16.33
1986	1,095.7	1,115.2	23.23	17.24
1987	1,206.5	1,299.4	10.52	12.01
1988	1,294.4	1,265.7	(0.60)	(5.60)
1989	1,533.0	1,560.0	13.13	17.61
1990	1,742.8	1,776.4	10.31	10.55
1991	1,907.1	1,976.8	6.06	7.93
1992	2,164.2	2,197.2	10.27	8.11
1993	2,531.7	2,525.0	12.60	10.66
1994	2,674.7	2,674.7	2.50	2.76
1995	3,237.9	3,237.9	14.34	14.34
1996	3,853.8	3,853.8	17.83	17.83
1997	4,728.5	4,728.5	19.11	19.11
1998	5,741.0	5,741.0	17.19	17.19
1999	6,450.9	6,450.9	11.18	11.18
2000	7,285.3	7,285.3	12.93	12.93
2001	6,732.4	6,732.4	(6.40)	(6.40)
2002	6,256.3	6,256.3	(7.36)	(7.36)

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**Table C-7: Changes Affecting Actuarial Valuations - Statistics**

Valuation Date <sup>(1)</sup>	Minimum Benefit <sup>(2)</sup>	Postretirement Increase <sup>(1)</sup>		Regular Interest <sup>(3)</sup>
		Maximum	Granted	
1967	N/A	N/A	N/A	4.00%
1968	N/A	N/A	N/A	4.25
1969	N/A	3.0%	3.0%	4.375
1970	N/A	3.0	3.0	4.75
1971	N/A	3.0	3.0	5.00
1972	N/A	3.0	3.0	5.00
1973	N/A	3.0	3.0	5.50
1974	\$5.00	3.0	3.0	6.00
1975	5.15	3.0	3.0	6.00
1976	5.30	3.0	3.0	6.00
1977	5.62	5.3	6.0 <sup>(4)</sup>	6.50
1978	5.96	6.0	6.0	6.50
1979	6.32	6.0	6.0	6.50
1980	6.70	6.0	6.0	6.50
1981	7.10	6.0	6.0	7.00
1982	7.53	6.0	6.0	7.50
1983	7.92	5.1	5.1	8.00
1984	8.14	2.9	2.9	8.50
1985	8.48	4.2	4.2	9.00
1986	8.57	3.2	1.0	9.00
1987	8.70	1.5	1.5	7.50
1988	8.78	4.5	1.0	6.50
1989	8.87	4.2	1.0	6.50
1990	9.29	4.7	4.7	7.00
1991	9.81	5.6	5.6	7.37
1992	10.59	3.8	3.8	5.75
1993	12.48	3.1	3.1	4.25
1994	14.43	2.8	2.8	4.00
1995	14.85	2.9	2.9	4.75
1996	15.23	2.6	2.6	5.75
1997	15.67	2.9	2.9	5.13
1998	16.02	2.2	2.2	5.38
1999	18.06	1.6	1.6	5.00
2000	18.47	2.3	2.3	7.93
2001	19.10	3.4	3.4	11.985
2002	19.62	2.7	2.7	8.84

(1) Valuations as of July 1. Postretirement increase effective previous January 1 for years prior to 1987, previous March 1 for 1987 and after.

(2) Minimum monthly benefit per year of service; benefit levels for fire and police members are 20% greater than amount shown.

(3) Average rate credited on member contributions during year prior to valuation date, actual rates may vary during the year.

(4) 5.3% for 1976 retirees.

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**Table C-8: Changes Affecting Actuarial Valuations - Descriptions**

<b>Valuation Date</b>	<b>Change</b>
<b>1968</b>	Actuarial assumptions were revised to reflect actual experience for the study period from inception to June 30, 1967.
<b>1969</b>	Discretionary cost-of-living increases and death benefit provisions were adopted.
<b>1971</b>	Vesting, early retirement, and death benefits were improved.
<b>1974</b>	Major changes in actuarial assumptions and a new retirement benefit formula were adopted.
<b>1976</b>	Actuarial assumptions for investment earnings, future salaries, and service retirement were changed. Changes in the compulsory retirement provisions, death benefit eligibility, and the maximum discretionary cost-of-living increases, including funding for an automatic 1% annual increase in postretirement benefits.
<b>1977</b>	Major changes in actuarial assumptions as a result of a study of the System's actual experience. These revisions were tentative, made on the basis of limited experience data.
<b>1978</b>	The termination of employment and the retired mortality assumptions were revised based on an update of the study of the System's actual experience.
<b>1979</b>	Reflects the maximum 40-year funding period enacted in 1979 legislation.
<b>1980</b>	Actuarial assumptions for investment earnings, salary growth, and disabled members' mortality assumptions were changed. Reduction factors for early retirement were modified and employee contribution rates were increased. The bond valuation method was revised, generating a one-time investment gain.
<b>1982</b>	Actuarial assumptions were revised to reflect the results of the System's experience over the three-year period ending June 30, 1981. The early retirement "Rule of 90(80)" and graded increase in both employee and employer contribution rates were implemented.
<b>1983</b>	The asset valuation method for mortgages was changed.
<b>1985</b>	Actuarial assumptions were revised based on the experience study for the period July 1, 1981 through June 30, 1984.

**Table C-8  
(continued)**

<b>Valuation Date</b>	<b>Change</b>
<b>1988</b>	Actuarial assumptions were revised based on the experience study for the period July 1, 1984 through June 30, 1987.
<b>1992</b>	Actuarial assumptions were revised based on the 1992 Investigation of Experience Study. Benefits and contributions were increased effective October 1, 1992. The benefit percentage factor was increased, the averaging period used in determining average monthly salary was decreased, and the early retirement reduction factors were decreased.
<b>1993</b>	Disability eligibility provisions for fire and police members were changed and contribution rates were increased to reflect this change. Benefits and contributions were increased effective October 1, 1993. The benefit percentage factor was increased, the averaging period used in determining average monthly salary was decreased, and the early retirement reduction factors were decreased.
<b>1994</b>	Actuarial assumptions were revised based on the 1994 Investigation of Experience Study. Benefits and contributions were increased effective October 1, 1994. The benefit percentage factor was increased, the averaging period used in determining average monthly salary was decreased, and the early retirement reduction factors were decreased.
<b>1996</b>	Actuarial assumptions were revised based on the 1996 Investigation of Experience Study.
<b>1998</b>	Mortality and Salary increase assumptions were revised based on the 1998 Investigation of Experience Study. The benefits for all annuitants were restored to 100% of purchasing power at the original retirement date.
<b>2000</b>	The permanent total contribution rate was reduced effective November 1, 2000. Benefits were increased and disability eligibility service requirements were reduced effective July 1, 2000. The interest crediting rate on employee contributions was changed to the actual return of the System. Retirement and disablement assumptions were revised based on the 2000 Investigation of Experience Study.
<b>2001</b>	A Gain Sharing allocation of \$155.4 million was granted by the Board.
<b>2002</b>	Salary increase and termination of employment assumptions were revised based on the 2002 Investigation of Experience Study.

## Public Employee Retirement System of Idaho

### Appendix D: Glossary

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The following definitions are largely excerpts from a list adopted in 1981 by the major actuarial organizations in the United States. In some cases, the definitions have been modified for specific applicability to the Public Employee Retirement System of Idaho. Defined terms are capitalized throughout this Appendix.

**Actuarial Assumptions**

Assumptions as to the occurrence of future events affecting pension costs, such as: mortality, withdrawal, disablement, and retirement; changes in compensation; rates of investment earnings and asset appreciation or depreciation; procedures used to determine the Actuarial Value of Assets; and other relevant items.

**Actuarial Cost Method**

A procedure for determining the Actuarial Present Value of pension plan benefits and expenses and for developing an actuarially equivalent allocation of such value to time periods, usually in the form of a Normal Cost and an Actuarial Accrued Liability.

**Actuarial Gain (Loss)**

A measure of the difference between actual experience and that expected based on a set of Actuarial Assumptions during the period between two Actuarial Valuation dates, as determined in accordance with a particular Actuarial Cost Method.

**Actuarial Present Value**

The value of an amount or series of amounts payable or receivable at various times, determined as of a given date by the application of a particular set of Actuarial Assumptions.

**Actuarial Valuation**

The determination, as of a valuation date, of the Normal Cost, Actuarial Accrued Liability, Actuarial Value of Assets, and related Actuarial Present Values for a pension plan.

**Actuarial Value of Assets**

The value of cash, investments and other property belonging to a pension plan, as used by the actuary for the purpose of an Actuarial Valuation.

**Actuarially Equivalent**

Of equal Actuarial Present Value, determined as of a given date with each value based on the same set of Actuarial Assumptions.

**Amortization Payment**

That portion of the pension plan contribution that is designed to pay interest on and to amortize the Unfunded Actuarial Accrued Liability.



<b>Entry Age Actuarial Cost Method</b>	A method under which the Actuarial Present Value of the Projected Benefits of each individual included in an Actuarial Valuation is allocated on a level basis over the earnings of the individual between entry age and assumed exit ages. The portion of this Actuarial Present Value allocated to a valuation year is called the Normal Cost. The portion of this Actuarial Present Value not provided for at a valuation date by the Actuarial Present Value of future Normal Costs is called the Actuarial Accrued Liability.
<b>Funding Reserve</b>	The excess of the Actuarial Value of Assets over the Actuarial Accrued Liability. Standard actuarial terminology defines this as the "Funding Excess." PERSI uses the term Funding Reserve.
<b>Normal Cost</b>	That portion of the Actuarial Present Value of pension plan benefits and expenses which is allocated to a valuation year by the Actuarial Cost Method.
<b>Actuarial Accrued Liability</b>	That portion, as determined by a particular Actuarial Cost Method, of the Actuarial Present Value of pension plan benefits and expenses which is not provided for by future Normal Costs.
<b>Unfunded Actuarial Accrued Liability</b>	The excess of the Actuarial Accrued Liability over the Actuarial Value of Assets.
<b>Accrued Benefit</b>	The amount of an individual's benefit (whether or not vested) as of a specific date, determined in accordance with the terms of a pension plan and based on compensation and service to that date.
<b>Projected Benefits</b>	Those pension plan benefit amounts which are expected to be paid at various future times under a particular set of Actuarial Assumptions, taking into account such items as the effect of advancement in age and past and anticipated future compensation and service credits.