Public Employees' Retirement System of the State of Montana

Actuarial Valuation as of June 30, 2012

Produced by Cheiron

September 2012

Classic Values, Innovative Advice

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September 14, 2012

Public Employees' Retirement Board
100 North Park, Suite 200
Helena, Montana 59620

Dear Members of the Board:

At your request, we have conducted the annual actuarial valuation of the Public Employees' Retirement System as of June 30, 2012. The results of the valuation are contained in this report. The purpose of the valuation is discussed in the Foreword.

This report contains information on the System's assets, as well as analyses which combine asset and liability performance and projections. The report also discloses employer contribution levels, and required disclosures under the Governmental Accounting Standards Board Statement No. 25. This report is for the use of the Public Employees' Retirement Board and its auditors in preparing financial reports in accordance with applicable law and accounting requirements. Any other user of this report is not an intended user and is considered a third party.

Your attention is called to the Foreword in which we refer to the general approach employed in the preparation of this report. We also comment on the sources and reliability of both the data and the actuarial assumptions on which our findings are based. The results of this report are only applicable for Fiscal Year ending 2012 and rely on future system experience conforming to the underlying assumptions. To the extent that actual system experience deviates from the underlying assumptions, the results would vary accordingly.

We hereby certify that, to the best of our knowledge, this report and its contents, which are based on information supplied by the Montana Public Employees' Retirement Administration, are work products of Cheiron, Inc. These work products are complete and have been prepared in accordance with generally recognized and accepted actuarial principles and practices which are consistent with the Code of Professional Conduct and applicable Actuarial Standards of Practice set out by the Actuarial Standards Board. Furthermore, as credentialed actuaries, we meet the Qualification Standards of the American Academy of Actuaries to render the opinions contained in this report. This report does not address any contractual or legal issues. We are not attorneys and our report does not provide any legal services or advice.

Cheiron's report was prepared exclusively for the Public Employees' Retirement System for a specific and limited purpose. It is not for use or benefit of any third party for any purpose, and Cheiron assumes no duty or liability to any such party.

Sincerely,
Cheiron

Stephen T. McElhaney, FSA, FCA	Margaret Tempkin, FSA
Principal Consulting Actuary	Principal Consulting Actuary

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FOREWORD

Cheiron has performed the actuarial valuation of the Public Employees' Retirement System as of June 30, 2012. The purpose of this report is to:

1) **Measure and disclose**, as of the valuation date, the financial condition of the System;

2) **Indicate trends** in the financial progress of the System;

3) **Determine the sufficiency of the statutory contribution rate** paid by the employers for Fiscal Year 2012 to meet the requirements of an Annual Required Contribution (ARC) under GASB 25; and

4) **Provide specific information** and documentation required by the Governmental Accounting Standards Board (GASB).

An actuarial valuation establishes and analyzes system assets and liabilities on a consistent basis, and traces the progress of both from one year to the next. It includes measurement of the system's investment performance as well as an analysis of actuarial liability gains and losses.

Section I presents a summary containing our findings and disclosing important trends experienced by the System in recent years.

Section II contains details on various asset measures, together with pertinent performance measurements.

Section III shows similar information on system liabilities, measured for actuarial, accounting, and government reporting purposes.

Section IV develops the employer contribution rate determined using actuarial techniques.

Section V includes the required disclosures under GASB Statement No. 25.

The appendices to this report contain a summary of the System's membership at the valuation date, a summary of the major provisions of the System, and the actuarial methods and assumptions used in the valuations.

In preparing our report, we relied without audit, on information (some oral and some written) supplied by the staff of the Public Employee Retirement Administration. This information includes, but is not limited to, plan provisions, employee data, and financial information. We performed an informal examination of the obvious characteristics of the data for reasonableness and consistency in accordance with Actuarial Standard of Practice No. 23.

The actuarial assumptions reflect our understanding of the likely future experience of the System and the assumptions as a whole represent our best estimate for the future experience of the System. The results of this report are dependent upon future experience conforming to these assumptions. To the extent that future experience deviates from the actuarial assumptions, the cost of the benefits would vary from our projections.

SECTION I
BOARD SUMMARY

General Comments

This is the fourth valuation of the Public Employees' Retirement System performed by Cheiron.

As of June 30, 2011 valuation the statutory contribution rates were not sufficient to amortize the unfunded actuarial accrued liability. As of June 30, 2012 the statutory contribution rates are again not sufficient to amortize the unfunded actuarial accrued liability. During the year ended June 30, 2012, the System's assets gained 2.27% on a market value basis. However, due to the System's asset-smoothing technique which recognizes only a portion of the gains and losses, the return on the actuarial asset value was 3.28%. This return was below the assumed rate of return of 7.75% and resulted in an actuarial loss on investments of $168 million.

The System experienced an actuarial gain on system liabilities resulting from salary increases different than assumed and members retiring, terminating, becoming disabled, and dying at rates different from the actuarial assumptions. The gain deducted $31 million from the actuarial liability. This type of activity is normal in the course of the System's experience. The System will experience actuarial gains and losses over time, because we cannot predict exactly how people will behave. When a system experiences alternating gains and losses that are small compared to the total actuarial liability, then the system's actuarial assumptions are reasonable.

A new plan was introduced for those hired on or after July 1, 2011. This change had no immediate impact on plan costs or liabilities. However, it does lower the normal cost rate going forward.

As of the June 30, 2012 Actuarial Valuation, the System's unfunded actuarial liability was $1,844 million. This is an increase from last year's unfunded actuarial liability of $1,609 million. The funded ratio decreased from 70% at the prior valuation to 67% at June 30, 2012.

Montana Code Annotated (MCA) 19-2-407 requires an analysis of how market performance is affecting the actuarial funding of the Retirement System. It is our understanding of the Code to report certain key results on a market value of assets basis. The market value at June 30, 2012 was $105 million greater than actuarial value. If market value were used rather than actuarial value, the funded ratio on the valuation date would be 69%, and the statutory contribution rates are not sufficient to amortize the unfunded actuarial liability.

The valuation also includes calculations related to the Plan Choice Rate (PCR). The PCR is the percent of the employer contribution allocated to the Defined Benefit Retirement Plan for members who choose the Defined Contribution Retirement Plan or the Optional Retirement Plan. The calculations show that the amortization of the PCR UAL is 4.6 years, which is within the acceptable range.

This report does not reflect any changes in pension accounting requirements from newly issued GASB Statements Nos. 67 and 68. Statement No. 67 will be effective for the plan year ending June 30, 2014. Statement No. 68 will be effective for most employers' fiscal years ending June

SECTION I
BOARD SUMMARY

30, 2015. All references and calculations with respect to GASB reflect current Statements No. 25 and 27. In addition, in accordance with the System's funding policy, the contribution levels are compared to an amount that would satisfy the requirements for an Annual Required Contribution (ARC) under GASB No. 25. Since the concept of the ARC will disappear when GASB Nos. 67 and 68 become effective, the System may need to define a different calculation basis for measuring funding sufficiency.

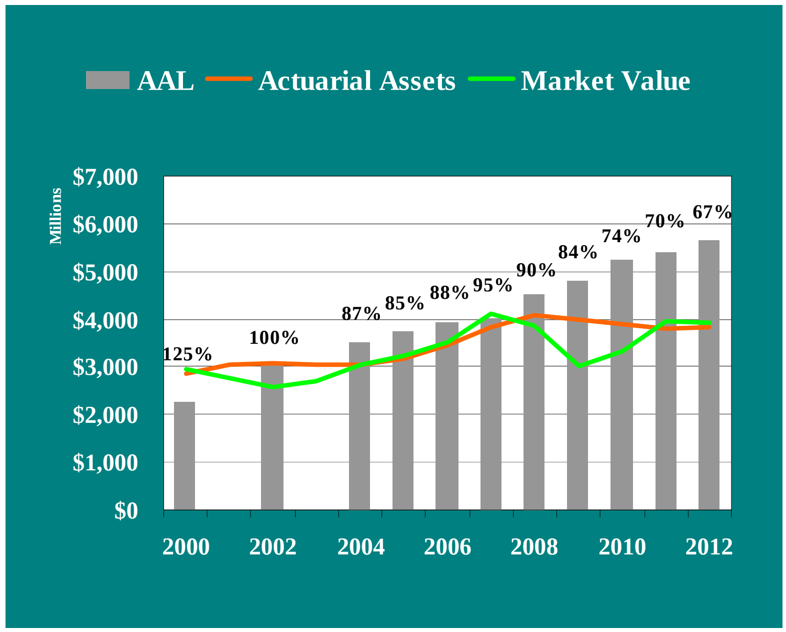
SECTION I
BOARD SUMMARY

Trends

Assets and Liabilities

The market value of assets (MVA) increased over last year, returning 2.27% from the value at the prior valuation. The determination of the System's actuarial value of assets reflects only a portion of the amount by which the return differs from the assumed rate of 7.75%.

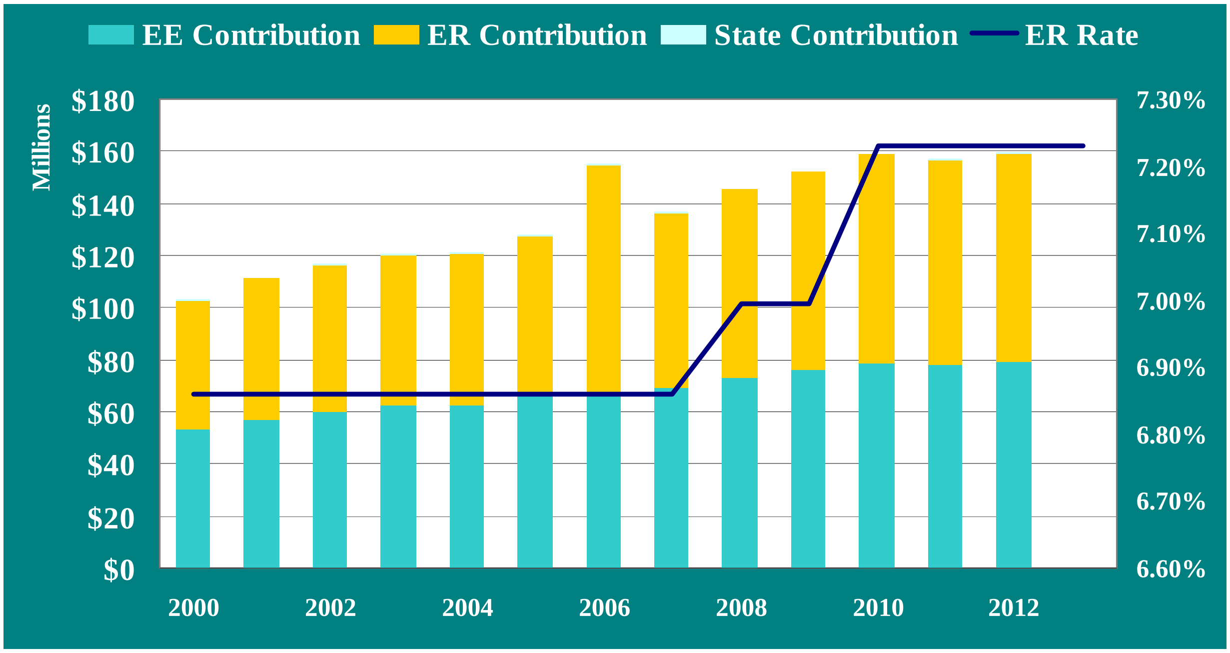
Over the period July 1, 2007 to June 30, 2012 the System's assets returned approximately 1.9% per year measured at actuarial value, compared to a current valuation assumption of 7.75% per year.



For funding purposes, the target amount is represented by the top of the gray bar. We compare the actuarial value of assets to this measure of liability in developing the funded percent. These are the percentages shown in the graph labels.

SECTION I
BOARD SUMMARY

Contribution Rates



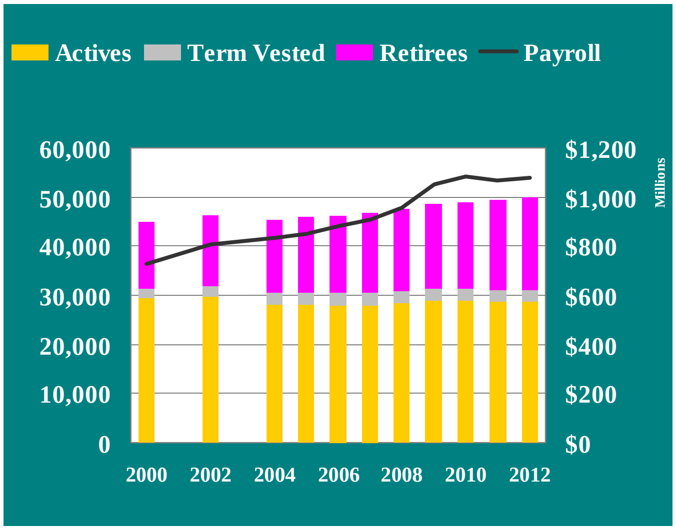
The stacked bars in this graph show the contributions made by members, employers, and the State (left hand scale). The navy line shows the employer contribution rate as a percent of payroll (right hand scale).

The employer and member contribution rates are set by State law. The actuarial valuation determines the extent to which the statutory contributions will meet the requirements of funding the System.

Participant Trends

The bars show the number of participants in each category and should be read using the left-hand scale. As with any maturing fund, this System continues to show growth in the number of retired members. The active-to-inactive ratio has decreased from 1.9 actives for each inactive in 2000 to 1.3 actives for each inactive today.

The black line shows the covered payroll in the System and is read using the right-hand scale.



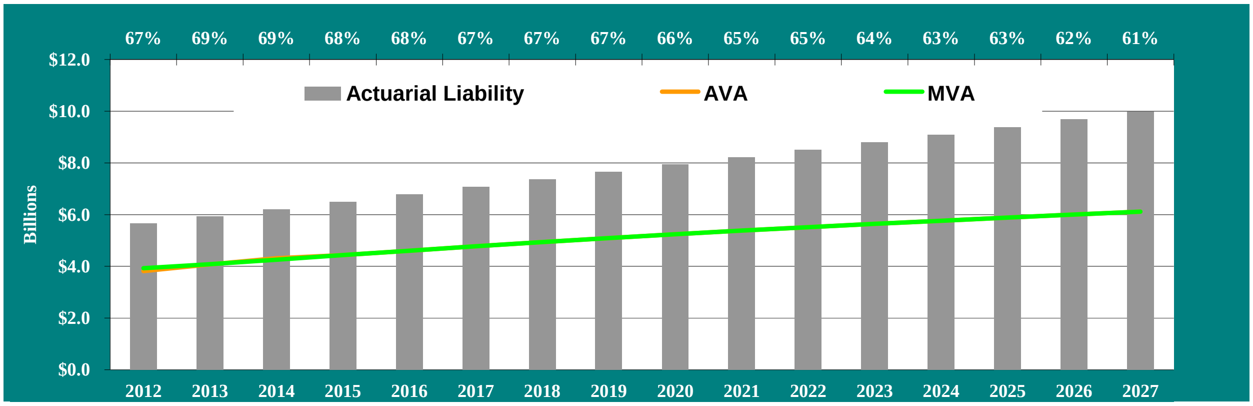
SECTION I
BOARD SUMMARY

Future Outlook

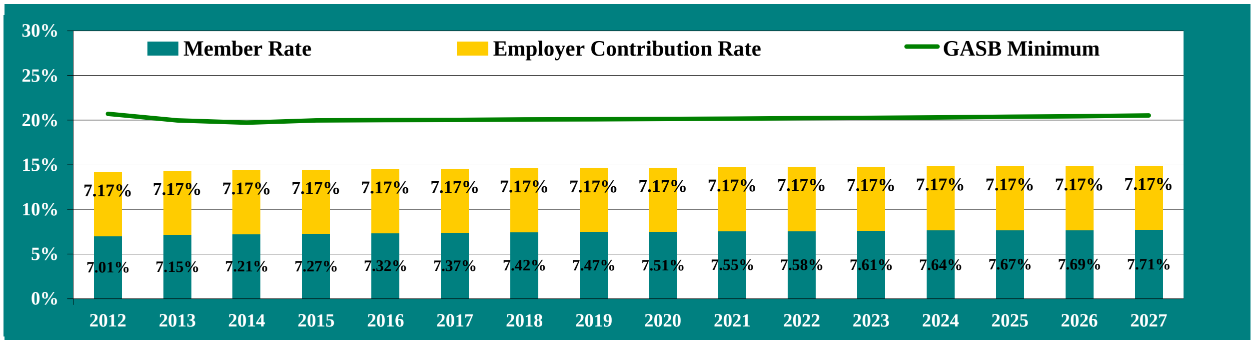
<u>Base Line Projections</u>

These graphs show the expected progress of the System over the next 15 years assuming the System's assets earn 7.75% on their *market value*, and that contributions continue to be made at the current statutory rates.

The chart below shows the funded status of the system is expected to increase slightly as the FY 2011 investment performance is recognized before starting to decrease gradually over the 15-year period. The projections indicate that the statutory contribution rates will need to be increased to maintain the current level of benefits.



The chart below shows that the total contribution (member and State) computed on a GASB Annual Required Contribution basis will remain steady at about 20% of payroll over the 15-year period. Under current accounting standards this would mean continued increases in the State's Net Pension Obligation (NPO).

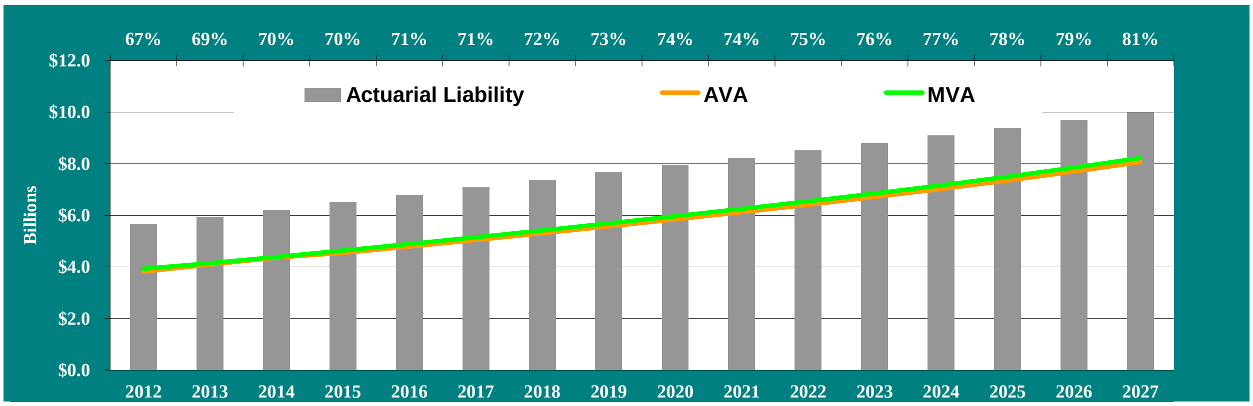


These projections as well as all of the projections that follow, reflect the plan changes which apply to employees hired on or after July 1, 2011.

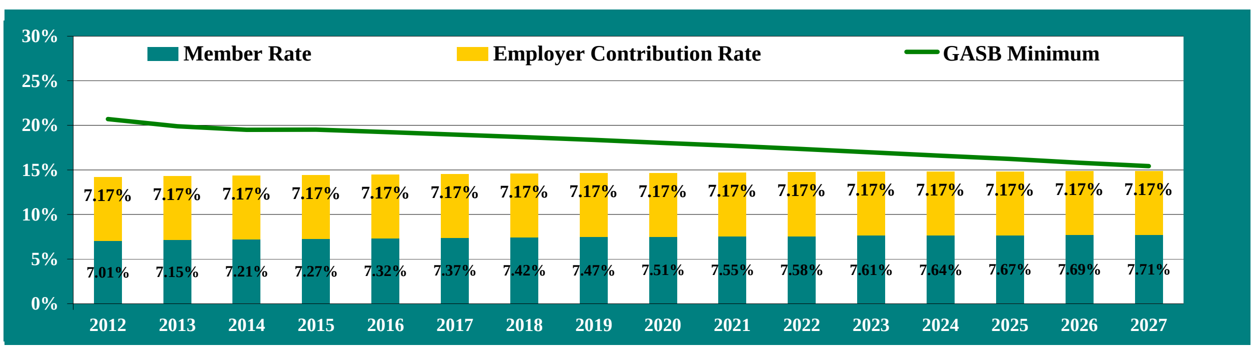
SECTION I
BOARD SUMMARY

Projections with Asset Returns of 9.25%

The future funding status of this System will be impacted by the investment earnings. Changes in market returns can have significant effects on the System's status. These two charts below show what the next 15 years would look like with a 9.25% annual return in each year (i.e. 1.5% greater than the assumed rate of return).



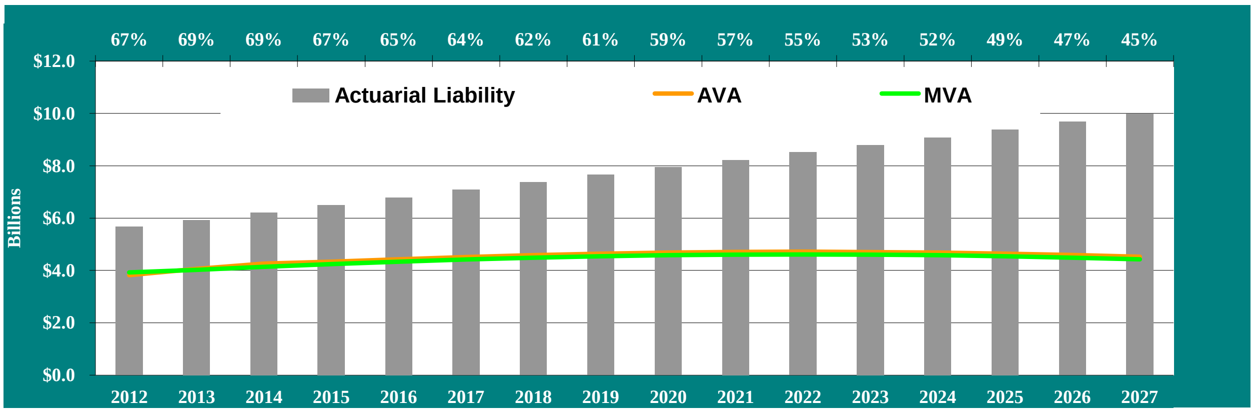
Compared to the baseline projections, the funded status gradually improves over the 15-year period. The GASB Annual Required Contribution decreases gradually, ending slightly above the statutory contribution rate in 2027.



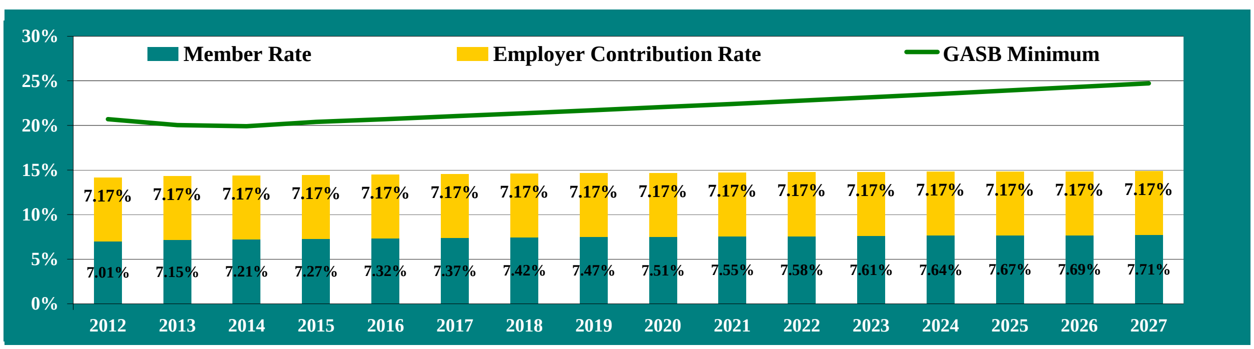
SECTION I
BOARD SUMMARY

Projections with Asset Returns of 6.25%

To further demonstrate how fluctuations in the earnings rate can impact funding, we show the anticipated System funding projections if the invested assets earn 6.25% per year over the entire 15-year period (i.e., 1.5% less than the assumed rate of return).



Under this scenario the funded status declines substantially during the 15-year period and the GASB Annual Required Contribution increases to almost 25% of pay.



SECTION I
BOARD SUMMARY

Table I-1
Montana Public Employees' Retirement System
Summary of Principal System Results

Valuation as of:	June 30, 2011	June 30, 2012	% Change
Participant Counts			
Active Members	28,659	28,548	(0.4%)
Disabled Members*	231	200	(13.4%)
Retirees and Beneficiaries*	17,892	18,538	3.6%
Terminated Vested Members	2,535	2,560	1.0%
Terminated Non-Vested Members	5,787	6,164	6.5%
Total**	55,104	56,010	1.6%
Annual Salaries of Active Members	$ 1,067,494,701	$ 1,078,710,468	1.1%
Average Annual Salary	$ 37,248	$ 37,786	1.4%
Annual Retirement Allowances for Retired Members and Beneficiaries	$ 238,460,803	$ 258,468,971	8.4%
Assets and Liabilities			
Actuarial Accrued Liability (AAL)	$ 5,410,144,412	$ 5,661,281,490	4.6%
Actuarial Value of Assets (AVA)	3,800,478,810	3,816,919,734	0.4%
Unfunded AAL (AVA/AAL)	$ 1,609,665,602	$ 1,844,361,756	14.6%
Less: PCR-UAL	12,929,768	11,053,147	(14.5%)
Net Unfunded AAL	$ 1,596,735,834	$ 1,833,308,609	14.8%
Funded Ratio	70.25%	67.42%	
Present Value of Accrued Benefits (PVAB)	$ 4,691,634,455	$ 4,916,084,348	4.8%
Market Value of Assets	3,939,875,986	3,921,812,233	(0.5%)
Unfunded PVAB	$ 751,758,469	$ 994,272,115	32.3%
Accrued Benefit Funding Ratio	83.98%	79.78%	
Ratio of Actuarial Value to Market Value	96.46%	97.33%	
Contributions as a Percentage of Payroll			
Statutory Funding Rate	14.070%	14.183%	
Less: Transfer to DB Ed Fund	0.040%	0.040%	
Net Statutory Funding Rate	14.030%	14.143%	
Normal Cost Rate	12.590%	11.800%	
Available for Amortization of UAL	1.440%	2.343%	
Period to Amortize	Does not amortize	Does not amortize	
Projected 30-year Level Funding Rate	20.430%	20.710%	
Projected Shortfall (Surplus)	6.360%	6.527%	

* Based on PERA categorization for the annual report. For actuarial valuation purposes, 753 members in 2011 and 750 members in 2012 were valued as disabled members with offsetting reductions to the number of retired members.

** The total number of members processed in the 2012 valuation was 55,937 compared to 56,010 above being used for the annual report. A reconciliation of this difference appears at the beginning of Appendix A.

SECTION II
ASSETS

Pension plan assets play a key role in the financial operation of the System and in the decisions the Trustees may make with respect to future deployment of those assets. The level of assets, the allocation of assets among asset classes, and the methodology used to measure assets will likely impact upon benefit levels, State contributions, and the ultimate security of participants' benefits.

In this section, we present detailed information on System assets including:

- **Disclosure** of System assets at June 30, 2011 and June 30, 2012;
- Statement of the **changes** in market values during the year;
- Development of the **Actuarial Value of Assets**;
- An assessment of **investment performance**; and
- A projection of the System's expected **cash flows** for the next 10 years.

Disclosure

The market value of assets represents "snap-shot" or "cash-out" values which provide the principal basis for measuring financial performance from one year to the next. Market values, however, can fluctuate widely with corresponding swings in the marketplace.

The actuarial values are market values which have been smoothed and are used for evaluating the System's ongoing liability to meet its obligations.

The actuarial value of assets is the current market value, adjusted by a four-year smoothing of gains and losses on a market value basis. Each year's gain or loss is determined difference between the actual market return and the expected market return using the assumed rate of investment return.

SECTION II
ASSETS

Table II-1
Changes in Market Values

Value of Assets – June 30, 2011		**$ 3,939,875,986**
Additions		
Member Contributions	$ 79,261,405	
Employer Contributions	79,497,911	
State Contributions	535,506	
Investment Return	91,372,003	
Other	200,607	
Total Additions	**$ 250,867,432**	
Deductions		
Benefit Payments	$ 265,802,387	
Administrative Expenses	3,128,798	
Total Deductions	**$ 268,931,185**	
Value of Assets – June 30, 2012		**$ 3,921,812,233**

SECTION II
ASSETS

Actuarial Value of Assets (AVA)

The actuarial value of assets represents a "smoothed" value developed by the actuary to reduce, or eliminate, volatile results which could develop from short-term fluctuations in the market value of assets. For this System, the actuarial value has been calculated by taking the market value of assets less 75% of the investment gain (loss) during the preceding year, less 50% of the investment gain (loss) during the second preceding year, and less 25% of the investment gain (loss) during the third preceding year. The tables below illustrate the calculation of actuarial value of assets for the June 30, 2012 valuation.

Table II-2
Market Value Gain/(Loss)

Value of Assets – June 30, 2011	$ 3,939,875,986
Employer, State, and Member Contributions	$ 159,495,429
Benefit Payments	(265,802,387)
Expected Return at 7.75%	301,297,857
Expected Value at June 30, 2012	$ 4,134,866,885
Actual Value at June 30, 2012	$ 3,921,812,233
Investment Gain/(Loss)	$ (213,054,652)

Table II-3
Develop Excluded Gain/(Loss)

	Total Gain/(Loss)	Excluded Portion
Exclude 75% of 2012 Gain/(Loss)	$ (213,054,652)	$ (159,790,989)
Exclude 50% of 2011 Gain/(Loss)	$ 456,618,871	$ 228,309,435
Exclude 25% of 2010 Gain/(Loss)	$ 145,496,211	$ 36,374,053
Total Excluded Gain/(Loss) for AVA Calculation		$ 104,892,499

Table II-4
Actuarial Value of Assets

Market Value of Assets – June 30, 2012	$ 3,921,812,233
Total Gain/(Loss) excluded	104,892,499
Actuarial Value of Assets – June 30, 2012	$ 3,816,919,734

SECTION II
ASSETS

Investment Performance

The market value of assets (MVA) returned 2.27% during 2012, which is less than the assumed 7.75% return. A return of 3.28% on the actuarial value of assets (AVA) is primarily the result of the asset smoothing method being utilized for the calculation of the actuarial value of assets. Since only 25% of the gain or loss from the performance of the System is recognized in a given year, in periods of very good performance, the AVA can lag significantly behind the MVA. In a period of negative returns, the AVA does not decline as rapidly as the MVA.

Table II-5
Annual Rates of Return

Year Ending June 30,	Market Value	Actuarial Value
2005	8.03%	5.32%
2006	8.98%	9.25%
2007	17.92%	11.94%
2008	(4.91%)	7.62%
2009	(20.85%)	(0.16%)
2010	12.91%	(1.18%)
2011	21.70%	(0.08%)
2012	2.27%	3.28%

SECTION II
ASSETS

Table II-6
Projection of System's Benefit Payments and Contributions (in thousands)

Year Beginning July 1,	Expected Benefits	Expected Contributions*	Net Cash Flow (excluding Investment Return)	Expected Investment Return**	Net Cash Flow (including Investment Return)
2012	$ 302,221	$ 165,089	$ (137,132)	$ 298,726	$ 161,594
2013	307,863	173,293	(134,570)	311,347	176,777
2014	331,140	181,020	(150,120)	324,456	174,336
2015	355,739	189,007	(166,732)	337,335	170,603
2016	380,086	197,287	(182,799)	349,946	167,147
2017	405,929	205,879	(200,050)	362,243	162,193
2018	433,492	214,808	(218,684)	374,105	155,421
2019	461,277	224,073	(237,204)	385,446	148,242
2020	488,703	233,686	(255,017)	396,257	141,240
2021	515,868	243,660	(272,208)	406,550	134,342

* Expected contributions include Employer Contributions, State Contributions and Member Contributions. For illustration purposes, we have assumed that all contribution rates will remain level (except for the additional 1% member contribution rate for future members) and that payroll will increase at the actuarially assumed rate of 4.00% per year.

** Expected investment return is based upon an assumed return of 7.75% per annum.

Expected benefit payments are projected for the closed group valued at June 30, 2012. Projecting any farther than 10 years using a closed-group would not yield reliable predictions due to the omission of new hires.

SECTION III
LIABILITIES

In this section, we present detailed information on System liabilities including:

- **Disclosure** of System liabilities at June 30, 2011 and June 30, 2012;
- Statement of **changes** in these liabilities during the year;
- Details on the source of actuarial gains and losses between this valuation and the last;
- Development of actuarial unfunded liability on a market value basis as required under MCA 12-2-407; and
- Development of the Plan Choice Rate unfunded liability and rate.

Disclosure

Several types of liabilities are calculated and presented in this report. Each type is distinguished by the people ultimately using the figures and the purpose for which they are using them.

- **Present Value of Benefits:** Used for analyzing the financial outlook of the System, this represents the amount of money needed today to fully pay off all future benefits and expenses of the System, assuming participants continue to accrue benefits.

- **Actuarial Accrued Liability:** Used for funding calculations and GASB disclosures, this liability is calculated taking the Present Value of Benefits and subtracting the present value of future Member Contributions and future Employer Normal Costs under an acceptable actuarial funding method. This method is referred to as the **Entry Age Normal** (EAN) funding method.

- **Present Value of Accrued Benefits:** Used for communicating the current level of liabilities, this liability represents the total amount of money needed today to fully pay off the current accrued obligations of the System, assuming no future accruals of benefits. These liabilities are also required for accounting purposes (FASB ASC Topic No. 960) and used to assess whether the System can meet its current benefit commitments.

The following table discloses each of these liabilities for the current and prior valuations. With respect to each disclosure, a subtraction of the appropriate value of System assets yields, for each respective type, a **net surplus** or an **unfunded liability**.

SECTION III
LIABILITIES

Table III-1
Liabilities/Net (Surplus)/Unfunded

	June 30, 2011	June 30, 2012
Present Value of Benefits		
Active Participant Benefits	$ 3,508,104,121	$ 3,456,788,033
Retiree and Inactive Benefits	2,889,696,155	3,131,292,565
Present Value of Benefits (PVB)	**$ 6,397,800,276**	**$ 6,588,080,598**
Market Value of Assets (MVA)	$ 3,939,875,986	$ 3,921,812,233
Future Member Contributions	559,806,286	573,705,041
Future Employer Contributions	578,466,496	582,632,328
Funding Shortfall/(Surplus)	1,319,651,508	1,509,930,996
Total Resources	**$ 6,397,800,276**	**$ 6,588,080,598**
Actuarial Accrued Liability		
Present Value of Benefits (PVB)	$ 6,397,800,276	$ 6,588,080,598
Present Value of Future Normal Costs (PVFNC)	987,655,864	926,799,108
Actuarial Accrued Liability (AAL=PVB–PVFNC)	**5,410,144,412**	**5,661,281,490**
Actuarial Value of Assets (AVA)	3,800,478,810	3,816,919,734
Net (Surplus)/Unfunded (AAL – AVA)	**$ 1,609,665,602**	**$ 1,844,361,756**
Present Value of Accrued Benefits		
Present Value of Benefits (PVB)	$ 6,397,800,276	$ 6,588,080,598
Present Value of Future Benefit Accruals (PVFBA)	1,706,165,821	1,671,996,250
Present Value of Accrued Benefits (PVAB=PVB–PVFBA)	**$ 4,691,634,455**	**$ 4,916,084,348**
Market Value of Assets (MVA)	$ 3,939,875,986	$ 3,921,812,233
Net Unfunded (PVAB – MVA)	**$ 751,758,469**	**$ 994,272,115**

SECTION III
LIABILITIES

Changes in Liabilities

Each of the Liabilities disclosed in the prior table are expected to change at each valuation. The components of that change, depending upon which liability is analyzed, can include:

- New hires since the last valuation
- Benefits accrued since the last valuation
- System amendments increasing benefits
- Passage of time which adds interest to the prior liability
- Benefits paid to retirees since the last valuation
- Participants retiring, terminating, or dying at rates different than expected
- A change in actuarial or investment assumptions
- A change in the actuarial funding method

Unfunded liabilities will change because of all of the above, and also due to changes in system assets resulting from:

- Employer contributions different than expected
- Investment earnings different than expected
- A change in the method used to measure system assets

In each valuation, we report on those elements of change which are of particular significance, potentially affecting the long-term financial outlook of the System. Below we present key changes in liabilities since the last valuation. On the next page we provide more detail on the sources of the actuarial (gain)/loss as measured on the basis of actuarial accrued liability.

Table III-2

(In Thousands)	Present Value of Benefits	Actuarial Accrued Liability	Present Value of Accrued Liability
Liabilities June 30, 2011	$ 6,397,800,276	$ 5,410,144,412	$ 4,691,634,455
Liabilities June 30, 2012	6,588,080,598	5,661,281,490	4,916,084,348
Liability Increase (Decrease)	190,280,322	251,137,078	224,449,893
Change Due to:			
Actuarial (Gain)/Loss	NC*	(30,577,910)	NC*
Plan Changes	0	0	0
Benefits Accumulated and Other Sources	190,280,322	281,714,988	224,449,893

* NC = not calculated.

SECTION III
LIABILITIES

Table III-3
Summary of Actuarial Gains and Losses as of June 30, 2012

Actuarial Liabilities as of July 1, 2011	$ 5,410,144,412
Normal Cost	128,567,046
Actual Benefit Payments	(265,802,387)
Interest	418,950,329
Expected Actuarial Liability as of July 1, 2012	5,691,859,400
Actual Liability as of July 1, 2012	$ 5,661,281,490
Liability (Gain)/Loss	$ (30,577,910)
Sources of Liability (Gain)/Loss	
Salary (Gain)/Loss	$ (41,013,367)
New Participant (Gain)/Loss	9,723,157
Active Retirements (Gain)/Loss	3,487,407
Active Terminations (Gain)/Loss	(1,720,659)
Active Deaths (Gain)/Loss	783,930
Active Disability (Gain)/Loss	(1,954,058)
Inactive Decrements (Gain)/Loss	115,680
Actual Liability as of July 1, 2012	$ 5,661,281,490
Liability (Gain)/Loss due to plan changes	$ 0
Actuarial Value of Assets as of July 1, 2011	$ 3,800,478,810
Net Cash Flow	(106,306,958)
Expected Earnings	290,494,576
Expected Actuarial Value of Assets as of July 1, 2012	3,984,666,428
Actual Actuarial Value of Assets as of July 1, 2012	$ 3,816,919,734
Investment (Gain)/Loss	$ 167,746,694
Total Liability (Gain)/Loss	(30,577,910)
Total Actuarial (Gain)/Loss	$ 137,168,784

SECTION III
LIABILITIES

Table III-4 shows the actuarial liabilities as of the prior and current valuation dates. The unfunded actuarial liability is the difference between the actuarial liability and the actuarial value of assets. The funded ratio is the ratio of the actuarial value of assets to the actuarial liability.

Table III-4
Actuarial Liabilities for Funding

		June 30, 2011	**June 30, 2012**
1.	Actuarial Liabilities		
	Retiree and Inactive Benefits	$ 2,889,696,155	$ 3,131,292,565
	Active Member Benefits	2,520,448,257	2,529,988,925
	Total Actuarial Liability	**$ 5,410,144,412**	**$ 5,661,281,490**
2.	Actuarial Value of Assets	$ 3,800,478,810	$ 3,816,919,734
3.	Unfunded Actuarial Liability	$ 1,609,665,602	$ 1,844,361,756
4.	Funded Ratio	70.25%	67.42%

Montana Code Annotated (MCA) 19-2-407 requires an analysis of how market performance is affecting the actuarial funding of the System. Table III-5 presented below shows the same information as in Table III-4 above, but using market value of assets rather than actuarial value of assets.

Table III-5
Actuarial Liabilities on Market Value Basis (MCA 19-2-407)

		June 30, 2011	**June 30, 2012**
1.	Actuarial Liabilities		
	Retiree and Inactive Benefits	$ 2,889,696,155	$ 3,131,292,565
	Active Member Benefits	2,520,448,257	2,529,988,925
	Total Actuarial Liability	**$ 5,410,144,412**	**$ 5,661,281,490**
2.	Market Value of Assets	$ 3,939,875,986	$ 3,921,812,233
3.	Unfunded Actuarial Liability	$ 1,470,268,426	$ 1,739,469,257
4.	Funded Ratio	72.82%	69.27%

SECTION III
LIABILITIES

Table III-6 shows the development of the portion of the unfunded actuarial liability allocated to PERS members who are in alternative defined contribution plans. This liability is funded by the Plan Choice Rate (PCR) contributions.

Table III-6
Plan Choice Rate Unfunded Liability

		June 30, 2012
1.	PCR-UAL as of June 30, 2011	$ 12,929,768
2.	Assumed Interest at 7.75% per year	1,002,057
3.	Less: PCR Contributions to DBRP reduced by Normal Cost	(2,771,291)
4.	Interest at 7.75% on line 3	(107,388)
5.	PCR – UAL as of June 30, 2012	$ 11,053,147

Table III-7 determines the sufficiency of the Plan Choice Rate (PCR), which is used to determine the contributions made to the System for purposes of funding the PCR unfunded liability.

Table III-7
Plan Choice Rate

		June 30, 2012
PCR – Normal Cost Rate		
Normal Cost Rate		
DBRP Members Only		11.800%
Including DCRP and ORP members		11.800%
Difference	(A)	0.000%
Payroll as of June 30, 2012		
DBRP Members Only	(B)	$ 1,029,692,504
DCRP and ORP members	(C)	$ 99,836,020
PCR – Normal Cost Rate	(A) X (B) ÷ (C)	0.000%
PCR – UAL Amortization		
PCR – UAL as of June 30, 2012		$ 11,053,147
PCR Available for Amortization		
Current PCR Amortization Rate		2.640%
Less: PCR – Normal Cost Rate		0.000%
PCR Available for Amortization - 2012		2.640%
Years to Amortize PCR – UAL from June 30, 2012		4.6 years
Maximum Years for Amortization		15.75 years
Sufficient or Insufficient		Sufficient

SECTION IV
CONTRIBUTIONS

In the process of evaluating the financial condition of any pension plan, the actuary analyzes the assets and liabilities to determine what level (if any) of contributions is needed to properly maintain the funding status of the System. Typically, the actuarial process will use a funding technique that will result in a pattern of contributions that are both stable and predictable.

For this System, the funding method employed is the **Entry Age Actuarial Cost Method**. Under this method, there are two components to the total contribution: the **normal cost rate** and the **unfunded actuarial liability rate** (UAL rate). The normal cost rate is determined by taking the value, as of entry age into the system, of each member's projected future benefits. This value is then divided by the value, also at entry age, of each member's expected future salary. The normal cost rate is multiplied by current salary to determine each member's normal cost rate. Finally, the total normal cost rate is reduced by the member contribution to produce the employer normal cost rate. The difference between the EAN actuarial liability and the actuarial value of assets is the unfunded actuarial liability.

For purposes of determining the adequacy of the statutory funding rate, the UAL rate is calculated by subtracting the normal cost rate from the statutory rate. A calculation is then made to determine the period over which the UAL rate will amortize the unfunded actuarial liability. A second UAL rate is calculated based upon a 30-year amortization of the UAL, which is the maximum amortization period permitted under GASB Statement No. 25, but which should not necessarily be construed as a recommended contribution level. All UAL payments are determined as a level percentage of pay, assuming that total pay increases by the annual inflation rate of 4.00%.

SECTION IV
CONTRIBUTIONS

The tables below present and compare the contribution rates for the System for this valuation and the prior one.

Table IV-1
Statutory Basis

	June 30, 2011	June 30, 2012
Statutory Funding Rates		
Members	6.900%	7.013%
Employers and State[1]	7.170%	7.170%
Total	14.070%	14.183%
Transfer to Education Fund	0.040%	0.040%
Net Contribution to DBRP	14.030%	14.143%
Normal Cost Rate[2]	12.590%	11.800%[2]
Funding Rate Available for Amortization	1.440%	2.343%
Unfunded Actuarial Liability (Surplus)	$ 1,609,665,602	$ 1,844,361,756
Less: PCR-UAL	12,929,768	11,053,147
UAL Funded by DBRP	1,596,735,834	1,833,308,609
Years to Amortize	Does not amortize	Does not amortize

[1] Rates shown are for the fiscal year following the valuation date. The allocation of the rate between Employers and the State is described in Appendix C, item 2.

[2] The normal cost rate is projected to be 9.92% for members eligible after July 1, 2011. It is expected that the average normal cost rate will decrease over the next generation of active plan members.

Table IV-2
Years to Amortize Unfunded Actuarial Liability
Under Alternate Assumptions

	June 30, 2011	June 30, 2012
Years to Amortize		
Using Market Value of Assets	Does not amortize	Does not amortize
Excluding additional contributions under HB131		
Using Actuarial Value of Assets	Does not amortize	Does not amortize
Using Market Value of Assets	Does not amortize	Does not amortize

SECTION IV
CONTRIBUTIONS

Table IV-3
Calculated Contribution Basis

	June 30, 2011	June 30, 2012
Normal Cost Rate	12.590%	11.800%
Educational Fund	0.040%	0.040%
Amortization Payment (30-years)	7.800%	8.870%
Total Calculated Contribution Rate	20.430%	20.710%
Less Statutory Rate	14.070%	14.183%
Shortfall (Surplus) in Statutory Rate	6.360%	6.527%

Table IV-4
Calculated Contribution on Market Value (MCA 19-2-407)

	June 30, 2011	June 30, 2012
Normal Cost Rate	12.590%	11.800%
Educational Fund	0.040%	0.040%
Amortization Payment (30-years)	7.120%	8.360%
Total Calculated Contribution Rate	19.750%	20.200%
Less Statutory Rate	14.070%	14.183%
Shortfall (Surplus) in Statutory Rate	5.680%	6.017%

The following table shows the expected results for the next five valuations (assuming all assumptions are met, including 7.75% return).

Table IV-5
Projected Calculated Contribution Rates

Valuation Year	Rate
2013	19.97%
2014	19.71%
2015	19.97%
2016	19.99%
2017	20.02%

SECTION V
ACCOUNTING STATEMENT INFORMATION

Account Standard Codification Topic No. 960 of the Financial Accounting Standards Board specifies certain information for a plan to disclose regarding its funded status. Statement No. 25 of the Governmental Accounting Standards Board (GASB) establishes standards for disclosure of pension information by public employee retirement systems (PERS) and governmental employers in notes to financial statements and supplementary information.

The FASB ASC Topic No. 960 disclosures provide a quasi "snap shot" view of how the System's assets compare to its liabilities if contributions stopped and accrued benefit claims had to be satisfied. However, due to potential legal requirements and the possibility that alternative interest rates would have to be used to determine the liabilities, these values may not be a good indication of the amount of money it would take to buy the benefits for all members if the System were to terminate.

The GASB-25 actuarial accrued liability is the same as the actuarial liability amount calculated for funding purposes.

Both the present value of accrued benefits (FASB ASC Topic No. 960) and the actuarial accrued liability (GASB-25) are determined assuming that the System is on-going and participants continue to terminate employment, retire, etc., in accordance with the actuarial assumptions. Liabilities are discounted at the assumed valuation interest rate of 7.75% per annum.

FASB ASC Topic No. 960 specifies that a comparison of the present value of accrued (accumulated) benefits with the market value of the assets as of the valuation date must be provided. GASB Statement No. 25 requires the actuarial accrued liability be compared with the actuarial value of assets for funding purposes. The relevant amounts as of June 30, 2012 are exhibited in Table V-1.

Tables V-2 through V-5 are exhibits to be used with the CAFR report. Table V-2 is the Note to Required Supplementary Information, Table V-3 is a history of gains and losses in Accrued Liability, Table V-4 is the Schedule of Funding Progress, and V-5 is the Solvency Test which shows the portion of Accrued Liability covered by Assets.

SECTION V
ACCOUNTING STATEMENT INFORMATION

Table V-1
Accounting Statement Information

	June 30, 2011	June 30, 2012
A. FASB ASC Topic No. 960 Basis		
1. Present Value of Benefits Accrued and Vested to Date		
a. Members Currently Receiving Payments	$ 2,728,686,667	$ 2,958,075,715
b. Former Vested Members	161,009,488	173,216,850
c. Active Members	1,801,938,300	1,784,791,783
2. Total Present Value of Accrued Benefits (1 (a) + 1(b) + 1(c))	$ 4,691,634,455	$ 4,916,084,348
3. Assets at Market Value	3,939,875,986	3,921,812,233
4. Unfunded Present Value of Accrued Benefits (2 – 3)	$ 751,758,469	$ 994,272,115
5. Ratio of Assets to Present Value of Accrued Benefits (3 / 2)	83.98%	79.78%
B. GASB No. 25 Basis		
1. Actuarial Accrued Liabilities for retirees and beneficiaries currently receiving benefits and terminated employees not yet receiving benefits	$ 2,889,696,155	$ 3,131,292,565
2. Actuarial Accrued Liabilities for current employees	2,520,448,257	2,529,988,925
3. Total Actuarial Accrued Liability (1 + 2)	$ 5,410,144,412	$ 5,661,281,490
4. Net Actuarial Assets available for benefits	3,800,478,810	3,816,919,734
5. Unfunded Actuarial Accrued Liability (3 – 4)	$ 1,609,665,602	$ 1,844,361,756

SECTION V
ACCOUNTING STATEMENT INFORMATION

Table V-2
Note To Required Supplementary Information

The information presented in the required supplementary schedules was determined as part of the actuarial valuation at the date indicated. Additional information as of the latest actuarial valuation follows.

Valuation date	June 30, 2012
Actuarial cost method	Entry age
Amortization method	Open
Remaining amortization period for Annual Required Contribution	30 years
Asset valuation method	Four-Year smoothed market
Actuarial assumptions:	
Investment rate of return*	7.75%
General wage growth*	4.00%
Merit salary increases	0.0% - 6.0%
*Includes inflation at	3.00%

The actuarial assumptions used have been recommended based on the most recent review of the System's experience (completed in 2010) and adopted by the Retirement Board.

The rate of employer contributions to the System is composed of the normal cost and amortization of the unfunded actuarial accrued liability. The normal cost is a level percent of payroll cost which will pay for projected benefits at retirement for each participant. The actuarial accrued liability is that portion of the present value of projected benefits that will not be paid by future normal costs. The difference between this liability and the funds accumulated as of the same date is the unfunded actuarial accrued liability.

SECTION V
ACCOUNTING STATEMENT INFORMATION

Table V-3
Analysis Of Financial Experience*

Gain and Loss in Accrued Liability During Years Ended June 30
Resulting from Differences Between Assumed Experience and Actual Experience

Gain (or Loss) for Year ending June 30,
(expressed in thousands)

Type of Activity	2007	2008	2009	2010	2011	2012
Investment Income on Actuarial Assets	$136,012	$ (14,160)	$(329,471)	$ (364,392)	$(301,247)	$(167,747)
Combined Liability Experience	(40,640)	(47,012)	(14,731)	(10,001)	90,607	30,578
(Loss)/Gain During Year from Financial Experience	$ 95,372	$ (61,172)	$(344,202)	$ (374,393)	$(210,640)	$(137,169)
Non-Recurring Items	0	0	0	(156,543)	35,686	0
Composite Gain (or Loss) During Year	$ 95,372	$ (61,172)	$(344,202)	$ (530,936)	$(174,954)	$(137,169)

* Years prior to 2009 were taken from reports prepared by prior actuary.

SECTION V
ACCOUNTING STATEMENT INFORMATION

Table V-4
Schedule Of Funding Progress*
(expressed in thousands)

Valuation Date June 30,	Actuarial Value of Assets	Actuarial Accrued Liability (AAL)	Funded Ratio	Unfunded AAL (UAAL)	Covered Payroll	UAAL as a Percentage of Covered Payroll
2012	$ 3,816,920	$ 5,661,281	67 %	$ 1,844,361	$ 1,081,288	171 %
2011	3,800,479	5,410,144	70 %	1,609,665	1,071,376	150 %
2010	3,889,890	5,241,819	74 %	1,351,929	1,083,780	125 %
2009	4,002,212	4,792,819	84 %	790,607	1,003,215	79 %
2008	4,065,307	4,504,743	90 %	439,436	955,113	46 %
2007	3,825,234	4,201,251	91 %	376,017	907,424	41 %

Table V-5
Solvency Test*
Aggregate Accrued Liabilities for
(expressed in thousands)

Valuation Date June 30,	Active Member Contributions (1)	Retirees & Beneficiaries (2)	Active Member Employer Financed Contributions (3)	Actuarial Value of Reported Assets	Portion of Accrued Liabilities Covered by Reported Assets (1)	(2)	(3)
2012	$ 837,663	$ 2,958,076	$ 1,865,543	$ 3,816,920	100 %	100 %	1 %
2011	840,762	2,728,687	1,840,696	3,800,479	100 %	100 %	13 %
2010	848,756	2,481,534	1,911,529	3,889,890	100 %	100 %	29 %
2009	828,390	2,272,582	1,691,847	4,002,212	100 %	100 %	53 %
2008	783,801	2,232,148	1,488,794	4,065,307	100 %	100 %	70 %
2007	749,000	2,051,107	1,401,143	3,825,234	100 %	100 %	73 %

* Years prior to 2009 were taken from reports prepared by prior actuary.

APPENDIX A
MEMBERSHIP INFORMATION – DBRP ONLY

PERS

Reconciliation of Participant Counts

	Active	Disabled	Retirees and Beneficiaries	Terminated Vested Members	Terminated Non-Vested Members	Total
Participant counts used for valuation	28,548	750	17,915	2,560	6,164	55,937
Disabled members having attained normal retirement age		(550)	550			-
Beneficiaries of Disabled Members						-
Beneficiaries with less than one year of certain payments remaining			73			73
Other Adjustments	-			-	-	-
Participant counts shown in Annual Financial Report	28,548	200	18,538	2,560	6,164	56,010

This chart is presented for informational purposes only. The counts shown in the valuation line were used for preparation of the liabilities disclosed within this report. The counts disclosed for the Annual Financial Report and the Board Summary (page 8) match the CAFR reports at the request of the Board. The differences between the counts, if any, have no material effect upon the liability calculation.

The salaries used in the tables and charts which follow are different than the salaries used for the Board Summary on page 8. For this Appendix A, the valuation projected salaries to be paid for the following fiscal year, whereas for the Board Summary, salaries are applicable in the year ending on the valuation date.

APPENDIX A
MEMBERSHIP INFORMATION – DBRP ONLY

The benefits for retirees and beneficiaries used for the tables and charts which follow are different than the benefits used for the Board Summary on page 8. For this Appendix A, the valuation projected benefits to be paid for the following fiscal year (including GABA where applicable), whereas for the Board Summary, annual benefits are as of the valuation date.

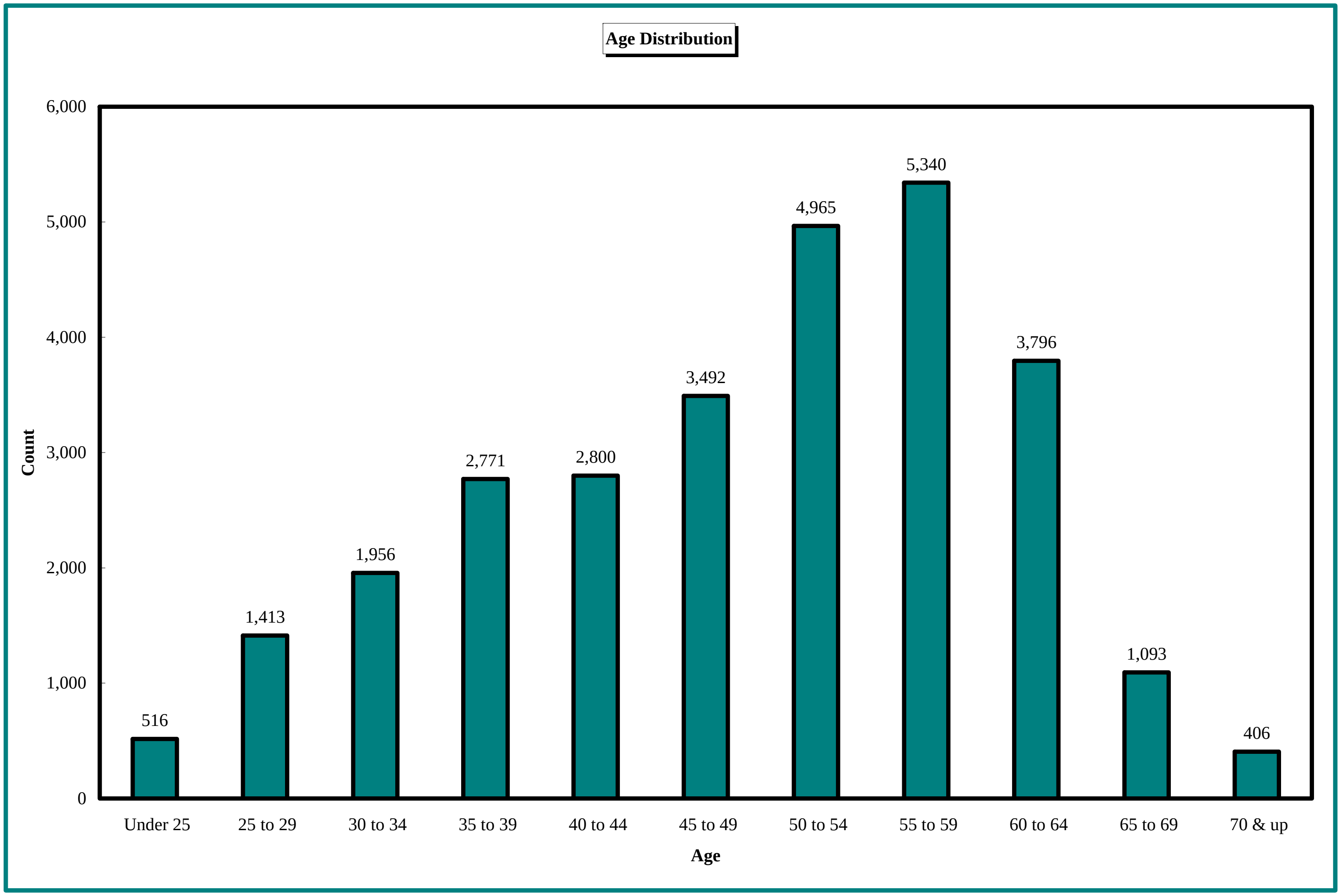
Montana Public Employees' Retirement System Distribution of Active Members by Age and Service as of June 30, 2012

COUNTS BY AGE/SERVICE

	Service										
Age	Under 1	1 to 4	5 to 9	10 to 14	15 to 19	20 to 24	25 to 29	30 to 34	35 to 39	40 & up	Total
Under 25	330	182	4	0	0	0	0	0	0	0	516
25 to 29	524	726	163	0	0	0	0	0	0	0	1,413
30 to 34	466	872	523	94	1	0	0	0	0	0	1,956
35 to 39	884	892	629	306	59	1	0	0	0	0	2,771
40 to 44	422	887	662	455	293	79	2	0	0	0	2,800
45 to 49	412	914	771	557	398	346	91	3	0	0	3,492
50 to 54	421	1,072	974	795	568	610	374	143	8	0	4,965
55 to 59	364	943	967	820	691	665	468	313	106	3	5,340
60 to 64	189	618	645	601	531	504	340	201	139	28	3,796
65 to 69	60	205	208	191	128	130	81	52	19	19	1,093
70 & up	29	108	96	51	39	33	28	10	6	6	406
Total	4,101	7,419	5,642	3,870	2,708	2,368	1,384	722	278	56	28,548

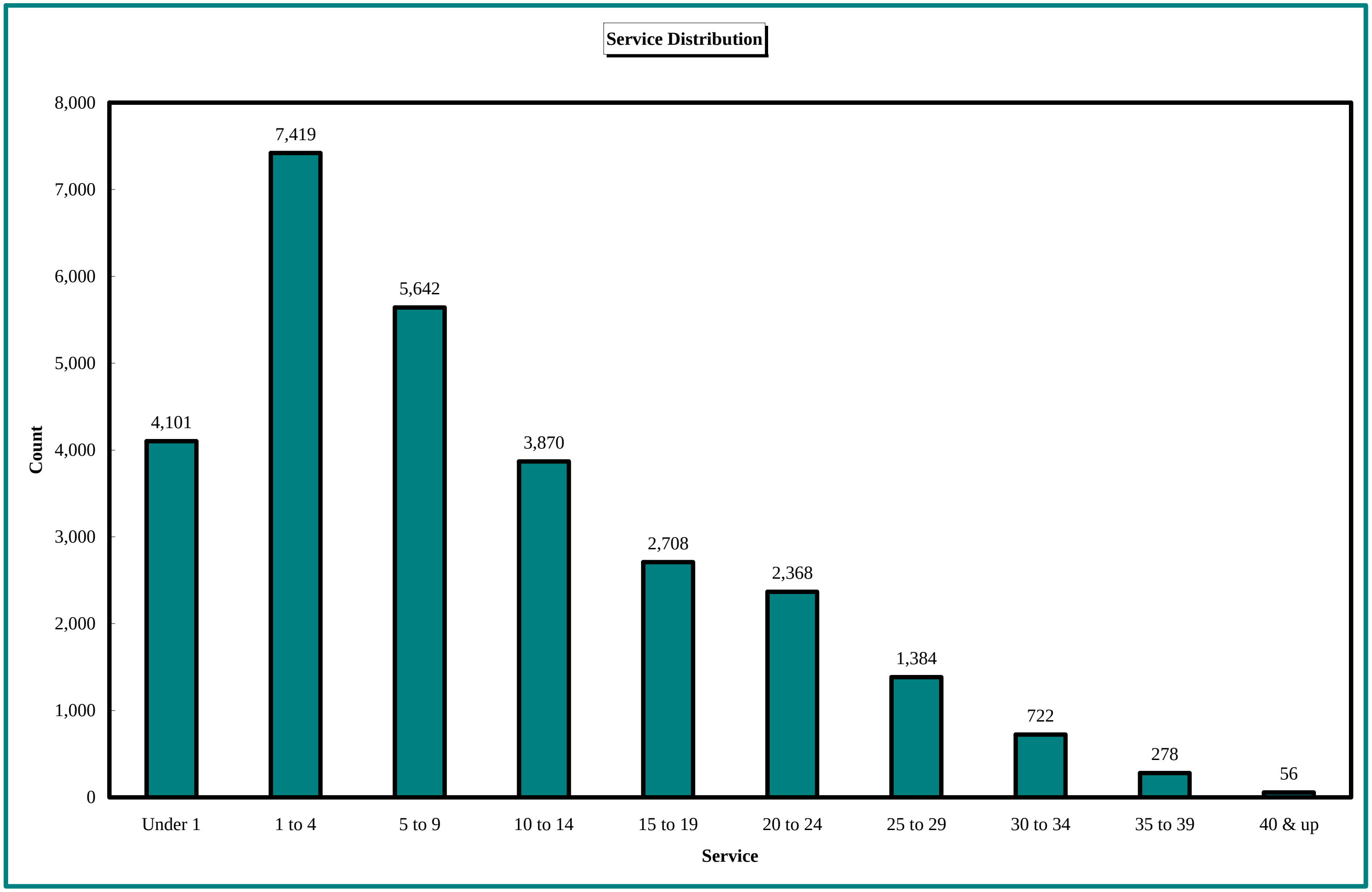
APPENDIX A
MEMBERSHIP INFORMATION – DBRP ONLY

Montana Public Employees' Retirement System Distribution of Active Members by Age as of June 30, 2012



APPENDIX A
MEMBERSHIP INFORMATION – DBRP ONLY

Montana Public Employees' Retirement System Distribution of Active Members by Service as of June 30, 2012



APPENDIX A
MEMBERSHIP INFORMATION – DBRP ONLY

Montana Public Employees' Retirement System Distribution of Active Members by Age and Service as of June 30, 2012

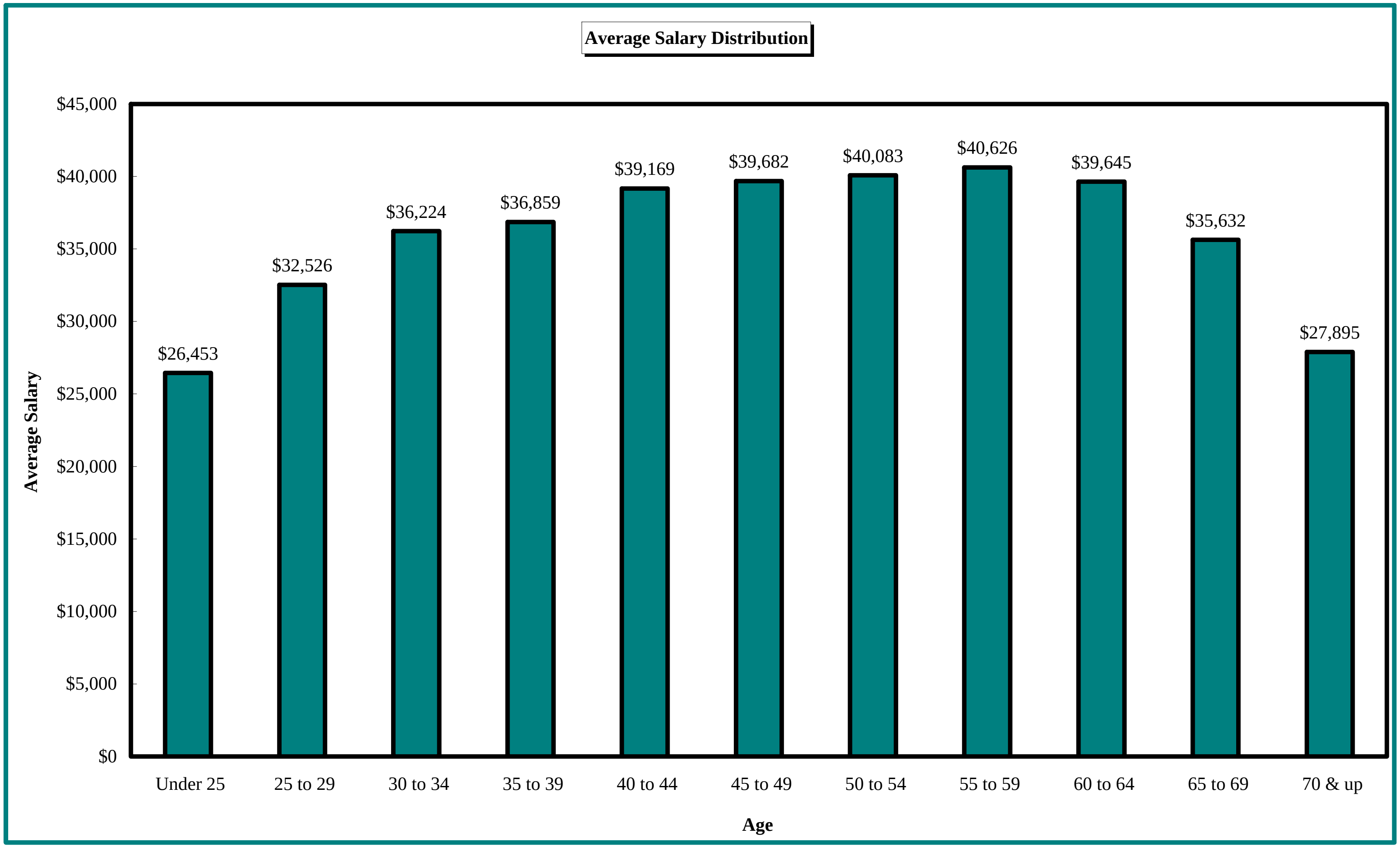
AVERAGE SALARY BY AGE/SERVICE

	Service										
Age	Under 1	1 to 4	5 to 9	10 to 14	15 to 19	20 to 24	25 to 29	30 to 34	35 to 39	40 & up	Total
Under 25	$26,259	$26,695	$31,417	$0	$0	$0	$0	$0	$0	$0	$26,453
25 to 29	$31,195	$32,408	$37,333	$0	$0	$0	$0	$0	$0	$0	$32,526
30 to 34	$31,178	$35,665	$40,251	$44,120	$27,108	$0	$0	$0	$0	$0	$36,224
35 to 39	$31,123	$34,243	$42,742	$46,754	$48,375	$31,632	$0	$0	$0	$0	$36,859
40 to 44	$30,226	$32,789	$39,778	$47,374	$53,269	$54,044	$33,762	$0	$0	$0	$39,169
45 to 49	$30,210	$32,434	$37,325	$43,728	$49,763	$53,986	$51,365	$61,587	$0	$0	$39,682
50 to 54	$28,958	$31,332	$35,078	$40,813	$46,405	$51,928	$54,920	$53,156	$55,830	$0	$40,083
55 to 59	$30,110	$30,759	$35,774	$39,757	$41,876	$48,197	$52,821	$56,653	$58,076	$63,055	$40,626
60 to 64	$26,372	$28,405	$35,553	$37,207	$41,731	$45,207	$49,679	$54,233	$60,081	$56,216	$39,645
65 to 69	$23,386	$23,326	$30,289	$37,499	$38,700	$44,172	$44,894	$56,171	$52,196	$55,437	$35,632
70 & up	$24,352	$19,813	$24,573	$29,207	$30,463	$37,055	$40,896	$37,574	$55,690	$60,813	$27,895
Total	$29,871	$31,787	$37,151	$41,454	$45,011	$49,179	$51,788	$55,008	$58,560	$56,811	$38,446

The salary shown in the above chart was used for valuation purposes and assumes pay increases for the year.

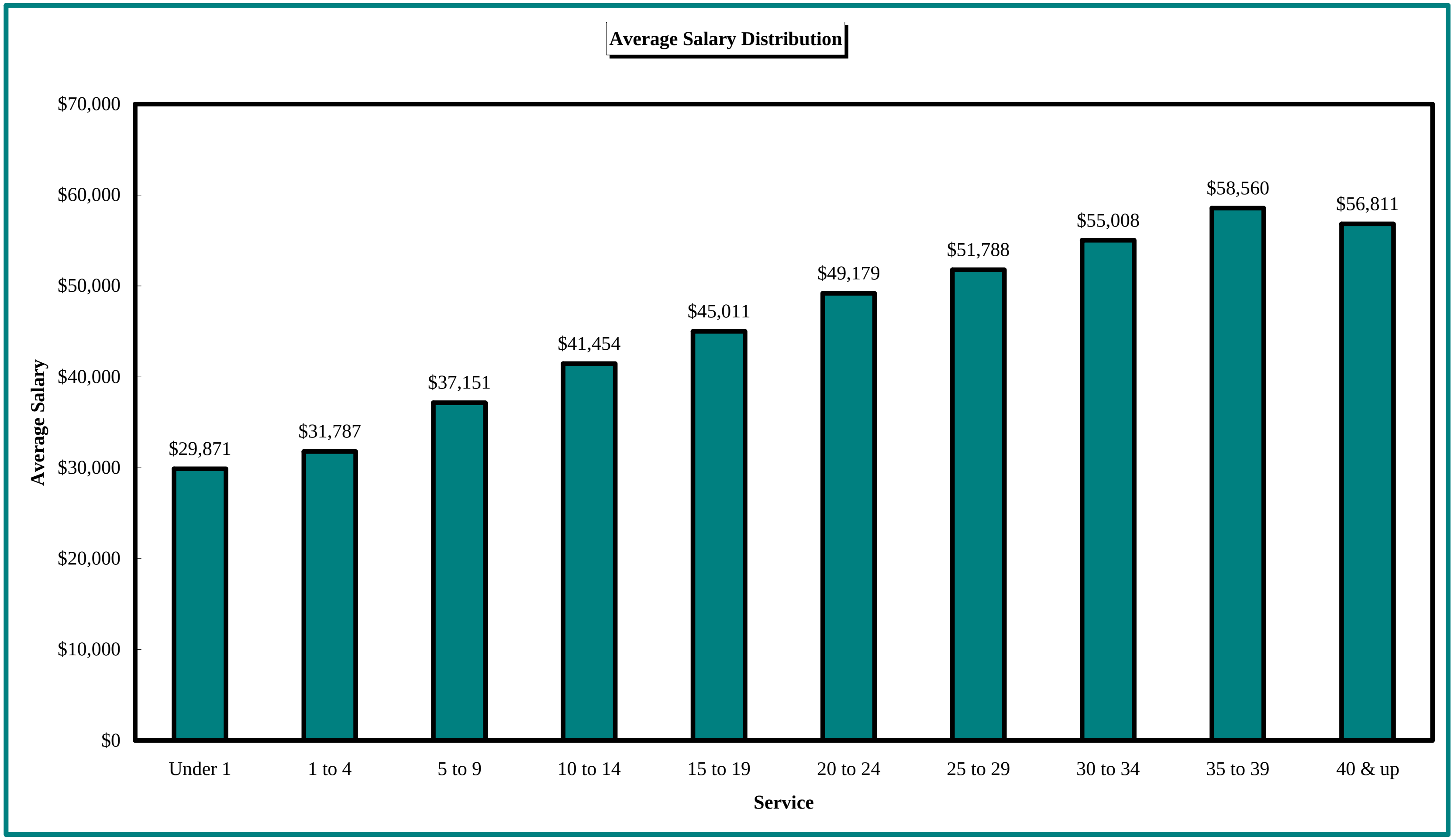
APPENDIX A
MEMBERSHIP INFORMATION – DBRP ONLY

Montana Public Employees' Retirement System Distribution of Active Members by Age as of June 30, 2012



APPENDIX A
MEMBERSHIP INFORMATION – DBRP ONLY

Montana Public Employees' Retirement System Distribution of Active Members by Service as of June 30, 2012



APPENDIX A
MEMBERSHIP INFORMATION – DBRP ONLY

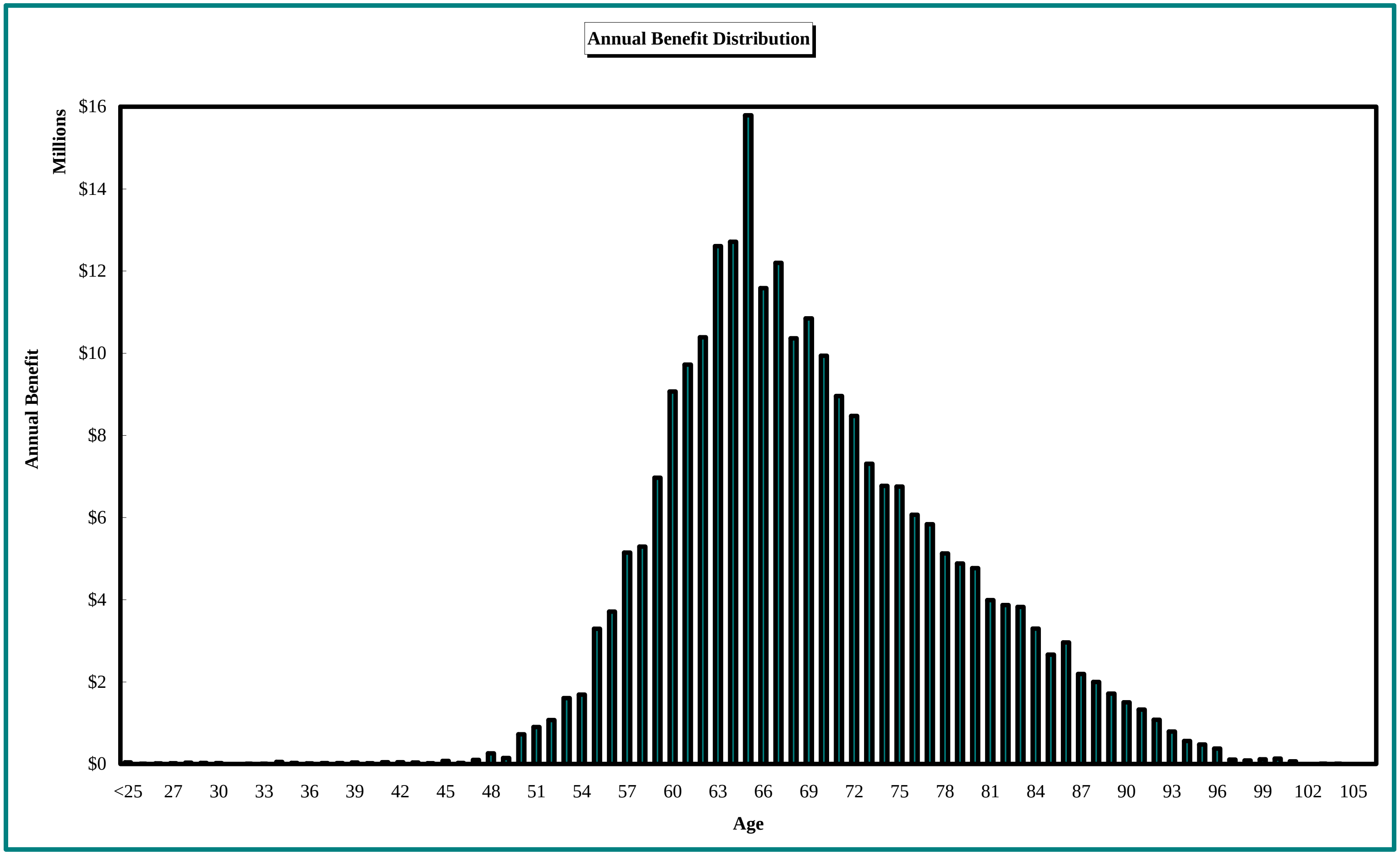
Montana Public Employees' Retirement System Distribution of Retired Members and Survivors as of June 30, 2012

Age	Count	Annual Benefit	Age	Count	Annual Benefit
<25	7	$42,259	73	572	$7,310,437
25	1	$4,809	74	556	$6,772,290
26	2	$13,386	75	533	$6,750,757
27	3	$16,541	76	498	$6,067,043
28	3	$31,541	77	501	$5,834,710
29	3	$26,584	78	461	$5,124,637
30	4	$22,400	79	430	$4,881,589
31	1	$841	80	437	$4,766,229
32	2	$6,202	81	396	$3,992,738
33	2	$5,575	82	386	$3,867,204
34	5	$50,157	83	364	$3,824,238
35	5	$27,444	84	339	$3,296,639
36	3	$11,495	85	265	$2,664,188
37	5	$24,686	86	298	$2,960,382
38	3	$23,668	87	244	$2,190,335
39	6	$34,882	88	224	$1,996,756
40	5	$19,504	89	197	$1,712,647
41	7	$44,511	90	167	$1,498,971
42	7	$44,465	91	152	$1,324,757
43	5	$37,828	92	132	$1,077,926
44	4	$18,230	93	98	$792,865
45	8	$77,845	94	61	$558,490
46	5	$25,567	95	53	$473,452
47	10	$99,866	96	38	$375,296
48	15	$257,611	97	15	$107,135
49	12	$143,802	98	13	$86,066
50	39	$724,141	99	11	$112,635
51	45	$901,227	100	11	$130,023
52	57	$1,071,480	101	6	$63,119
53	89	$1,604,192	102	0	$0
54	101	$1,691,975	103	1	$11,188
55	146	$3,288,617	104	1	$6,191
56	178	$3,711,400	105	0	$0
57	223	$5,147,125	106	0	$0
58	277	$5,293,774	107	0	$0
59	326	$6,969,291	108	0	$0
60	439	$9,066,984	109	0	$0
61	510	$9,720,950	110	0	$0
62	600	$10,386,577	111	0	$0
63	697	$12,604,368	112	0	$0
64	718	$12,714,659	113	0	$0
65	917	$15,792,274	114	0	$0
66	699	$11,583,200	115	0	$0
67	773	$12,200,191	116	0	$0
68	723	$10,363,022	117	0	$0
69	763	$10,846,693	118	0	$0
70	686	$9,940,191	119	0	$0
71	660	$8,958,045	120	0	$0
72	656	$8,472,394			
			Totals	17,915	$254,795,405

The chart above reflects the counts and benefits used for valuation purposes as a result of data processing. The benefit amounts shown have been projected using a half year COLA assumption.

APPENDIX A
MEMBERSHIP INFORMATION – DBRP ONLY

Montana Public Employees' Retirement System Distribution of Retired Members and Survivors as of June 30, 2012



APPENDIX A
MEMBERSHIP INFORMATION – DBRP ONLY

Montana Public Employees' Retirement System Distribution of Terminated Vested Members as of June 30, 2012

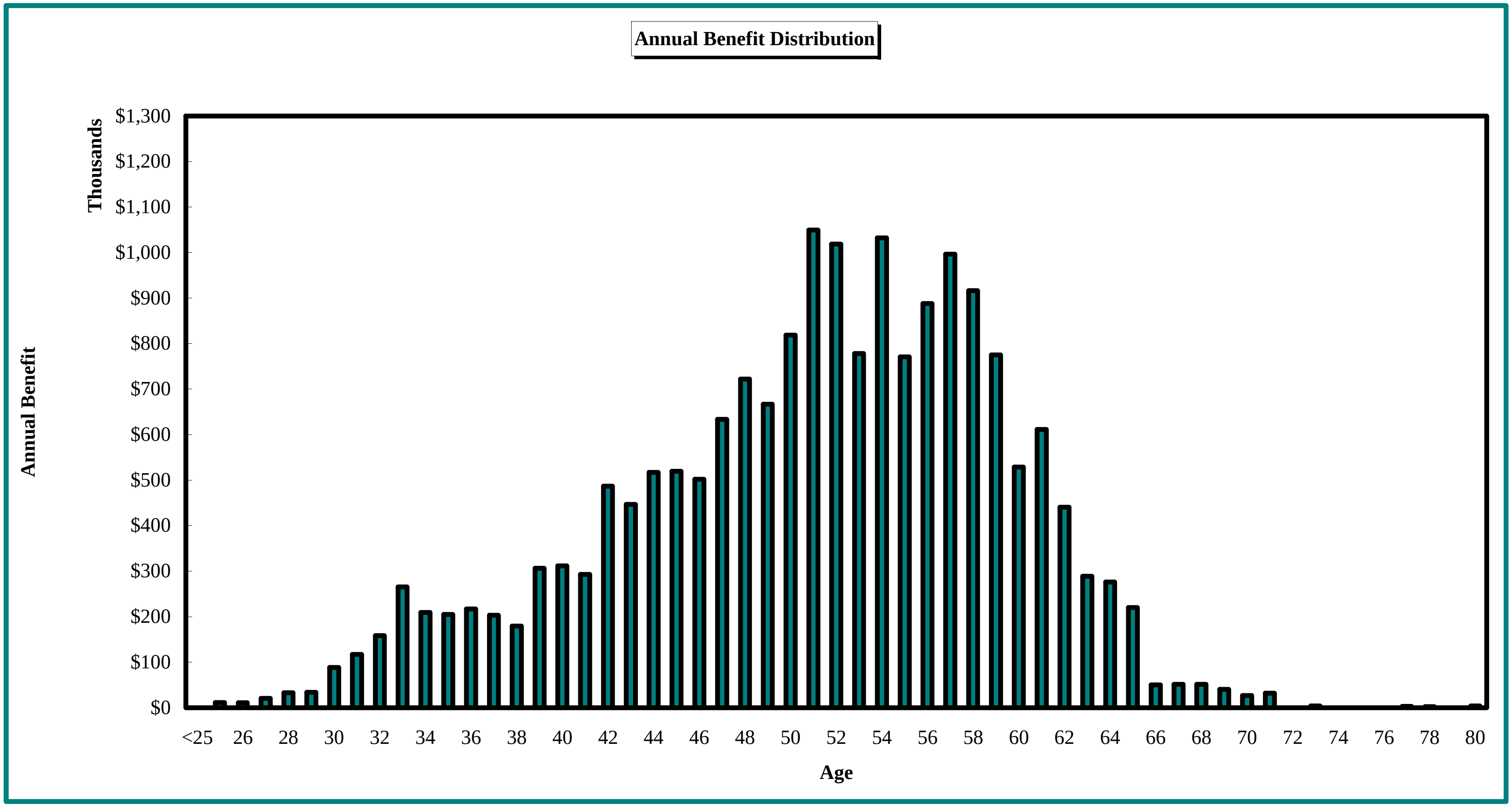
Age	Count	Annual Benefit*	Age	Count	Annual Benefit*
<25	0	$0	73	1	$3,902
25	1	$11,282	74	0	$0
26	1	$11,023	75	0	$0
27	2	$20,782	76	0	$0
28	4	$32,941	77	1	$2,880
29	4	$34,017	78	1	$2,672
30	11	$88,667	79	0	$0
31	13	$117,396	80	1	$3,808
32	14	$158,293	81	0	$0
33	27	$265,649	82	0	$0
34	21	$209,542	83	0	$0
35	23	$204,930	84	0	$0
36	22	$217,102	85	0	$0
37	25	$203,455	86	0	$0
38	20	$179,354	87	0	$0
39	33	$306,742	88	0	$0
40	34	$312,047	89	0	$0
41	37	$292,898	90	0	$0
42	51	$486,801	91	0	$0
43	52	$446,733	92	0	$0
44	61	$517,169	93	0	$0
45	70	$519,807	94	0	$0
46	62	$501,807	95	0	$0
47	81	$633,312	96	0	$0
48	94	$722,046	97	0	$0
49	83	$666,952	98	0	$0
50	107	$818,646	99	0	$0
51	129	$1,049,328	100	0	$0
52	143	$1,018,716	101	0	$0
53	110	$778,141	102	0	$0
54	152	$1,032,370	103	0	$0
55	128	$770,831	104	0	$0
56	134	$887,809	105	0	$0
57	147	$996,409	106	0	$0
58	141	$916,349	107	0	$0
59	124	$774,980	108	0	$0
60	84	$528,695	109	0	$0
61	87	$611,192	110	0	$0
62	55	$440,760	111	0	$0
63	50	$289,079	112	0	$0
64	44	$276,305	113	0	$0
65	25	$220,207	114	0	$0
66	10	$50,301	115	0	$0
67	8	$51,832	116	0	$0
68	12	$51,533	117	0	$0
69	8	$40,402	118	0	$0
70	7	$26,855	119	0	$0
71	5	$32,159	120	0	$0
72	0	$0			
			Totals	2,560	$18,836,907

* payable at the greater of age 60 or current age

The chart above reflects the counts and benefits used for valuation purposes as a result of data processing.

APPENDIX A
MEMBERSHIP INFORMATION – DBRP ONLY

Montana Public Employees' Retirement System Distribution of Terminated Vested Members as of June 30, 2012



APPENDIX A
MEMBERSHIP INFORMATION – DBRP ONLY

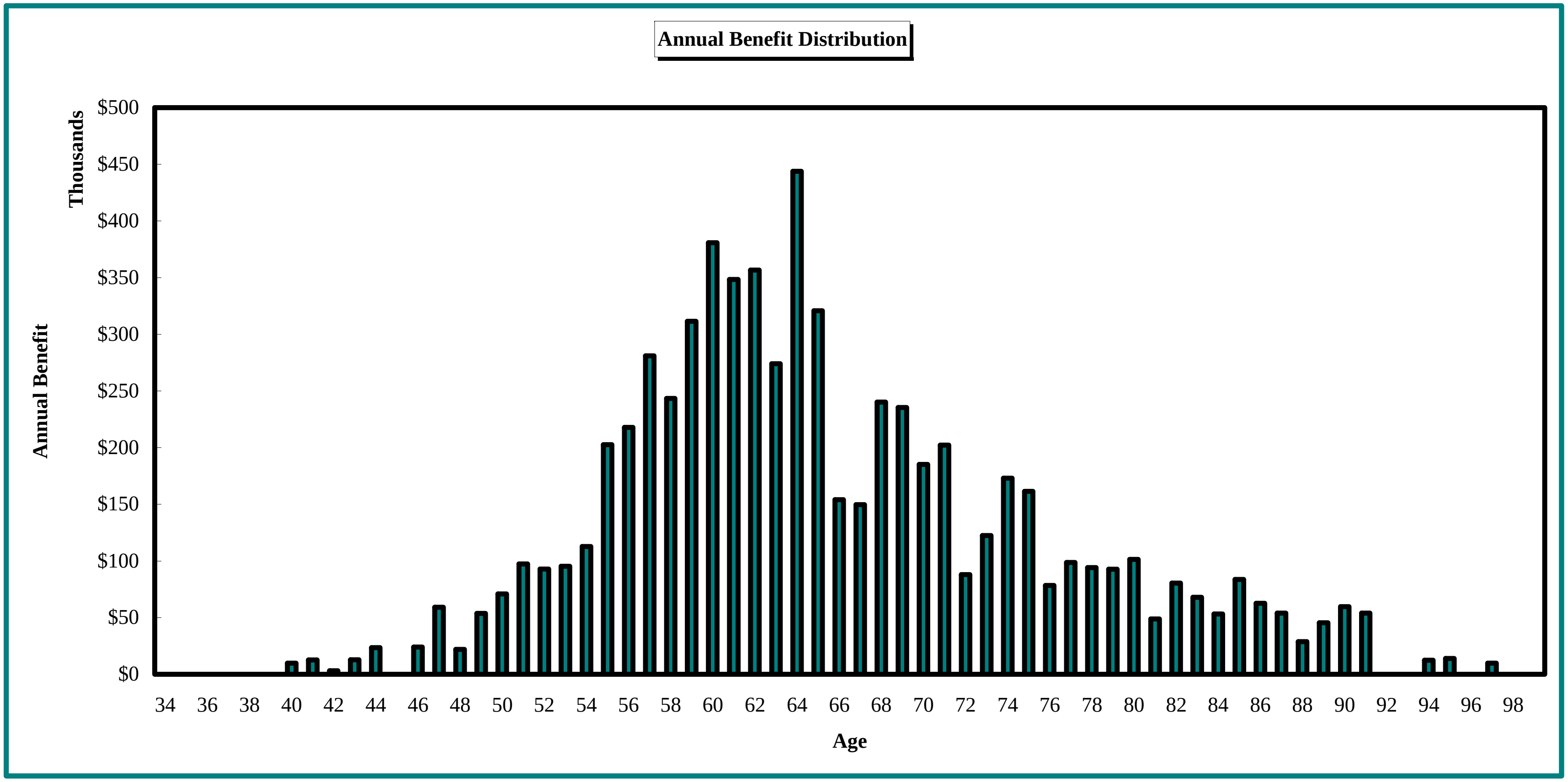
Montana Public Employees' Retirement System Distribution of Disabled Members as of June 30, 2012

Age	Count	Annual Benefit	Age	Count	Annual Benefit
<25	0	$0	73	17	$122,460
25	0	$0	74	22	$173,020
26	0	$0	75	22	$161,416
27	0	$0	76	11	$78,510
28	0	$0	77	12	$98,667
29	0	$0	78	13	$94,227
30	0	$0	79	12	$92,836
31	0	$0	80	11	$101,417
32	0	$0	81	7	$48,865
33	0	$0	82	10	$80,398
34	0	$0	83	7	$67,929
35	0	$0	84	6	$53,285
36	0	$0	85	9	$83,804
37	0	$0	86	6	$62,645
38	0	$0	87	6	$54,040
39	0	$0	88	3	$28,804
40	1	$9,904	89	5	$45,463
41	1	$12,725	90	6	$59,758
42	1	$3,055	91	4	$54,061
43	2	$12,866	92	0	$0
44	3	$23,596	93	0	$0
45	0	$0	94	1	$12,424
46	3	$24,049	95	1	$13,892
47	4	$59,230	96	0	$0
48	3	$22,085	97	1	$9,997
49	6	$53,754	98	0	$0
50	7	$70,909	99	0	$0
51	9	$97,325	100	0	$0
52	10	$92,876	101	0	$0
53	9	$95,390	102	0	$0
54	8	$112,774	103	0	$0
55	19	$202,586	104	0	$0
56	21	$217,915	105	0	$0
57	31	$281,000	106	0	$0
58	27	$243,471	107	0	$0
59	33	$311,455	108	0	$0
60	40	$380,806	109	0	$0
61	33	$348,415	110	0	$0
62	36	$356,803	111	0	$0
63	30	$274,118	112	0	$0
64	40	$443,767	113	0	$0
65	32	$320,727	114	0	$0
66	19	$154,111	115	0	$0
67	20	$149,680	116	0	$0
68	27	$240,189	117	0	$0
69	28	$235,558	118	0	$0
70	21	$185,143	119	0	$0
71	24	$202,317	120	0	$0
72	10	$87,915			
			Totals	750	$6,924,433

The chart above reflects the counts and benefits used for valuation purposes as a result of data processing. The benefit amounts shown have been projected using a half year COLA assumption.

APPENDIX A
MEMBERSHIP INFORMATION – DBRP ONLY

Montana Public Employees' Retirement System Distribution of Disabled Members as of June 30, 2012



APPENDIX A
MEMBERSHIP INFORMATION – DBRP ONLY

Montana Public Employees' Retirement System Distribution of Terminated Non-Vested Members* as of June 30, 2012

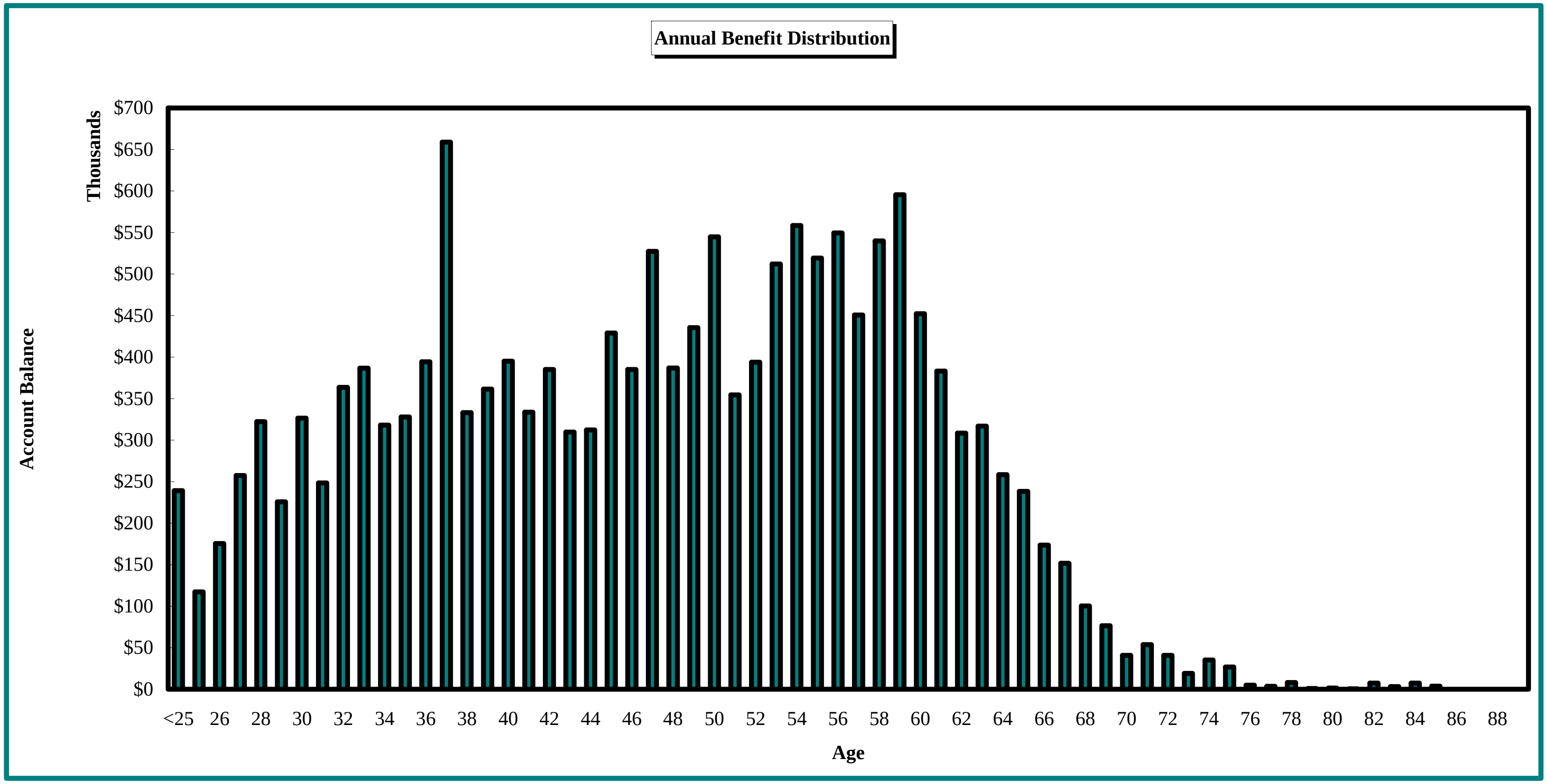
Age	Count	Account Balance	Age	Count	Account Balance
<25	259	$239,057	73	13	$19,165
25	71	$117,392	74	12	$35,083
26	112	$175,414	75	9	$26,733
27	105	$257,499	76	9	$5,050
28	135	$322,228	77	5	$3,348
29	101	$225,865	78	3	$8,203
30	134	$326,538	79	2	$971
31	103	$248,442	80	1	$1,448
32	133	$363,576	81	2	$499
33	142	$386,651	82	4	$7,412
34	122	$317,996	83	2	$3,223
35	128	$327,859	84	2	$7,315
36	129	$394,299	85	3	$3,751
37	716	$658,852	86	0	$0
38	138	$333,186	87	0	$0
39	138	$361,332	88	0	$0
40	152	$394,993	89	0	$0
41	146	$333,764	90	0	$0
42	116	$385,245	91	0	$0
43	152	$309,754	92	0	$0
44	107	$312,298	93	0	$0
45	136	$428,906	94	0	$0
46	133	$385,229	95	0	$0
47	157	$527,274	96	0	$0
48	126	$386,785	97	0	$0
49	145	$435,338	98	0	$0
50	158	$544,817	99	0	$0
51	116	$354,407	100	0	$0
52	124	$393,709	101	0	$0
53	145	$512,174	102	0	$0
54	134	$558,324	103	0	$0
55	150	$519,201	104	0	$0
56	151	$549,567	105	0	$0
57	124	$450,841	106	0	$0
58	122	$539,972	107	0	$0
59	139	$595,514	108	0	$0
60	130	$452,193	109	0	$0
61	103	$383,181	110	0	$0
62	70	$308,469	111	0	$0
63	83	$316,863	112	0	$0
64	65	$258,444	113	0	$0
65	64	$238,480	114	0	$0
66	33	$173,392	115	0	$0
67	38	$151,632	116	0	$0
68	32	$100,308	117	0	$0
69	29	$76,549	118	0	$0
70	19	$40,722	119	0	$0
71	20	$53,617	120	0	$0
72	12	$40,928			
			Totals	6,164	$16,691,276

* Assumes average entry age of 37 for 588 Terminated Non-Vested members either older than 85, younger than 15, or missing a birthdate.

The chart above reflects the counts and benefits used for valuation purposes as a result of data processing.

APPENDIX A
MEMBERSHIP INFORMATION – DBRP ONLY

Montana Public Employees' Retirement System Distribution of Terminated Non-Vested Members as of June 30, 2012



APPENDIX B
ACTUARIAL ASSUMPTIONS AND METHODS

A. Long-Term Assumptions Used to Determine Plan Costs and Liabilities

1. Demographic Assumptions

a. Healthy Retirees, Beneficiaries and Non-Retired Members

Male and Female RP-2000 Combined Employee and Annuitant Mortality Tables. To reflect mortality improvements since the date of the table and to project future mortality improvements, the tables are projected to 2015 using scale AA.

Sample Rates of Healthy Mortality		
Age	**Male**	**Female**
50	0.163%	0.130%
55	0.272%	0.241%
60	0.530%	0.469%
65	1.031%	0.900%
70	1.770%	1.553%
75	3.062%	2.492%
80	5.536%	4.129%
85	9.968%	7.076%
90	17.271%	12.588%

b. Disabled Inactive Mortality

Male and Female RP-2000 Combined Employee and Annuitant Mortality Tables with no projections. No future mortality improvement is assumed.

Sample Rates of Disabled Inactive Mortality		
Age	**Male**	**Female**
50	0.214%	0.168%
55	0.362%	0.272%
60	0.675%	0.506%
65	1.274%	0.971%
70	2.221%	1.674%
75	3.783%	2.811%
80	6.437%	4.588%
85	11.076%	7.745%
90	18.341%	13.168%

APPENDIX B
ACTUARIAL ASSUMPTIONS AND METHODS

c. Rates of Active Disability

Sample Rates of Active Disability	
Age	**Rate**
22	0.00%
27	0.01%
32	0.01%
37	0.04%
42	0.10%
47	0.13%
52	0.25%
57	0.36%
62	0.00%

All disabilities are assumed to be permanent and without recovery.

d. Termination of Employment (Prior to Normal Retirement Eligibility)

Service	Rate
0	25%
1	20%
2	15%
3	10%
4	10%
5-9	5%
10-14	5%
15 & over	2%

No terminations are assumed after age 50 with five years of service for either male or female.

e. Probability of Electing a Refund of Member Contributions upon Termination

Probability of Electing Refund		
Age at Term.	**Non-Vested**	**Vested**
Under 35	100%	60%
35-39	100%	50%
40-44	100%	45%
45-49	100%	35%
50 & Over	100%	30%

APPENDIX B
ACTUARIAL ASSUMPTIONS AND METHODS

f. Retirement

Annual Retirement Rates		
Age	**<30 years**	**30 years or more and age 60 with 25 years**
<50	0.00%	10.00%
50 – 54	3.00	10.00
55	3.00	15.00
56	4.00	15.00
57	5.00	15.00
58	5.00	15.00
59	6.00	15.00
60	8.00	15.00
61	15.00	15.00
62	25.00	25.00
63	15.00	15.00
64	15.00	15.00
65	30.00	30.00
66	30.00	30.00
67	25.00	25.00
68	25.00	25.00
69	25.00	25.00
70 & Over	100.00	100.00

Vested terminations are assumed to retire at their earliest unreduced eligibility.

APPENDIX B
ACTUARIAL ASSUMPTIONS AND METHODS

g. Merit/Seniority Salary Increase (in addition to across-the-board increase)

Service based table plus an annual inflation rate of 4.00% (rates shown below exclude amount for inflation).

Service	Annual Increase
1	6.0%
2	4.9
3	3.9
4	3.1
5	2.4
6	1.8
7	1.4
8	1.0
9	0.7
10	0.5
11-15	0.3
16-20	0.1
21 & over	0.0

h. Family Composition

Female spouses are assumed to be three years younger than males.

100% of non-retired members are assumed married for both male and female members.

Actual marital characteristics are used for pensioners.

i. Vested Benefits for Terminated Members

Vested benefits for members who terminated during years ending June 30, 2009 and later were estimated based upon compensation and service information in the census data. For members who terminated prior to June 30, 2008, vested benefits valued were the same as had been calculated by the prior actuary for the June 30, 2008 actuarial valuation.

APPENDIX B
ACTUARIAL ASSUMPTIONS AND METHODS

2. Economic Assumptions

a. Rate of Investment Return:	7.75% (net of expenses)
b. Rate of Wage Inflation:	4.00% (3.00% inflation plus 1.00% real wage growth)
c. Interest on Member Contributions:	3.50%
d. Rate of Increase in Total Payroll (for Amortization):	4.00%

3. Changes since Last Valuation

None.

APPENDIX B
ACTUARIAL ASSUMPTIONS AND METHODS

B. Actuarial Methods

1. Funding Method

The Entry Age Normal Actuarial Cost method is used to determine costs. Under this funding method, a normal cost is determined as a level percent of pay individually for each active member.

The actuarial accrued liability is that portion of the present value of projected benefits that will not be paid by future normal costs. The difference between this liability and funds accumulated as of the same date is referred to as the unfunded actuarial liability.

The portion of the actuarial accrued liability in excess of plan assets is amortized to develop an additional cost or savings which is added to each year's employer normal cost. Under this cost method, actuarial gains and losses are directly reflected in the size of the unfunded actuarial liability.

2. Actuarial Value of Assets

For purposes of determining the unfunded actuarial accrued liability, we use an actuarial value of assets. The asset adjustment method dampens the volatility in asset values that could occur because of fluctuations in market conditions. Use of an asset smoothing method is consistent with the long-term nature of the actuarial valuation process.

The actuarial value of assets is the current market value, adjusted by a four-year smoothing of gains and losses on a market value basis. Each year's gain or loss is determined as the difference between the actual market return and the expected market return using the assumed rate of investment return.

3. Amortization Method

The unfunded actuarial accrued liability is amortized as a level percentage of future payroll. The valuation determines the period over which the statutory contributions will fully amortize the unfunded actuarial accrued liability.

4. Changes since Last Valuation

None.

APPENDIX B
ACTUARIAL ASSUMPTIONS AND METHODS

C. Plan Choice Rate Calculations

The current employer Plan Choice Rate for members of the Defined Contribution Retirement Plan (DCRP) and the Optional Retirement Plan (ORP) who would have been in PERS is determined as follows:

	Percent of Salary
Plan Choice Rate to DBRP (PCR)	2.370%
Additional PCR Contribution	
FY2008 (July 1, 2007)	0.135
FY2010 (July 1, 2009)	0.135
Total Plan Choice Contribution Rate	**2.640%**

The Plan Choice Rate (PCR) is the percent of the employer contribution allocated to the Defined Benefit Retirement Plan for members who choose the Defined Contribution Retirement Plan or the Optional Retirement Plan. The PCR is required by statute and actuarially determined to maintain the financial stability of the Defined Benefit Retirement Plan (DBRP).

Without the PCR, there are two reasons the DBRP costs could potentially increase; one is the financing of the Unfunded Actuarial Liability (UAL) at the time of the transfers, and the other is the potential for an increase in the Normal Cost Rate.

1. The PCR provides that the amortization of the DBRP UAL at the time of the transfer is financed over the sum of payroll of the DBRP and DCRP members. This method ensures a continuation of the amortization schedule that was in place just prior to the transfers. The legislation provided a starting point for this element of the PCR equal to 2.37% of the payroll of DCRP members and the ORP members who would have been in the DBRP.

2. Compared to the members who remain in the DBRP, if the transferring DCRP and ORP members are, on average, either younger at the time of hire, or have a shorter career, the DBRP Normal Cost Rate could increase. The dollar amount of the increase in the DBRP Normal Cost is financed as a percentage of DCRP and ORP payroll. Therefore, the employers whose employees choose the DCRP and ORP will fund any increase in the Normal Cost of the DBRP. This rate is known as the PCR Normal Cost Rate (PCR-NCR).

APPENDIX B
ACTUARIAL ASSUMPTIONS AND METHODS

Amortization Test: The current PCR, less the PCR-NCR, will be available to amortize the remaining PCR-UAL. The initial amortization period was set at 12.75 years as of June 30, 1998. The amortization period will decline by one year each biennium, but the PCR will not change unless the amortization period is more than 10 years different than the scheduled amortization period.

Amortization of PCR-UAL

	Baseline	**Acceptable Range**	
1998 Valuation	12.75	2.75	22.75
2000 Valuation	11.75	1.75	21.75
2002 Valuation	10.75	0.75	20.75
2004 Valuation	9.75	n/a*	19.75
2006 Valuation	8.75	n/a*	18.75
2008 Valuation	7.75	n/a*	17.75
2010 Valuation	6.75	n/a*	16.75
2012 Valuation	5.75	n/a*	15.75
2014 Valuation	4.75	n/a*	14.75
2016 Valuation	3.75	n/a*	13.75
2018 Valuation	2.75	n/a*	12.75
2020 Valuation	1.75	n/a*	11.75
2022 Valuation	0.75	n/a*	10.75

*Assumes immediate amortization of PCR UAL.
Lower end only applies after 2002 if the PCR UAL is fully amortized.

APPENDIX C
SUMMARY OF PLAN PROVISIONS

1. Membership

The Plan is a multiple-employer cost sharing plan that covers employees of the State, local governments, and certain employees of the university system and school districts, who are not covered by a separate retirement system governed by Title 19 of Montana Code Annotated.

2. Contributions

For members hired on or before June 30, 2011 Members contribute 6.9% of their compensation. Interest is credited at rates determined by the Board.

For new members hired on or after July 1, 2011 Members contribute 7.9% of their compensation. Interest is credited at rates determined by the Board.

Member contributions are made through an "employer pick-up" arrangement which results in deferral of taxes on the contributions.

Employers contribute 6.9% of each member's compensation, increased to 7.035% on July 1, 2007 and 7.17% on July 1, 2009. This is offset by a 0.1% of compensation from the State for local governments and school districts. For school districts, this offset increased to 0.235% on July 1, 2007 and 0.37% on July 1, 2009. These increased contributions and offsets as of 2007 and 2009 will terminate if an actuarial valuation shows that the period required to amortize the system's unfunded liabilities is less than 25 years, and that the termination of those increases would not cause the amortization to increase beyond 25 years.

3. Service Credit

Service used to determine the amount of retirement benefit. One month of service credit is earned for each month where the member is paid for 160 hours. This includes certain transferred and purchased service.

4. Membership Service

Service used to determine eligibility for vesting, retirement or other PERS benefits. One month of membership service is earned for any month member contributions are made to PERS, regardless of the number of hours worked.

5. Highest Average Compensation

For members hired on or before June 30, 2011 Highest Average Compensation is the average of the highest 36 consecutive months (or shorter period of total service) of compensation paid to the member.

APPENDIX C
SUMMARY OF PLAN PROVISIONS

For members hired on or after July 1, 2011 Highest Average Compensation is the average of the highest 60 consecutive months (or shorter period of total service) of compensation paid to the member.

Compensation generally means all remuneration paid, excluding certain allowances, benefits and lump sum payments. Compensation is specifically defined by law

6. Service Retirement

Eligibility: **For members hired on or before June 30, 2011** (i) age 60 with five years of membership service; or (ii) age 65 regardless of service; or (iii) any age with 30 years of membership service. **For members hired on or after July 1, 2011** (i) age 65 with five years of membership service; or (ii) age 70 regardless of service.

Benefit: **For members hired on or before June 30, 2011**

(i) If less than 25 years of membership service, the greater of (a) 1/56 of highest average compensation multiplied by years of service credit, or (b) the actuarial equivalent of double the member's regular contributions plus interest plus the actuarial equivalent of any additional contributions plus interest.

(ii) If 25 years of membership service or more, the greater of (a) 2% of highest average compensation multiplied by years of service credit, or (b) above.

For members hired on or after July 1, 2011

(i) If less than 10 years of membership service, the greater of (a) 1.5% of highest average compensation multiplied by years of service credit, or (b) the actuarial equivalent of double the member's regular contributions plus interest plus the actuarial equivalent of any additional contributions plus interest.

(ii) If between 10 and 30 years of membership service, the greater of (a) 1/56 of highest average compensation multiplied by years of service credit, or (b) above.

(iii) If 30 years of membership service or more, the greater of (a) 2% of highest average compensation multiplied by years of service credit, or (b) above.

APPENDIX C
SUMMARY OF PLAN PROVISIONS

7. Early Retirement

Eligibility: **For members hired on or before June 30, 2011** (i) age 50 with 5 years of membership service; or (ii) any age with 25 years of membership service.

For members hired on or after July 1, 2011 (i) age 55 with 5 years of membership service.

Benefit: **For members retired prior to October 1, 2011**
The actuarial equivalent of the accrued portion of the service retirement benefit that would have been payable to the member commencing at age 60 or upon completion of 30 years of membership service with the exception that the benefit must be reduced by a factor resulting from multiplying 0.5% (for first five years from service retirement eligibility) or 0.3% (for years six to 10 years from service retirement eligibility) by the number of months by which the retirement date precedes the date at which the member would have attained age 60 or completed 30 years of membership service.

For members hired on or before June 30, 2011
The actuarial equivalent of the accrued portion of the service retirement benefit that would have been payable to the member commencing at age 60 or upon completion of 30 years of membership service with the exception that the benefit must be reduced using actuarially equivalent factors based on the most recent valuation.

For members hired on or after July 1, 2011
The actuarial equivalent of the accrued potion of the service retirement benefit that would have been payable to the member commencing at age 65 with the exception that the benefit must be reduced using actuarially equivalent factors based on the most recent valuation.

8. Disability Benefit

Eligibility: Five years of membership service

Benefit: (i) If hired on or before February 24, 1991, the greater of (a) or (b):

(a) Less than 25 years of membership service: 90% of 1/56 of highest average compensation multiplied by service credit.

At least 25 years of membership service: 90% of 1/50 of highest average compensation multiplied by service credit, or

(b) 25% of highest average compensation.

APPENDIX C
SUMMARY OF PLAN PROVISIONS

(ii) If hired after February 24, 1991 and before July 1, 2011:

90% is replaced by 100% in the above formulas, but there is no 25% minimum benefit.

(iii) If hired on or after July 1, 2011:

(a) If less than 10 years of membership service, the greater of (a) 1.5% of highest average compensation multiplied by years of service credit.

(b) If between 10 and 30 years of membership service, the greater of (a) 1/56 of highest average compensation multiplied by years of service credit.

(c) If 30 years of membership service or more, the greater of (a) 2% of highest average compensation multiplied by years of service credit.

9. Survivor's Benefit

Eligibility: Member's status at time of death: (i) active, (ii) within 6 months after severance, (iii) receiving disability benefit for less than 6 months, (iv) continuously disabled without receiving a disability benefit, or (v) inactive.

Benefit: The sum of (i) accumulated contributions plus (ii) monthly compensation multiplied by the lesser of years of service credit or six, plus (iii) interest. However an inactive member's survivor will receive only accumulated contributions.

For the survivor of an active member who had completed five years of membership service, the benefit will be the actuarial equivalent of the accrued retirement benefit at the time of death subject to the minimum in the above paragraph.

A beneficiary may elect to receive the payment as an annuity that is the actuarial equivalent of the amount of benefit.

For retired members receiving the normal form of annuity, a payment will be made equal to the accumulated contributions reduced by any retirement benefits already paid.

10. Vesting

Eligibility: Five years of membership service.

APPENDIX C
SUMMARY OF PLAN PROVISIONS

Benefit: Accrued normal retirement benefit, payable at age 60 (or 65 if hired after June 30, 2011). In lieu of a pension, a member may receive a refund of accumulated contributions. Upon receipt of a refund of contributions a member's vested right to a monthly benefit is forfeited.

11. Withdrawal of Employee Contributions

Eligibility: Terminates service and is not eligible for other benefits.

Benefit: Accumulated employee contributions. Upon receipt of a refund of contributions a member's vested right to a monthly benefit is forfeited.

12. Form of Payment

The normal form of payment is a life annuity with a refund of any remaining account balance to a designated beneficiary. (Option 1)

Optional benefits: (i) Option 2, a joint and 100% survivor benefit, (ii) Option 3, a joint and 50% survivor benefit, and (iii) Option 4, a life annuity with a period certain. If a retiring member selects Option 2 or 3 and the designated beneficiary predeceases the member, the benefit may revert to the higher Option 1 benefit available at retirement or select a different beneficiary and/or a different option if the retiree provides notification within 18 months.

13. Post Retirement Benefit Increases

For retired members who have been retired at least 12 months, a Guaranteed Annual Benefit Adjustment (GABA) will be made each year equal to (i) 3% for members hired before July 1, 2007 and (ii) 1.5% for members hired on or after July 1, 2007.

APPENDIX C
SUMMARY OF PLAN PROVISIONS

14. Changes since Last Valuation

None.

APPENDIX D
GLOSSARY

1. Actuarial Assumptions

Assumptions as to the occurrence of future events affecting pension costs, such as: mortality, withdrawal, disability, and retirement; changes in compensation; inflation; rates of investment earnings, and asset appreciation or depreciation; and other relevant items.

2. Actuarial Cost Method

A procedure for determining the Actuarial Present Value of pension plan benefits and expenses and for developing an allocation of such value to each year of service, usually in the form of a Normal Cost and an Actuarial Liability.

3. Actuarial Gain (Loss)

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

4. Actuarial Liability

The portion of the Actuarial Present Value of Projected Benefits which will not be paid by future Normal Costs. It represents the value of the past Normal Costs with interest to the valuation date.

5. Actuarial Present Value (Present Value)

The value as of a given date of a future amount or series of payments. The Actuarial Present Value discounts the payments to the given date at the assumed investment return and includes the probability of the payment being made. As a simple example: assume you owe $100 to a friend one year from now. Also, assume there is a 1% probability of your friend dying over the next year, in which case you won't be obligated to pay him. If the assumed investment return is 10%, the actuarial present value is:

Amount		Probability of Payment	1/(1+Investment Return)		
$100	x	(1 - .01)	1/(1+.1)	=	$90

6. Actuarial Valuation

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

APPENDIX D
GLOSSARY

7. 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. The purpose of an Actuarial Value of Assets is to smooth out fluctuations in market values. This way long-term costs are not distorted by short-term fluctuations in the market.

8. Actuarially Equivalent

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

9. Amortization Payment

The portion of the pension plan contribution which is designed to pay interest and principal on the Unfunded Actuarial Liability in order to pay for that liability in a given number of years.

10. Entry Age Normal Actuarial Cost Method

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.

11. Normal Cost

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.

12. Unfunded Actuarial Liability

The excess of the Actuarial Liability over the Actuarial Value of Assets.

13. Projected Benefits

Those pension plan benefit amounts which are expected to be paid in the future under a particular set of Actuarial Assumptions, taking into account such items as the effect of advancement in age and increases in future compensation and service credits.

14. Funded Percentage

The ratio of the Actuarial Liabilities to the Actuarial Value of Assets.

APPENDIX D
GLOSSARY

15. Mortality Table

A set of percentages which estimate the probability of death at a particular point in time. Typically, the rates are annual and based on age and sex.

16. Investment Return Assumption

The assumed interest rate used for projecting dollar related values in the future.

17. Inflation (CPI)

The assumed increase in dollar related values in the future due to the general increase in the cost-of-living. The usual measure for inflation is the Consumer Price Index (CPI).