Public Employees' Retirement System of the State of Montana

Actuarial Valuation as of June 30, 2009

Produced by Cheiron

October 2009

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October 23, 2009

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, 2009. 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 System 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.

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. Those comments are the basis for our certification that this report is complete and accurate to the best of our knowledge and belief. The results of this report are only applicable for Fiscal Year ending 2009 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.

I hereby certify that, to the best of my knowledge, 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 Code of Professional Conduct and applicable Actuarial Standards of Practice set out by the Actuarial Standards Board, and that as a Members of the American Academy of Actuaries, I meet the Qualification Standards to render the opinions contained herein.

Sincerely,
Cheiron

Stephen T. McElhaney, FSA
Consulting Actuary

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FOREWORD

Cheiron has performed the actuarial valuation of the Public Employees' Retirement System as of June 30, 2009. 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 2009; 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 number 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.

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 true cost of the System could vary from our results.

Finally, in preparing this report, we have conformed to generally 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.

SECTION I
BOARD SUMMARY

General Comments

This is the first valuation of the Public Employees' Retirement System performed by Cheiron. All results shown for valuations prior to June 30, 2009 were derived from reports prepared by the prior actuary.

In preparation for this valuation, Cheiron attempted to reproduce the results in the prior valuation at June 30, 2008. In this reproduction of results, we obtained an actuarial accrued liability of approximately $13 million less than was reported in the 2008 valuation report. Since this figure represents only 0.3% of the total actuarial accrued liability, it is well within established norms.

The period to amortize unfunded actuarial accrued liability was 24.8 years at the June 30, 2008 valuation. As of June 30, 2009 the statutory contribution rates are not sufficient to amortize the unfunded actuarial accrued liability. During the year ended June 30, 2009, the System's assets lost 20.9% 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 a negative 0.2%. This return was below the assumed rate of return of 8.0% and resulted in an actuarial loss on investments of $329 million.

The System also experienced an actuarial loss 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 loss added $15 million to the actuarial liability. (This loss is net after reflecting the differences from the prior actuary as noted above.) This type of activity is normal in the course of System experience. The System will experience actuarial gains and losses over time because we cannot predict exactly how people will behave. When a plan experiences alternating gains and losses that are small compared to the total actuarial liability, then the plan's actuarial assumptions are reasonable.

As of the June 30, 2009 actuarial valuation, the System's unfunded actuarial liability was $791 million. This is an increase from last year's unfunded actuarial liability of $439 million. The funded ratio decreased from 91% at the prior valuation to 84% at June 30, 2009.

Montana Code Annotated (MCA) 19-2-407 requires an analysis of how market performance is affecting the actuarial funding of the Retirement System. The market value at June 30, 2009 was $1,004 million less than actuarial value. If market value were used rather than actuarial value, the funded ratio on the valuation date would be 63%, 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 8.2 years, which is within the acceptable range.

SECTION I
BOARD SUMMARY

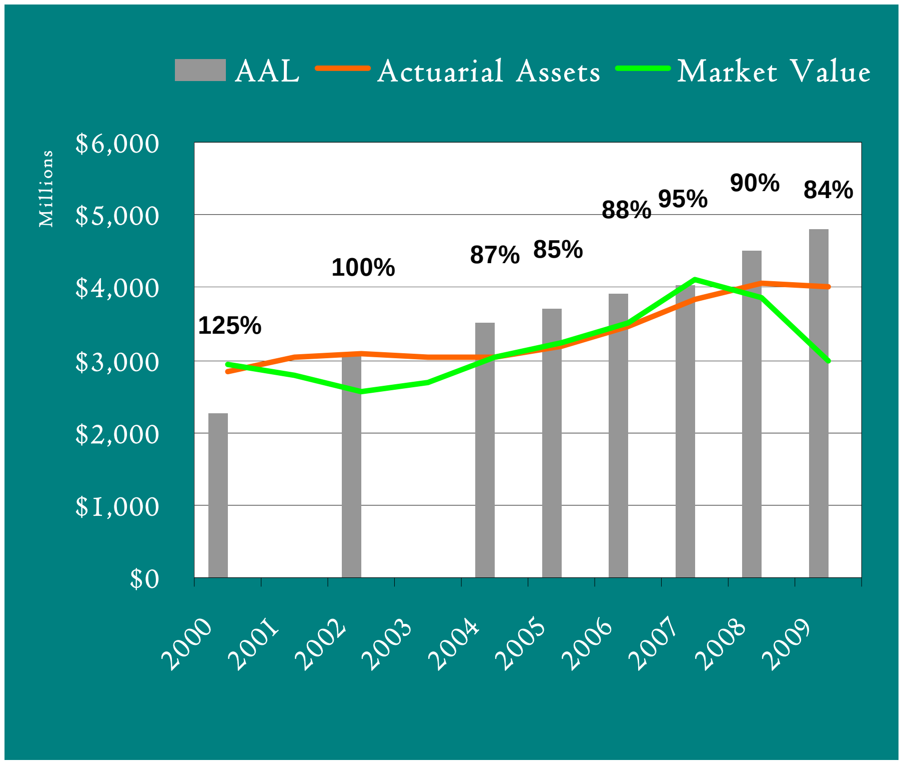
Trends

<u>Assets and Liabilities</u>

The market value of assets (MVA) decreased by 20.85% 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 was below the assumed rate of 8%.

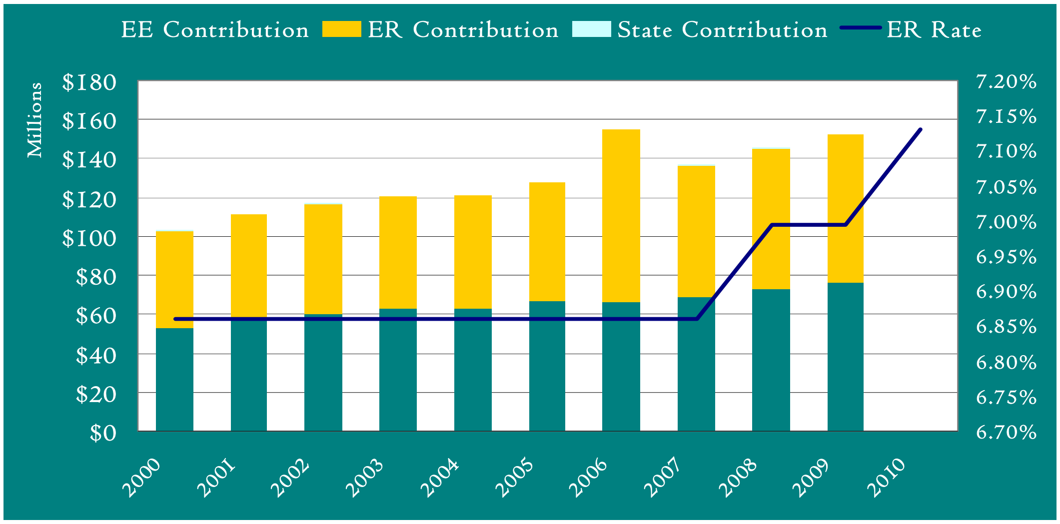
Over the period July 1, 2004 to June 30, 2009 the System's assets returned approximately 6.8% per year measured at actuarial value, compared to a valuation assumption of 8% per year.

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



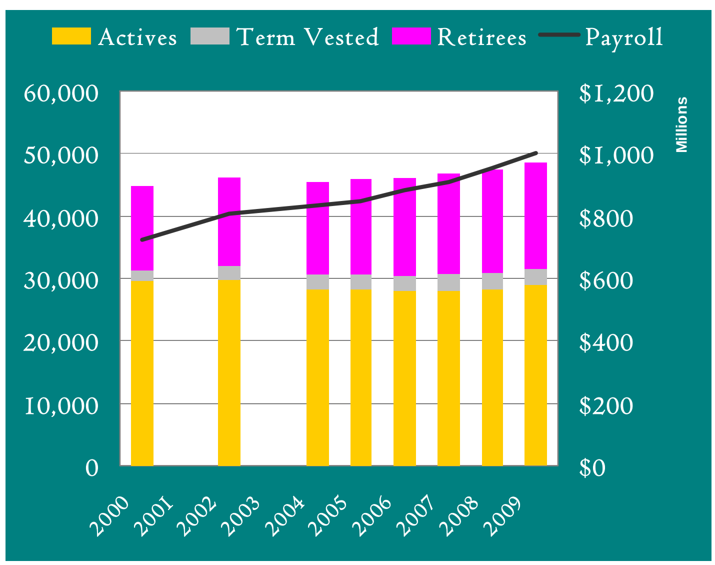
The stacked bars in this graph show the contributions made by members, employers and the State (left hand scale). The black line shows the employer contribution rate as a percent of payroll (right hand scale).

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 to each inactive in 2000 to 1.5 actives for each inactive today.

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



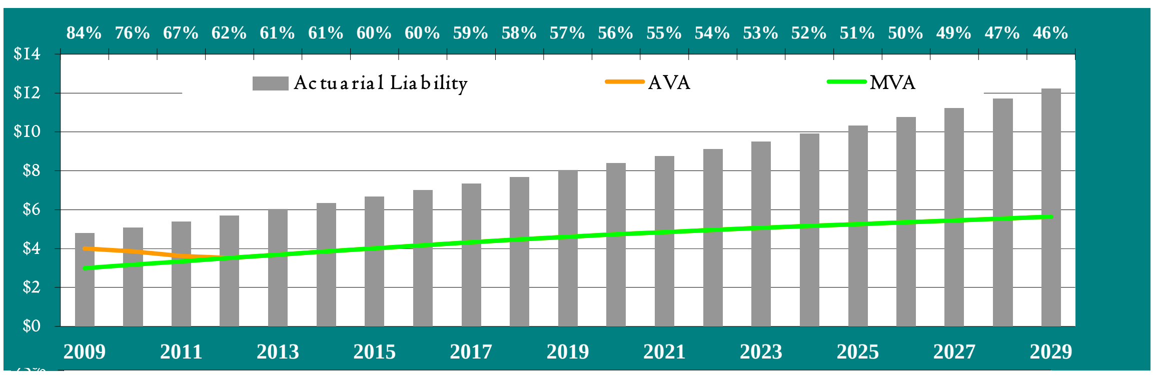
SECTION I
BOARD SUMMARY

Future Outlook

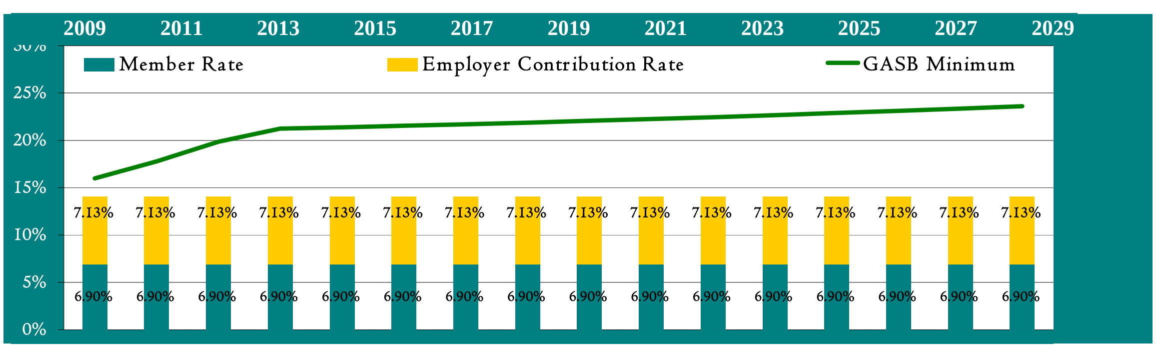
Base Line Projections

These graphs show the expected progress of the System over the next twenty years assuming the System's assets earn 8% 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 plan is expected to decrease substantially over the next few years as excluded investment losses are recognized by the smoothing method. The funded status will then continue to decrease gradually over the remainder of the twenty years. The projections indicate that the statutory contribution rates will need to be increased to maintain the current level of benefits.



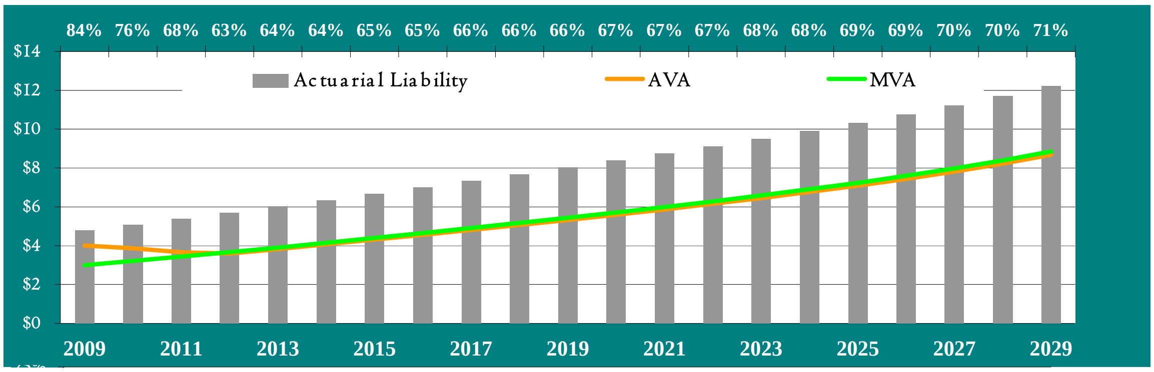
The chart below shows that the total contribution computed on a GASB Minimum basis will increase to over 20% over the next several years.



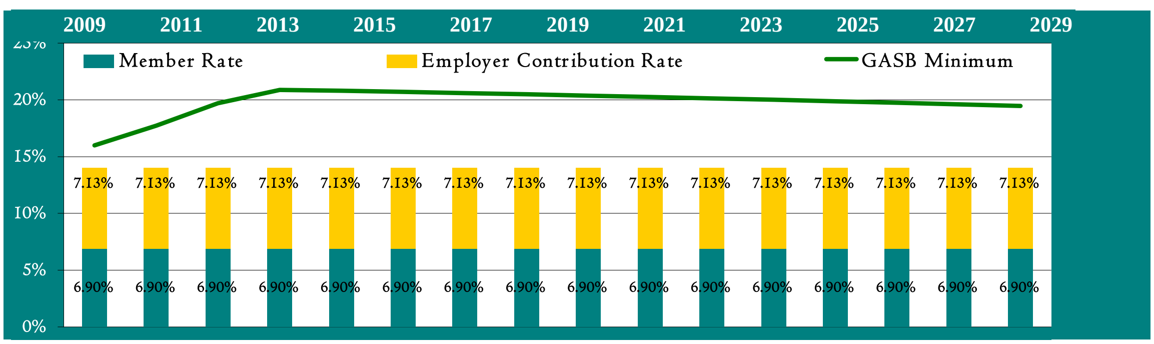
SECTION I
BOARD SUMMARY

Projections With Asset Returns of 9.5%

The future funding status of this System will be largely driven by the investment earnings. Due to the size of assets, as compared to liabilities, the System is in a highly leveraged position. This means that relatively minor changes in market returns can have significant effects on the System's status. These two charts below show what the next twenty years would look like with a 9.5% annual return in each year (i.e. 1.5% greater than the assumed rate of return).



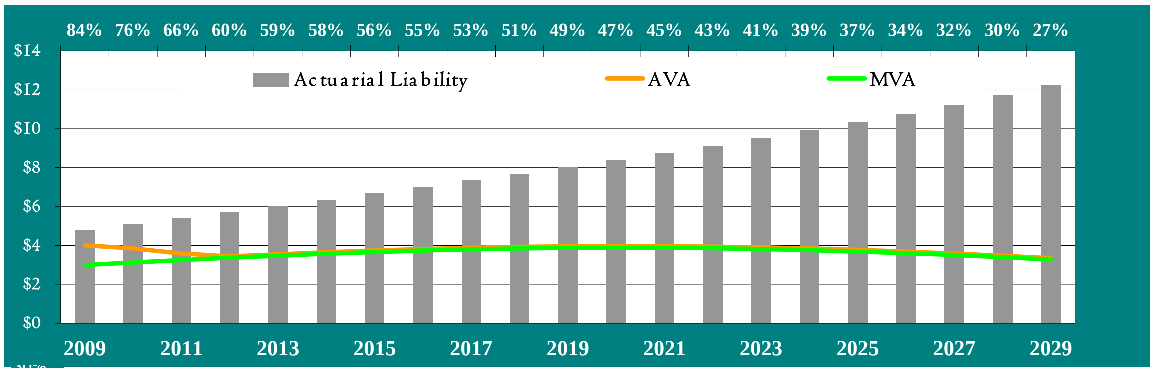
Compared to the baseline projections, the funded status begins to improve some after a decrease over the next several years. The GASB Minimum contribution drops below 20% by the end of the twenty year period.



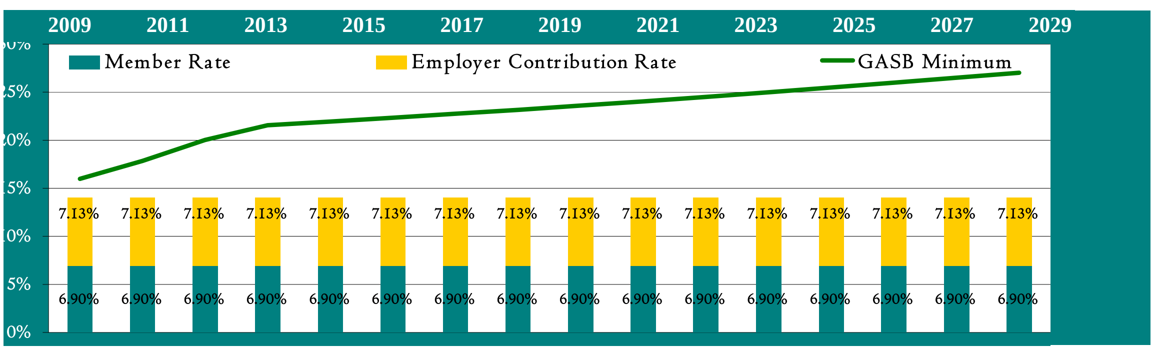
SECTION I
BOARD SUMMARY

Projections With Asset Returns of 6.5%

To further demonstrate how the future funding of this System will be driven by investment earnings, we show the anticipated System funding projections if the invested assets earn 6.5% per year over the entire twenty-year period (i.e., 1.5% less than the assumed rate of return).



Under this scenario the funded status declines even further than under the baseline projection and the GASB Minimum contribution increases to over 25% of pay.



SECTION I
BOARD SUMMARY

Montana Public Employees' Retirement System
Summary of Principal System Results

Valuation as of:	**June 30, 2008**	**June 30, 2009**	**% Change**
Participant Counts			
Active Members	28,293	28,983	2.4%
Disabled Members*	290	279	(3.8%)
Retirees and Beneficiaries*	16,337	16,796	2.8%
Terminated Vested Members	2,579	2,476	(4.0%)
Terminated Non-Vested Members	6,268	5,670	(9.5%)
Total**	53,767	54,204	0.8%
Annual Salaries of Active Members	$ 994,314,000	$ 1,053,173,964	5.9%
Average Annual Salary	$ 35,143	$ 36,338	3.4%
Annual Retirement Allowances for Retired Members and Beneficiaries	$ 185,155,000	$ 201,412,083	8.8%
Assets and Liabilities			
Actuarial Accrued Liability (AAL)	$ 4,504,743,000	$ 4,792,819,291	6.4%
Actuarial Value of Assets (AVA)	4,065,307,000	4,002,212,253	(1.6%)
Unfunded AAL (AVA/AAL)	$ 439,436,000	$ 790,607,038	79.9%
Less: PCR-UAL	17,500,000	16,188,870	(7.5%)
Net Unfunded AAL	$ 421,936,000	$ 774,418,168	83.5%
Funded Ratio	90.25%	83.50%	
Present Value of Accrued Benefits (PVAB)	N/A	$ 4,060,778,783	
Market Value of Assets	$ 3,852,532,000	2,998,626,255	(22.2%)
Unfunded PVAB	N/A	$ 1,062,152,528	
Accrued Benefit Funding Ratio	N/A	73.84%	
Ratio of Actuarial Value to Market Value	105.52%	133.47%	
Contributions as a Percentage of Payroll			
Statutory Funding Rate	13.935%	14.070%	
Less: Transfer to DB Ed Fund	0.040%	0.040%	
Net Statutory Funding Rate	13.895%	14.030%	
Normal Cost Rate	12.130%	12.160%	
Available for Amortization of UAL	1.765%	1.870%	
Period to Amortize	24.8 years	Does not amortize	
Projected 30-year Level Funding Rate	13.750%	16.420%	
Projected Shortfall (Surplus)	(0.185%)	2.350%	

* Based on PERA categorization for the annual report. For actuarial valuation purposes, 793 members in 2008 and 784 members in 2009 were valued as disabled members with offsetting reductions to the number of retired members.

** The total number of members processed in the 2009 valuation was 54,130 compared to 54,204 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, 2008 and June 30, 2009;
- 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 **cashflows** for the next ten years.

Disclosure

The market value of assets represents a "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. As a result, market values are usually not suitable for long-range planning.

The actuarial values are market values which have been smoothed and are the actuary's best estimate of long-term asset values. They 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.

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SECTION II
ASSETS

Changes in Market Values		
Value of Assets – June 30, 2008		**3,854,176,079**
Additions		
Member Contributions	75,867,558	
Employer Contributions	75,826,940	
State Contributions	357,260	
Investment Return	(795,975,229)	
Other	257,086	
Total Additions	**(643,666,385)**	
Deductions		
Benefit Payments	208,935,334	
Administrative Expenses	2,948,105	
Total Deductions	**211,883,439**	
Value of Assets – June 30, 2009		**2,998,626,255**

SECTION II
ASSETS

Actuarial Value of Assets

The actuarial value of assets represents a "smoothed" value developed by the actuary to reduce, or eliminate, erratic 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, 2009 valuation.

Market Value Gain/(Loss)		
Value of Assets – June 30, 2008	$	3,852,532,000
Employer Contributions	$	152,308,844
Benefit Payments		(208,935,334)
Expected Return at 8.0%		305,981,075
Expected Value at June 30, 2009	$	4,101,886,585
Actual Value at June 30, 2009	$	2,998,626,255
Investment Gain/(Loss)	$	(1,103,260,330)

Develop Excluded Gain/(Loss)		Total Gain/(Loss)		Excluded Portion
Exclude 75% of 2009 Gain/(Loss)	$	(1,103,260,330)	$	(827,445,248)
Exclude 50% of 2008 Gain/(Loss)	$	(525,906,000)	$	(262,953,000)
Exclude 25% of 2007 Gain/(Loss)	$	347,249,000	$	86,812,250
Total Excluded Gain/(Loss) for AVA Calculation			$	(1,003,585,998)

Actuarial Value of Assets		
Market Value of Assets – June 30, 2009	$	2,998,626,255
Total Gain/(Loss) excluded		(1,003,585,998)
Actuarial Value of Assets – June 30, 2009	$	4,002,212,253

SECTION II
ASSETS

Investment Performance

The market value of assets (MVA) returned (20.85%) during 2009, which is less than the assumed 8% return. A return of (0.16%) 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.

Annual Rates of Return

Year Ending June 30,	Market Value	Actuarial Value
2004	13.35%	1.27%
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%)

SECTION II
ASSETS

Projection of System's Benefit Payments and Contributions

Year Beginning July 1,	Expected Benefit Payments	Expected Contributions*
2009	$ 238,957,805	$ 157,241,868
2010	244,406,095	163,924,647
2011	265,175,198	170,891,445
2012	287,248,772	178,154,331
2013	309,829,510	185,725,890
2014	334,763,099	193,619,241
2015	361,746,684	201,848,058
2016	389,381,954	210,426,601
2017	417,579,012	219,369,731
2018	445,884,847	228,692,945

Expected benefit payments are projected for the closed group valued at June 30, 2009. Projecting any farther than ten years using a closed-group would not yield reliable predictions due to the omission of new hires.

* Expected contributions include Employer Contributions, State Contributions and Member Contributions. For illustration purposes, we have assumed that all contribution rates will remain level and that payroll will increase at the actuarially assumed rate of 4.25% per year.

SECTION III
LIABILITIES

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

- **Disclosure** of System liabilities at June 30, 2008 and June 30, 2009; and
- Statement of **changes** in these liabilities during the year.

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 Liabilities:** 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 (FAS 35) 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

Liabilities/Net (Surplus)/Unfunded	June 30, 2008	June 30, 2009
Present Value of Benefits		
Active Participant Benefits	$ 3,179,269,000	$ 3,348,853,126
Retiree and Inactive Benefits	2,232,148,000	2,412,692,983
Present Value of Benefits (PVB)	**$ 5,411,417,000**	**$ 5,761,546,109**
Market Value of Assets (MVA)	$ 3,852,532,000	$ 2,998,626,255
Future Member Contributions	515,750,000	557,320,534
Future Employer Contributions	531,600,000	575,897,885
Funding Shortfall/(Surplus)	511,535,000	1,629,701,435
Total Resources	**$ 5,411,417,000**	**$ 5,761,546,109**
Actuarial Accrued Liability		
Present Value of Benefits (PVB)	$ 5,411,417,000	$ 5,761,546,109
Present Value of Future Normal Costs (PVFNC)	906,674,000	968,726,818
Actuarial Accrued Liability (AAL=PVB–PVFNC)	**4,504,743,000**	**4,792,819,291**
Actuarial Value of Assets (AVA)	4,065,307,000	4,002,212,253
Net (Surplus)/Unfunded (AAL – AVA)	**$ 439,436,000**	**$ 790,607,038**
Present Value of Accrued Liability		
Present Value of Benefits (PVB)	$ 5,411,417,000	$ 5,761,546,109
Present Value of Future Benefit Accruals (PVFBA)	N/A	1,700,767,326
Present Value of Accrued Liability (PVAB=PVB–PVFBA)	N/A	4,060,778,783
Market Value of Assets (MVA)	3,852,532,000	2,998,626,255
Net Unfunded (PVAB – MVA)	**$ N/A**	**$ 1,062,152,528**

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.

(In Thousands)	Present Value of Benefits	Actuarial Accrued Liability	Present Value of Accrued Liability
Liabilities June 30, 2008	$ 5,411,417,000	$ 4,504,743,000	N/A
Liabilities June 30, 2009	5,761,546,109	4,792,819,291	N/A
Liability Increase (Decrease)	350,129,109	288,076,291	N/A
Change Due to:			
Actuarial (Gain)/Loss	NC*	14,730,491	N/A
Benefits Accumulated and Other Sources	350,129,109	273,345,800	N/A

* NC = not calculated.

SECTION III
LIABILITIES

Actuarial Liabilities for Funding		June 30, 2008	June 30, 2009
1.	Actuarial Liabilities		
	Retiree and Inactive Benefits	$ 2,232,148,000	$ 2,412,692,983
	Active Member Benefits	2,272,595,000	2,380,126,308
	Total Actuarial Liability	**$ 4,504,743,000**	**$ 4,792,819,291**
2.	Actuarial Value of Assets	$ 4,065,307,000	$ 4,002,212,253
3.	Unfunded Actuarial Liability	$ 439,436,000	$ 790,607,038
4.	Funded Ratio	90.25%	83.50%

Actuarial Liabilities on Market Value Basis (MCA 19-2-407)		June 30, 2008	June 30, 2009
1.	Actuarial Liabilities		
	Retiree and Inactive Benefits	$ 2,232,148,000	$ 2,412,692,983
	Active Member Benefits	2,272,595,000	2,380,126,308
	Total Actuarial Liability	**$ 4,504,743,000**	**$ 4,792,819,291**
2.	Market Value of Assets	$ 3,852,532,000	$ 2,998,626,255
3.	Unfunded Actuarial Liability	$ 652,211,000	$ 1,794,193,036
4.	Funded Ratio	85.52%	62.56%

Plan Choice Rate Unfunded Liability		June 30, 2009
1.	PCR-UAL as of June 30, 2008	17,500,000
2.	Assumed Interest at 8% per year	1,400,000
3.	Less: PCR Contributions to DBRP reduced by Normal Cost	(2,606,856)
4.	Interest at 8% on line 3	(104,274)
5.	PCR – UAL as of June 30, 2009	16,188,870

SECTION III
LIABILITIES

Plan Choice Rate

		June 30, 2009
PCR – Normal Cost Rate		
Normal Cost Rate		
DBRP Members Only		12.160%
Including DCRP and ORP members		12.160%
Difference	(A)	0.000%
Payroll as of June 30, 2009		
DBRP Members Only	(B)	1,013,628,319
DCRP and ORP members	(C)	92,445,493
PCR – Normal Cost Rate	(A) X (B) ÷ (C)	0.000%
PCR – UAL Amortization		
PCR – UAL as of June 30, 2009		16,188,870
PCR Available for Amortization		
Current PCR Amortization Rate		2.505%
Less: PCR – Normal Cost Rate		0.000%
PCR Available for Amortization - 2009		2.505%
Years to Amortize PCR – UAL from June 30, 2009		8.2 years
Maximum Years for Amortization		17.75 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 Plan. 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 plan, 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. All UAL payments are determined as a level percentage of pay, assuming that total pay increases by the annual inflation rate of 4.25%.

SECTION IV
CONTRIBUTIONS

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

Statutory Basis	June 30, 2008	June 30, 2009
Statutory Funding Rates		
Members	6.900%	6.900%
Employers and State[1]	7.035%	7.170%
Total	13.935%	14.070%
Transfer to Education Fund	0.040%	0.040%
Net Contribution to DBRP	13.895%	14.030%
Normal Cost Rate	12.130%	12.160%[2]
Funding Rate Available for Amortization	1.765%	1.870%
Unfunded Actuarial Liability (Surplus)	439,436,000	790,607,038
Less: PCR-UAL	17,500,300	16,188,870
UAL Funded by DBRP	421,935,700	774,418,168
Years to Amortize	24.8 years	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 11.59% for members eligible after July 1, 2009. It is expected that the average normal cost rate will decrease over the next generation of active plan members.

Years to Amortize Unfunded Actuarial Liability Under Alternate Assumptions	June 30, 2008	June 30, 2009
Years to Amortize		
Using Market Value of Assets	50.2 years	Does not amortize
Excluding additional contributions under HB131		
Using Actuarial Value of Assets	29.0 years	Does not amortize
Using Market Value of Assets	68.3 years	Does not amortize

SECTION IV
CONTRIBUTIONS

Calculated Contribution Basis	June 30, 2008	June 30, 2009
Normal Cost Rate	12.130%	12.160%
Educational Fund	0.040%	0.040%
Amortization Payment (30-years)	1.580%	4.220%
Total Calculated Contribution Rate	13.750%	16.420%
Shortfall (Surplus) in Statutory Rate	(0.185%)	2.350%

Calculated Contribution on Market Value (MCA 19-2-407)	June 30, 2008	June 30, 2009
Normal Cost Rate	12.130%	12.160%
Educational Fund	0.040%	0.040%
Amortization Payment (30-years)	3.520%	9.680%
Total Calculated Contribution Rate	15.690%	21.880%
Shortfall (Surplus) in Statutory Rate	1.755%	7.810%

SECTION V
ACCOUNTING STATEMENT INFORMATION

Statement No. 35 of the Financial Accounting Standards Board requires the System to disclose certain information 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-35 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-35) 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 8% per annum.

FASB Statement No. 35 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, 2009 are exhibited in Table V-1.

Tables V-2 through V-5 are exhibits to be used with the State 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, 2008	June 30, 2009
A. FASB No. 35 Basis		
1. Present Value of Benefits Accrued and Vested to Date		
a. Members Currently Receiving Payments	$ N/A	$ 2,272,582,245
b. Former Vested Members	N/A	140,110,738
c. Active Members	N/A	1,648,085,800
2. Total Present Value of Accrued Benefits (1 (a) + 1(b) + 1(c))	$ N/A	$ 4,060,778,783
3. Assets at Market Value	N/A	2,998,626,255
4. Unfunded Present Value of Accrued Benefits (2 – 3)	$ N/A	$ 1,062,152,528
5. Ratio of Assets to Present Value of Benefits (3 / 2)	N/A	73.84%
B. GASB No. 25 Basis		
1. Actuarial Accrued Liabilities for retirees and beneficiaries currently receiving benefits and terminated employees not yet receiving benefits	$ 2,232,148,000	$ 2,412,692,983
2. Actuarial Accrued Liabilities for current employees	2,272,595,000	2,380,126,308
3. Total Actuarial Accrued Liability (1 + 2)	$ 4,504,743,000	$ 4,792,819,291
4. Net Actuarial Assets available for benefits	4,065,307,000	4,002,212,253
5. Unfunded Actuarial Accrued Liability (3 – 4)	$ 439,436,000	$ 790,607,038

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, 2009
Actuarial cost method	Entry age
Amortization method	Open
Remaining amortization period for Annual Required Contribution	30 years
Asset valuation method	4-Year smoothed market
Actuarial assumptions:	
Investment rate of return*	8.0%
General wage growth*	4.25%
Merit salary increases	0.0% - 6.0%
*Includes inflation at	3.25%

The actuarial assumptions used have been recommended by the prior actuary and adopted by the Retirement Board based on the most recent review of the System's experience, completed in 2004.

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	**2005**	**2006**	**2007**	**2008**	**2009**
Investment Income on Actuarial Assets	$ (80,870)	$ 39,882	$136,012	$(14,160)	$(329,471)
Combined Liability Experience	18,672	33,734	(40,640)	(47,012)	(14,731)
(Loss)/Gain During Year from Financial Experience	$ (62,198)	$ 73,616	$ 95,372	$(61,172)	$(344,202)
Non-Recurring Items	0	0	0	0	0
Composite Gain (or Loss) During Year	$ (62,198)	$ 73,616	$ 95,372	$ (61,172)	$ (344,202)

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
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
2006	3,459,084	3,919,313	88	460,229	880,708	52
2005	3,179,010	3,719,998	85	540,988	847,431	64
2004	3,047,287	3,514,085	87	466,798	832,847	56

SECTION V
ACCOUNTING STATEMENT INFORMATION

Table V-5
SOLVENCY TEST*
Aggregate Accrued Liabilities for
(expressed in thousands)

Valuation Date June 30,	Active Member Contributions (1)	Retirants & Beneficiaries (2)	Active Member Employer Financed Contributions (3)	Actuarial Value of Reported Assets	Portion of Accrued Liabilities Covered by Reported Assets (1)	(2)	(3)
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
2006	718,260	1,895,838	1,305,215	3,459,084	100	100	65
2005	701,851	1,756,674	1,261,473	3,179,010	100	100	57
2004	684,607	1,640,145	1,189,333	3,047,287	100	100	61

*Only 2009 results were developed by Cheiron. Previous years were taken from reports prepared by prior actuary.

APPENDIX A
MEMBERSHIP INFORMATION

Reconciliation of Participant Counts

	Active	Disabled	Retirees and Beneficiaries	Terminated Vested Members	Terminated Non-Vested Members	Total
Participant counts used for valuation	28,983	784	16,217	2,476	5,670	54,130
Disabled members having attained normal retirement age		(520)	520			0
Beneficiaries of Disabled Members		15	(15)			0
Beneficiaries with less than one year of certain payments remaining			75			75
Other Adjustments			(1)			(1)
Participant counts shown in Annual Financial Report	28,983	279	16,796	2,476	5,670	54,204

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 7) match the CAFR reports at the request of the Board. The differences between the counts 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 7. For this Appendix A, the valuation projected salaries to be paid for the following fiscal year, whereas for the Board Summary, salaries are as of the valuation date.

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 7. 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.

APPENDIX A
MEMBERSHIP INFORMATION

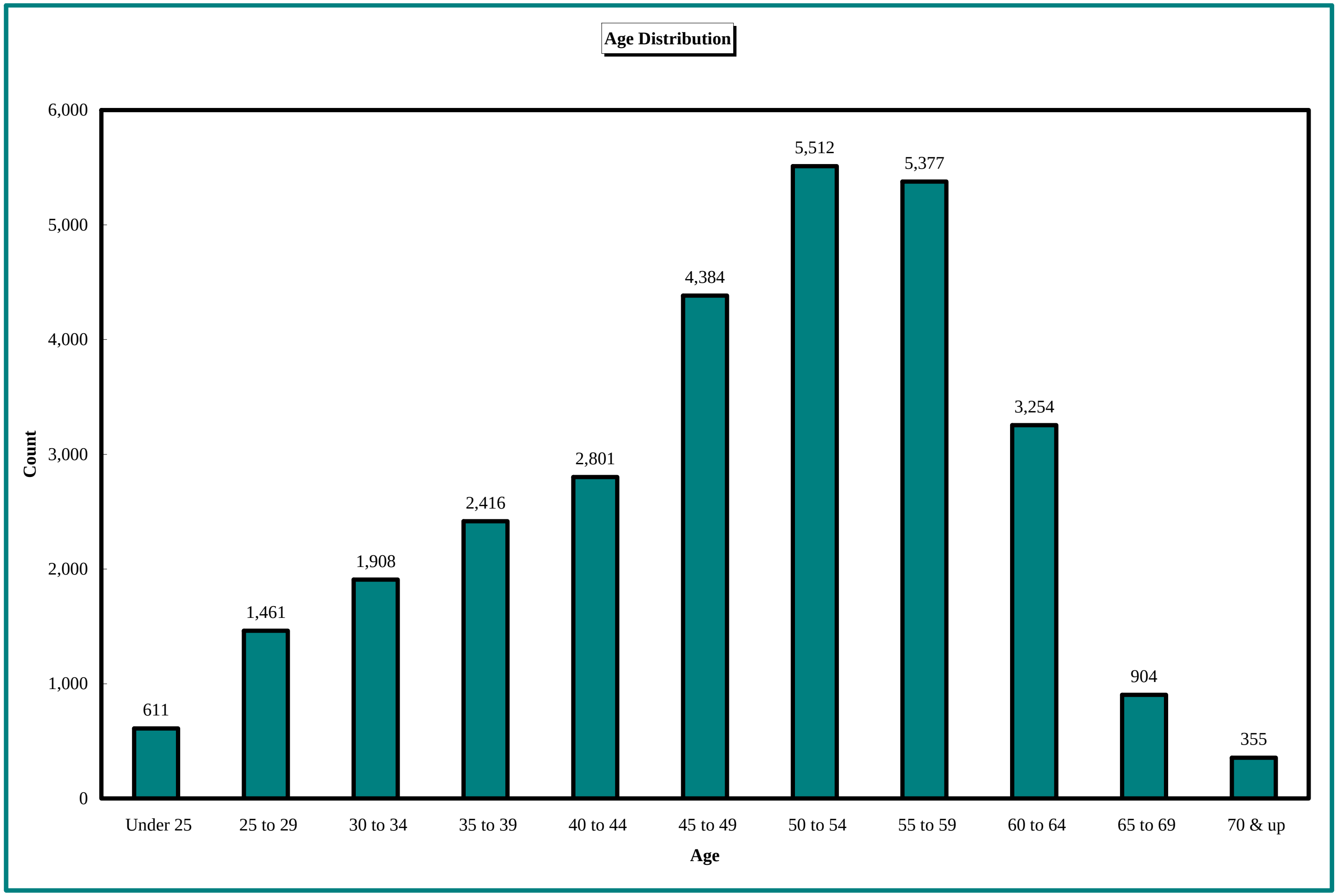
Montana Public Employees' Retirement System Distribution of Active Members by Age and Service as of June 30, 2009

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	369	240	2	0	0	0	0	0	0	0	611
25 to 29	523	788	148	2	0	0	0	0	0	0	1,461
30 to 34	472	897	461	78	0	0	0	0	0	0	1,908
35 to 39	551	934	550	305	73	3	0	0	0	0	2,416
40 to 44	457	903	622	420	313	85	1	0	0	0	2,801
45 to 49	534	1,134	924	627	583	397	174	11	0	0	4,384
50 to 54	505	1,195	1,053	870	714	561	430	171	13	0	5,512
55 to 59	391	956	911	812	755	625	494	345	84	4	5,377
60 to 64	219	561	572	490	464	394	265	170	103	16	3,254
65 to 69	69	193	184	128	125	93	55	36	12	9	904
70 & up	34	90	82	46	38	19	27	8	7	4	355
Total	4,124	7,891	5,509	3,778	3,065	2,177	1,446	741	219	33	28,983

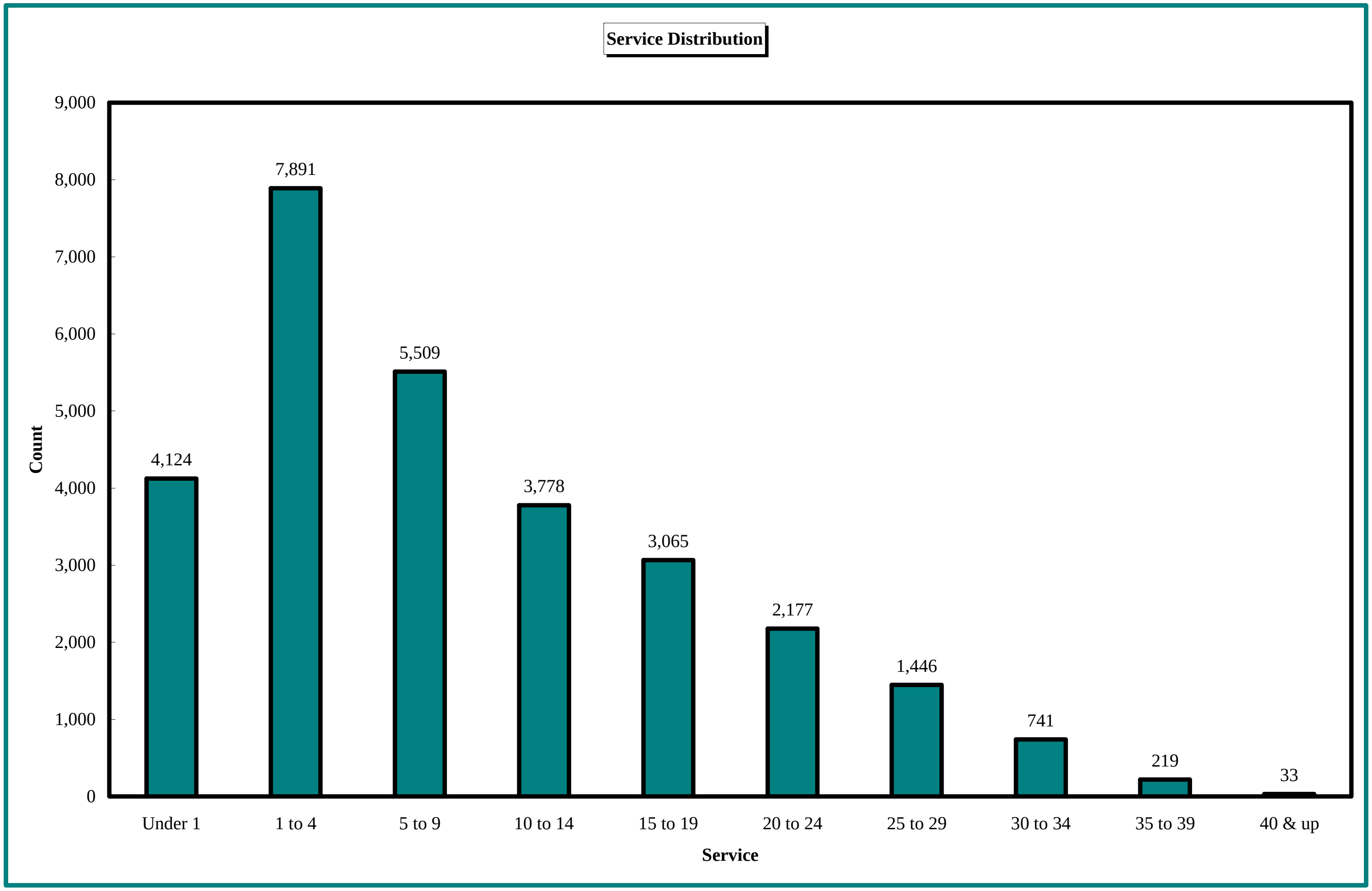
APPENDIX A
MEMBERSHIP INFORMATION

Montana Public Employees' Retirement System Distribution of Active Members by Age as of June 30, 2009



APPENDIX A
MEMBERSHIP INFORMATION

Montana Public Employees' Retirement System Distribution of Active Members by Service as of June 30, 2009



APPENDIX A
MEMBERSHIP INFORMATION

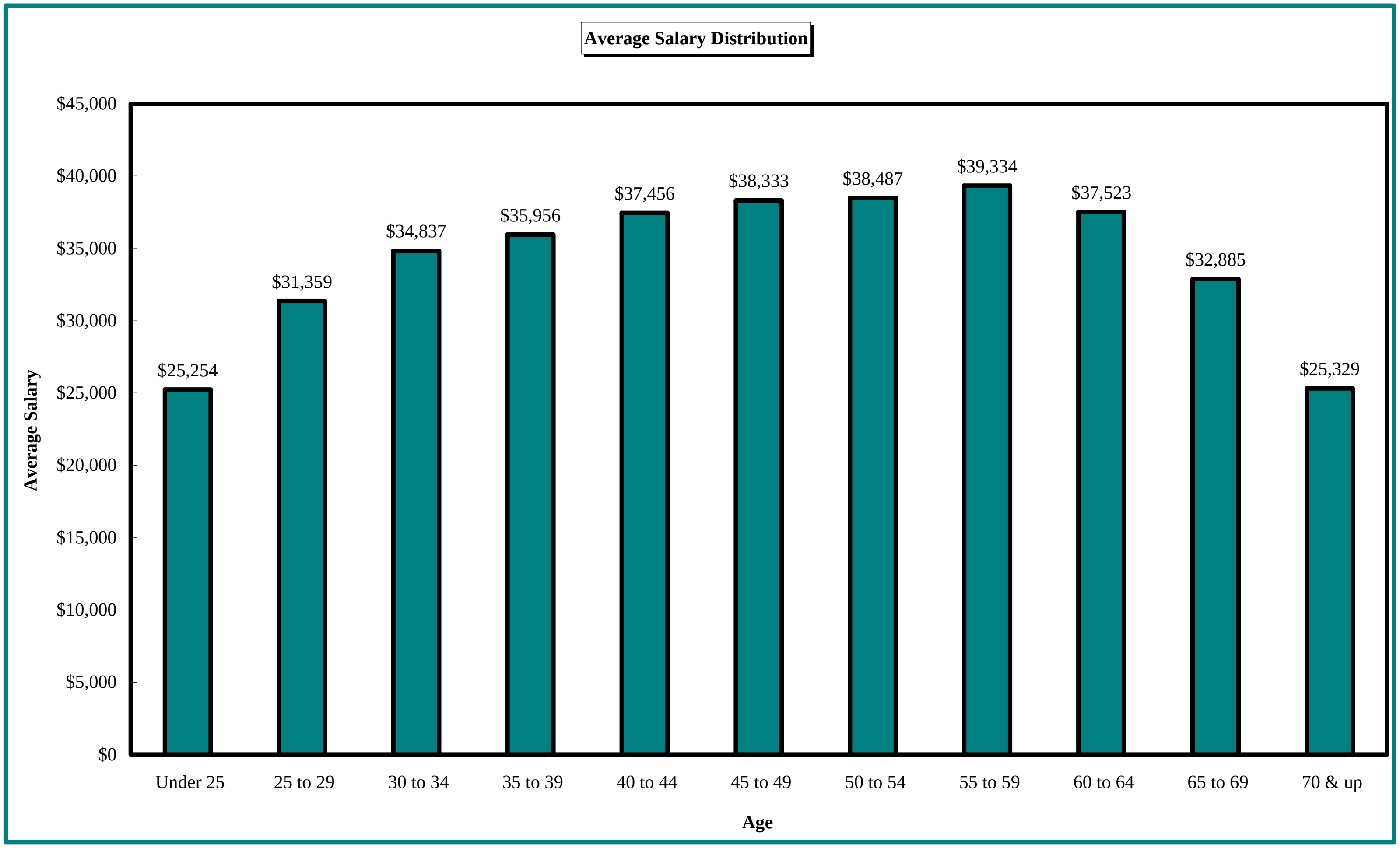
Montana Public Employees' Retirement System Distribution of Active Members by Age and Service as of June 30, 2009

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	$23,787	$27,414	$36,644	$0	$0	$0	$0	$0	$0	$0	$25,254
25 to 29	$29,282	$31,770	$36,451	$35,654	$0	$0	$0	$0	$0	$0	$31,359
30 to 34	$30,070	$33,998	$40,178	$41,761	$0	$0	$0	$0	$0	$0	$34,837
35 to 39	$28,540	$32,786	$41,101	$46,640	$48,656	$46,509	$0	$0	$0	$0	$35,956
40 to 44	$28,504	$32,334	$38,343	$44,700	$50,251	$50,221	$70,730	$0	$0	$0	$37,456
45 to 49	$29,361	$31,433	$35,496	$42,438	$47,611	$50,499	$50,735	$62,326	$0	$0	$38,333
50 to 54	$27,725	$30,415	$34,618	$38,575	$44,116	$49,000	$53,088	$53,683	$60,567	$0	$38,487
55 to 59	$27,904	$30,271	$33,891	$38,022	$40,715	$46,910	$51,881	$55,513	$57,481	$58,297	$39,334
60 to 64	$28,061	$28,584	$32,114	$36,068	$39,479	$43,130	$47,723	$54,034	$56,219	$58,848	$37,523
65 to 69	$20,889	$24,636	$31,649	$33,393	$34,844	$38,058	$46,137	$52,694	$51,337	$54,332	$32,885
70 & up	$21,532	$17,690	$21,248	$28,119	$30,232	$35,157	$37,301	$37,336	$42,477	$52,978	$25,329
Total	$28,115	$31,079	$35,670	$39,865	$43,425	$47,067	$50,862	$54,519	$56,254	$56,838	$36,988

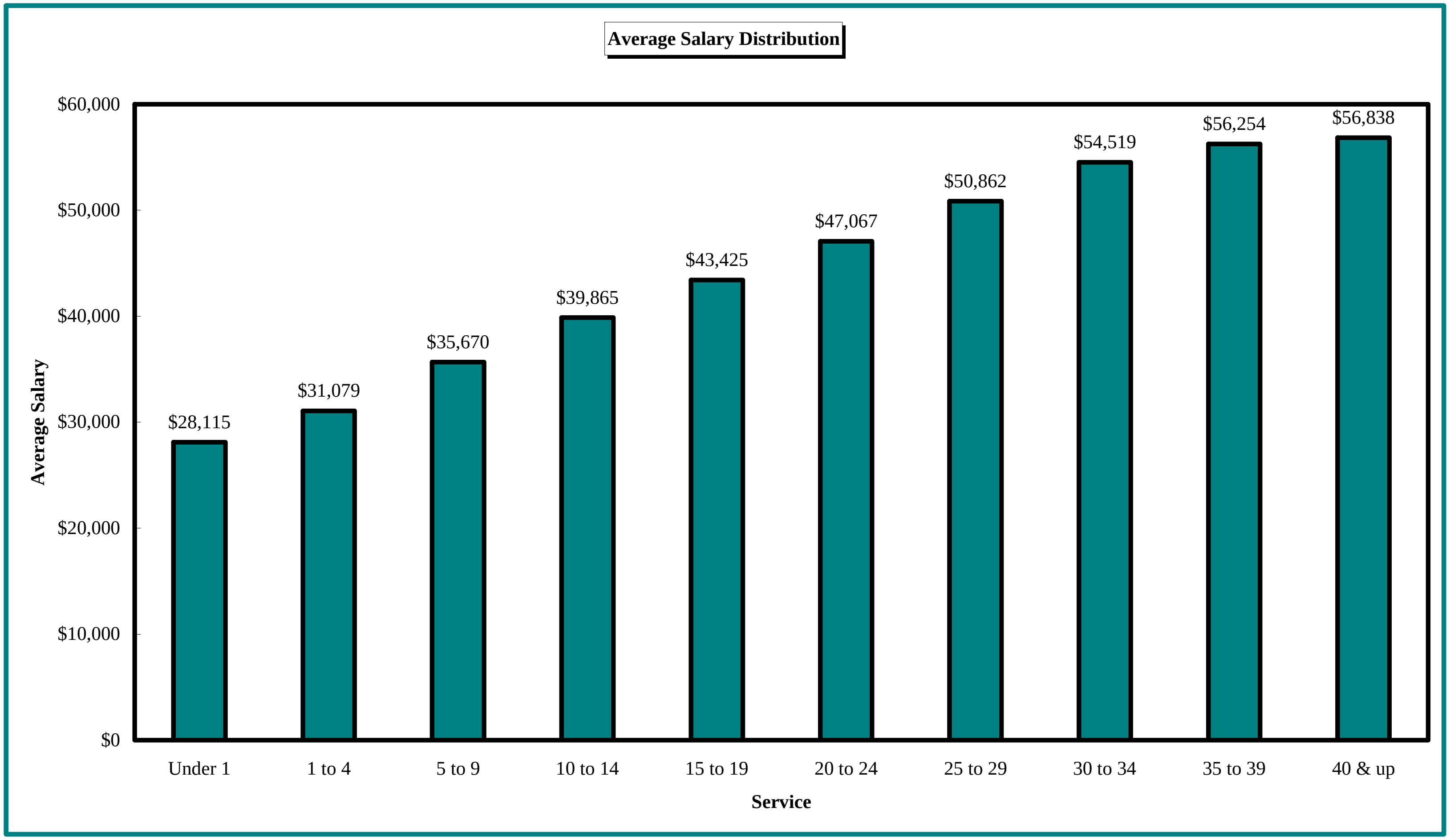
APPENDIX A
MEMBERSHIP INFORMATION

Montana Public Employees' Retirement System Distribution of Active Members by Age as of June 30, 2009



APPENDIX A
MEMBERSHIP INFORMATION

Montana Public Employees' Retirement System Distribution of Active Members by Service as of June 30, 2009



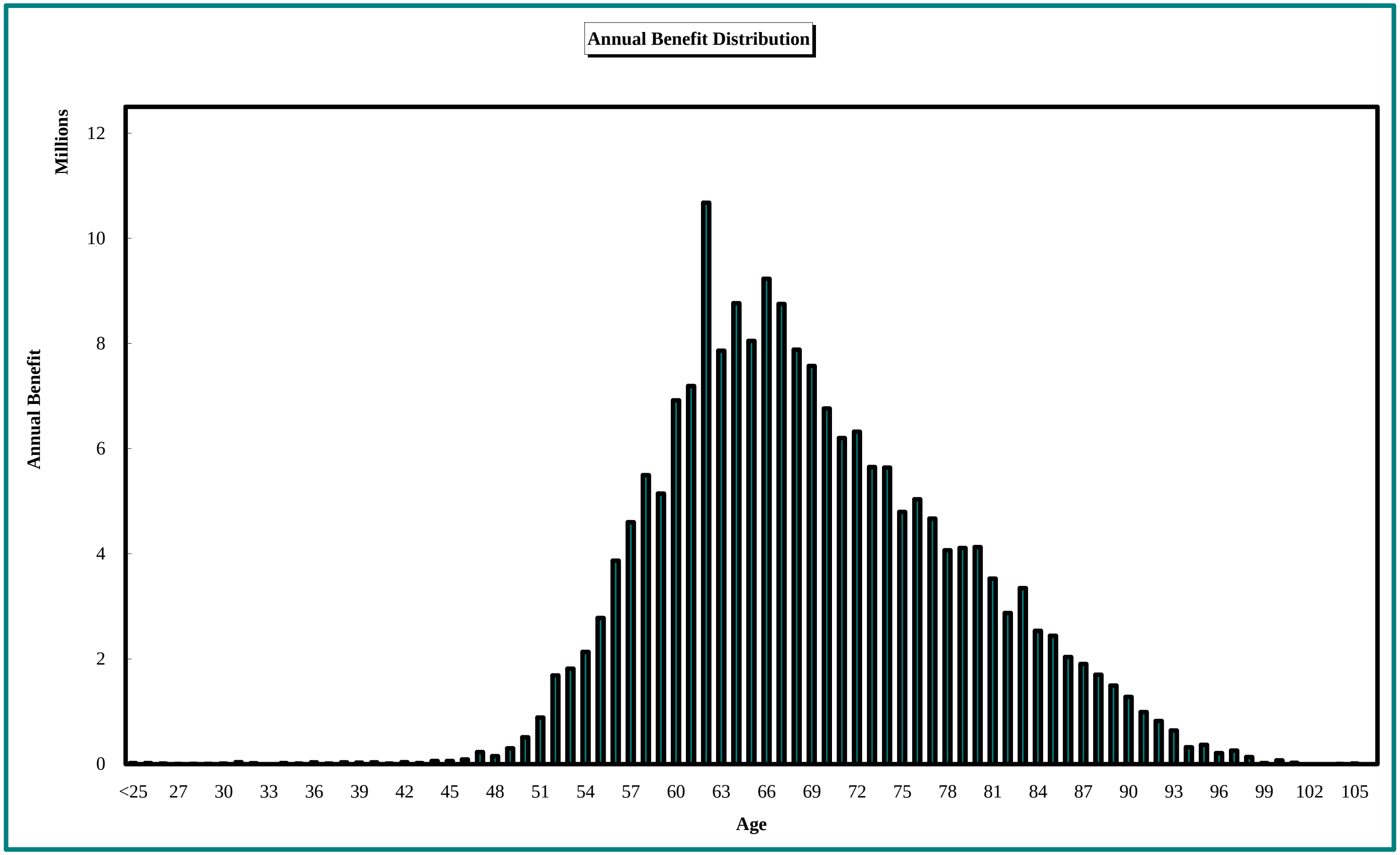
APPENDIX A
MEMBERSHIP INFORMATION

Montana Public Employees' Retirement System Distribution of Retired Members and Survivors as of June 30, 2009

Age	Count	Annual Benefit
<25	6	$21,259
25	2	$22,649
26	3	$11,944
27	1	$2,215
28	1	$6,057
29	2	$5,676
30	3	$10,410
31	4	$37,636
32	2	$17,880
33	1	$890
34	4	$22,312
35	1	$9,788
36	6	$36,588
37	3	$11,114
38	6	$35,898
39	6	$29,318
40	4	$34,056
41	3	$11,084
42	6	$37,143
43	5	$21,275
44	7	$60,316
45	7	$58,357
46	13	$89,052
47	15	$230,300
48	17	$150,826
49	23	$299,078
50	39	$511,887
51	51	$886,995
52	88	$1,686,375
53	101	$1,815,706
54	117	$2,133,284
55	166	$2,778,785
56	204	$3,868,901
57	250	$4,600,179
58	280	$5,494,572
59	313	$5,144,287
60	394	$6,917,362
61	433	$7,189,920
62	656	$10,675,981
63	520	$7,861,759
64	580	$8,764,552
65	608	$8,049,035
66	703	$9,231,729
67	662	$8,748,757
68	625	$7,882,958
69	631	$7,568,965
70	573	$6,763,397
71	555	$6,202,117
72	541	$6,321,645
73	505	$5,648,011
74	524	$5,638,066
75	471	$4,794,604
76	479	$5,035,934
77	471	$4,667,379
78	433	$4,068,653
79	441	$4,111,689
80	417	$4,128,436
81	399	$3,528,003
82	316	$2,874,653
83	376	$3,348,388
84	302	$2,535,740
85	295	$2,440,344
86	252	$2,038,712
87	239	$1,902,378
88	208	$1,702,513
89	195	$1,493,712
90	170	$1,278,570
91	128	$987,676
92	99	$818,948
93	78	$638,860
94	48	$321,509
95	43	$366,327
96	27	$210,037
97	30	$257,672
98	14	$132,611
99	4	$22,758
100	8	$71,637
101	2	$26,174
102	0	$0
103	0	$0
104	1	$4,458
105	1	$10,204
106	0	$0
107	0	$0
108	0	$0
109	0	$0
110	0	$0
111	0	$0
112	0	$0
113	0	$0
114	0	$0
115	0	$0
116	0	$0
117	0	$0
118	0	$0
119	0	$0
120	0	$0
Totals	16,217	$197,476,929

APPENDIX A
MEMBERSHIP INFORMATION

Montana Public Employees' Retirement System Distribution of Retired Members and Survivors as of June 30, 2009



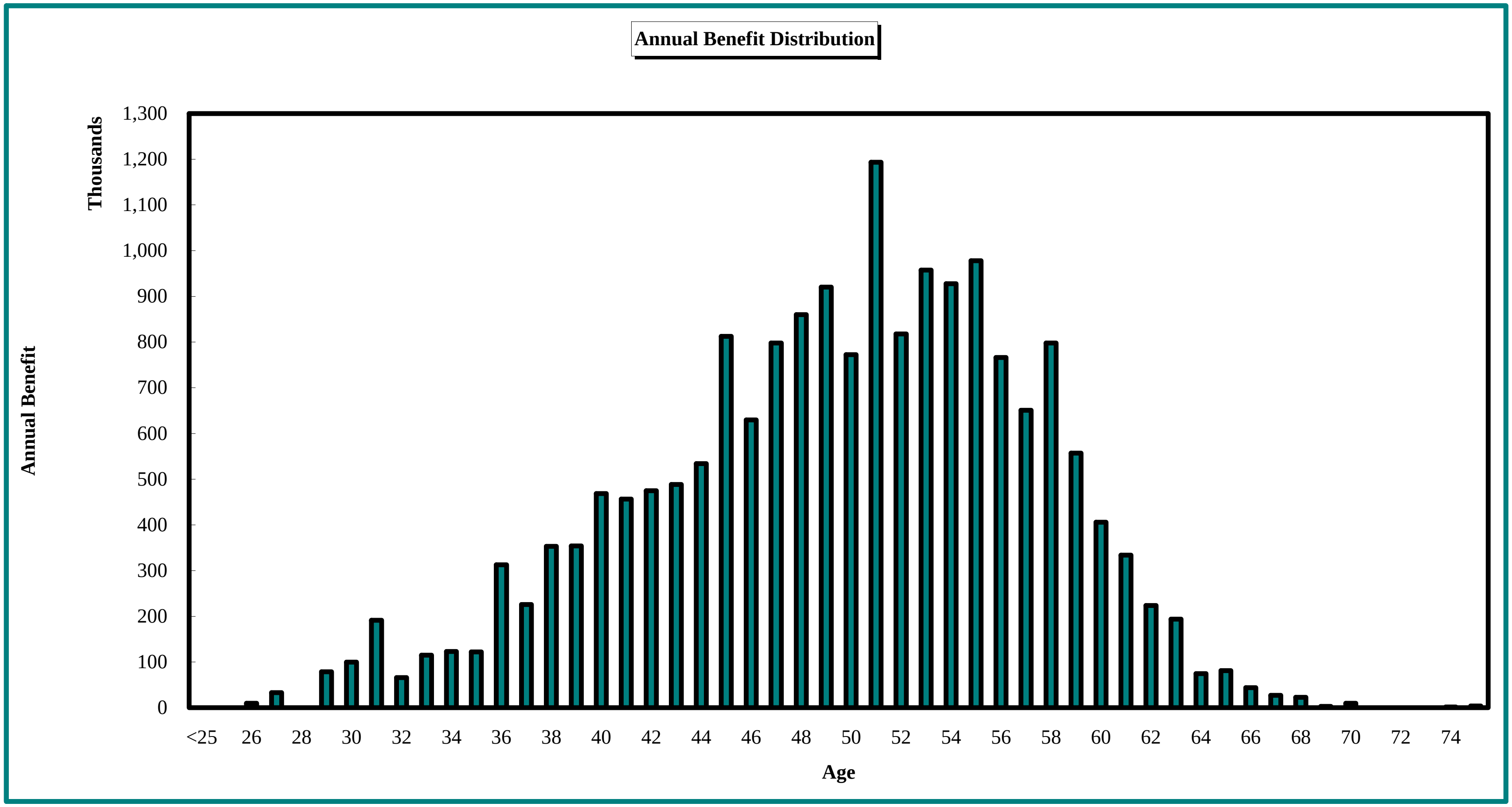
APPENDIX A
MEMBERSHIP INFORMATION

Montana Public Employees' Retirement System Distribution of Vested Members as of June 30, 2009

Age	Count	Annual Benefit	Age	Count	Annual Benefit
<25	0	$0	73	0	$0
25	0	$0	74	1	$1,881
26	1	$9,640	75	1	$3,793
27	4	$33,123	76	0	$0
28	0	$0	77	0	$0
29	7	$78,819	78	0	$0
30	10	$99,662	79	0	$0
31	17	$191,465	80	0	$0
32	8	$65,935	81	0	$0
33	10	$114,855	82	0	$0
34	13	$122,909	83	0	$0
35	15	$121,948	84	0	$0
36	31	$312,690	85	0	$0
37	25	$225,886	86	0	$0
38	37	$353,092	87	0	$0
39	37	$353,945	88	0	$0
40	49	$468,715	89	0	$0
41	50	$456,223	90	0	$0
42	57	$474,662	91	0	$0
43	52	$488,422	92	0	$0
44	65	$534,167	93	0	$0
45	92	$812,626	94	0	$0
46	80	$629,745	95	0	$0
47	95	$798,070	96	0	$0
48	108	$860,141	97	0	$0
49	125	$920,307	98	0	$0
50	102	$772,518	99	0	$0
51	152	$1,193,082	100	0	$0
52	127	$817,842	101	0	$0
53	130	$957,336	102	0	$0
54	134	$927,563	103	0	$0
55	139	$977,856	104	0	$0
56	122	$766,343	105	0	$0
57	108	$650,712	106	0	$0
58	120	$798,143	107	0	$0
59	95	$556,842	108	0	$0
60	79	$405,852	109	0	$0
61	59	$333,738	110	0	$0
62	35	$223,639	111	0	$0
63	28	$193,800	112	0	$0
64	14	$74,515	113	0	$0
65	14	$81,204	114	0	$0
66	10	$44,010	115	0	$0
67	8	$27,418	116	0	$0
68	6	$22,936	117	0	$0
69	2	$3,014	118	0	$0
70	2	$9,464	119	0	$0
71	0	$0	120	0	$0
72	0	$0			
			Totals	2,476	$18,370,551

APPENDIX A
MEMBERSHIP INFORMATION

Montana Public Employees' Retirement System Distribution of Vested Members as of June 30, 2009



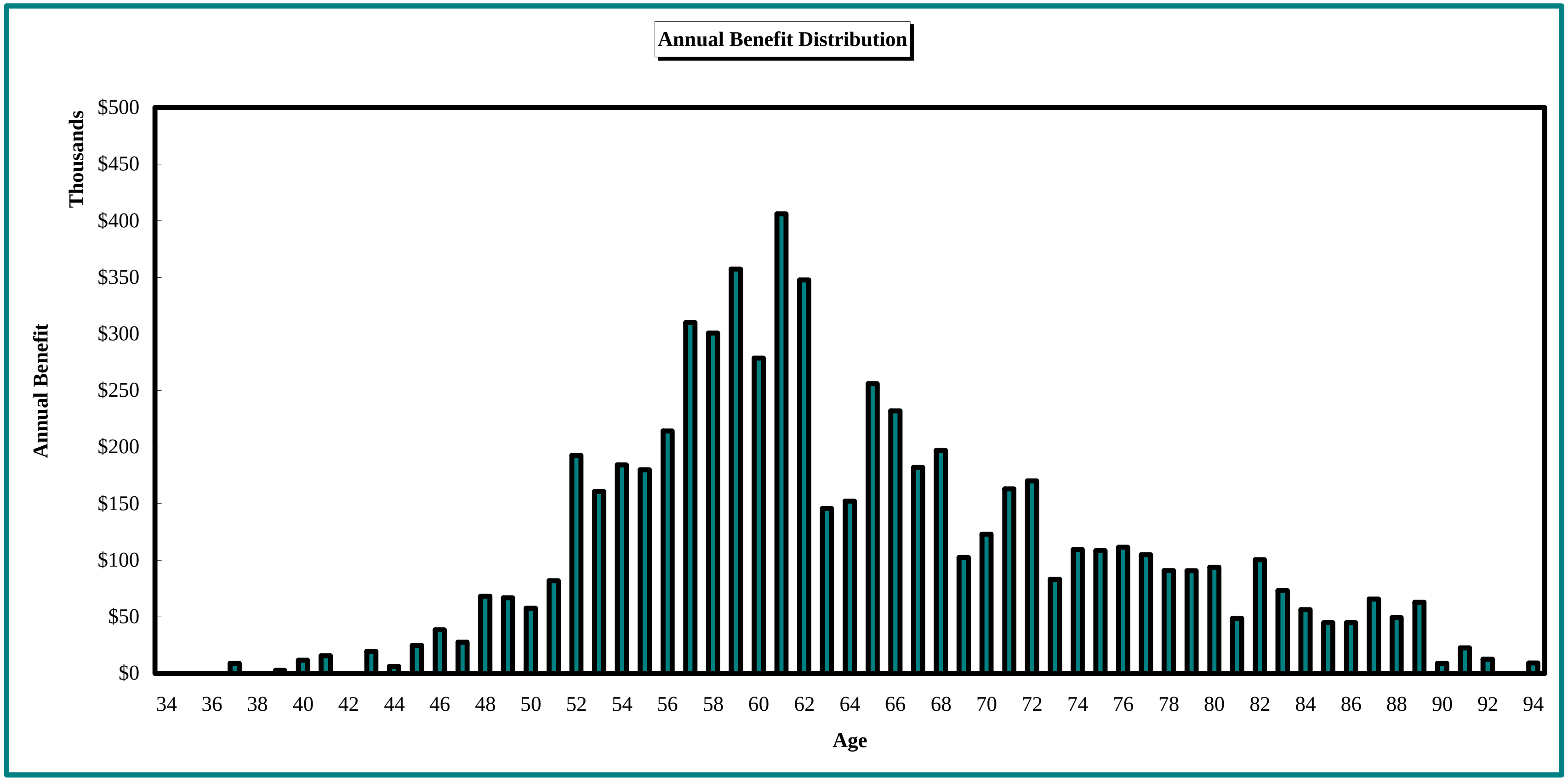
APPENDIX A
MEMBERSHIP INFORMATION

Montana Public Employees' Retirement System Distribution of Disabled Members as of June 30, 2009

Age	Count	Annual Benefit
<25	0	$0
25	0	$0
26	0	$0
27	0	$0
28	0	$0
29	0	$0
30	0	$0
31	0	$0
32	0	$0
33	0	$0
34	0	$0
35	0	$0
36	0	$0
37	1	$9,063
38	0	$0
39	1	$2,796
40	2	$11,774
41	2	$15,553
42	0	$0
43	3	$19,612
44	1	$6,229
45	3	$24,721
46	5	$38,666
47	4	$27,712
48	7	$68,299
49	8	$66,905
50	6	$57,597
51	7	$81,844
52	21	$192,773
53	19	$160,655
54	25	$184,198
55	21	$179,978
56	26	$214,245
57	35	$310,133
58	32	$300,919
59	39	$357,267
60	32	$278,582
61	40	$406,110
62	39	$347,719
63	20	$145,802
64	21	$152,360
65	32	$256,018
66	30	$232,041
67	23	$181,953
68	25	$197,037
69	13	$102,478
70	19	$122,990
71	23	$163,065
72	26	$170,110
73	13	$83,140
74	15	$109,459
75	16	$108,471
76	15	$111,446
77	13	$104,834
78	13	$90,872
79	12	$90,778
80	11	$93,947
81	6	$48,763
82	12	$100,562
83	9	$73,209
84	7	$56,324
85	5	$44,845
86	6	$44,869
87	7	$65,777
88	4	$49,473
89	4	$62,988
90	1	$9,029
91	2	$22,555
92	1	$12,714
93	0	$0
94	1	$9,149
95	0	$0
96	0	$0
97	0	$0
98	0	$0
99	0	$0
100	0	$0
101	0	$0
102	0	$0
103	0	$0
104	0	$0
105	0	$0
106	0	$0
107	0	$0
108	0	$0
109	0	$0
110	0	$0
111	0	$0
112	0	$0
113	0	$0
114	0	$0
115	0	$0
116	0	$0
117	0	$0
118	0	$0
119	0	$0
120	0	$0
Totals	784	$6,480,411

APPENDIX A
MEMBERSHIP INFORMATION

Montana Public Employees' Retirement System Distribution of Disabled Members as of June 30, 2009



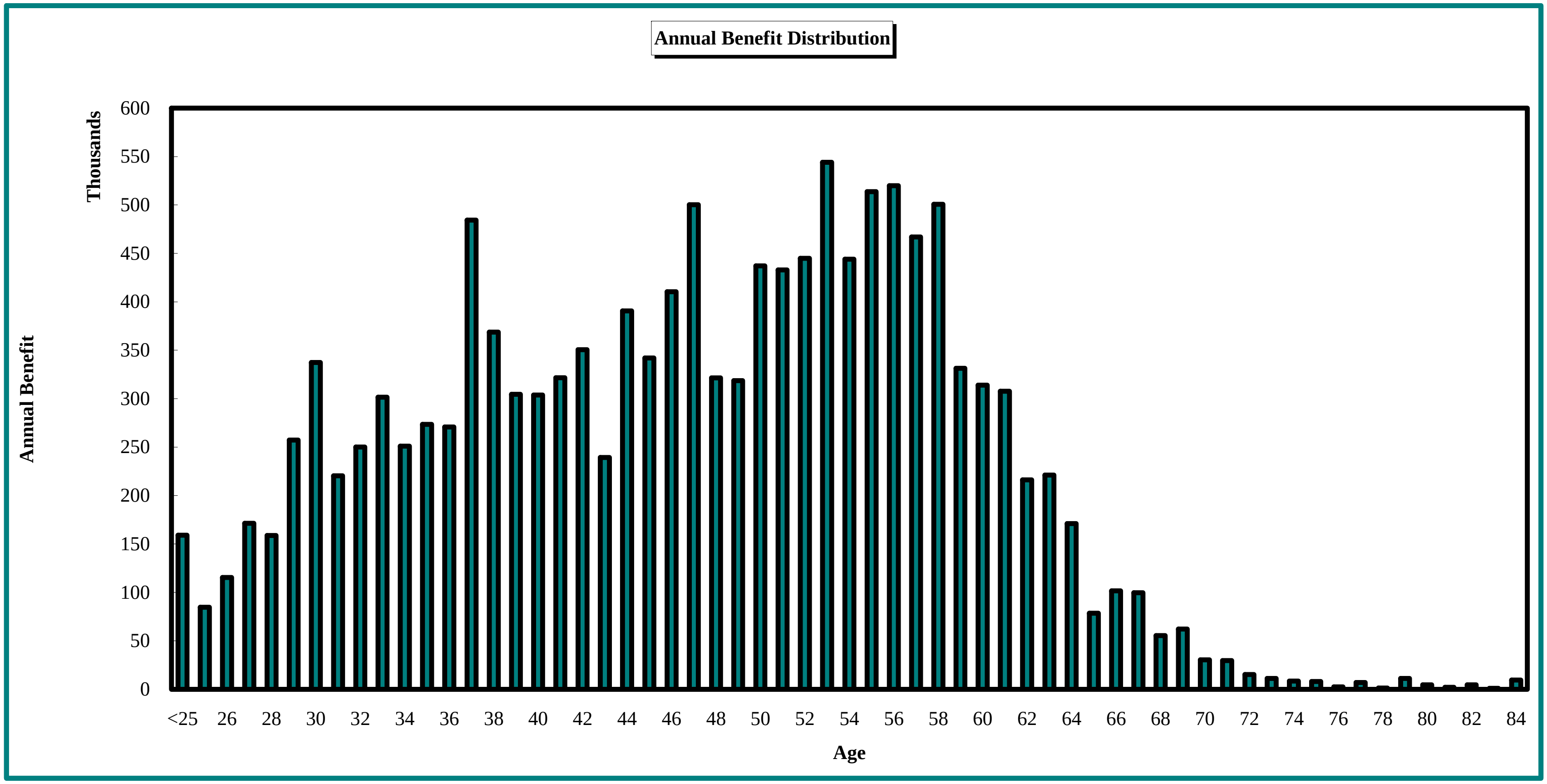
APPENDIX A
MEMBERSHIP INFORMATION

Montana Public Employees' Retirement System Distribution of Non-Vested Members as of June 30, 2009

Age	Count	Annual Benefit
<25	197	$159,191
25	66	$84,615
26	76	$115,409
27	92	$171,519
28	98	$158,696
29	98	$257,425
30	126	$337,429
31	103	$220,344
32	110	$250,083
33	111	$301,427
34	118	$250,957
35	131	$273,446
36	128	$270,718
37	685	$484,327
38	203	$368,728
39	120	$304,385
40	145	$303,817
41	125	$321,608
42	115	$350,497
43	116	$239,366
44	137	$390,561
45	129	$342,076
46	150	$410,245
47	165	$500,204
48	112	$321,453
49	123	$318,728
50	142	$436,960
51	139	$432,845
52	134	$444,953
53	159	$543,904
54	124	$444,147
55	129	$513,661
56	142	$519,707
57	141	$466,914
58	129	$500,675
59	83	$331,406
60	90	$313,969
61	86	$307,700
62	67	$216,160
63	50	$221,068
64	46	$171,013
65	29	$78,449
66	37	$101,713
67	25	$99,810
68	19	$55,310
69	17	$62,197
70	17	$30,281
71	15	$29,681
72	10	$15,335
73	11	$11,350
74	10	$8,451
75	3	$8,082
76	4	$2,651
77	4	$6,985
78	3	$1,286
79	5	$11,252
80	4	$4,686
81	2	$2,123
82	5	$4,568
83	3	$1,037
84	4	$9,625
85	3	$6,021
86	0	$0
87	0	$0
88	0	$0
89	0	$0
90	0	$0
91	0	$0
92	0	$0
93	0	$0
94	0	$0
95	0	$0
96	0	$0
97	0	$0
98	0	$0
99	0	$0
100	0	$0
101	0	$0
102	0	$0
103	0	$0
104	0	$0
105	0	$0
106	0	$0
107	0	$0
108	0	$0
109	0	$0
110	0	$0
111	0	$0
112	0	$0
113	0	$0
114	0	$0
115	0	$0
116	0	$0
117	0	$0
118	0	$0
119	0	$0
120	0	$0
Totals	5,670	$13,923,228

APPENDIX A
MEMBERSHIP INFORMATION

Montana Public Employees' Retirement System Distribution of Non-Vested Members as of June 30, 2009



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: Male UP-1994 Mortality Table set back one year.
Female: Female UP-1994 Mortality Table set back one year.

Sample Rates of Healthy Mortality		
Age	**Male**	**Female**
50	0.250%	0.141%
55	0.428%	0.224%
60	0.762%	0.415%
65	1.391%	0.819%
70	2.336%	1.367%
75	3.661%	2.192%
80	6.007%	3.802%
85	9.636%	6.557%
90	14.995%	11.247%

b. Disabled Inactive Mortality

Male: IRS Revenue Ruling 96-7, Male Table set back three years.
Female: IRS Revenue Ruling 96-7, Female Table set forward one year.

Sample Rates of Disabled Inactive Mortality		
Age	**Male**	**Female**
50	2.085%	1.697%
55	2.587%	1.976%
60	3.194%	2.344%
65	3.933%	2.828%
70	4.900%	3.492%
75	6.468%	4.710%
80	8.522%	6.346%
85	10.971%	9.015%
90	14.405%	13.322%

APPENDIX B
ACTUARIAL ASSUMPTIONS AND METHODS

c. Rates of Active Disability

Sample Rates of Active Disability		
Age	**Male**	**Female**
22	0.00%	0.00%
27	0.01%	0.01%
32	0.01%	0.01%
37	0.06%	0.03%
42	0.09%	0.15%
47	0.17%	0.15%
52	0.36%	0.30%
57	0.62%	0.36%
62	0.00%	0.00%

All disabilities are assumed to be permanent and without recovery.

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

Refer to the 15-year Select (age- and service-based) & Ultimate (age-based) tables below.*

Male members:

Age Select:	Service: 0	1	2	3	4	5-9	10-14	15 & Over
<30	30%	25%	16%	14%	10%	6%	3%	0%
30-39	22	15	12	10	8	6	3	2
40>	15	12	10	8	6	5 *	3 *	2 *

Female members:

Age Select:	Service: 0	1	2	3	4	5-9	10-14	15 & Over
<30	30%	25%	16%	14%	10%	5%	4%	0%
30-39	22	16	14	11	8	5	4	2
40>	18	13	10	9	8	5 *	3 *	2 *

* No other terminations of employment are assumed after attainment of age 55 with 5 years of service.

APPENDIX B
ACTUARIAL ASSUMPTIONS AND METHODS

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

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

f. Retirement

Annual Retirement Rates		
Age	**<30 years**	**30 years or more**
<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 4.25% (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 the year ending June 30, 2009 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:	8.00%
b.	Rate of Wage Inflation:	4.25%
c.	Interest on Member Contributions:	5.00%
d.	Rate of Increase in Total Payroll (for Amortization):	4.25%

3. Changes Since Last Valuation

None.

APPENDIX C
SUMMARY OF PLAN PROVISIONS

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.

4. Changes Since Last Valuation

Previously, the unfunded actuarial accrued liability was amortized by an increasing percentage of pay represented as the difference between a level statutory contribution rate and a decreasing normal cost rate.

APPENDIX C
SUMMARY OF PLAN PROVISIONS

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 C
SUMMARY OF PLAN PROVISIONS

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. Member Contributions

Members contribute 6.9% 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, increased to 0.235% on July 1, 2007 and 0.37% on July 1, 2009 for school districts. 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

Highest Average Compensation is the average of any 36 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.

APPENDIX C
SUMMARY OF PLAN PROVISIONS

6. Normal Retirement

Eligibility: (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.

Benefit: (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, 1/50 of highest average compensation multiplied by years of service credit, or (b).

7. Early Retirement

Eligibility: (i) age 50 with 5 years of membership service; or (ii) any age with 25 years of membership service.

Benefit: Normal retirement benefit calculated using highest average compensation and service at early retirement, and reduced for each month which retirement age precedes the earlier of age 60 or the attainment of 30 years of service by 0.5% for the first 60 months and 0.3% for the next 60 months.

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.

(ii) If hired after February 24, 1991:

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

APPENDIX C
SUMMARY OF PLAN PROVISIONS

9. Survivor's Benefit

Eligibility: (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 service credit or six, plus (iii) interest. However an inactive member will receive only accumulated contributions.

For 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.

Benefit: Accrued normal retirement benefit, payable at age 60. 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.

APPENDIX C
SUMMARY OF PLAN PROVISIONS

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 reverts to the higher Option 1 benefit available at retirement 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. Ad hoc adjustments may be made to assure that the current benefit is no less than 75% of the purchasing power of the original benefit.

14. Changes Since Last Valuation

None.