Public Employees' Retirement System of the State of Montana

Actuarial Valuation as of June 30, 2014

Produced by Cheiron

October 2014

Cheiron
Classic Values, Innovative Advice

Table of Contents

October 9, 2014

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, 2014. 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 provides information regarding employer contribution levels and certain required disclosures for financial statements. The purpose of this report is to present the annual actuarial valuation of the Public Employees' Retirement System. This report is for the use of the Public Employees' Retirement Board and its auditors in preparing financial reports in accordance with applicable laws and accounting requirements.

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 2014 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 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 opinion contained in this report. This report does not address any contractual or legal issues. We are not attorneys, and our firm does not provide any legal services or advice.

This actuarial report was prepared exclusively for the Public Employees' Retirement System for the purpose described herein. This valuation report is not intended to benefit any third party, 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, 2014. 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 2014 to meet the requirements of an actuarial rate calculated as the normal cost, administrative expense, and a level percent of pay 30-year open amortization of the unfunded actuarial liability; and

4) **Provide specific information** and documentation as may be required for financial statements.

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 certain required disclosures for financial statements.

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 valuation.

In preparing our report, we relied 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

The period to amortize unfunded actuarial liability increased from 14.5 years at the June 30, 2013 valuation to 29.3 years as of June 30, 2014. During the year ended June 30, 2014, the System's assets gained 17.12% 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 13.21%. This return was above the assumed rate of return of 7.75% and resulted in an actuarial gain on investments of $224 million.

The actuarial liability was increased due to a preliminary injunction issued December 20, 2013 on the Guaranteed Annual Benefit Adjustment (GABA) provisions of House Bill 454 (HB 454). HB 454, which was enacted during the 2013 legislative session, made changes to the Public Employees' Retirement System (PERS) with respect to enhanced funding and reductions in levels of the GABA. The reversion back to the GABA provisions specified by the Code prior to the enactment of HB 454 increased the actuarial liability by $810.7 million.

The System also 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 $11.3 million from the expected actuarial liability resulting in a total actuarial loss on liabilities of $799.4 million. 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.

As of the June 30, 2014 Actuarial Valuation, the System's unfunded actuarial liability was $1.6 billion. This is an increase from last year's unfunded actuarial liability of $1.0 billion. The funded ratio decreased from 80% at the prior valuation to 74% at June 30, 2014.

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, 2014 was $347 million greater than actuarial value. If the market value were used rather than the actuarial value, the funded ratio on the valuation date would be 80%, and the amortization period for the unfunded actuarial liability would be 19.8 years.

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 2.0 years, which is within the acceptable range.

SECTION I
BOARD SUMMARY

GASB Statement No. 67 became effective for the plan year ending June 30, 2014. Actuarial information related to required disclosures under GASB 67 has been provided in a separate report. Section V of this actuarial valuation report contains disclosures that have previously been required under GASB Statement No. 25, which has now been superseded by GASB 67. However, since GASB Statement No. 68 will not be effective until the fiscal year ending June 30, 2015 for most employers, employers must still provide disclosures under GASB Statement No. 27 for fiscal years ending June 30, 2014. Therefore, this information is provided in a format similar to prior years.

The following table compares the results at June 30, 2013, both (i) fully recognizing the HB 454 changes and (ii) disregarding changes to GABA contained in House Bill 454. These are compared to the June 30, 2014 valuation results, which disregard changes to GABA contained in House Bill 454. The results shown in the left column below are the same as were contained in the June 30, 2013 actuarial valuation report for the System. The results shown in the center column below were provided in a supplemental actuarial valuation report as of June 30, 2013.

Table I-1
Montana Public Employees' Retirement System
Summary of Plan Changes

Valuation as of:	Full Recognition HB 454 June 30, 2013	Prior GABA Provisions June 30, 2013	Prior GABA Provisions June 30, 2014
Assets and Liabilities			
Actuarial Liability (AL)	$ 5,160,950,992	5,902,662,931	$ 6,177,504,549
Actuarial Value of Assets (AVA)	4,139,921,129	4,139,921,129	4,595,805,330
Unfunded AL (AL – AVA)	1,021,029,863	1,762,741,802	1,581,699,219
Less: PCR-UAL	8,749,140	8,749,140	5,903,188
Net Unfunded AL	1,012,280,723	1,753,992,662	1,575,796,031
Funded Ratio (AVA/AL)	80.2%	70.1%	74.4%
Contributions as a Percentage of Payroll			
Statutory Funding Rate	18.78%	18.78%	19.36%
Less: Transfer to DB Educational Fund	0.04%	0.04%	0.04%
Net Statutory Funding Rate	18.74%	18.74%	19.32%
Normal Cost Rate	10.90%	11.82%	11.63%
Administrative Expense	N/A	N/A	0.27%
Available for Amortization of UAL	7.84%	6.92%	7.42%
Period to Amortize	14.5 years	43.7 years	29.3 years
Projected 30-year Level Funding Rate	15.75%	20.19%	19.27%
Projected Shortfall (Surplus)	(3.03%)	1.41%	(0.09%)

SECTION I
BOARD SUMMARY

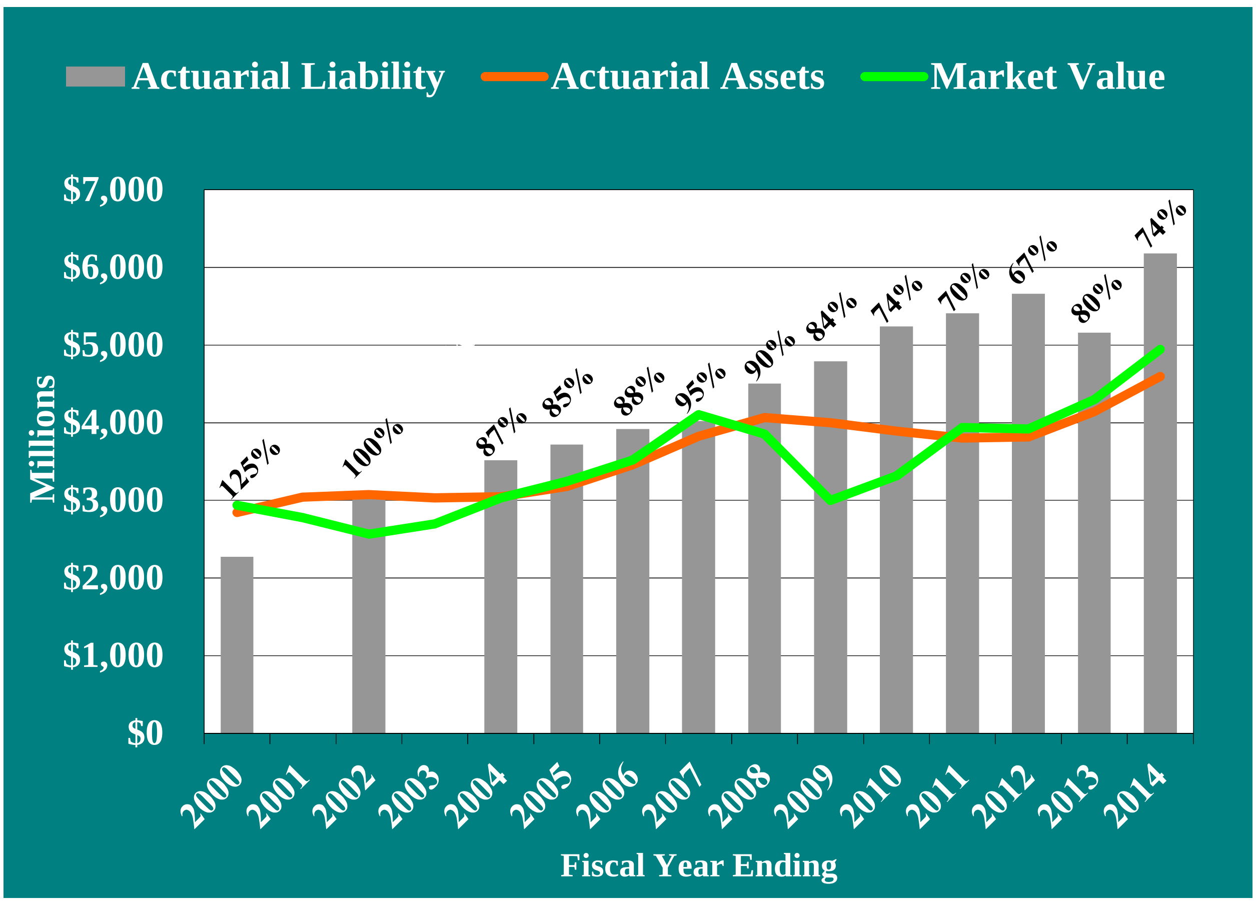
Trends

Assets and Liabilities

The market value of assets (MVA) increased over last year, returning 17.12% 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, 2009 to June 30, 2014, the System's assets returned approximately 5.4% 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. In 2013, the gray bar dropped due to full recognition of HB 454. Then, in 2014, the gray bar jumps up due to the preliminary injunction on the GABA provisions of HB 454. 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.



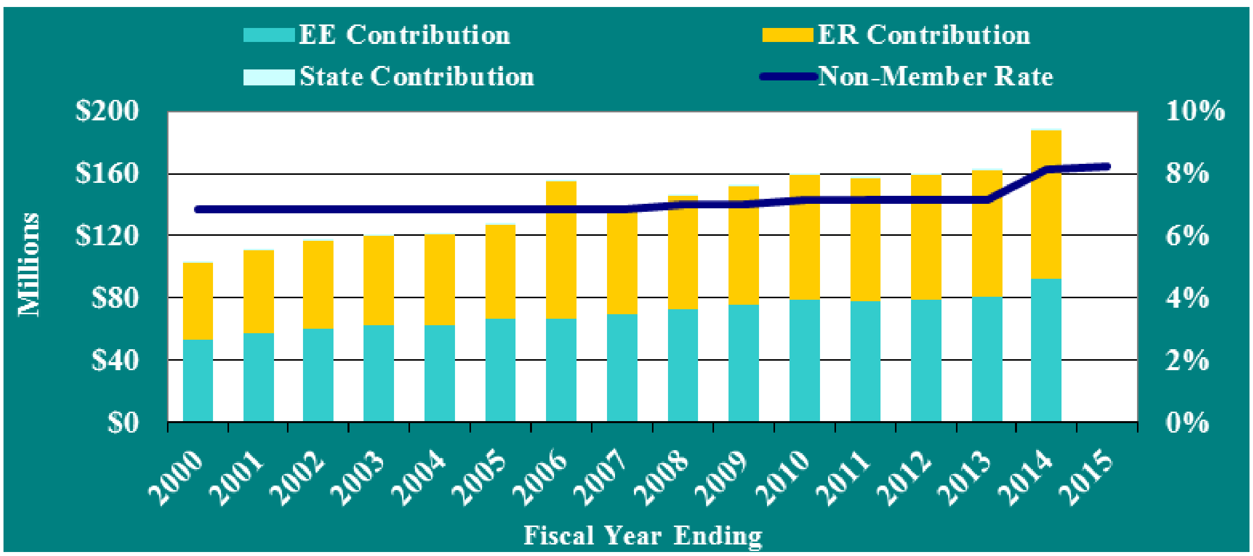
SECTION I
BOARD SUMMARY

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. In 2013, HB 454 set annual increases to those contributions, which will sunset once the plan reaches certain financial measures. The actuarial valuation determines the extent to which the statutory contributions will meet the requirements of funding the System.

Beginning with the fiscal year ended 2014, contributions to the System are also made from the State's Coal Tax fund. These contributions are not included in the employer rate shown in the graph. The graph below also does not include DC / ORP contributions.

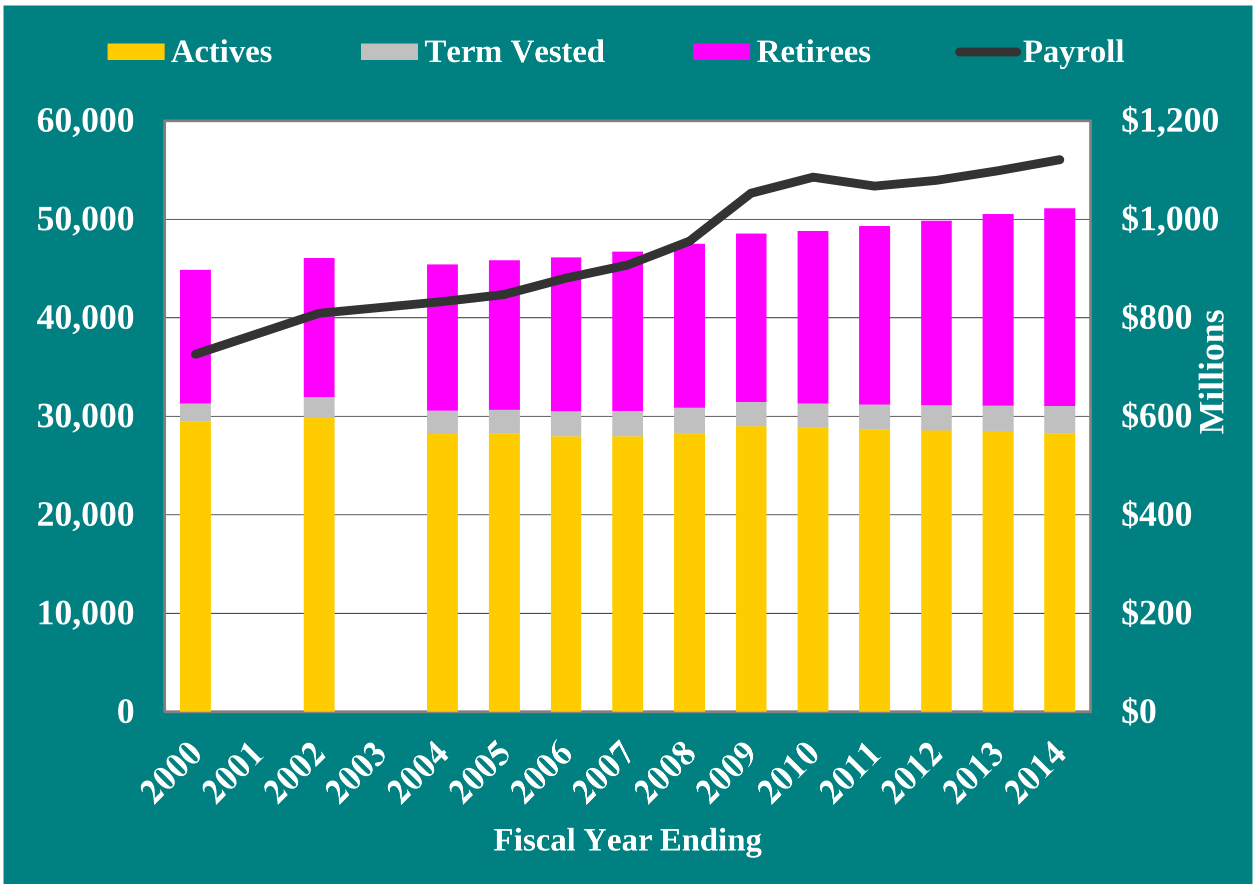


SECTION I
BOARD SUMMARY

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 1.2 actives for each inactive today.

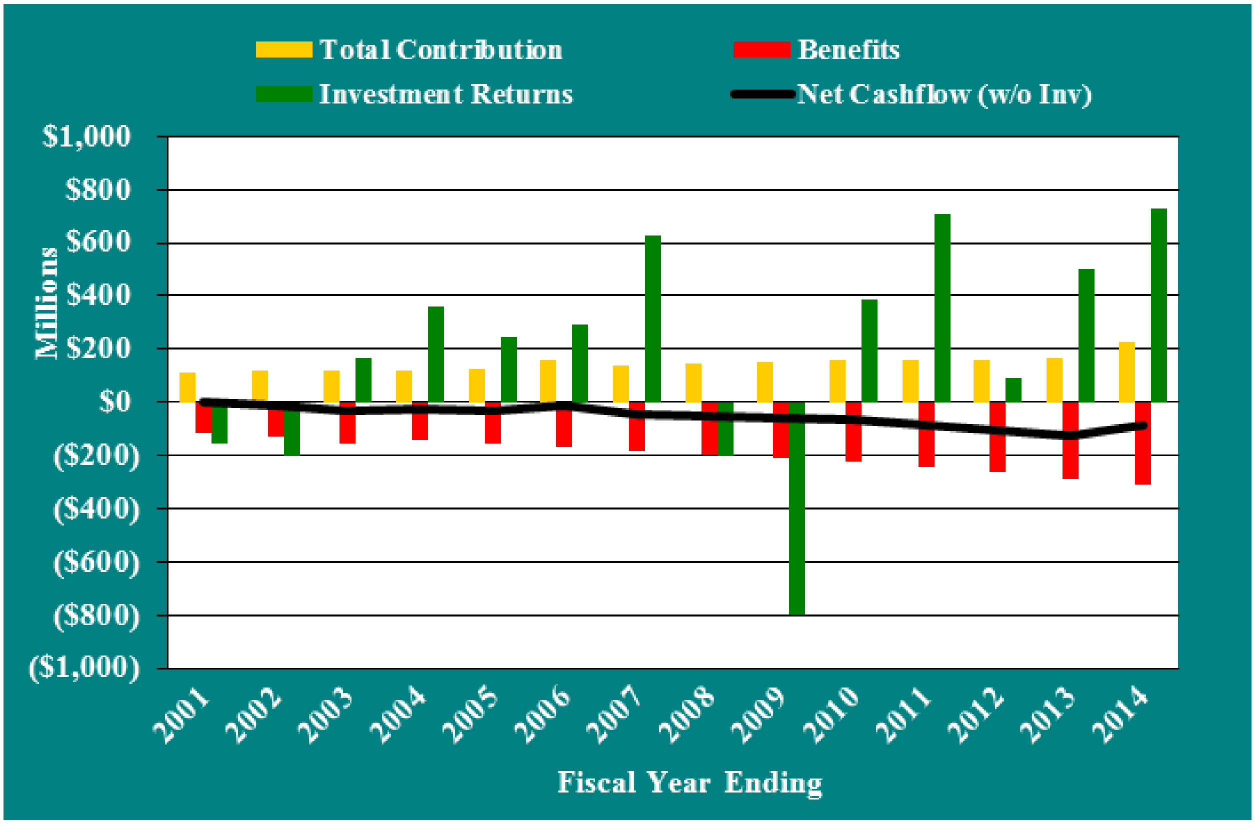
The black line shows the covered payroll in the System and is read using the right-hand scale.



SECTION I
BOARD SUMMARY

Net Cash Flow

This graph shows the historical contributions compared to benefit payments. The difference between these two measures is shown in the solid black line and is the net cash flow (without including investment returns).



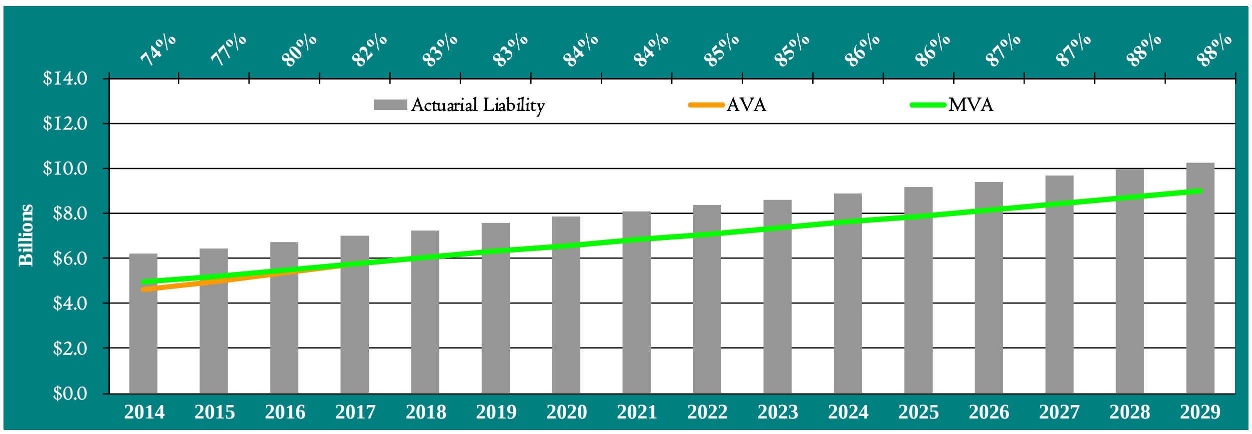
SECTION I
BOARD SUMMARY

Future Outlook

Baseline Projections

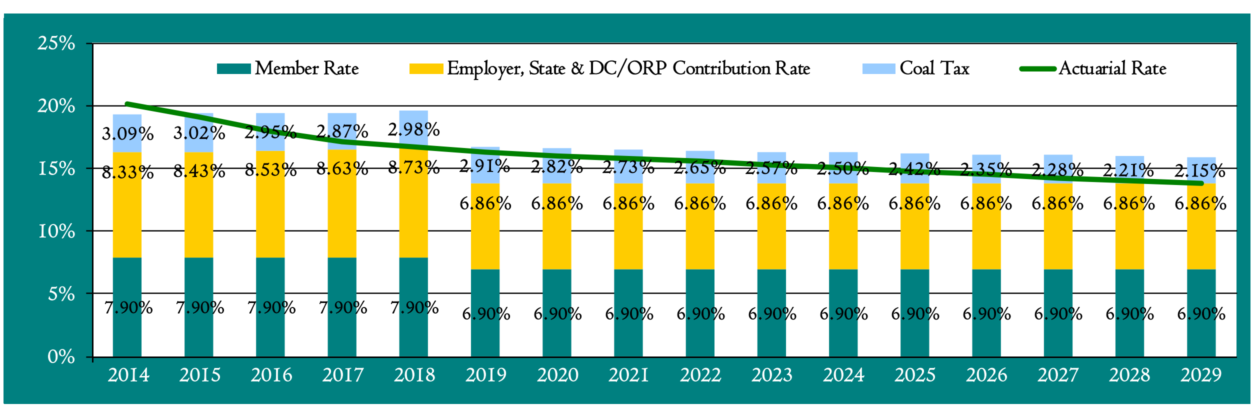
These graphs show the expected progress of the System over the next 15 years assuming the System's assets earn 7.75% on their *market value*, and that contributions continue to be made at the current statutory rates. These projections, as well as all of the projections that follow, reflect the plan and contribution changes associated with House Bill 454, disregarding any changes to GABA.

The chart below shows that the funded status of the System is expected to gradually increase over the 15-year period, eventually reaching a funded ratio of 88% by the end of the period.



The chart below shows the total contribution (Member, Employer, State, DC/ORP and Coal Tax) computed based on a 25-year amortization of the unfunded actuarial liability. The Member rate is expected to remain at 7.9% for the first five years then drop to 6.9%. The Employer rate is expected to increase in the first five years, after which time the temporary contributions are projected to cease, dropping the Employer rate down to 6.86%. Coal tax contributions are projected at the levels shown using information provided by the Governor's Office of Budget and Program Planning.

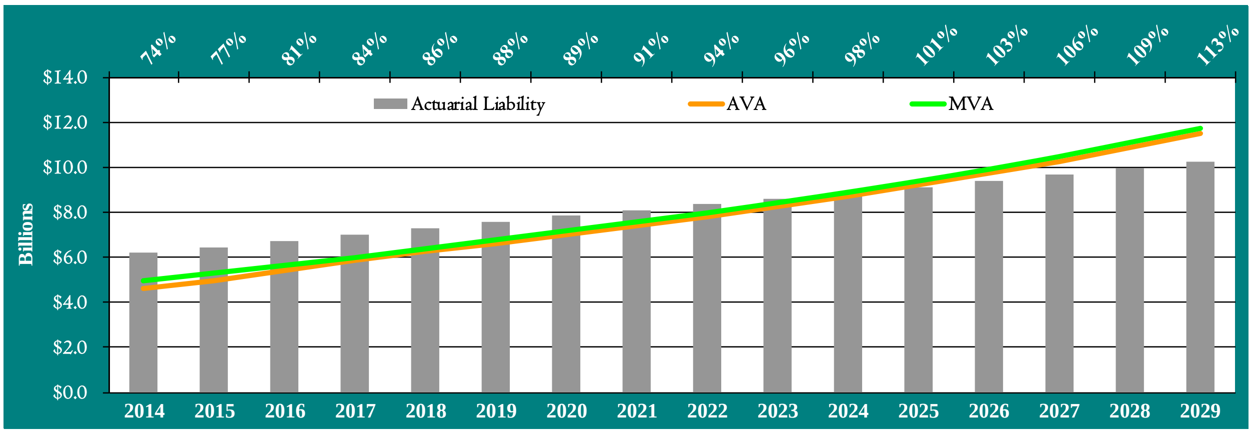
These amounts are compared to an Actuarial Rate, which is calculated as the normal cost, administrative expense, and a level percent of pay 25-year open amortization of the unfunded actuarial liability. The Actuarial Rate is projected to decline over the projection period.



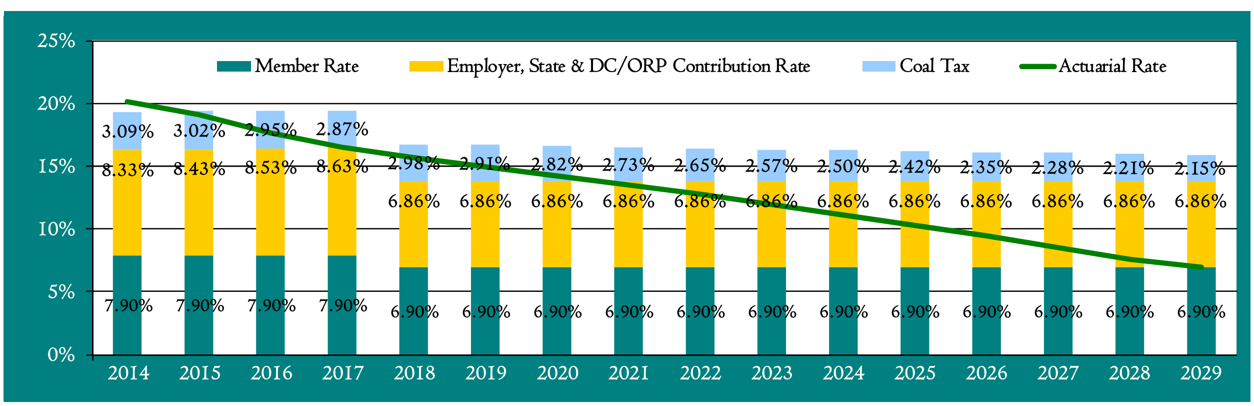
SECTION I
BOARD SUMMARY

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).



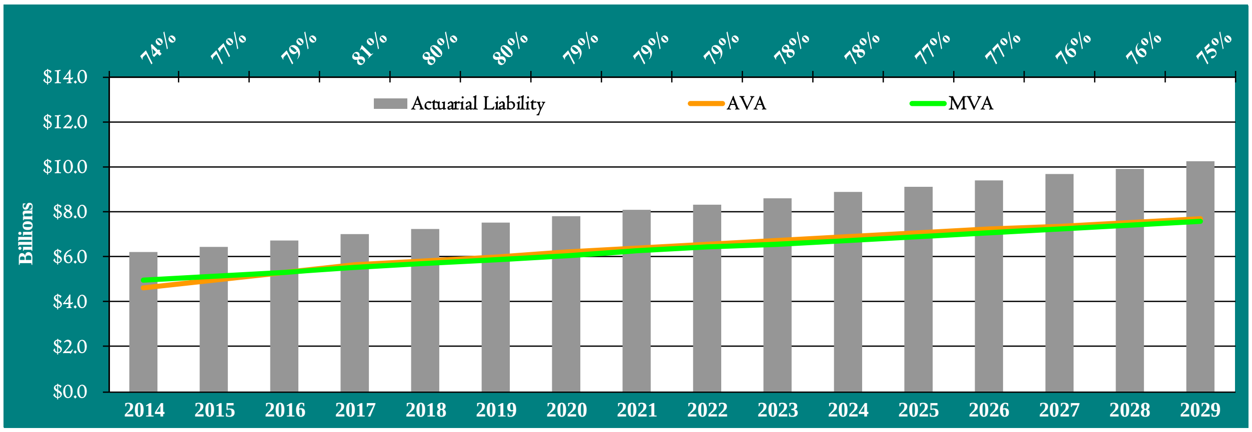
Compared to the baseline projections, the funded status improves more rapidly over the 15-year period. The Actuarial Rate decreases quicker, with the employer portion dropping to zero by the end of the projection period. The temporary Member and Employer contributions are projected to conclude one year earlier in fiscal year beginning 2018.



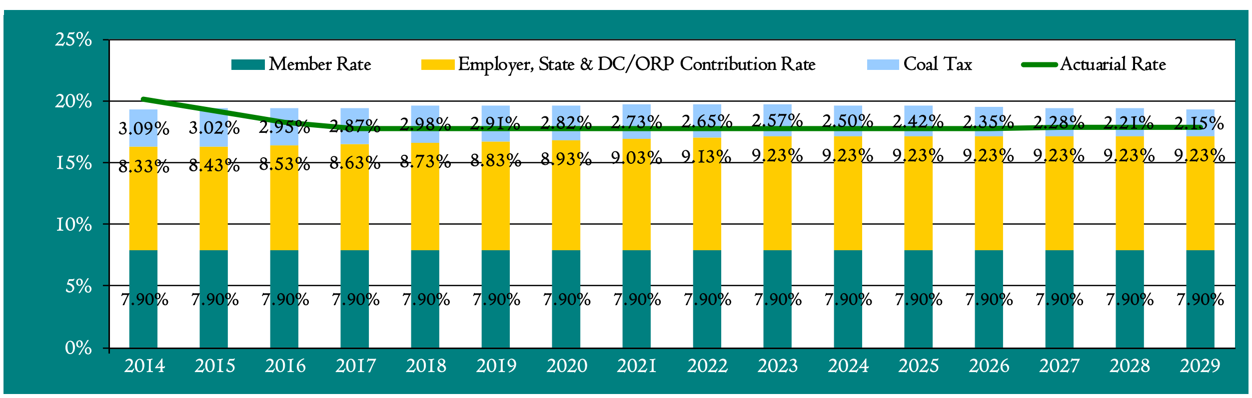
SECTION I
BOARD SUMMARY

<u>Projections with Asset Returns of 6.25%</u>

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 slightly increases as previous investment gains are realized, and then begins to decline. The Actuarial Rate initially drops and then begins to increase, almost reaching the statutory rate by the end of the 15-year period. The temporary Member and Employer contributions are in effect throughout the entire period under this scenario.



SECTION I
BOARD SUMMARY

Table I-2
Montana Public Employees' Retirement System
Summary of Principal System Results

Valuation as of:	Full Recognition HB 454 June 30, 2013	Prior GABA Provisions June 30, 2014	% Change
Participant Counts – DBRP Only			
Active Members	28,401	28,229	(0.6%)
Disabled Members*	185	193	4.3%
Retirees and Beneficiaries*	19,266	19,888	3.2%
Terminated Vested Members	2,686	2,825	5.2%
Terminated Non-Vested Members	6,712	7,666	14.2%
Total**	57,250	58,801	2.7%
Annual Salaries of Active Members	$ 1,098,340,791	$ 1,120,939,764	2.1%
Average Annual Salary	$ 38,673	$ 39,709	2.7%
Annual Retirement Allowances for Retired Members and Beneficiaries	$ 281,465,581	$ 302,758,499	7.6%
Assets and Liabilities			
Actuarial Liability (AL)	$ 5,160,950,992	$ 6,177,504,549	19.7%
Actuarial Value of Assets (AVA)	4,139,921,129	4,595,805,330	11.0%
Unfunded AL (AVA-AL)	$ 1,021,029,863	$ 1,581,699,219	54.9%
Less: PCR-UAL	8,749,140	5,903,188	(32.5%)
Net Unfunded AL	$ 1,012,280,723	$ 1,575,796,031	55.7%
Funded Ratio (AVA/AL)	80.2%	74.4%	
Present Value of Accrued Benefits (PVAB)	$ 4,543,203,426	$ 5,443,192,447	19.8%
Market Value of Assets	4,299,238,343	4,942,769,917	15.0%
Unfunded PVAB	$ 243,965,083	$ 500,422,530	105.1%
Accrued Benefit Funding Ratio	94.6%	90.8%	
Ratio of Actuarial Value to Market Value	96.3%	93.0%	
Contributions as a Percentage of Payroll			
Statutory Funding Rate	18.78%	19.36%	
Less: Transfer to DB Educational Fund	0.04%	0.04%	
Net Statutory Funding Rate	18.74%	19.32%	
Normal Cost Rate	10.90%	11.63%	
Administrative Expense	N/A	0.27%	
Available for Amortization of UAL	7.84%	7.42%	
Period to Amortize	14.5 years	29.3 years	
Projected 30-year Level Funding Rate	15.75%	19.27%	
Projected Shortfall (Surplus)	(3.03%)	(0.09%)	

* Based on PERB categorization for the annual report. For actuarial valuation purposes, 741 members in 2013 and 742 members in 2014 were valued as disabled members with offsetting reductions to the number of retired members.

** The total number of members processed in the 2014 valuation was 58,781 compared to 58,801 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 have an impact upon benefit levels, State contributions, and the ultimate security of participants' benefits.

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

- **Disclosure** of System assets at June 30, 2013 and June 30, 2014;
- 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 as the 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, 2013		**$ 4,299,238,343**
Additions		
Member Contributions	$ 92,041,676	
Employer Contributions	95,737,273	
State Contributions	886,408	
Coal Tax Revenue	33,675,313	
Investment Return	732,274,891	
Other	179,667	
Total Additions	**$ 954,795,228**	
Deductions		
Benefit Payments	$ 307,741,308	
Administrative Expenses	3,522,346	
Total Deductions	**$ 311,263,654**	
Value of Assets – June 30, 2014		**$ 4,942,769,917**

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, 2014 valuation.

Table II-2
Market Value Gain/(Loss)

Value of Assets – June 30, 2013	$	4,299,238,343
Total Contributions	$	222,520,337
Benefit Payments		(307,741,308)
Expected Return at 7.75%		329,950,276
Expected Value at June 30, 2014	$	4,543,967,648
Actual Value at June 30, 2014	$	4,942,769,917
Investment Gain/(Loss)	$	398,802,269

Table II-3
Develop Excluded Gain/(Loss)

		Total Gain/(Loss)		Excluded Portion
Exclude 75% of 2014 Gain/(Loss)	$	398,802,269	$	299,101,702
Exclude 50% of 2013 Gain/(Loss)	$	202,253,096	$	101,126,548
Exclude 25% of 2012 Gain/(Loss)	$	(213,054,652)	$	(53,263,663)
Total Excluded Gain/(Loss) for AVA Calculation			$	346,964,587

Table II-4
Actuarial Value of Assets

Market Value of Assets – June 30, 2014	$	4,942,769,917
Total Gain/(Loss) excluded		346,964,587
Actuarial Value of Assets – June 30, 2014	$	4,595,805,330

SECTION II
ASSETS

Investment Performance

The market value of assets (MVA) returned 17.12% during the fiscal year ended 2014, which is more than the assumed 7.75% return. A return of 13.21% 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%
2013	12.99%	11.91%
2014	17.12%	13.21%

SECTION II
ASSETS

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

Year Beginning July 1,	Expected Benefits	Expected Admin Expense	Expected Contributions**	Net Cash Flow (excluding Investment Return)	Expected Investment Return***	Net Cash Flow (including Investment Return)
2014	$ 353,817	$ 3,205	$ 229,354	$ (127,668)	$ 378,210	$ 250,542
2015	357,931	3,333	238,969	(122,295)	397,831	275,536
2016	382,351	3,466	248,886	(136,931)	418,629	281,698
2017	408,079	3,605	259,060	(152,624)	439,863	287,239
2018	433,295	3,749	252,415	(184,629)	460,521	275,892
2019	459,932	3,899	240,700	(223,131)	480,825	257,694
2020	487,872	4,055	249,009	(242,918)	500,044	257,126
2021	515,829	4,217	257,642	(262,404)	519,230	256,826
2022	542,814	4,386	266,614	(280,586)	538,443	257,857
2023	568,599	4,562	275,937	(297,224)	577,404	280,180

* These projections reflect the plan and contribution changes associated with House Bill 454 and assume that all future GABAs will be at the levels prior to House Bill 454.

** Expected contributions include Member, Employer, State, DC/ORP and anticipated Coal Tax Contributions. For illustration purposes, we have assumed that contribution rates will follow those listed in the Future Outlook portion of the Board Summary section 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, 2014. 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 the System's liabilities including:

- **Disclosure** of System liabilities at June 30, 2013 and June 30, 2014;
- 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 19-2-407; 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 for the current participants, assuming participants continue to accrue benefits and all of the assumptions are met.

- **Actuarial 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 liability type, a **net surplus** or an **unfunded liability**.

SECTION III
LIABILITIES

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

	Full Recognition HB 454 June 30, 2013	Prior GABA Provisions June 30, 2014
Present Value of Benefits		
Active Participant Benefits	$ 3,085,032,331	$ 3,492,967,105
Retiree and Inactive Benefits	2,949,478,004	3,629,769,037
Present Value of Benefits (PVB)	**$ 6,034,510,335**	**$ 7,122,736,142**
Market Value of Assets (MVA)	$ 4,299,238,343	$ 4,942,769,917
Future Member Contributions	594,123,899	672,693,899
Future Employer Contributions *	848,628,947	963,626,491
Funding Shortfall/(Surplus)	292,519,146	543,645,835
Total Resources	**$ 6,034,510,335**	**$ 7,122,736,142**
Actuarial Liability		
Present Value of Benefits (PVB)	$ 6,034,510,335	$ 7,122,736,142
Present Value of Future Normal Costs (PVFNC)	873,559,343	945,231,593
Actuarial Liability (AL=PVB–PVFNC)	**5,160,950,992**	**6,177,504,549**
Actuarial Value of Assets (AVA)	4,139,921,129	4,595,805,330
Net (Surplus)/Unfunded (AL – AVA)	**$ 1,021,029,863**	**$ 1,581,699,219**
Present Value of Accrued Benefits		
Present Value of Benefits (PVB)	$ 6,034,510,335	$ 7,122,736,142
Present Value of Future Benefit Accruals (PVFBA)	1,491,306,909	1,679,543,695
Present Value of Accrued Benefits (PVAB=PVB–PVFBA)	**$ 4,543,203,426**	**$ 5,443,192,447**
Market Value of Assets (MVA)	$ 4,299,238,343	$ 4,942,769,917
Net Unfunded (PVAB – MVA)	**$ 243,965,083**	**$ 500,422,530**

* Includes Employer, State, DC/ORP, and Coal Tax contributions.

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 changing 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 the System's 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 liability.

Table III-2
Changes in Liabilities

	Present Value of Benefits	Actuarial Liability	Present Value of Accrued Liability
Liabilities June 30, 2013 (Full Recognition HB 454)	$ 6,034,510,335	$ 5,160,950,992	$ 4,543,203,426
Liabilities June 30, 2014 (Prior GABA Provisions)	7,122,736,142	6,177,504,549	5,443,192,447
Liability Increase (Decrease)	1,088,225,807	1,016,553,557	899,989,021
Change Due to:			
Actuarial (Gain)/Loss	NC*	(11,276,266)	NC*
Plan Changes	277,145,934	810,722,267	266,949,720
Benefits Accumulated and Other Sources	811,079,873	217,107,556	633,039,301

* NC = not calculated.

SECTION III
LIABILITIES

Table III-3
Summary of Actuarial Gains and Losses as of June 30, 2014

Actuarial Liability as of June 30, 2013 (Full Recognition HB 454)	$ 5,160,950,992
Actuarial Liability as of June 30, 2013 (Prior GABA Provisions)	$ 5,902,662,931
Normal Cost	137,452,701
Actual Benefit Payments	(307,741,308)
Interest	456,406,491
Expected Actuarial Liability as of June 30, 2014 (Prior GABA Provisions)	$ 6,188,780,815
Actuarial Liability as of June 30, 2014 (Prior GABA Provisions)	$ 6,177,504,549
Liability (Gain)/Loss	$ (11,276,266)
Sources of Liability (Gain)/Loss	
Salary (Gain)/Loss	$ (11,773,450)
New Participant (Gain)/Loss	13,522,391
Active Retirements (Gain)/Loss	552,479
Active Terminations (Gain)/Loss	(1,560,269)
Active Deaths (Gain)/Loss	916,363
Active Disability (Gain)/Loss	(1,309,655)
Inactive Mortality (Gain)/Loss	9,272,664
Other (Gain)/Loss	(20,896,789)
Actuarial Liability as of June 30, 2014 (Prior GABA Provisions)	$ 6,177,504,549
Liability (Gain)/Loss due to plan changes	$ 810,722,267
Actuarial Value of Assets as of June 30, 2013	$ 4,139,921,129
Net Cash Flow	(85,220,971)
Expected Earnings	317,603,192
Expected Actuarial Value of Assets as of June 30, 2014	$ 4,372,303,350
Actuarial Value of Assets as of June 30, 2014	$ 4,595,805,330
Investment (Gain)/Loss	$ (223,501,980)
Total Liability (Gain)/Loss	799,446,001
Total Actuarial (Gain)/Loss	$ 575,944,021

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

		Full Recognition HB 454 June 30, 2013	Prior GABA Provisions June 30, 2014
1.	Actuarial Liabilities		
	Retiree and Inactive Benefits	$ 2,949,478,004	$ 3,629,769,037
	Active Member Benefits	2,211,472,988	2,547,735,512
	Total Actuarial Liability	**$ 5,160,950,992**	**$ 6,177,504,549**
2.	Actuarial Value of Assets	$ 4,139,921,129	$ 4,595,805,330
3.	Unfunded Actuarial Liability	$ 1,021,029,863	$ 1,581,699,219
4.	Funded Ratio	80.2%	74.4%

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)

		Full Recognition HB 454 June 30, 2013	Prior GABA Provisions June 30, 2014
1.	Actuarial Liabilities		
	Retiree and Inactive Benefits	$ 2,949,478,004	$ 3,629,769,037
	Active Member Benefits	2,211,472,988	2,547,735,512
	Total Actuarial Liability	**$ 5,160,950,992**	**$ 6,177,504,549**
2.	Market Value of Assets	$ 4,299,238,343	$ 4,942,769,917
3.	Unfunded Actuarial Liability	$ 861,712,649	$ 1,234,734,632
4.	Funded Ratio	83.3%	80.0%

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, 2014
1. PCR-UAL as of June 30, 2013	$ 8,749,140
2. Assumed Interest at 7.75% per year	678,058
3. Less: PCR Contributions to DBRP reduced by Normal Cost	(3,392,549)
4. Interest at 7.75% on line 3	(131,461)
5. PCR – UAL as of June 30, 2014	$ 5,903,188

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, 2014
PCR – Normal Cost Rate		
Normal Cost Rate		
DBRP Members Only		11.63%
Including DCRP and ORP members		11.63%
Difference	(A)	0.00%
Payroll as of June 30, 2014		
DBRP Members Only	(B)	$ 1,067,710,693
DCRP and ORP members	(C)	$ 113,840,905
PCR – Normal Cost Rate	(A) X (B) ÷ (C)	0.00%
PCR – UAL Amortization		
PCR – UAL as of June 30, 2014		$ 5,903,188
PCR Available for Amortization		
Current PCR Amortization Rate		2.74%
Less: PCR – Normal Cost Rate		0.00%
PCR Available for Amortization - 2014		2.74%
Years to Amortize PCR – UAL from June 30, 2014		2.0 years
Maximum Years for Amortization		14.75 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 Normal Actuarial Cost Method**. Under this method, there are three components to the total contribution: the **normal cost rate**, the **unfunded actuarial liability rate** (UAL rate), and the **administrative expense 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, consistent with prior years, is the maximum amortization period that was permitted under GASB Statement No. 25. However, this rate 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%.

In addition to these calculations, amortization periods are calculated for purposes of determining whether certain member and employer contributions can be reduced.

The assumed administrative expense rate is 0.27% of payroll. This rate, when applied to payroll, is intended to provide an allowance above the cost of funding the benefits to pay for the expense of operating this System.

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

	Full Recognition HB 454 June 30, 2013	Prior GABA Provisions June 30, 2014
Statutory Funding Rates		
Members	7.90%	7.90%
Employers and State*	8.17%	8.27%
Coal Tax Contributions	2.61%	3.09%
DC/ORP Contributions	0.10%	0.10%
Total	18.78%	19.36%
Transfer to Education Fund	0.04%	0.04%
Net Contribution to DBRP	18.74%	19.32%
Normal Cost Rate**	10.90%	11.63%
Administrative Expense	N/A	0.27%
Funding Rate Available for Amortization	7.84%	7.42%
Unfunded Actuarial Liability (Surplus)	$ 1,021,029,863	$ 1,581,699,219
Less: PCR-UAL	8,749,140	5,903,188
UAL Funded by DBRP	$ 1,012,280,723	$ 1,575,796,031
Years to Amortize***	14.5 years	29.3 years

* 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.

** The normal cost rate is projected to be 9.94% 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.

*** On a market value basis, the Years to Amortize the Unfunded Actuarial Liability were 11.6 at June 30, 2013 and was 19.8 years at June 30, 2014.

SECTION IV
CONTRIBUTIONS

Table IV-2
Calculated Contribution Basis

	Full Recognition HB 454 June 30, 2013	Prior GABA Provisions June 30, 2014
Normal Cost Rate	10.90%	11.63%
Educational Fund	0.04%	0.04%
Amortization Payment (30-years)	4.81%	7.33%
Administrative Expense	N/A	0.27%
Total Calculated Contribution Rate	15.75%	19.27%
Less Statutory Rate	18.78%	19.36%
Shortfall (Surplus) in Statutory Rate	(3.03%)	(0.09%)

Table IV-3
Calculated Contribution on Market Value (MCA 19-2-407)

	Full Recognition HB 454 June 30, 2013	Prior GABA Provisions June 30, 2014
Normal Cost Rate	10.90%	11.63%
Educational Fund	0.04%	0.04%
Amortization Payment (30-years)	4.05%	5.71%
Administrative Expense	N/A	0.27%
Total Calculated Contribution Rate	14.99%	17.65%
Less Statutory Rate	18.78%	19.36%
Shortfall (Surplus) in Statutory Rate	(3.79%)	(1.71%)

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

Table IV-4 *
Projected Actuarial Contribution Rates

Valuation Year	Rate
2015	19.13%
2016	17.98%
2017	17.12%
2018	16.73%
2019	16.26%

* Projections reflect House Bill 454 plan and contribution changes, and disregard any changes to GABA.

SECTION IV
CONTRIBUTIONS

Under MCA 19-3-315 and MCA 19-3-316, certain temporary member and employer contributions will cease as of the next January 1 if the amortization period without regard to these contributions is below 25 years. This calculation is shown below:

Table IV-5
Amortization Period Without Temporary Contributions

	June 30, 2014
Net Contribution to DBRP	16.85%
Normal Cost Rate	11.63%
Administrative Expense	0.27%
Funding Rate Available for Amortization	4.95%
Years to Amortize	98.5 years

Since the amortization period in Table IV-5 exceeds 25 years, there will be no reduction in member or employer contribution rates as of January 1, 2015.

SECTION V
FINANCIAL STATEMENT INFORMATION

Prior to the current plan year, Statement No. 25 of the Governmental Accounting Standards Board (GASB) established standards for disclosure of pension information by public employee retirement systems (PERS) and governmental employers in notes to financial statements and supplementary information. While GASB-25 is no longer applicable for this System, the requirements of GASB Statement No. 27 remain in effect for the employer(s) who contribute(s) to the System. Therefore, the GASB-25 information is provided similarly as in prior years. The GASB-25 actuarial liability is the same as the actuarial liability amount calculated for funding purposes.

GASB-25 was replaced by GASB-67 effective June 30, 2014 for plan disclosures, which have been provided in a separate report. For employers with June 30 fiscal years, GASB-68 will replace GASB-27 effective for the fiscal year ending June 30, 2015.

Accounting Standard Codification Topic No. 960 of the Financial Accounting Standards Board specifies certain information for a plan to disclose regarding its funded status. 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.

Both the present value of accrued benefits (FASB ASC Topic No. 960) and the actuarial liability (GASB-25/27) 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. 25/27 required the actuarial liability be compared with the actuarial value of assets for funding purposes. The relevant amounts as of June 30, 2014 are exhibited in Table V-1.

Table V-2, Note to Required Supplementary Information, may be used for employers' CAFRs in relation to GASB-27.

Tables V-3 through V-5 are exhibits which may be used for the System's CAFR. Table V-3 is a history of gains and losses in Accrued Liability, Table V-4 is the Schedule of Funding Progress, and Table V-5 is the Solvency Test which shows the portion of Accrued Liability covered by Assets.

SECTION V
FINANCIAL STATEMENT INFORMATION

Table V-1
Financial Statement Information

	Full Recognition HB 454 June 30, 2013	Prior GABA Provisions June 30, 2014
A. FASB ASC Topic No. 960 Basis		
1. Present Value of Benefits Accrued and Vested to Date		
a. Members Currently Receiving Payments	$ 2,790,429,676	$ 3,436,212,443
b. Former Vested Members	159,048,328	193,556,594
c. Active Members	1,593,725,422	1,813,423,410
2. Total Present Value of Accrued Benefits (1 (a) + 1(b) + 1(c))	$ 4,543,203,426	$ 5,443,192,447
3. Assets at Market Value	4,299,238,343	4,942,769,917
4. Unfunded Present Value of Accrued Benefits (2 – 3)	$ 243,965,083	$ 500,422,530
5. Ratio of Assets to Present Value of Accrued Benefits (3 / 2)	94.6%	90.8%
B. GASB No. 25/27 Basis		
1. Actuarial Liabilities for retirees and beneficiaries currently receiving benefits and terminated employees not yet receiving benefits	$ 2,949,478,004	$ 3,629,769,037
2. Actuarial Liabilities for current employees	2,211,472,988	2,547,735,512
3. Total Actuarial Liability (1 + 2)	$ 5,160,950,992	$ 6,177,504,549
4. Net Actuarial Assets available for benefits	4,139,921,129	4,595,805,330
5. Unfunded Actuarial Liability (3 – 4)	$ 1,021,029,863	$ 1,581,699,219

SECTION V
FINANCIAL 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, 2014
Actuarial cost method	Entry Age Normal
Amortization method	Open
Remaining amortization period for Actuarial 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, amortization of the unfunded actuarial liability, and an allowance for administrative expenses. The normal cost is a level percent of payroll cost which will pay for projected benefits at retirement for each participant. The actuarial 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 liability. The allowance for administrative expenses is based upon the System's recent history of administrative expenses.

SECTION V
FINANCIAL 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	2009	2010	2011	2012	2013	2014
Investment Income on Actuarial Assets	$(329,471)	$(364,392)	$(301,247)	$ (167,747)	$ 155,958	$ 223,502
Combined Liability Experience	(14,731)	(10,001)	90,607	30,578	16,760	11,276
(Loss)/Gain During Year from Financial Experience	$ (344,202)	$ (374,393)	$(210,640)	$ (137,169)	$ 172,718	$ 234,778
Non-Recurring Items	0	(156,543)	35,686	0	755,248	(810,722)
Composite Gain (or Loss) During Year	$ (344,202)	$ (530,936)	$(174,954)	$ (137,169)	$ 927,966	$(575,944)

SECTION V
FINANCIAL 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
2014	$ 4,595,805	$ 6,177,505	74 %	$ 1,581,700	$ 1,129,109	140 %
2013	4,139,921	5,160,951	80 %	1,021,030	1,104,000	92 %
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 %

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)
2014	$ 838,145	$ 3,436,212	$ 1,903,147	$ 4,595,805	100 %	100 %	17 %
2013	828,657	2,790,430	1,541,864	4,139,921	100 %	100 %	34 %
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 %

APPENDIX A
MEMBERSHIP INFORMATION – DBRP ONLY

Reconciliation of Participant Counts

	Active	Disabled	Retirees and Beneficiaries	Terminated Vested Members	Terminated Non-Vested Members	Total
Participant counts used for valuation	28,229	742	19,319	2,825	7,666	58,781
Disabled members having attained normal retirement age		(549)	549			-
Beneficiaries of Disabled Members						-
Beneficiaries with less than one year of certain payments remaining			20			20
Other Adjustments	-			-	-	-
Participant counts shown in Annual Financial Report	28,229	193	19,888	2,825	7,666	58,801

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 10) 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.

APPENDIX A
MEMBERSHIP INFORMATION – DBRP ONLY

Status Reconciliation

	Active	Retired	Vested	Non Vested	Disabled	Survivor	Total
Members on July 1, 2013	28,401	16,492	2,686	6,712	741	2,142	57,174
New Hires	3,621	0	0	0	0	0	3,621
Rehires	301	(9)	(91)	(201)	0	0	0
Retired	(923)	1,129	(188)	0	0	0	18
Terminated Vested	(522)	0	526	0	0	0	4
Terminated Non Vested	(2,615)	0	(96)	2,711	0	0	0
Active Deaths	(6)	0	0	0	0	6	0
Became Disabled	(28)	0	(11)	0	41	0	2
In Pay Deaths	0	(539)	0	0	(40)	(110)	(689)
Survivors	0	0	(1)	0	0	208	207
Cash Out	0	0	0	(1,556)	0	0	(1,556)
Members on July 1, 2014	28,229	17,073	2,825	7,666	742	2,246	58,781

The salaries used in the tables and charts which follow are different than the salaries used for the Board Summary on page 10. 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.

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 10. For this Appendix A, the valuation projected benefits to be paid for the following fiscal year (including Guaranteed Annual Benefit Adjustment (GABA) where applicable), whereas for the Board Summary, annual benefits are as of the valuation date.

APPENDIX A
MEMBERSHIP INFORMATION – DBRP ONLY

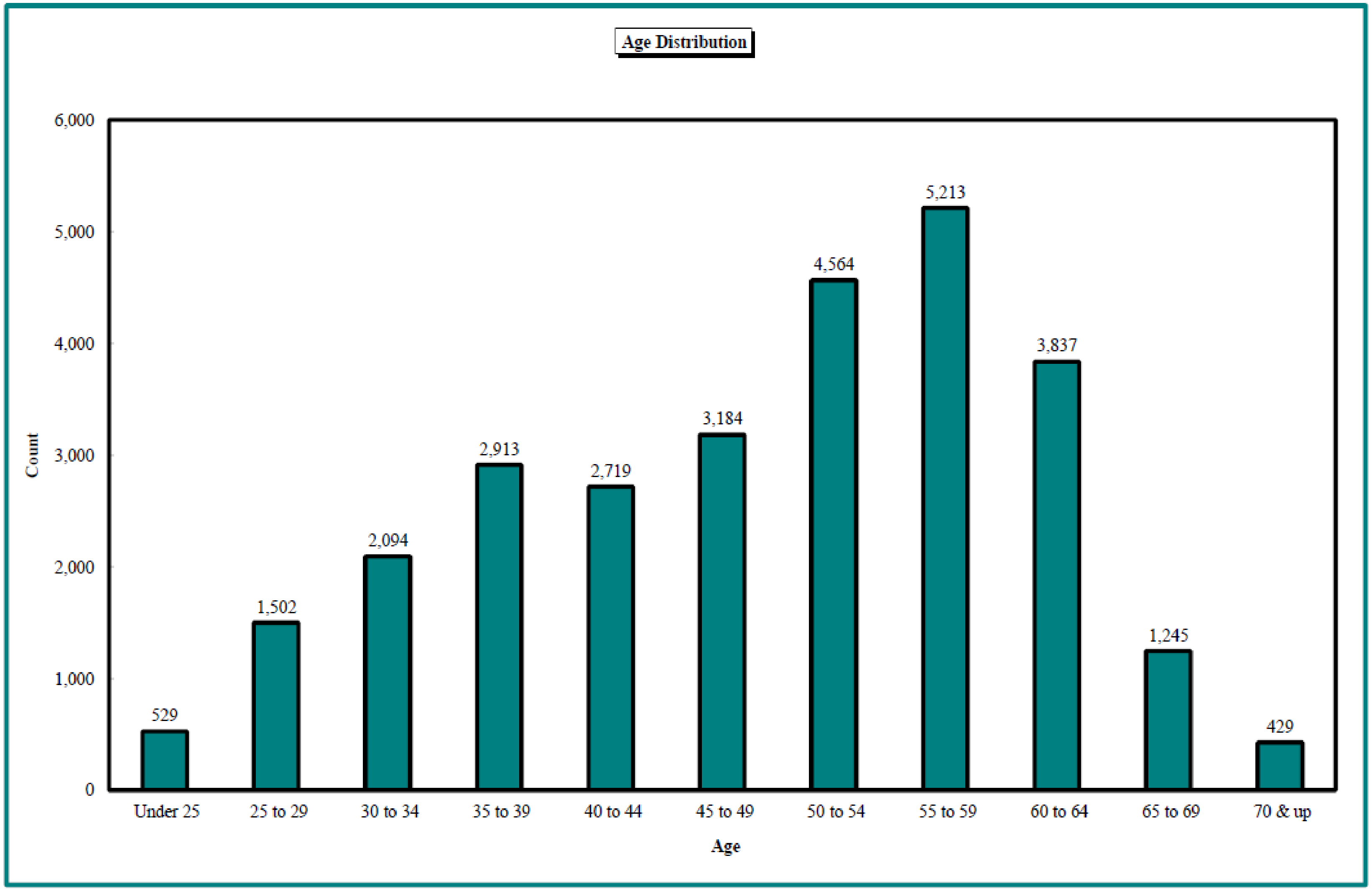
Montana Public Employees' Retirement System Distribution of Active Members by Age and Service as of June 30, 2014

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	334	195	0	0	0	0	0	0	0	0	529
25 to 29	513	836	153	0	0	0	0	0	0	0	1,502
30 to 34	469	953	567	104	1	0	0	0	0	0	2,094
35 to 39	933	936	645	338	60	1	0	0	0	0	2,913
40 to 44	422	877	663	425	261	67	4	0	0	0	2,719
45 to 49	365	882	735	465	363	292	82	0	0	0	3,184
50 to 54	387	959	965	724	529	523	362	110	5	0	4,564
55 to 59	386	955	928	789	723	587	477	265	96	7	5,213
60 to 64	206	576	685	566	541	477	364	232	152	38	3,837
65 to 69	76	216	254	203	160	134	91	56	27	28	1,245
70 & up	28	122	93	66	40	28	18	19	5	10	429
Total	4,119	7,507	5,688	3,680	2,678	2,109	1,398	682	285	83	28,229

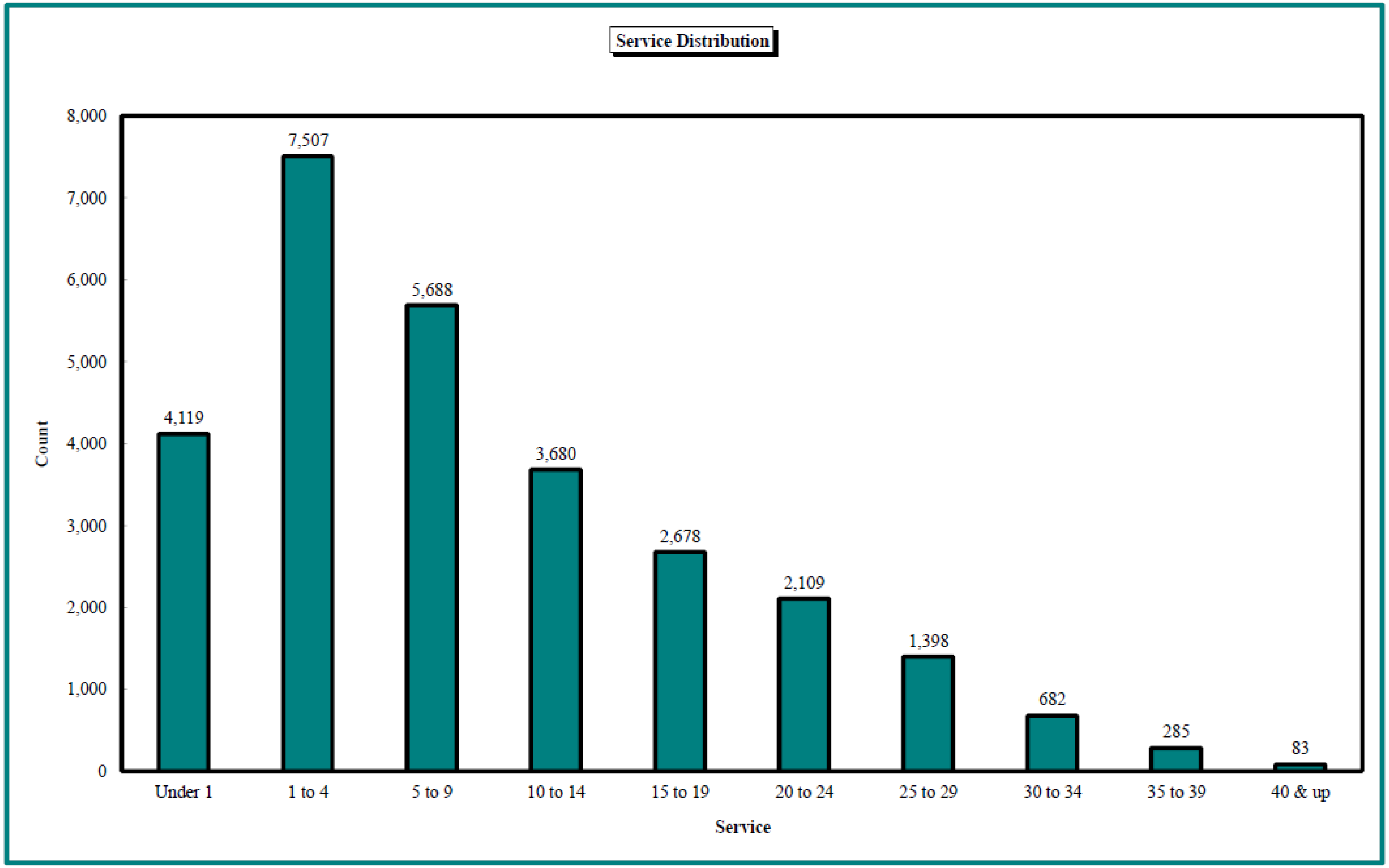
APPENDIX A
MEMBERSHIP INFORMATION – DBRP ONLY

Montana Public Employees' Retirement System Distribution of Active Members by Age as of June 30, 2014



APPENDIX A
MEMBERSHIP INFORMATION – DBRP ONLY

Montana Public Employees' Retirement System Distribution of Active Members by Service as of June 30, 2014



APPENDIX A
MEMBERSHIP INFORMATION – DBRP ONLY

Montana Public Employees' Retirement System Distribution of Active Members by Age and Service as of June 30, 2014

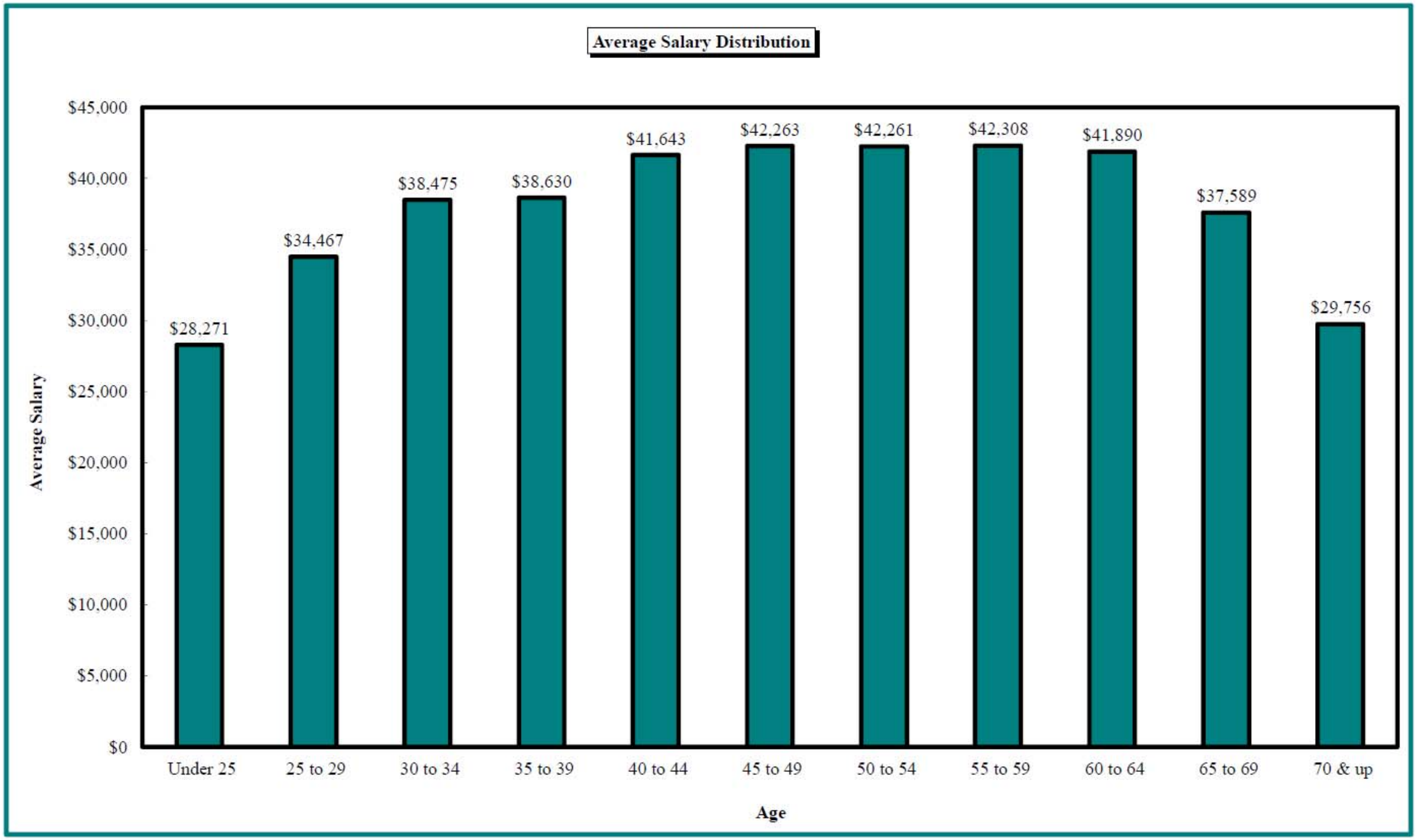
AVERAGE SALARY BY AGE/SERVICE

	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	$27,804	$29,072	$0	$0	$0	$0	$0	$0	$0	$0	$28,271
25 to 29	$32,414	$35,101	$37,884	$0	$0	$0	$0	$0	$0	$0	$34,467
30 to 34	$34,481	$37,416	$42,195	$45,665	$63,782	$0	$0	$0	$0	$0	$38,475
35 to 39	$31,920	$37,192	$44,049	$48,667	$50,173	$63,177	$0	$0	$0	$0	$38,630
40 to 44	$30,569	$36,320	$43,479	$49,736	$55,198	$57,877	$56,526	$0	$0	$0	$41,643
45 to 49	$32,691	$34,925	$41,216	$45,515	$51,613	$58,024	$57,230	$0	$0	$0	$42,263
50 to 54	$30,152	$32,605	$39,034	$42,276	$48,320	$55,417	$57,519	$55,043	$48,854	$0	$42,261
55 to 59	$30,570	$31,993	$37,987	$41,647	$45,046	$50,443	$55,467	$58,152	$58,711	$57,814	$42,308
60 to 64	$27,841	$30,267	$36,089	$39,826	$43,809	$46,751	$53,539	$57,242	$61,132	$58,903	$41,890
65 to 69	$21,878	$24,485	$33,667	$37,529	$44,021	$44,167	$50,092	$49,486	$68,198	$55,158	$37,589
70 & up	$23,134	$20,749	$24,868	$36,469	$35,700	$39,957	$41,935	$35,587	$57,884	$59,921	$29,756
Total	$31,128	$33,997	$39,690	$43,352	$47,244	$51,595	$55,079	$56,001	$60,713	$57,670	$40,431

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, 2014



APPENDIX A
MEMBERSHIP INFORMATION – DBRP ONLY

Montana Public Employees' Retirement System Distribution of Active Members by Service as of June 30, 2014

APPENDIX A
MEMBERSHIP INFORMATION – DBRP ONLY

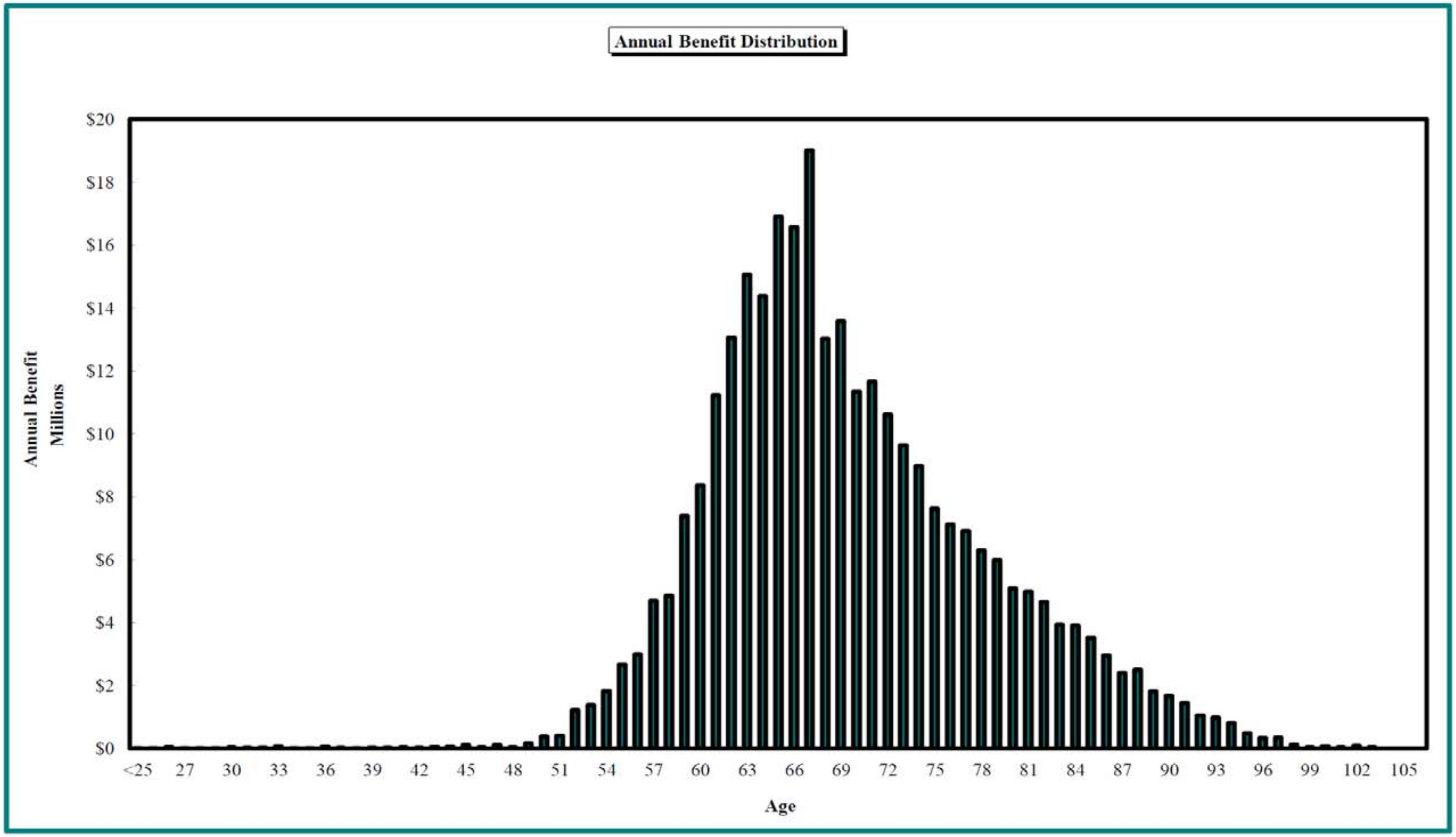
Montana Public Employees' Retirement System Distribution of Retired Members and Survivors as of June 30, 2014

Age	Count	Annual Benefit	Age	Count	Annual Benefit
<25	4	$13,477	73	670	$9,633,773
25	2	$13,975	74	652	$8,978,621
26	4	$50,998	75	562	$7,632,401
27	2	$12,049	76	547	$7,120,373
28	3	$16,854	77	511	$6,908,169
29	3	$17,548	78	471	$6,299,002
30	4	$35,965	79	486	$5,992,556
31	4	$30,763	80	439	$5,081,077
32	6	$33,629	81	405	$4,979,724
33	6	$70,982	82	400	$4,657,521
34	3	$10,877	83	359	$3,934,847
35	4	$14,571	84	362	$3,908,216
36	7	$67,855	85	316	$3,516,243
37	5	$29,115	86	293	$2,960,979
38	3	$12,196	87	229	$2,408,862
39	5	$26,100	88	239	$2,497,500
40	3	$25,110	89	187	$1,812,572
41	6	$36,991	90	174	$1,672,911
42	7	$25,041	91	160	$1,456,940
43	7	$47,181	92	118	$1,048,563
44	9	$57,660	93	101	$980,876
45	11	$104,739	94	95	$820,423
46	6	$34,887	95	63	$491,781
47	10	$113,513	96	35	$337,848
48	8	$44,387	97	39	$350,935
49	12	$173,423	98	15	$126,197
50	25	$383,825	99	5	$40,697
51	24	$401,000	100	9	$70,771
52	60	$1,215,047	101	5	$40,565
53	65	$1,374,819	102	6	$86,535
54	89	$1,827,230	103	3	$35,196
55	130	$2,668,632	104	0	$0
56	154	$2,987,387	105	0	$0
57	196	$4,696,844	106	0	$0
58	231	$4,847,989	107	0	$0
59	313	$7,391,657	108	0	$0
60	428	$8,369,062	109	0	$0
61	525	$11,227,330	110	0	$0
62	666	$13,061,065	111	0	$0
63	774	$15,058,436	112	0	$0
64	793	$14,380,931	113	0	$0
65	923	$16,909,869	114	0	$0
66	933	$16,566,132	115	0	$0
67	1,059	$19,015,988	116	0	$0
68	761	$13,024,445	117	0	$0
69	828	$13,580,573	118	0	$0
70	756	$11,339,910	119	0	$0
71	785	$11,659,728	120	0	$0
72	701	$10,620,042			
			Totals	19,319	$299,610,502

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, 2014



APPENDIX A
MEMBERSHIP INFORMATION – DBRP ONLY

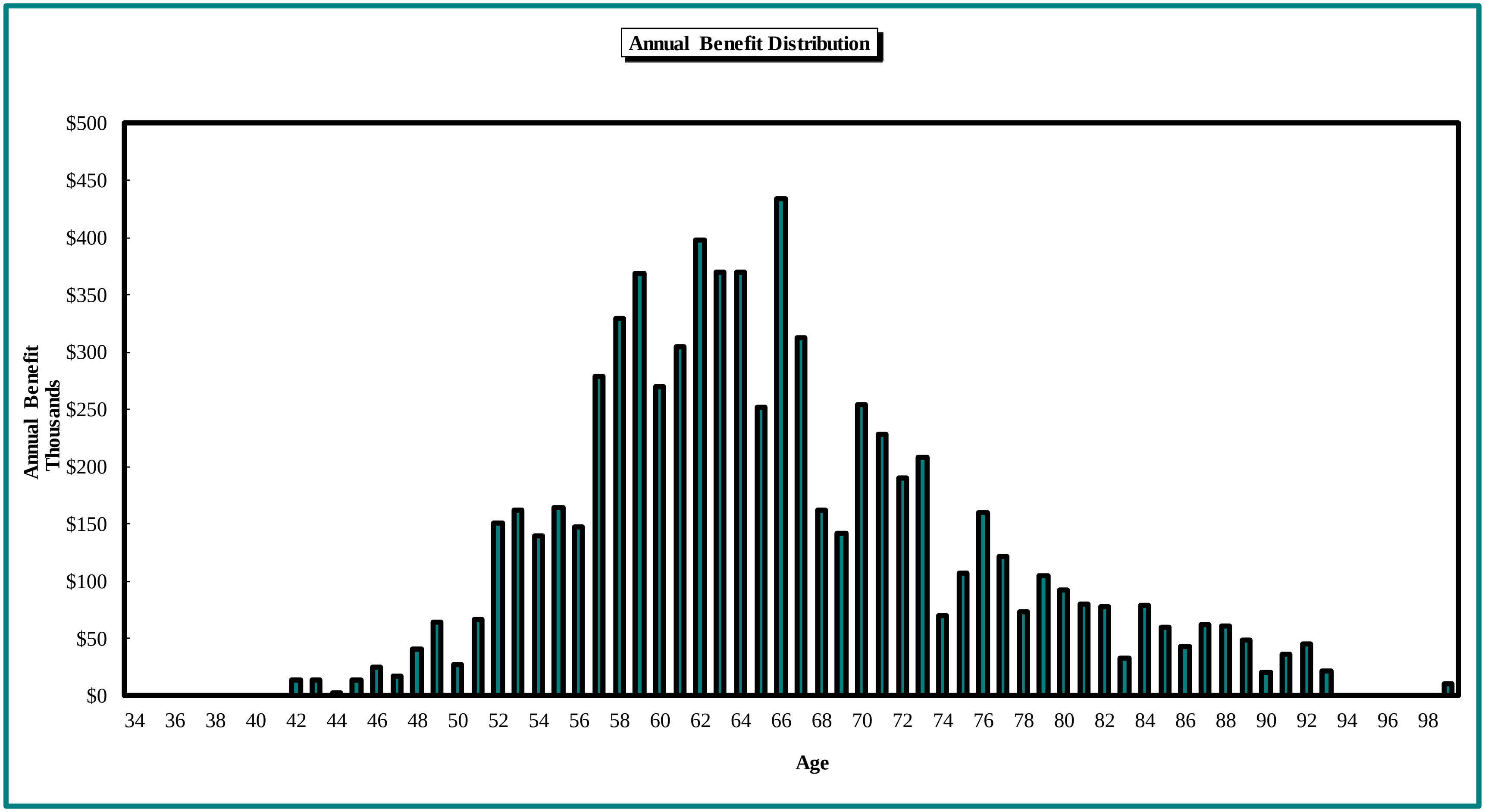
Montana Public Employees' Retirement System Distribution of Disabled Members as of June 30, 2014

Age	Count	Annual Benefit	Age	Count	Annual Benefit
<25	0	$0	73	23	$207,709
25	0	$0	74	8	$70,013
26	0	$0	75	14	$107,354
27	0	$0	76	20	$160,285
28	0	$0	77	16	$121,488
29	0	$0	78	10	$73,517
30	0	$0	79	12	$104,676
31	0	$0	80	12	$92,358
32	0	$0	81	10	$80,694
33	0	$0	82	7	$78,175
34	0	$0	83	5	$32,839
35	0	$0	84	9	$78,873
36	0	$0	85	5	$60,339
37	0	$0	86	5	$43,401
38	0	$0	87	6	$62,625
39	0	$0	88	5	$60,916
40	0	$0	89	5	$49,004
41	0	$0	90	2	$21,204
42	2	$14,015	91	3	$36,030
43	1	$13,500	92	4	$45,999
44	1	$3,241	93	1	$21,412
45	2	$13,649	94	0	$0
46	3	$25,033	95	0	$0
47	1	$17,075	96	0	$0
48	6	$41,069	97	0	$0
49	5	$64,278	98	0	$0
50	4	$27,533	99	1	$10,606
51	8	$66,350	100	0	$0
52	12	$151,087	101	0	$0
53	15	$162,128	102	0	$0
54	14	$140,073	103	0	$0
55	15	$164,179	104	0	$0
56	10	$147,123	105	0	$0
57	24	$278,900	106	0	$0
58	29	$329,762	107	0	$0
59	40	$368,767	108	0	$0
60	28	$269,658	109	0	$0
61	31	$304,324	110	0	$0
62	40	$398,461	111	0	$0
63	33	$369,633	112	0	$0
64	35	$369,722	113	0	$0
65	25	$251,752	114	0	$0
66	37	$434,169	115	0	$0
67	29	$312,427	116	0	$0
68	18	$162,324	117	0	$0
69	18	$141,464	118	0	$0
70	27	$254,816	119	0	$0
71	26	$228,056	120	0	$0
72	20	$190,342			
			Totals	742	$7,334,431

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, 2014



APPENDIX A
MEMBERSHIP INFORMATION – DBRP ONLY

Montana Public Employees' Retirement System Distribution of Terminated Vested Members as of June 30, 2014

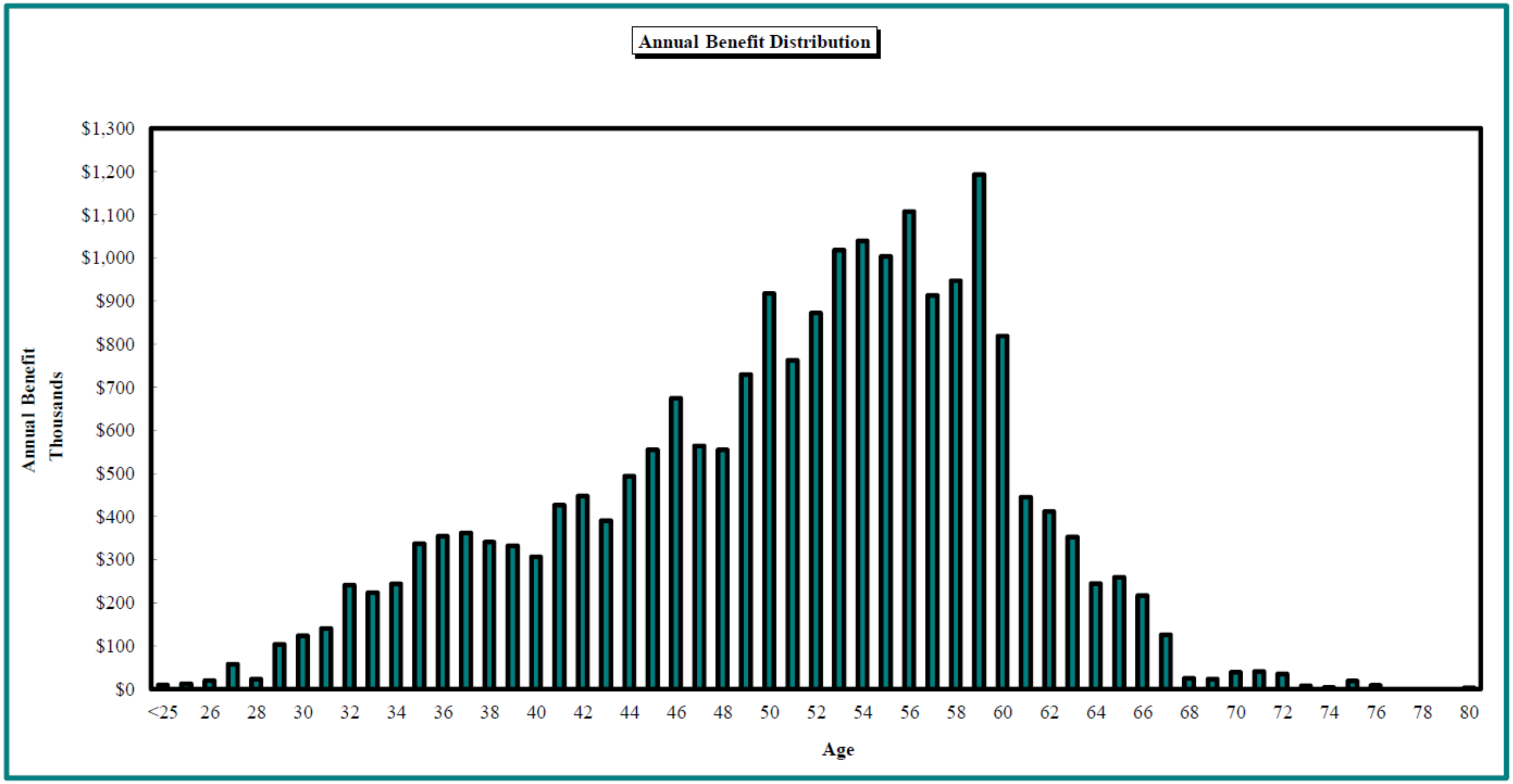
Age	Count	Annual Benefit*	Age	Count	Annual Benefit*
<25	1	$8,790	73	3	$7,368
25	1	$11,403	74	1	$3,360
26	2	$19,499	75	1	$18,286
27	6	$57,160	76	1	$8,404
28	3	$22,881	77	0	$0
29	10	$102,895	78	0	$0
30	12	$123,858	79	0	$0
31	16	$140,109	80	1	$2,686
32	26	$240,618	81	0	$0
33	24	$223,539	82	0	$0
34	25	$243,104	83	0	$0
35	33	$336,414	84	0	$0
36	35	$354,248	85	0	$0
37	41	$361,563	86	0	$0
38	33	$340,422	87	0	$0
39	36	$332,294	88	0	$0
40	33	$306,247	89	0	$0
41	47	$426,163	90	0	$0
42	48	$447,645	91	0	$0
43	46	$389,985	92	0	$0
44	55	$493,405	93	0	$0
45	65	$554,433	94	0	$0
46	72	$674,838	95	0	$0
47	82	$563,940	96	0	$0
48	70	$554,475	97	0	$0
49	97	$728,811	98	0	$0
50	117	$916,848	99	0	$0
51	102	$762,194	100	0	$0
52	126	$872,123	101	0	$0
53	139	$1,017,519	102	0	$0
54	147	$1,039,170	103	0	$0
55	141	$1,003,505	104	0	$0
56	169	$1,107,572	105	0	$0
57	145	$912,649	106	0	$0
58	150	$946,936	107	0	$0
59	173	$1,193,584	108	0	$0
60	124	$818,809	109	0	$0
61	82	$445,084	110	0	$0
62	62	$411,288	111	0	$0
63	57	$352,364	112	0	$0
64	48	$244,631	113	0	$0
65	36	$259,538	114	0	$0
66	30	$216,800	115	0	$0
67	21	$125,764	116	0	$0
68	5	$24,296	117	0	$0
69	5	$23,234	118	0	$0
70	9	$38,903	119	0	$0
71	5	$40,025	120	0	$0
72	6	$34,888			
			Totals	2,825	$20,906,568

** 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, 2014



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APPENDIX A
MEMBERSHIP INFORMATION – DBRP ONLY

Montana Public Employees' Retirement System Distribution of Terminated Non-Vested Members* as of June 30, 2014

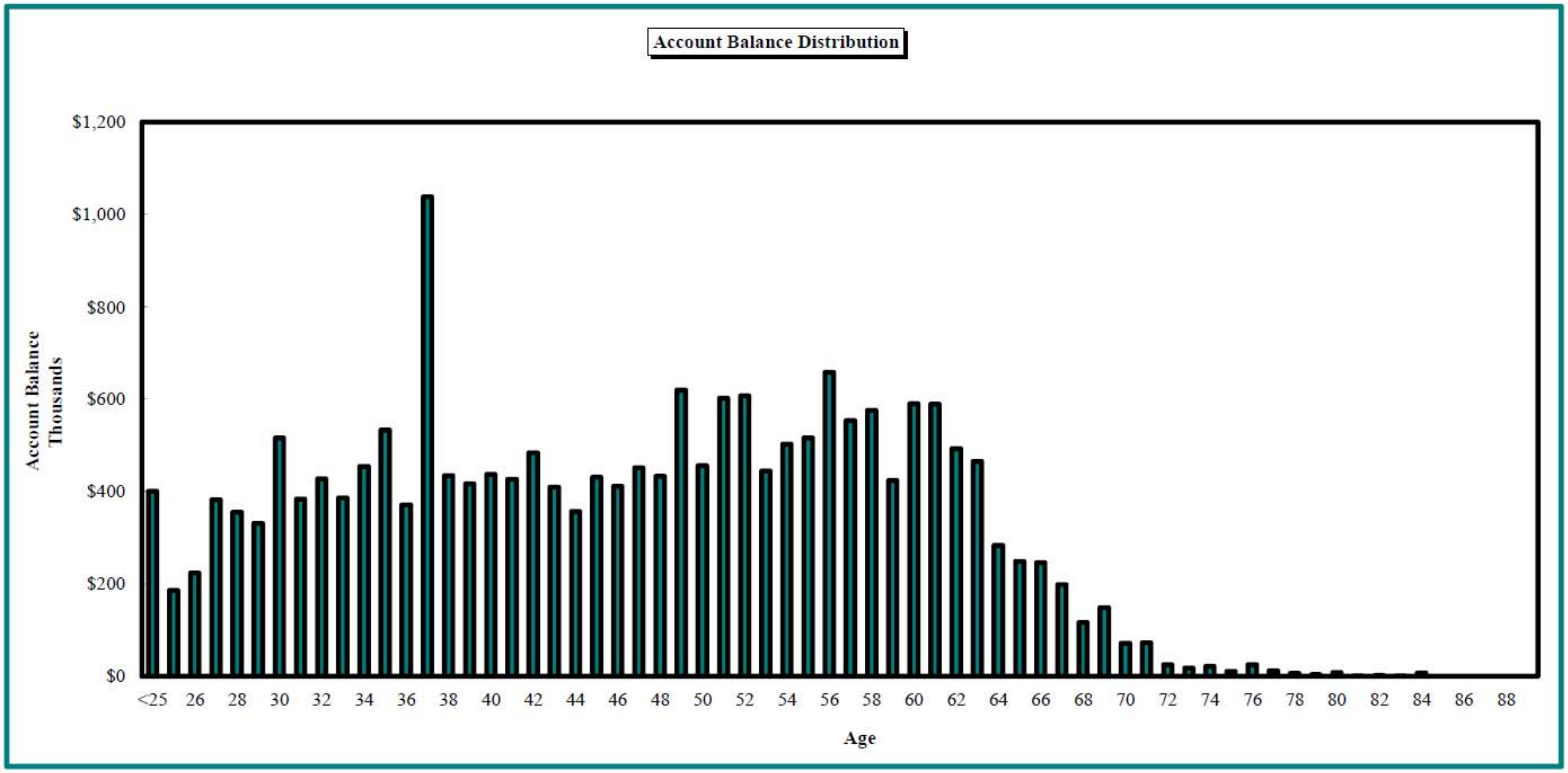
Age	Count	Account Balance	Age	Count	Account Balance
<25	341	$400,862	73	10	$17,733
25	104	$185,504	74	6	$21,278
26	137	$223,452	75	9	$11,016
27	155	$381,520	76	10	$24,583
28	174	$354,713	77	3	$11,460
29	141	$331,084	78	6	$6,470
30	186	$516,129	79	5	$3,365
31	164	$383,684	80	3	$8,245
32	162	$427,089	81	2	$975
33	155	$386,468	82	1	$1,455
34	158	$454,236	83	2	$502
35	175	$533,050	84	3	$7,302
36	151	$371,383	85	0	$0
37	998	$1,038,505	86	0	$0
38	150	$434,847	87	0	$0
39	155	$416,461	88	0	$0
40	165	$437,210	89	0	$0
41	170	$426,082	90	0	$0
42	178	$483,611	91	0	$0
43	176	$409,399	92	0	$0
44	138	$356,725	93	0	$0
45	177	$430,816	94	0	$0
46	144	$411,426	95	0	$0
47	159	$451,364	96	0	$0
48	155	$432,711	97	0	$0
49	182	$619,813	98	0	$0
50	141	$456,060	99	0	$0
51	179	$601,866	100	0	$0
52	184	$607,259	101	0	$0
53	138	$444,435	102	0	$0
54	153	$502,480	103	0	$0
55	152	$515,705	104	0	$0
56	152	$658,293	105	0	$0
57	157	$553,558	106	0	$0
58	157	$575,877	107	0	$0
59	129	$424,122	108	0	$0
60	130	$589,886	109	0	$0
61	148	$588,912	110	0	$0
62	127	$492,260	111	0	$0
63	112	$465,240	112	0	$0
64	70	$283,636	113	0	$0
65	74	$248,579	114	0	$0
66	60	$245,999	115	0	$0
67	60	$198,853	116	0	$0
68	29	$116,021	117	0	$0
69	37	$148,465	118	0	$0
70	27	$71,551	119	0	$0
71	25	$72,514	120	0	$0
72	15	$24,939			
			Totals	7,666	$20,299,036

** 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, 2014



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%
60	0.00%
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 investment 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	4.00% (for amortization and non-GABA post retirement increases)
e. Administrative Expenses as a Percentage of Payroll	0.27%

3. Assumptions related to future member contribution rates

a. For all calculations other than those required due to MCA 19-3-315 and MCA 19-3-316, it is assumed that the member contribution rate will be reduced from 7.9% to 6.9% at January 1, 2019.

b. For calculations required due to MCA 19-3-315 and MCA 19-3-316, the member contribution rate is assumed to be 7.9% for all future years.

4. Changes since Last Valuation

The administrative expense assumption is now explicitly stated as a cost element rather than being included implicitly within the investment return.

Assumptions related to the Guaranteed Annual Benefit Adjustment (GABA) have been removed, since the preliminary injunction on the GABA provisions of House Bill 454 (HB 454) is currently in place.

Assumptions related to future member contribution rates have been updated based on revisions projections, which incorporate Plan experience over the year ending on the valuation date.

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 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 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 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 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 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
FY2015 (July 1, 2014)	0.100
Total Plan Choice Contribution Rate	**2.740%**

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

All members contribute 7.9% of their compensation. This is a temporary 1% increase for members hired prior to July 1, 2011 and remains the same for members hired on or after July 1, 2011. Interest is credited to member accounts at the rates determined by the Board.

All member contributions will be decreased to 6.9% on January 1 following the actuarial valuation results that project the amortization period to drop below 25 years and remain below 25 years following the termination of the 1% additional member contribution rate.

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

Employers contribute 8.27% of each member's compensation. This was increased from 6.9% to 7.035% on July 1, 2007, 7.17% on July 1, 2009, and to 8.17% on July 1, 2013. This is offset by 0.1% of compensation from the State for local governments and school districts. For school districts this offset was increased to 0.235% on July 1, 2007 and 0.37% on July 1, 2009. These increased contributions and offsets will terminate on January 1 following the actuarial valuation results that project the amortization period to drop below 25 years and remain below 25 years following the termination of the additional employer contribution rates. The contribution going into the PERS Defined Benefit Plan is reduced by 0.04% of compensation paid into the Educational Fund.

Effective July 1, 2013, contributions are also made to the System from the Coal Tax Fund.

Beginning July 1, 2013, employers who hire PERS retirees who work less than 960 hours in the calendar year, but do not become active members, contribute 7.9% of the working retiree's compensation.

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.

APPENDIX C
SUMMARY OF PLAN PROVISIONS

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 (HAC)

For members hired prior to July 1, 2011: Highest Average Compensation (HAC) is the average of the highest 36 consecutive months (or shorter period of total service) of compensation paid to the member.

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.

For members hired on or after July 1, 2013: Highest Average Compensation calculations initially exclude amounts over 110% of the compensation included for each previous year with this excess compensation, if any, divided by the member's total months of service credit and added to the compensation for each month considered part of the member's HAC.

Bonuses paid on or after July 1, 2013 to any member will not be treated as compensation for retirement purposes. No member or employer contributions will be paid on bonuses.

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

6. Service Retirement

Eligibility: **For members hired prior to July 1, 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.

APPENDIX C
SUMMARY OF PLAN PROVISIONS

Benefit: **For members hired prior to July 1, 2011:**

(i) If less than 25 years of membership service, the greater of (a) 1/56 of HAC 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 HAC 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.

7. Early Retirement

Eligibility: **For members hired prior to July 1, 2011:**

(i) age 50 with five 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 five years of membership service.

Benefit: **For members hired prior to July 1, 2011 and**

(i) Who retire 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 six to 10 years from service retirement eligibility) by the number of

APPENDIX C
SUMMARY OF PLAN PROVISIONS

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.

(ii) Who retire on or after 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 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 portion 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) 90% of 1/56 of highest average compensation multiplied by service credit, or (b) 25% of highest average compensation.

(ii) If hired after February 24, 1991 and prior to July 1, 2011, (a) less than 25 years of membership service: 1/56 of HAC multiplied by service credit, or (b) at least 25 years of membership service: 2% of HAC multiplied by service credit.

(iii) If hired on or after July 1, 2011 and (a) if less than 10 years of membership service, 1.5% of highest average compensation multiplied by years of service credit, (b) if between 10 and 30 years of membership service, 1/56 of highest average compensation multiplied by years of service credit, or (c) if 30 years of membership service or more, 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.

Death Payment Benefit:

The sum of (1) accumulated contributions plus (2) monthly compensation multiplied by the lesser of years of service credit or six, plus (3) interest until

APPENDIX C
SUMMARY OF PLAN PROVISIONS

benefit paid. However, the survivor of an inactive member who was inactive for more than six months will receive only accumulated contributions and interest from the date of death until payment.

A survivor may elect to receive the payment as a non-increasing annuity that is the actuarial equivalent of the amount of benefit the member would have received.

Survivor Benefit:

For members hired prior to July 1, 2011, the survivorship benefit payable to an active vested member's survivor is the actuarial equivalent of the member's accrued retirement benefit at the time of death or, if the member dies prior to age 50 or 25 years of membership service, the actuarial equivalent of the accrued portion of the early retirement benefit that would have been paid to the member at age 50.

For members hired on or after July 1, 2011, the survivorship benefit payable to an active vested member's survivor is the actuarial equivalent of the member's accrued retirement benefit at the time of death, or if the member dies prior to age 55, the actuarial equivalent of the accrued portion of the early retirement benefit that would have been paid to the member at age 55.

10. Vesting

Eligibility: Five years of membership service.

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.

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 or is divorced from the member, the benefit may revert to the higher Option 1 benefit available at retirement or the retiree may select a different beneficiary and/or a different option if the retiree provides notification within 18 months of the death or divorce.

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.

14. Changes since Last Valuation

The Post Retirement Benefit Increases follow the provision specified by the Code prior to the enactment of House Bill 454, given the preliminary injunction currently in place.

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)	x	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. Funded Percentage

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

12. 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).

13. Investment Return Assumption

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

14. 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 gender.

APPENDIX D
GLOSSARY

15. 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.

16. 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.

17. Unfunded Actuarial Liability

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