

# **MONTANA**

## **Teachers' Retirement System A Component Unit of the State of Montana**

### **COMPREHENSIVE ANNUAL FINANCIAL REPORT FISCAL YEAR ENDED JUNE 30, 2013**

**Shawn Graham  
Executive Director**

**Tammy Rau  
Deputy Executive Director**

**Prepared by:  
The Montana Teachers Retirement System  
1500 East Sixth Avenue, P.O. Box 200139  
Helena, MT 59620-0139**

**<http://www.trs.mt.gov>**

**Alternative accessible formats of this document will be provided upon request.**

## TABLE OF CONTENTS

	<b>PAGE</b>
<b>INTRODUCTORY SECTION</b>	<b>3</b>
EXECUTIVE DIRECTOR'S LETTER OF TRANSMITTAL	5
CERTIFICATE OF ACHIEVEMENT FOR EXCELLENCE IN FINANCIAL REPORTING	10
PPCC PUBLIC PENSION STANDARDS AWARD	11
BOARD OF DIRECTORS AND PROFESSIONAL CONSULTANTS	12
ORGANIZATIONAL CHART	13
<b>FINANCIAL SECTION</b>	<b>14</b>
INDEPENDENT AUDITOR'S REPORT	16
MANAGEMENT'S DISCUSSION AND ANALYSIS	18
STATEMENT OF PLAN NET POSITION	21
STATEMENT OF CHANGES IN PLAN NET POSITION	22
NOTES TO FINANCIAL STATEMENTS	23
REQUIRED SUPPLEMENTARY INFORMATION	32
SUPPORTING SCHEDULES	37
<b>INVESTMENT SECTION</b>	<b>39</b>
REPORT OF INVESTMENT ACTIVITIES	40
INVESTMENT POLICY	42
INVESTMENT RESULTS	42
INVESTMENT SUMMARY AND ASSET ALLOCATION	43
LIST OF TEN LARGEST HOLDINGS IN PORTFOLIO	44
INVESTMENT MANAGEMENT FEES	45
<b>ACTUARIAL SECTION</b>	<b>46</b>
ACTUARY'S CERTIFICATION LETTER	47
SUMMARY OF ACTUARIAL ASSUMPTIONS AND METHODS	52
SCHEDULE OF ACTIVE MEMBER VALUATION DATA	63
SCHEDULE OF RETIREES AND BENEFICIARIES ADDED TO AND REMOVED FROM ROLLS	64
SOLVENCY TEST	65
ANALYSIS OF FINANCIAL EXPERIENCE	66
PROVISIONS OF GOVERNING LAW	68
<b>STATISTICAL SECTION</b>	<b>72</b>
SCHEDULE OF CHANGES IN NET POSITION	73
SCHEDULE OF AVERAGE BENEFIT PAYMENTS	74
SCHEDULE OF MEMBERSHIP	75
SCHEDULE OF RETIRED MEMBERS AND DENEFCIARIES BY TYPE OF BENEFIT	76
SCHEDULE OF PRINCIPLE PARTICIPATING EMPLOYERS	76
LOCATION OF BENEFIT RECIPIENTS	77

# **INTRODUCTORY SECTION**

**EXECUTIVE DIRECTOR'S LETTER OF  
TRANSMITTAL**

**CERTIFICATE OF ACHIEVEMENT FOR  
EXCELLENCE IN FINANCIAL REPORTING**

**PPCC PUBLIC PENSION STANDARDS AWARD**

**BOARD OF DIRECTORS AND PROFESSIONAL  
CONSULTANTS**

**ORGANIZATIONAL CHART**

**(This Page Intentionally Left Blank)**

# TEACHERS' RETIREMENT SYSTEM



STEVE BULLOCK, GOVERNOR

[www.trs.mt.gov](http://www.trs.mt.gov)

## STATE OF MONTANA

1500 EAST SIXTH AVENUE  
PO BOX 200139  
HELENA, MONTANA 59620-0139

1-866-600-4045  
406-444-3134

January 18, 2013

Honorable Steve Bullock  
Governor of Montana  
Room 204, State Capitol  
Helena, MT 59620

Dear Governor Bullock:

On behalf of the Montana Teachers' Retirement Board, we are pleased to present the Montana Teachers' Retirement System's Comprehensive Annual Financial Report (CAFR) for the fiscal year ended June 30, 2013. This report is intended to provide comprehensive information on the financial operations of the Montana Teachers' Retirement System (TRS) for the year. The issuance of the TRS CAFR satisfies the legal requirements of Section 19-20-201 (d) and 19-20-215, Montana Code Annotated (MCA).

TRS management is responsible for the information presented in this report and for establishing and maintaining an internal accounting control structure to reasonably assure the safekeeping of assets and the reliability of financial reporting. Because the cost on internal control should not exceed anticipated benefits, the objective is to provide reasonable, rather than absolute, assurance that the financial statements are free of any material misstatements.

The TRS was established by state law in 1937 and has completed its 76th year of operation. The TRS is providing services to 18,249 active members, 13,868 benefit recipients, and through the Board of Investments, manages assets valued at approximately \$3.1 billion.

### PLAN QUALIFICATION CERTIFICATION

TRS is statutorily required to maintain its status as a qualified plan under Section 401(a) of the Internal Revenue Code (IRC). Qualified plan status provides tax-favorable treatment of contributions to and assets of the retirement system, including that TRS members and employers may make contributions to the retirement system on a pre-tax basis. TRS' qualified plan status is determined by the Internal Revenue Service (IRS) through periodic review of TRS's plan provisions and is evidenced by the IRS's issuance of a favorable "determination letter."

TRS submitted its most recent request for a qualification determination to the IRS on September 29, 2008. On June 28, 2012, TRS received a favorable determination letter indicating TRS is a qualified plan, subject to required adoption of plan amendments defining "normal retirement age" and expressly providing that a vested member has a non-forfeitable

right to benefits upon attainment of normal retirement age. The Montana legislature adopted the required plan amendments in the 2013 legislative session.

TRS will file its next request for a determination letter on or before January 31, 2014 (the IRS "Cycle C" filing deadline). In any case, the current determination letter establishing that TRS is a tax-qualified pension plan will remain in effect until a new qualification determination is issued by the IRS.

## **PLAN FUNDING STATUS**

Statutory changes to contributions and benefits that were passed and approved during the 2013 Legislature have dramatically improved the funded status of the System. The TRS plan's Net Funded Ratio increased from 59.2% at July 1, 2012 to 66.80% at July 1, 2013. In addition, the July 1, 2013 Actuarial Valuation shows that the current contribution rates are sufficient to pay the System's normal cost and to amortize the System's Unfunded Actuarial Accrued Liability (UAAL) in 20 years, based on the current funding methods and long term actuarial assumptions. The normal cost of 9.20% of pay for the year beginning on July 1, 2013 is funded by employer and employee contributions. The remaining contribution of 9.91% is available to fund the amortization of the UAAL along with cash payments from two other sources. The first is \$25 million payable on July 1st on an annual basis from the State of Montana general funds. The second is a one-time contribution payable to the System by the trustees of school districts maintaining a retirement fund. The one-time contribution to the Retirement System shall be the amount earmarked as an operating reserve in excess of 20% of school districts' adopted retirement fund budget for the fiscal year 2013 (approx. \$22 million).

The System's UAAL funded by TRS contributions as of July 1, 2013 is \$1,524.8 million based on actuarial assets. Additional information regarding the financial condition of the TRS plan can be found in the Actuarial Section of this report.

Employers of the Montana University System contribute 4.72% of pay for members of the MUS Retirement Program to fund the past service liabilities of the University System members who remained in TRS after the System was closed in 1993 to new entrants, as required under §19-20-621, MCA. The most recent MUS-ORP actuarial valuation shows the MUS supplemental employer contribution rate required by this section would have to increase from 4.72% to 9.04% to maintain the amortization of the university system's past service liabilities by July 1, 2033, as required by §19-20-621.

## **ANNUAL REQUIRED CONTRIBUTION**

The Governmental Accounting Standards Board (GASB) Statement No. 25, Financial Reporting for Defined Benefit Pension Plans, guidelines specify a 30-year maximum for the amortization of the Unfunded Actuarial Accrued Liability in order for the System to be considered actuarially sound. With the additional funding provided in HB 377 during the 2013 Legislature, TRS amortizes in 20 years according to the July, 1, 2013 Actuarial Valuation.

The Annual Required Contribution (ARC) rate is the contribution rate determined by the Actuary, that if contributed each year, would be needed to fund benefits accrued in the current

period (the normal cost) plus the amount needed to amortize the system's UAAL over 30 years. As of July 1, 2013, contributions are sufficient to fund the ARC.

## **INVESTMENT ACTIVITY**

The Montana Board of Investments (BOI) manages the State's Unified Investment Program, which includes the TRS plan investments as required by Section 19-20-501, MCA. The Unified Investment Program is required by law, 17-6-201 MCA, to operate under the "prudent expert principle", defined as: 1) discharging its duties with the care, skill, prudence, and diligence that a prudent person acting in a like capacity with the same resources and familiar with like matters exercises in the conduct of an enterprise of like character and like aims; 2) diversifying the holdings of each fund to minimize the risk of loss and maximize the rate of return; and 3) discharging its duties solely in the interest of and for the benefit of the funds managed.

The TRS investment portfolio posted a positive total return of 13.06% for the 2013 fiscal year. The System's total annualized rate of return over the last five and ten years was 4.78% and 6.61% respectively. The BOI invests the TRS and other pension portfolios for the long-term and its investment strategies, based on an asset/liability study completed in May 2006, are designed to provide sufficient returns over time. However, there is no guarantee of future investment performance. Performance in any given year is dependent not only on the BOI's investment performance but also on the performance of the markets themselves, which are impacted by domestic and global economic conditions, interest rates, and government policies. Please refer to the Investment Section of this report for additional detailed information regarding TRS investments.

### **TRS Investment Rates of Returns**

	FY 2013	3-Year	5-Year	10-Year
Retirement Funds Bond Pool	1.62%	5.47%	6.58%	5.48%
MT Domestic Equities Pool	22.01%	18.36%	6.92%	6.93%
MT International Equities Pool	14.40%	8.11%	-2.11%	7.23%
MT Private Equities Pool	12.55%	14.95%	6.32%	12.39%
MT Real Estate Pool	8.55%	12.13%	(3.44)%	N/A
Short-term Investment Pool	0.25%	0.29%	0.57%	2.01%
Total Portfolio	13.06%	12.15%	4.78%	6.61%

## **PENDING LITIGATION**

On October 11, 2013, the State of Montana, the Teachers' Retirement Board and the Teachers' Retirement System were named as plaintiffs in a lawsuit filed by six retired members of TRS and MEA-MFT. The lawsuit seeks to prevent a 1% reduction to the guaranteed annual benefit adjustment (GABA) that was included in HB 377 during the 2013 Legislature. The July 1, 2013 Actuarial Valuation includes analysis of the funded status and amortization period of the system with and without the adjustment to GABA. The funded status of the System without

the GABA reduction would be 61.81% and the amortization period would be 29 years which is below the industry standard of a 30 year amortization period.

## **AWARDS**

The Government Finance Officers Association (GFOA) of the United States and Canada awarded a Certificate of Achievement for Excellence in Financial Reporting to Teachers' Retirement System for its Consolidated Annual Financial Report for the fiscal year ended June 30, 2012. This is the seventh consecutive year that Teachers' Retirement System has received this prestigious award. In order to be awarded a Certificate of Achievement, a government must publish an easily readable and efficiently organized Consolidated Annual Financial Report. This report must satisfy both generally accepted accounting principles (GAAP) and applicable legal requirements.

A Certificate of Achievement is valid for a period of one year only. We believe our current Consolidated Annual Financial Report continues to meet the Certificate of Achievement Program's requirements and we are submitting it to GFOA to determine its eligibility for another certificate.

The Public Pension Coordinating Council (PPCC) also awarded TRS the Public Pension Standards Award for Administration for 2013 in recognition of meeting the professional standards for plan administration as set forth in the Public Pension Standards. The PPCC is a coalition of the National Association of State Retirement Administrators, the National Conference on Public Employee Retirement Systems, and the National Council on Teacher Retirement.

## **INDEPENDENT AUDITOR**

The financial statements contained in the TRS CAFR were audited by the State's Legislative Audit Division (LAD) in accordance with generally accepted auditing standards. The Legislative Auditor is appointed by and reports to the State's Legislative Audit Committee. The LAD issued an unmodified opinion on the TRS financial statements for fiscal year 2013.

The Management's Discussion and Analysis and financial statements with accompanying notes, required supplementary information with notes and supporting schedules can be found in the Financial Section of this report.

## **CONCLUSION**

On behalf of the Board, I would like to thank the staff, the Board's advisors, and the many people whose commitment, dedication, and proficiency has directly contributed to the continued successful operation of the Montana Teachers' Retirement System. The Teachers' Retirement Board and staff look forward to continuing to serve the educators of Montana.

Sincerely,

*/s/ Shawn Graham*

Shawn Graham  
Executive Director



Government Finance Officers Association

Certificate of  
Achievement  
for Excellence  
in Financial  
Reporting

Presented to

**Montana Teachers'  
Retirement System**

For its Comprehensive Annual  
Financial Report  
for the Fiscal Year Ended

**June 30, 2012**

Executive Director/CEO



Public Pension Coordinating Council

***Recognition Award for Administration  
2013***

Presented to

***Montana Teachers' Retirement System***

In recognition of meeting professional standards for  
plan administration as  
set forth in the Public Pension Standards.

*Presented by the Public Pension Coordinating Council, a confederation of*

National Association of State Retirement Administrators (NASRA)  
National Conference on Public Employee Retirement Systems (NCPERS)  
National Council on Teacher Retirement (NCTR)

*/s/ Alan H. Winkle*

Alan H. Winkle  
Program Administrator

**TEACHERS' RETIREMENT SYSTEM  
BOARD OF DIRECTORS AND  
PROFESSIONAL CONSULTANTS**

**BOARD OF DIRECTORS**

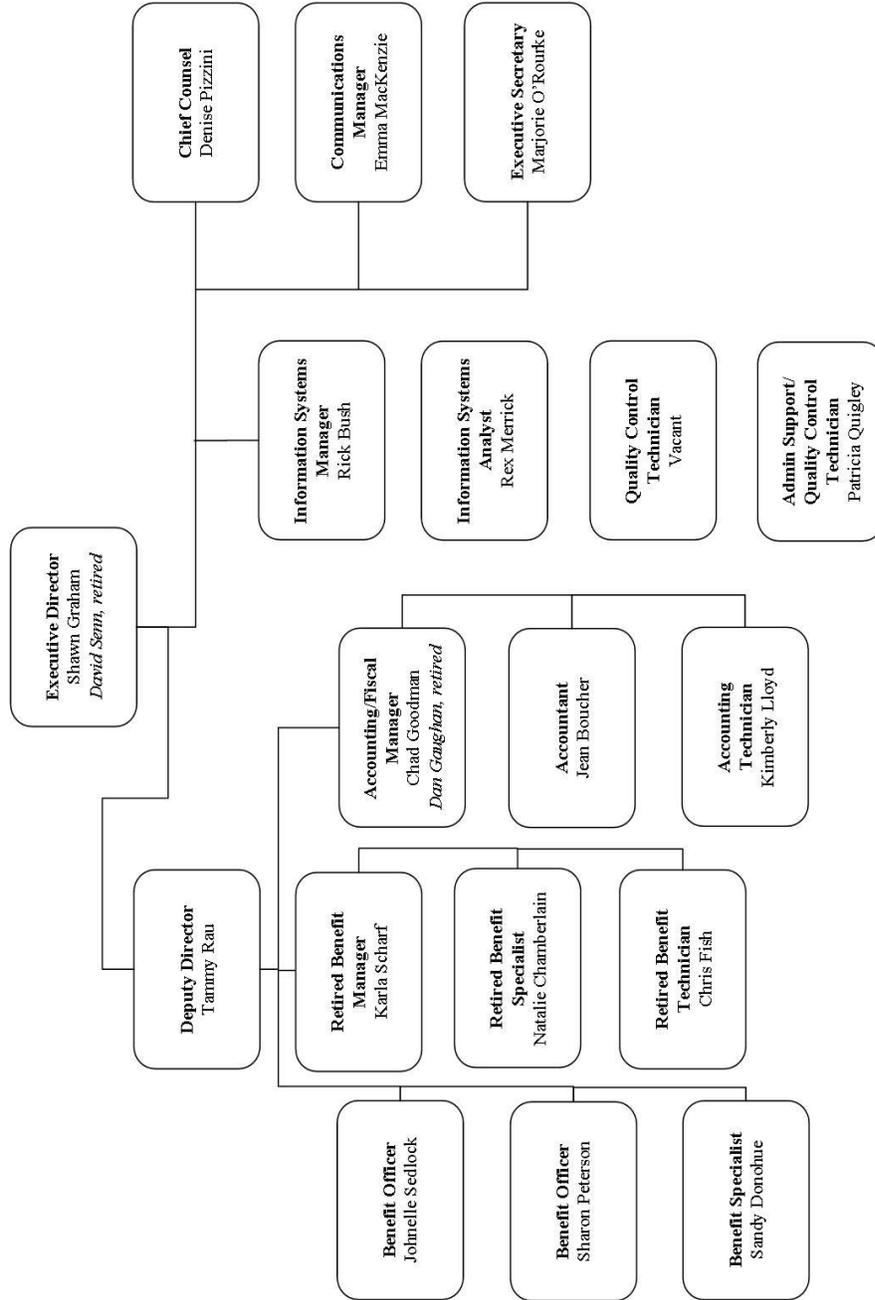
	Term Expires
ROBERT PANCICH, RPancich@mt.gov CHAIR Public Representative	JULY 1, 2014
LISA CORDINGLY, LCordingly@mt.gov Public Representative	JULY 1, 2015
JANICE MULLER, JMuller@mt.gov Active Member	JULY 1, 2016
MARILYN RYAN, mryan2@mt.gov Retired Member	JULY 1, 2016
KARI PEIFFER, kpeiffer@mt.gov Active Member	JULY 1, 2017
SCOTT DUBBS, sdubbs@mt.gov Active Member	JULY 1, 2018

**PROFESSIONAL CONSULTANTS**

CAVANAUGH MACDONALD CONSULTING, LLC	3550 Busbee Pky Ste 250 Kennesaw GA 30144
ICEMILLER	Legal & Business Advisors Indianapolis, IN 46282
ALFRED MUNKSGARD	IT Consultant Thousand Oaks, CA 91362
AMDEC SOFTWARE CONSULTING	IT Consultant PO Box 1366 Helena, MT 59624



## Montana Teachers' Retirement System



# **FINANCIAL SECTION**

**INDEPENDENT AUDITOR'S REPORT**

**MANAGEMENT'S DISCUSSION & ANALYSIS**

**STATEMENT OF PLAN NET POSITION**

**STATEMENT OF CHANGES IN PLAN NET POSITION**

**NOTES TO FINANCIAL STATEMENTS**

**REQUIRED SUPPLEMENTARY INFORMATION**

**SUPPORTING SCHEDULES**

**(This Page Intentionally Left Blank)**

# LEGISLATIVE AUDIT DIVISION

Tori Hunthausen, Legislative Auditor  
Deborah F. Butler, Legal Counsel



Deputy Legislative Auditors:  
Cindy Jorgenson  
Angus Maciver

## **Independent Auditor's Report**

The Legislative Audit Committee  
of the Montana State Legislature:

### ***Introduction***

We have audited the accompanying Statement of Plan Net Position of the Teachers' Retirement System as of June 30, 2013, the related Statement of Changes in Plan Net Position for the fiscal year then ended and the related notes to the financial statements, which collectively comprise the system's basic financial statements.

### ***Management's Responsibility for the Financial Statements***

Management is responsible for the preparation and fair presentation of these financial statements in accordance with accounting principles generally accepted in the United States of America; this responsibility includes designing, implementing, and maintaining internal controls relevant to the preparation and fair presentation of financial statements that are free from material misstatement, whether due to fraud or error.

### ***Auditor's Responsibility***

Our responsibility is to express an opinion on these financial statements based on our audit. We conducted our audit in accordance with auditing standards generally accepted in the United States of America. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free from material misstatement.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the financial statements. The procedures selected depend on the auditor's judgment, including the assessment of the risks of material misstatement of the financial statements, whether due to fraud or error. In making those risk assessments, the auditor considers internal controls relevant to the system's preparation and fair presentation of the financial statements in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the system's internal control, and accordingly, we express no such opinion. An audit also includes evaluating the appropriateness of accounting policies used and the reasonableness of significant accounting estimates made by management, as well as the overall presentation of the financial statements.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinion.

### ***Opinion***

In our opinion, the financial statements referred to above present fairly, in all material respects, the financial position of the Teachers' Retirement System as of June 30, 2013, and the changes in financial position for the fiscal year then ended in conformity with accounting principles generally accepted in the United States of America.

***Other Matters***

***Required Supplementary Information***

Accounting principles generally accepted in the United States of America require that the Management's Discussion and Analysis, TRS Plan Schedule of Funding Progress, TRS Plan Schedule of Contributions from Employers and Other Contributing Entities, and Other Postemployment Benefits Plan Information Schedule of Funding Progress be presented to supplement the basic financial statements. Such information, although not a part of the basic financial statements, is required by the Governmental Accounting Standards Board who considers it to be an essential part of financial reporting for placing the basic financial statements in an appropriate operational, economic, or historical context. We have applied certain limited procedures to the required supplementary information in accordance with auditing standards generally accepted in the United States of America, which consisted of inquiries of management about the methods of preparing the information and comparing the information for consistency with management's responses to our inquiries, the basic financial statements, and other knowledge we obtained during our audit of the basic financial statements. We do not express an opinion or provide any assurance on the information because the limited procedures do not provide us with sufficient evidence to express an opinion or provide any assurance.

***Supplementary Information***

Our audit was conducted for the purpose of forming an opinion on the financial statements as a whole. The Schedule of Administrative Expenses, Schedule of Investment Expenses, and Schedule of Payments to Consultants are presented for purposes of additional analysis and are not a required part of the financial statements. Such information is the responsibility of management and was derived from and relates directly to the underlying accounting and other records used to prepare the financial statements. The information has been subjected to the auditing procedures applied in the audit of the financial statements and certain additional procedures, including comparing and reconciling such information directly to the underlying accounting and other records used to prepare the financial statements or to the financial statements themselves, and other additional procedures in accordance with auditing standards generally accepted in the United States of America. In our opinion, the information is fairly stated in all material respects in relation to the financial statements as a whole.

***Other Information***

Our audit was conducted for the purpose of forming an opinion on the basic financial statements as a whole. The Introductory, Investment, Actuarial, and Statistical sections were presented for purposes of additional analysis and are not a required part of the basic financial statements. Such information has not been subjected to the auditing procedures applied in the audit of the basic financial statements, and accordingly, we do not express an opinion or provide any assurance on it.

Respectfully submitted,

*/s/ Cindy Jorgenson*

Cindy Jorgenson, CPA  
Deputy Legislative Auditor  
Helena, MT

November 18, 2013

**TEACHERS' RETIREMENT SYSTEM  
MANAGEMENT'S DISCUSSION AND ANALYSIS**

The following discussion and analysis of the Montana Teachers' Retirement System's (TRS) provides a narrative overview of the TRS's financial activities for the fiscal year ended June 30, 2013.

**Overview of the Financial Statements**

Because of the long-term nature of a defined benefit pension plan, financial statements alone cannot provide sufficient information to properly reflect the System's ongoing plan perspective. The Statement of Plan Net Position reflects the resources available to pay benefits to retirees and beneficiaries. The Statement of Changes in Plan Net Position presents the changes that occurred in those resources for the fiscal year ended.

**Financial Highlights**

- The TRS plan net position increased by \$252.9 million for 2013; representing an increase of 8.6% from the previous fiscal year.
- Net investment income (fair value of investments plus investment income less investment expense) increased in 2013 by \$307.4 million. This is indicative of the markets steady gain as the US economy continued its trend of a slow positive growth during the fiscal year and corporate profits remained positive over the year.
- Pension benefits paid to retirees and beneficiaries increased 6.7% for fiscal year 2013, which is consistent with prior years.

**Condensed Financial Information (in millions)**

For comparative purposes, the Condensed Financial Information below is presented with FY2012 financial information.

<b>Plan Net Position</b>			2013 Percent
	FY2013	FY2012	Inc/(Dec)
Cash/Short-term Investments	\$ 49.3	\$ 35.0	40.9
Receivables	22.9	22.2	3.1
Investments (fair value)	3,254.7	3,006.1	8.3
Other Assets (net)	0.1	0.1	-
Total Assets	3,327.0	3,063.4	8.6
Liabilities	141.9	131.2	8.2
<b>Net Position</b>	<b>\$3,185.1</b>	<b>\$2,932.2</b>	<b>8.6</b>

Changes in Plan Net Position			2013 Percent
	FY2013	FY2012	Inc/(Dec)
Additions:			
Employer Contributions	\$ 74.1	\$ 72.4	2.4
Plan Member Contributions	62.8	62.7	.2
Other Contributions	17.5	16.8	4.3
Net Investment Income	373.7	66.3	463.7
Total Additions	528.2	218.4	141.9
Deductions:			
Benefit Payments	268.3	251.4	6.7
Withdrawals	5.1	5.3	(3.4)
Administrative Expenses	1.9	1.8	7.5
Total Deductions	275.3	258.6	6.5
<b>Net Inc/(Dec) in Plan Net Position</b>	<b>\$ 252.9</b>	<b>\$ (40.2)</b>	<b>729.1</b>

### Financial Analysis

- The change from year-to-year in cash/short-term investments is due mostly to the change in the number of shares held, at a per share value of \$1, in the Short Term Investment Pool.
- The increase in investments for 2013 represents the steady recovery in the economy and capital market conditions.
- The dramatic increase in net investment income for 2013 was due to an overall increase in the market value of our investment holdings as the market increased based on positive corporate profits. Furthermore, the economy continued its steady growth; whereas, FY2012 saw more market volatility.
- The change in receivables in 2013 represents \$0.3 million less in investment interest due and an increase of \$1.052 million in contributions due at year end.
- The change in liabilities is primarily due to the security lending collateral activity by the Montana Board of Investments.
- The increase in benefit payments from year-to-year reflects an increase in the number of retirees and beneficiaries plus the 1.5% guaranteed annual benefit adjustment.

### Overview of the Actuarial Funding

The TRS plan experienced an asset gain over the last year. The market value of assets had a positive return of 12.94% net of investment and operating expenses. The actuarial value of assets earned 11.99% which is 4.24% greater than the actuarial assumption of 7.75%. Actuarial gains or losses result when the return on the actuarial value of assets differs from the actuarial investment return assumption. The following table compares the annual returns for the past three years.

Fiscal Year	Market Return	Actuarial Return	Actuarial Return over/(under) 7.75 %
7/1/2010 to 6/30/2011	21.67%	(0.13)%	(7.88)%
7/1/2011 to 6/30/2012	2.21%	3.21%	(4.54)%
7/1/2012 to 6/30/2013	12.94%	11.99%	4.24%

Contributions as a Percent of Pay

	<u>Members</u>	<u>Rate</u>	<u>Employer</u>	<u>Working Retiree</u> <u>(Employer Only)</u>	<u>State</u> <u>Contribution</u>	<u>Total</u>
July 1, 2009 to June 30, 2013	7.15%	7.47%			2.49%	17.11%
July 1, 2013 and later	8.15%	8.47%		9.85%	2.49%	19.11%

For Fiscal Year beginning July 1, 2013, contributions will increase as set forth in §19-20-608(1), MCA. The increase for members and employers is 1% each. Additionally, §19-20-605, MCA, requires employers to contribute 9.85% for working retirees (in a TRS covered position).

Membership in TRS is now divided into two tiers. A Tier One member is a person who (a) became a member before July 1, 2013 and (b) has not withdrawn their member's account balance. A Tier Two member is a person who (a) first becomes a member on or after July 1, 2013 or (b) after withdrawing their member's account balance, becomes a member again on or after July 1, 2013.

MCA 19-20-201 requires the actuarial report to show how market performance is affecting the actuarial funding of the retirement system. The July 1, 2013 market value of assets is \$117.2 million more than the actuarial value of assets. This is due to the smoothing of investment gains and losses over a four year period. If the market value of assets was used, the amortization period would be 18 years, and the funded ratio would be 69.35%.

**TEACHERS' RETIREMENT SYSTEM  
A COMPONENT UNIT OF THE STATE OF MONTANA  
STATEMENT OF PLAN NET POSITION  
FISCAL YEAR ENDED JUNE 30, 2013**

	<b>2013</b>
<b>ASSETS</b>	
Cash/Cash Equivalents-Short Term	
Investment Pool (Note B)	\$ 49,311,573
Receivables:	
Accounts Receivable	19,291,577
Interest Receivable	3,590,714
Total Receivables	\$ <u>22,882,291</u>
Investments, at fair value (Note B):	
Investment Pools	3,112,815,628
Other Investments	527,645
Securities Lending Collateral (Note B)	141,343,948
Total Investments	\$ <u>3,254,687,221</u>
Assets Used in Plan Operations:	
Land and Buildings	193,844
Less: Accumulated Depreciation	(150,545)
Equipment	142,697
Less: Accumulated Depreciation	(110,110)
Prepaid Expense	1,200
Intangible Assets, net of amortization	0
Total Other Assets	<u>77,086</u>
<b>TOTAL ASSETS</b>	<b>\$ <u>3,326,958,172</u></b>
<b>LIABILITIES</b>	
Accounts Payable	\$ 59,617
Securities Lending Liability (Note B)	141,343,948
Compensated Absences (Note B)	202,791
OPEB Implicit Rate Subsidy (Note E)	287,409
<b>TOTAL LIABILITIES</b>	<b>\$ <u>141,893,765</u></b>
<b>NET POSITION HELD IN TRUST FOR PENSION BENEFITS</b>	<b>\$ <u>3,185,064,406</u></b>

*The accompanying Notes to the Financial Statements are an integral part of this financial statement.*

**TEACHERS' RETIREMENT SYSTEM  
A COMPONENT UNIT OF THE STATE OF MONTANA  
STATEMENT OF CHANGES IN PLAN NET POSITION  
FISCAL YEAR ENDED JUNE 30, 2013**

	<b>2013</b>
<b>ADDITIONS</b>	
Contributions:	
Employer	\$ 74,113,191
Plan Member	62,849,685
Other	17,521,347
Total Contributions	<u>\$ 154,484,223</u>
 Misc Income	 \$ 7,956
Investment Income:	
Net Appreciation/(Depreciation) in Fair Value of Investments	\$ 251,267,246
Investment Earnings	136,721,675
Security Lending Income (Note B)	881,395
Investment Income/(Loss)	<u>\$ 388,870,317</u>
Less: Investment Expense	14,930,082
Less: Security Lending Expense (Note B)	218,700
Net Investment Income/(Loss)	<u>\$ 373,721,534</u>
Total Additions	<u>\$ 528,213,713</u>
 <b>DEDUCTIONS</b>	
Benefit Payments	\$ 268,250,231
Withdrawals	5,119,358
Administrative Expense	1,934,182
OPEB Expenses (Note E)	48,012
Total Deductions	<u>\$ 275,351,783</u>
 <b>NET INCREASE (DECREASE) IN PLAN NET POSITION</b>	 \$ 252,861,930
 <b>NET POSITION HELD IN TRUST FOR PENSION BENEFITS</b>	
<b>BEGINNING OF YEAR</b>	<u>2,932,202,476</u>
<b>END OF YEAR</b>	<u>\$ 3,185,064,406</u>

*The accompanying Notes to the Financial Statements are an integral part of this financial statement.*

**TEACHERS' RETIREMENT SYSTEM  
A COMPONENT UNIT OF THE STATE OF MONTANA  
NOTES TO THE FINANCIAL STATEMENTS  
FISCAL YEARS ENDED JUNE 30, 2013**

**NOTE A. DESCRIPTION OF THE PLAN**

The Teachers' Retirement Board is the governing body of a mandatory multiple-employer cost-sharing defined benefit pension plan, which provides retirement services to persons in Montana employed as teachers or professional staff of any public elementary or secondary school, community college, or unit of the university system. The system was established by the State of Montana in 1937 to provide retirement, death, and disability benefits and is governed by Title 19, chapter 20, of the MCA. TRS as an employer does not participate in the plan and acts only as the administrator of the plan.

At June 30, 2013, the number and type of reporting entities participating in the system were as follows:

Local School Districts & Co-ops	353
Community Colleges	3
University System Units	2
State Agencies	<u>9</u>
Total	367

At July 1, 2013, the date of the most recent actuarial valuation, system membership consisted of the following:

Retirees and Beneficiaries Currently Receiving Benefits	13,868
Terminated Employees:	
Vested	1,566
Non-vested	11,710
Current Active Members:	
Vested	11,832
Non-vested	<u>6,417</u>
Total Membership	45,393

The pension plan provides retirement, death, and disability benefits. Employees with a minimum of 25 years of service or who have reached age 60 with 5 years of service are eligible to receive an annual retirement benefit equal to creditable service years divided by 60 times the average final compensation. Final compensation is the average of the highest three consecutive years of earned compensation. Benefits fully vest after 5 years of creditable service. Vested employees may retire at or after age 50 and receive reduced retirement benefits. For the fiscal year ending, June 30, 2013 and prior, a Guaranteed Annual Benefit Adjustment (GABA) of 1.5% was payable beginning January of each calendar year if the retiree has received at least 36 monthly retirement benefit payments prior to January 1 of the year in which the adjustment is to be made.

## **NOTE B. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES**

### **Basis of Accounting**

The TRS, a discretely presented component unit Pension Trust Fund of the State of Montana financial reporting entity, prepares its financial statements using the accrual basis of accounting. Employee and employer contributions are recognized as revenues in the period when due pursuant to statutory requirements and investment income is recognized when earned. Benefit and withdrawal payments are recorded in the period in which the liabilities are due and payable.

### **Compensated Absences**

Compensated absences represent 100 percent of accrued vacation and 25 percent of accrued sick leave for TRS personnel at June 30, 2013.

### **Cash/Cash Equivalents and Investments**

The Montana Board of Investments (BOI) manages the State's Unified Investment Program, which includes the TRS plan investments as required by Section 19-20-501, Montana Code Annotated. Per the Montana Constitution, Article VIII Section 13(3), investment of TRS assets shall be managed in a fiduciary capacity in the same manner that a prudent expert acting in a fiduciary capacity and familiar with the circumstances would use in the conduct of an enterprise of a similar character with similar aims. Investments administered by the BOI for the TRS are subject to their investment risk policies. Information on investment policies, investment activity, investment management fees and a listing of specific investments owned by the pooled asset accounts can be obtained from Board of Investments at P.O. Box 200126, Helena, MT 59620-0126.

Cash and cash equivalents consist of funds deposited in the State Treasurer's pooled cash account and cash invested in the Short-Term Investment Pool (STIP). Pooled investments other than STIP are reported at the fair value of each unit times the number of units owned. STIP is recorded at \$1 per unit for each unit held. The fair value of publicly traded stocks and bonds is determined by reference to market prices supplied by State Street Bank (the custodial bank). Because a public market does not exist for private equity and real estate investments, the fair value of these investments is the value reported in the most recent external managers' valuation reports.

The TRS investments include: STIP; Retirement Funds Bond Pool (RFBP); Montana Domestic Equity Pool (MDEP); Montana International Equity Pool (MTIP); Montana Private Equity Pool (MPEP), Montana Real Estate Pool (MTRP). Other Investments consist of a portfolio of Structured Investment Vehicles (SIVs) at June 30, 2013.

The TRS Investment Portfolio is listed below:

TRS Cash Equivalent and Investment Portfolio  
June 30, 2013

Investment	Book Value	Fair Value
Short-term Investment Pool	\$ 40,104,344	\$ 40,104,344
Retirement Funds Bond Pool	640,701,331	698,850,177
MT Domestic Equities Pool	430,802,242	1,207,310,806
MT International Equities Pool	349,681,991	523,437,455
MT Private Equities Pool	209,887,966	394,496,433
MT Real Estate Pool	286,502,301	288,720,756
Other Asset Backed Securities	527,645	527,645
Total	<u>\$ 1,958,207,821</u>	<u>\$ 3,153,447,617</u>

Securities Lending – Under the provisions of state statutes, BOI is authorized to lend its securities and has contracted with the custodial bank to lend the BOI securities to broker-dealers and other entities with a simultaneous agreement to return the collateral for the same securities in the future. The custodial bank is required to maintain collateral equal to 102 percent of the fair value of domestic securities and 105 percent of the fair value of international securities while the securities are on loan. The BOI and the custodial bank split the earnings, 80/20% respectively, on security lending activities. The BOI retains all rights and risks of ownership during the loan period. At June 30, 2013, the BOI had no credit risk exposure to borrowers. The private equity and real estate pools do not participate in securities lending. There were no failures by any borrowers to return or pay distributions thereon during the period that resulted in a declaration and notice of Default of the Borrower.

The investment risks for the pooled investments that TRS participates in are described in the following paragraphs. Investments are administered by the BOI, for the TRS, as part of the State of Montana’s Unified Investment Program and are responsible for setting investment risk policies.

Credit Risk – Credit risk is defined as the risk that an issuer or other counterparty to an investment will not fulfill its obligation.

Custodial Credit Risk - Custodial credit risk is the risk that, in the event of the failure of the counterparty to a transaction, the BOI may not be able to recover the value of the investment or collateral securities that are in the possession of an outside party.

Concentration of credit risk – Concentration of credit risk is the risk of loss attributed to the magnitude of an investor’s investment in a single issuer.

Foreign Currency Risk – Foreign currency risk is the risk that changes in exchange rates will adversely affect the fair value of an investment. Currency exposures may be hedged, in a defensive manner, at the discretion of the active managers to preserve the U.S. dollar value of investments made. The managers are not allowed to engage in currency speculation, such as over-hedging, reverse hedging, cross-hedging or other trading activity not specifically aimed at minimizing risk versus their benchmark or preserving the U.S. dollar value of investments.

Interest Rate Risk – Interest rate risk is the risk that changes in interest rates will adversely affect the fair value of an investment. In accordance with GASB Statement No. 40, the BOI selected the effective duration method to disclose interest rate risk.

All securities in pools are held in the name of the Montana BOI, or were registered in the nominee name for the Montana BOI and held in the possession of the BOI’s custodial bank. MDEP, MTIP, MPEP, and MTRP do not invest in debt securities, so interest rate risk, credit risk, and concentration of credit risk do not apply to these holdings. According to GASB Statement No. 40, interest rate disclosures are not required for STIP since STIP is a 2a7-like pool. STIP, as an external investment pool, has not been rated. RFBP consists of corporate bonds (rated), international government bonds, municipal government bonds, sovereign bonds, U.S. government direct obligations, and U.S. government agency.

The TRS investments subject to credit and interest rate risk at June 30, 2013 are categorized below:

<u>Investment</u>	<u>Fair Value</u> 6/30/13	<u>Credit</u> <u>Quality</u> <u>Rating</u> 6/30/13	<u>Effective</u> <u>Duration</u> 6/30/13
RFBP	\$ 698,850,177	A+	5.12
STIP	40,104,344	NR	

MPEP, MTRP, MTIP, and RFBP include assets subject to foreign currency risk. TRS’ position in these pools is approximately 37% at June 30, 2013. The Montana BOI MPEP and MTRP investments in EURO currency had a fair value of \$41,413,553 at June 30, 2013. The Montana BOI MTIP and RFBP had cash and securities with a foreign currency value of \$371,435,356 at June 30, 2013.

**NOTE C. CONTRIBUTIONS**

The TRS funding policy provides for monthly employee and employer contributions at rates specified by state law. Plan members, for the fiscal year ending June 30, 2013, were required to contribute 7.15% of their earned compensation and the employer contribution rate for fiscal year 2013 was 9.85% of earned compensation. The State’s General Fund contributed 2.38% of the employer contributions for school district and community college employers of their members earned compensation and an additional .11% of total earned compensation of all members. Each employer in the Montana university system shall contribute to the TRS a supplemental employer contribution currently at a rate of 4.72% of the total compensation of employees participating in the Optional Retirement Program (ORP). An actuary determines the actuarial implications of the funding requirement in annual actuarial valuations. The actuarial method used to determine the implications of the statutory funding level is the entry age actuarial cost method, with both normal cost and amortization of the accrued liability determined as a level percentage of payroll.

**NOTE D. FUNDED STATUS and FUNDING PROGRESS**

Our most recent actuarial valuation may be accessed on our website at: [www.trs.mt.gov/Board/ActuarialValuations/ActuarialValuations](http://www.trs.mt.gov/Board/ActuarialValuations/ActuarialValuations).

The funded status of the TRS plan as of July 1, 2013, the most recent actuarial valuation date is as follows (dollar amounts in millions):

Actuarial Value of Assets	Actuarial Liability (AAL)	Unfunded AAL (UAAL)	Funded Ratio	Covered Payroll	UAAL as a Percentage of Covered Payroll
\$3,067.9	\$4,592.7	\$1,524.8	66.8%	\$742.6	205.3%

The schedule of funding progress, presented as required supplementary information (RSI) following the notes to the financial statements, presents multiyear trend information about whether the actuarial values of plan assets are increasing or decreasing over time relative to the actuarial accrued liabilities for benefits.

Valuation date	July 1, 2013
Actuarial cost method	Entry age
Amortization method	Level percent open
Remaining amortization period	20 years
Asset valuation method	4-year smoothed market
Actuarial assumptions:	
Investment rate of return	7.75%
Projected salary increases	4.50%
Guaranteed annual benefit adjustment	0.50%
Inflation rate	3.50%

The actuarial valuation prepared as of July 1, 2013, the most recent valuation date, indicates that the current employer rate of 10.96%, including the anticipated increases in the employer rate is sufficient to fund the normal cost and to amortize the Unfunded Actuarial Accrued Liability (UAAL) over a 20 year period.

On a market value basis the TRS earned \$149.1 million more than anticipated by the 7.75% assumption for the year ended June 30, 2013 and \$161.8 million less than anticipated by the 7.75% assumption for the year ended June 30, 2012. The net result as of July 1, 2013 is that the market value of assets is \$117.2 million more than the actuarial value of assets. This \$117.2 million in unrecognized asset gains will either offset any future investment losses or if there are none, reduce the amortization period of the UAAL in future valuations.

## NOTE E. OTHER POSTEMPLOYMENT BENEFITS

### Plan Description

TRS employees and dependents are eligible to receive health care through the State Group Benefits Plan administered by the Montana Department of Administration (MDOA). In accordance with Section 2-18-704, MCA, the State provides optional post-employment medical, vision and dental health care benefits for retirees and their dependents and beneficiaries that elect to continue coverage and pay administratively established premiums. Plan coverage is on a calendar year basis. For GASB 45 reporting, the State Group Benefits Plan is considered an agent multiple-employer plan and TRS is considered to be a separate employer participating in the plan. Information about the State of Montana Other Postemployment Benefits (OPEB) can be obtained from the Department of Administration, State Accounting Division, at P.O. Box 200102, Helena, MT 59620-0102.

The plan allows retirees to participate, as a group, at a rate that does not cover all of the related costs. This results in the reporting of an “implied rate” subsidy in the related financial statements and footnotes. While this liability is disclosed for financial statement purposes, it does not represent a legal liability of the TRS.

### Funding Policy

The contribution requirements of plan members are established and may be amended by the MDOA. The monthly premium for plan members ranges from \$285 to \$982 for calendar year 2012 depending on the medical plan selected, family coverage, and Medicare eligibility. Administratively established dental premiums vary between \$34.90 and \$59.36 and vision premiums vary between \$7.64 and \$22.26 depending on the coverage selected. The plan is financed on a pay-as-you-go basis.

### Annual OPEB Cost

The annual required contribution (ARC), an actuarially determined rate in accordance with the parameters of GASB Statement No. 45, represents a level of funding that, if paid on an ongoing basis, is projected to cover the normal cost each year and amortize any unfunded actuarial liabilities (or funding excess) over a period not to exceed 30 years.

#### Annual OPEB Cost

	TRS
Annual required contribution/OPEB cost	\$ 39,446
Interest on net OPEB obligation	8,566
Annual OPEB cost	48,012
Contributions made	-
Increase in net OPEB obligation	48,012
Net OPEB obligation – beginning of year	239,397
Net OPEB obligation – end of year	287,409

The 2013 ARC is calculated for all the plan’s employers and then allocated to each participating employer. The TRS 2013 ARC is \$48,012 and is based on the plan’s current ARC rate of 6.32% percent of total annual covered payroll for all employers. The 2013 ARC is equal to an annual amount required each year to fully fund the liability over 30 years. The amount of the estimated OPEB actuarial accrued liability was determined in accordance with GASB Statement 45, and the liability for TRS is estimated at \$361,053. (The actuarial accrued liability is the present value of future retiree benefits and expenses.) For fiscal year 2013, the TRS allocated annual OPEB cost (expense) of \$48,012 was equal to the ARC. The TRS annual OPEB cost, the percentage of annual OPEB cost contributed to the plan and the net OPEB obligation for 2013 and the three preceding years were as follows:

<u>Fiscal Year Ended</u>	<u>Annual OPEB Cost</u>	<u>% of Annual OPEB Cost Contributed</u>	<u>Net OPEB Obligation</u>
6/30/2009	\$ 49,496	0%	\$ 96,974
6/30/2010	47,181	0%	144,155
6/30/2011	49,187	0%	193,342
6/30/2012	46,055	0%	239,397
6/30/2013	48,012	0%	287,409

### **Funded Status and Funding Progress**

The funded status of the TRS allocation of the plan as of December 31, 2011, the most recent valuation date was as follows:

Actuarial accrued liability (AAL)	\$361,053
Actuarial value of plan assets	\$ 0
Unfunded actuarial accrued liability (UAAL)	\$361,053
Funded ratio (actuarial value of plan assets/AAL)	0
TRS Covered payroll (active plan members)	\$558,646
UAAL as a percentage of covered payroll	64.63%

Actuarial valuations of an ongoing plan involve estimates of the value of reported amounts and assumptions about the probability of occurrence of events far into the future. Examples include assumptions about future employment, mortality, and the healthcare cost trend. Amounts determined regarding the funded status of the plan and the annual required contributions of the employer are subject to continual revision as actual results are compared with past expectations and new estimates are made about the future. Actuarial calculations reflect a long-term perspective. The schedule of funding progress, presented as required supplementary information following the notes to the financial statements, presents multiyear trend information that shows whether the actuarial value of plan assets is increasing or decreasing over time relative to the actuarial accrued liabilities for benefits.

Projections of benefits for financial reporting progress are based on the substantive plan (the plan as understood by the employer and the plan members), and includes the types of benefits provided at the time of each valuation and the historical pattern of sharing of benefit costs

between the employer and plan members to that point. The projection of benefits for financial reporting purposes does not explicitly incorporate the potential effects of legal or contractual funding limitations on the pattern of cost sharing between the employer and plan members in the future.

### **Actuarial Methods and Assumptions**

As of December 31, 2011, the TRS actuarially accrued liability (AAL) for benefits was \$361,053, with no actuarial value of assets, resulting in an unfunded actuarial accrued liability (UAAL) of \$361,053, and the ratio of the UAAL to the covered payroll was 64.63%. The UAAL is being amortized as a level dollar amount over an open basis for 30 years.

In the December 31, 2011, actuarial valuation, the projected unit credit funding method was used for the State. The actuarial assumptions included a 4.25% discount rate and a 2.50% payroll growth rate. The projected annual healthcare cost trend rate is 10.0% for 2011 and decreases by 0.5% per year down to 5% for 2021 and beyond for medical and 10.0% for prescription drugs decreasing by 1% to 5% at 2016 and beyond.

### **NOTE F. SUBSEQUENT EVENT**

The actuarial valuation for the retirement system as of July 1, 2013, included consideration for a plan change made in the 2013 Montana legislative session that authorized a reduction in the statutory “guaranteed annual benefit adjustment” (“GABA” – referred to as a cost of living adjustment in other systems), which reduction would apply to current TRS retirees and active members as well as to new hires. The prior GABA was a non-variable 1.5%, compounding, annual benefit adjustment applied each January 1<sup>st</sup> to the benefits of members who had received at least 36 monthly benefit payments as of that date. The 2013 legislative change, codified at 19-20-719(1), MCA, and effective July 1, 2013, is summarized as follows:

- GABA must be decreased to .5% if the most recent actuarial valuation shows that retirement system liabilities are less than 90% funded
- If the most recent actuarial valuation shows that retirement system liabilities are at least 90% funded and the provision of the increase is not projected to cause the system’s liabilities to be less than 85% funded, the GABA must increase from the .5% floor up to 1.5%, as set by the retirement board

In October 2013, litigation was filed by Plaintiffs who were/are active members or retirees of TRS as of July 1, 2013, challenging the constitutionality of the GABA reduction under the “contract rights” and “takings” provisions of the Montana Constitution, and requesting a preliminary injunction. If the Plaintiffs prevail in the request for a preliminary injunction, at least during the period the preliminary injunction is in place, the expenditure of plan assets will be greater than assumed in the July 1, 2013, actuarial valuation. If the Plaintiffs ultimately prevail in the litigation, the long-term value of the retirement system’s Unfunded Actuarial Accrued Liability (UAAL) will increase over the UAAL determined in the July 1, 2013, actuarial valuation.

Anticipating that a lawsuit would likely be filed contesting the constitutionality of the GABA adjustment, for comparison purposes, TRS asked its contract actuary to also provide an actuarial valuation of the system assuming the GABA continued at the pre July 1, 2013 rate. The comparison actuarial analysis indicated the TRS amortization period would be 20 years under the new GABA provision and 29 years under the old GABA provision with an increase in UAAL from \$1.524 billion to \$1.895 billion and a Funded Ratio decrease from 66.8% to 61.81%. While the comparison analysis likely does not wholly accurately describe what the actuarial valuation would end up being depending on all determinations that might be made by the Court in the litigation, it provides a reasonable estimate of the potential outcome.

**TEACHERS' RETIREMENT SYSTEM  
A COMPONENT UNIT OF THE STATE OF MONTANA  
REQUIRED SUPPLEMENTARY INFORMATION**

**TRS PLAN  
SCHEDULE OF FUNDING PROGRESS**  
(All dollar amounts in millions)

Actuarial Valuation Date	Actuarial Value of Assets	Actuarial Accrued Liabilities (AAL) <sup>1</sup>	Present Value of Future University Supplemental Contributions	Unfunded Actuarial Liabilities (UAAL) <sup>2</sup>	Funded Ratio <sup>3</sup>	Covered Payroll <sup>4</sup>	UAAL as a Percentage of Covered Payroll
July 1, 2013	3,067.9	4,592.7	153.1	1,524.8	66.80%	742.6	205.3%
July 1, 2012	2,852.0	4,814.7	152.4	1,962.7	59.2%	735.6	266.8%
July 1, 2011	2,866.5	4,658.6	155.1	1,792.1	61.5%	746.7	240.0%
July 1, 2010	2,956.6	4,518.2	158.7	1,561.6	65.4%	747.0	209.0%
July 1, 2009	2,762.2	4,331.0	157.2	1,411.6	66.2%	683.2	206.6%
July 1, 2008	3,159.1	4,110.8	157.1	794.6	79.9%	689.5	115.2%

- 1) Actuarial present value of benefits less actuarial present value of future normal costs based on entry age actuarial cost method. Effective July 1, 2010, the System's AAL includes the present value of future university supplemental contributions.
- 2) Actuarial accrued liabilities less actuarial value of assets and present value of future university supplemental contributions. Effective July 1, 2010, the System's UAAL is not offset by the present value of future university supplemental contributions. Instead, the ORP contributions are used as additional contributions toward the System's amortization of the unfunded liability.
- 3) Funded Ratio is the ratio of the actuarial value of assets over the actuarial accrued liabilities less the present value of future university supplemental contributions. Effective July 1, 2010, the System's UAAL is not offset by the present value of future university supplemental contributions. Instead, the ORP contributions are used as additional contributions toward the System's amortization of the unfunded liability.
- 4) Covered Payroll includes compensation paid to all active employees on which contributions are calculated.

**TEACHERS' RETIREMENT SYSTEM  
A COMPONENT UNIT OF THE STATE OF MONTANA  
REQUIRED SUPPLEMENTARY INFORMATION**

**TRS PLAN  
SCHEDULE OF CONTRIBUTIONS FROM EMPLOYERS  
AND OTHER CONTRIBUTING ENTITIES**

(All dollar amounts in thousands)

Fiscal Year Ended	Annual Required Contribution	Percentage Contributed
June 30, 2013	\$ 130,460	70.2%
June 30, 2012	108,984	81.9%
June 30, 2011	91,859	98.3%
June 30, 2010	90,947	98.3%
June 30, 2009	80,998	100.0%
June 30, 2008	81,423	100.0%

*Since the System is a Cost Sharing Multiple Employer Plan, there is no Net Pension Obligation (NPO).*

**TEACHERS' RETIREMENT SYSTEM**  
**A COMPONENT UNIT OF THE STATE OF MONTANA**  
**NOTES TO THE REQUIRED SUPPLEMENTARY INFORMATION**

**Actuarial Cost Method**

The actuarial valuation was prepared using the entry age actuarial cost method. Under this method, the actuarial present value of the projected benefits of each individual included in the valuation is allocated as a level percentage of the individual's projected compensation between entry age and assumed exit. The portion of this actuarial present value allocated to a valuation year is called the normal cost. The normal cost was first calculated for each individual member. The normal cost rate is defined to equal the total of the individual normal costs, divided by the total pay rate.

The portion of this actuarial present value not provided for at a valuation date by the difference of (a) the actuarial value of the assets and (b) the actuarial present value of future normal costs is called the unfunded actuarial accrued liability. The unfunded actuarial accrued liability is amortized as a level percentage of the projected salaries of present and future members of the System.

The ultimate cost of any pension program over time equals the benefits paid and expenses incurred while administering the program. The source of revenue used to pay for this cost is equal to the contribution from employers and employees to fund the program, plus investment return earned on contributions made through pre-funding the benefit payments.

**Valuation of Assets - Actuarial Basis**

The actuarial asset valuation method spreads asset gains and losses over four years. The expected return is determined each year based on the beginning of year market value and actual cash flows during the year. Any difference between the expected market value return and the actual market value return is recognized evenly over a period of four years. The gains and losses are measured starting with the year ended June 30, 2007. The actuarial value of assets is not allowed to be greater than 120% or less than 80% of the market assets. (Adopted July 1, 2007)

**Inflation Rate**

The assumed inflation rate is 3.50% per annum, compounded annually (adopted July 1, 2004).

**Investment Earnings**

The annual rate of investment earnings of the assets of the System is assumed to be 7.75% per year, compounded annually. (Adopted July 1, 2004)

**Guaranteed Annual Benefit Adjustment Increases**

On January 1 of each year, the retirement allowance payable must be increased by 0.5% if the retiree has received benefits for at least 36 months prior to January 1 of the year in which the adjustment is to be made.

**Future Salaries**

The rates of annual salary increases assumed for the purpose of the valuation include an assumed 4.5% annual rate of increase in the general wage level of the membership plus a variable merit and longevity rate from 0% to 4.51%. The merit and longevity increases for the Montana University System (MUS) members did not show a pattern of increasing or decreasing with service at the time of our most recent study. Therefore, the MUS members have a flat 1% merit and longevity assumption. The general wage increase assumption was adopted July 1, 2004 and the merit and longevity scales were adopted July 1, 2002.

MUS members are assumed to have a 0.63% higher average final compensation to account for the larger than average annual compensation increases observed in the years immediately preceding retirement.

**Amortization Method**

The unfunded actuarial accrued liability created by this method, including gains and losses, is amortized as a level percentage of the System's projected payroll.

**Amortization Period**

The amortization period of the unfunded actuarial liability is 20 years as of July 1, 2013.

**TEACHERS' RETIREMENT SYSTEM  
A COMPONENT UNIT OF THE STATE OF MONTANA  
REQUIRED SUPPLEMENTARY INFORMATION**

**Other Postemployment Benefits Plan Information  
Schedule of Funding Progress  
(All dollar amounts in thousands)**

Actuarial Valuation Date	Actuarial Value of Assets (a)	Actuarial Accrued Liability (AAL) (b)	Unfunded (UAAL) (b-a)	Funded Ratio (a/b)	Annual Covered Payroll (c)	UAAL as % of covered Payroll ((b-a/c)
12/31/2007	-	\$ 449,321	\$ 449,321	0%	\$ 519,969	86.41%
12/31/2009	-	357,664	357,664	0%	526,794	67.89%
12/31/2011	-	361,053	361,053	0%	558,646	64.63%

**TEACHERS' RETIREMENT SYSTEM  
NOTES TO THE REQUIRED SUPPLEMENTARY INFORMATION**

Valuation date	December 31, 2011
Actuarial cost method	Projected unit credit funding
Amortization method	Level percent of payroll, open
Remaining amortization period	30 years
Asset valuation method	Not applicable since no assets meet the definition of plan assets under GASB 45
Actuarial assumptions:	
Projected salary increases	2.50%
Participation	
Future retirees	55.0%
Future eligible spouses	60.0%
Inflation rate	4.25%

**TEACHERS' RETIREMENT SYSTEM  
A COMPONENT UNIT OF THE STATE OF MONTANA  
SUPPORTING SCHEDULES  
FISCAL YEARS ENDED JUNE 30, 2013**

**SCHEDULE OF ADMINISTRATIVE EXPENSES**

Expenses for the administration of the plan, excluding compensated absences, depreciation and amortization, are budgeted and approved by the TRS Board. The administrative costs of the TRS are financed through realized investment income. The expenses, less amortization of intangible assets, may not exceed 1.5% of retirement benefits paid. Administrative expenses for the fiscal year ended June 30, 2013 are outlined below:

	<u>2013</u>
Budgeted Expenses:	
Personnel Services:	
Salaries	\$ 851,413
Other Compensation	3,500
Employee Benefits	<u>275,344</u>
Total Budgeted Personal Services	<u>\$ 1,130,257</u>
Operating Expenses:	
Contracted Services	\$ 506,204
Supplies & Material	30,717
Communications	74,329
Travel	14,340
Rent	58,680
Repair & Maintenance	30,321
Other Expenses	<u>33,220</u>
Total Budgeted Operating Expenses	<u>\$ 747,812</u>
Non-Budgeted Expenses:	
Compensated Absences	\$ 23,922
Depreciation	18,589
Amortization of Intangible Assets	<u>13,603</u>
Total Non-Budgeted Expenses	<u>\$ 56,114</u>
<b>Total Administrative Expenses</b>	<b><u><u>\$ 1,934,182</u></u></b>

**TEACHERS' RETIREMENT SYSTEM  
A COMPONENT UNIT OF THE STATE OF MONTANA  
SUPPORTING SCHEDULES  
FISCAL YEARS ENDED JUNE 30, 2013**

**SCHEDULE OF INVESTMENT EXPENSES**

Investment	BOI	Custodial Bank	External Managers	Total
Short-term Investment Pool	\$ 8,080	\$ 3,696	\$	\$ 11,776
Retirement Funds Bond Pool	207,433	84,248	569,464	2,840,168
Montana Domestic Equity Pool	181,779	198,688	2,459,700	2,840,168
Montana International Equity Pool	162,879	46,594	1,104,638	1,314,112
Montana Private Equity Pool	246,836	47,694	5,994,693	6,289,223
Montana Real Estate Pool	151,131	29,444	3,433,084	3,613,659
	<u>\$ 958,137</u>	<u>\$ 410,365</u>	<u>\$ 13,561,581</u>	<u>\$ 14,930,082</u>

**SCHEDULE OF PAYMENTS TO CONSULTANTS** (included in administrative contracted services on previous page)

	<u>2013</u>
Actuarial Services	\$ 101,134
Personnel Services	7,627
Legal Services	31,106
Medical Evaluations	480
Information Technology Services	<u>196,371</u>
<b>Total Consultant Payments</b>	<b>\$ <u>336,718</u></b>

# **INVESTMENT SECTION**

**REPORT ON INVESTMENT ACTIVITIES**

**INVESTMENT POLICY**

**INVESTMENT RESULTS**

**INVESTMENT ASSET ALLOCATION AND SUMMARY**

**LIST OF TEN LARGEST HOLDINGS IN PORTFOLIOS**

**INVESTMENT MANAGEMENT FEES**

# MONTANA BOARD OF INVESTMENTS

Department of Commerce

Street Address:  
2401 Colonial Drive, 3<sup>rd</sup> Floor  
Helena, MT 59601

Mailing Address:  
P.O. Box 200126  
Helena, MT 59620-0126



Phone: 406/444-0001  
Facsimile: 406/449-6579  
Rateline: 406/444-3557  
Website: [www.investmentmt.com](http://www.investmentmt.com)

## TRS Annual Report Investment Letter For the fiscal year ended 6/30/13

Fiscal year 2013 was a strong year for returns, even though the economy continued a pattern of positive, but somewhat weak growth. The fiscal year return of 13.06% was the third year of double digit returns out of the last four fiscal years, and continued the trend of recovery after the 2008-2009 equity bear market. With the exception of a minor setback during the December quarter, US stocks posted steady gains over the fiscal year, after a much more volatile pattern during fiscal 2012. The latest fiscal year return had a major impact on returns for the longer time periods. The trailing three year return stayed high at 12.15%, while the five year return jumped to 4.78% from only 1.22% a year ago, and the ten year return edged up to 6.61% from last year's 5.97%. These results are prepared by State Street, the custodian for the plan's assets, and are time-weighted net returns computed in conformance with industry standards. Also encouraging was the return relative to our public fund peers. The latest fiscal year return ranked in the top quartile compared to peers, as did the latest two, three and four year returns, while the longer five and seven year periods were solidly in the second quartile.

While it is hard to equate economic growth with market performance, the past fiscal year was one where growth in the US remained mediocre but positive and corporate profits continued to increase. This was contrasted with the rest of the world where the economic backdrop was less positive. Europe fell into recession for the second time in the past five years, while China and many of the other emerging market countries suffered a slowdown in growth that rattled confidence in their markets. This US and global economic backdrop kept interest rates low for much of the year and monetary policy accommodative which acted to support stock market gains, especially US stocks. The exception was emerging market stock returns which suffered compared to developed country stock returns.

Clearly the strong rally in stocks was the driver of the strong fiscal year total plan return. The plan asset mix is heavily equity oriented, and this risk bias paid off handsomely. This risk exposure has been very beneficial since the market and economic recovery began in early 2009. Asset class returns for our three equity pools were 22.0%, 14.4%, and 12.5% for the domestic, international and private equity pools, respectively. Domestic stocks were the clear leader over international stocks, as they have been over the past several years. The private equity pool results tend to lag those of public markets, but still represented a strong return. In contrast to recent fiscal years, fixed income returns suffered this year after rates increased dramatically during the last quarter of the fiscal year in reaction to fears of a shift to a less accommodative monetary policy by the Federal Reserve. The bond pool posted a return of only 1.6% for the year, as compared to over 8% last fiscal year. Given the low level of interest rates, the impact of any rise in rates can be especially harmful to price returns as we saw in the June quarter. The real estate pool continued to post positive returns, with an 8.6% return for the fiscal year, down from 11.5% last fiscal year when it was the leading asset class performer across the portfolio.

The strong public equity returns led to an increase in their overall allocation during the fiscal year. The allocation to domestic stocks rose by 1.1% despite significant sales during the year while a small net addition to international stocks combined with their strong return led to an increased allocation of 0.7%. This combined increase in public equity exposure by 1.8% was partly offset by a decline of (0.6)% in the allocation weight to private equity, as strong distributions from the underlying funds provided excess liquidity which was withdrawn and used for other purposes. These three pools combined represent the total equity allocation which rose by 1.2% to represent 67.4% of total assets at the end of the fiscal year, about the middle of the upper half of our total equity range of 60 – 70%.

Exposure to fixed income fell notably to 22.1%, near the bottom of the allocation range for this asset class, primarily because the relatively weak return here was swamped by the remarkable equity returns which drove the large increase in total assets. The allocation to real estate grew by 1.1% to a 9.2% allocation as significant purchases were made to increase exposure to this asset class. Real estate is expected to continue to perform well and acts as a good diversifier versus the predominant equity-related assets in the portfolio.

The negative cash flow status of the state's combined pension plans continued to worsen during fiscal 2013, with net outflows of approximately \$127 million. While small relative to the total plan assets of over \$8 billion, this explains the need to remain mindful of liquidity needs and the ability to raise cash from asset sales to offset the difference between income and contribution inflows and benefit outflows. The two major pension bills passed during the 2013 legislative session impacting the PERS and TRS plans are expected to mitigate this problem, though the amount of the impact is still under consideration. While the cash flow status is expected to remain negative for these two large plans, there was meaningful improvement in contribution amounts which should provide more flexibility in managing investment assets than there would be otherwise.

Since the end of the fiscal year, debate about the Federal Reserve's (Fed) monetary policy has been in the news given an expectation there could soon be a reduction in the quantity of bond buying currently being conducted by the Fed. The so-called "tapering" of this extraordinary policy, known as quantitative easing, is only being considered by virtue of the improvement in the economy and is hardly as significant as an outright increase in the fed funds rate. Nevertheless, observers have seized upon this inevitable event as another sign that monetary policy will indeed shift into neutral at some point, if not become outright restrictive. Just recently, at the September meeting of the Federal Open Market Committee, there was a decision to continue with the status quo bond buying program. This decision was based on doubts about the current strength of the economy combined with the uncertainty of a near term budget and debt ceiling debate that may act to dampen consumer and business sentiment.

The Fed is also sensitive to the economic effect already seen from higher long term interest rates since early May that resulted in higher mortgage rates which negatively impacted the rebound in housing, at least on the margin. At the same time, the employment picture is not as robust as it might seem since much of the decline in the unemployment rate is explained by a drop in the number of people looking for work.

Aside from all the noise around Fed policy, economies in Europe appear to have emerged from recession and growth in China appears to have picked up recently. This has enabled international stocks to post strong gains along with US stocks, and in some cases exceed domestic stock returns. Primarily due to global equity performance this quarter, the pension portfolios are up over five percent as of this writing in late September. Whether this is sustainable is hard to know, especially with the near term uncertainties surrounding fiscal and monetary policies. Nevertheless, the longer term outlook for most "risk" assets such as stocks, credit, and real estate is positive. There are no major imbalances that would lead to higher inflation or any of the typical resource constraints that could choke off expansion and lead to a cyclical downturn in the economy, profits and, in turn, returns for the majority of the assets held in the portfolio.

Respectfully submitted,

*/s/ Clifford A. Sheets*

Clifford A. Sheets  
Chief Investment Officer, CFA  
Montana Board of Investments

## Investment Policy

The Montana Board of Investments (BOI) manages the State's Unified Investment Program, which includes the TRS plan investments as required by Section 19-20-501, Montana Code Annotated. The Unified Investment Program is required by law to operate under the "prudent expert principle", defined as: 1) discharging its duties with the care, skill, prudence, and diligence that a prudent person acting in a like capacity with the same resources and familiar with like matters exercises in the conduct of an enterprise of like character and like aims; 2) diversifying the holdings of each fund to minimize the risk of loss and maximize the rate of return; and 3) discharging its duties solely in the interest of and for the benefit of the funds managed.

## Investment Results

### TRS Rates of Returns\*

	FY 2013	3-Year	5-Year	10-Year
Short-term Investment Pool	0.25%	0.29%	0.57%	2.01%
1 Mo LIBOR Index	0.21%	0.23%	0.46%	1.97%
Retirement Funds Bond Pool	1.62%	5.47%	6.58%	5.48%
Barclays US Agg Bond Index	(0.69)%	3.51%	5.19%	4.52%
Montana Domestic Equity Pool	22.01%	18.36%	6.92%	6.93%
S&P 1500 Comp Index	21.13%	18.60%	7.27%	7.71%
Montana International Equity Pool	14.40%	8.11%	(2.11)%	7.23%
International Custom Benchmark	13.81%	8.09%	(0.53)%	8.35%
Montana Private Equity Pool	12.55%	14.95%	6.32%	12.39%
S&P 1500 +4% (Qtr Lag)	18.36%	16.97%	10.26%	12.99%
Montana Real Estate Pool	8.55%	12.13%	(3.44)%	N/A
NCREIF ODCE Index (net)	9.66%	14.02%	(1.75)%	5.80%
Total Portfolio	13.06%	12.15%	4.78%	6.61%

\* A time-weighted rate of return

## Investment Summary and Asset Allocation

**JUNE 30, 2013**

Investment	Book Value	Fair Value
Short-term Investment Pool	\$ 40,104,344	\$ 40,104,344
Retirement Funds Bond Pool	640,701,331	698,850,177
Montana Domestic Equity Pool	430,802,242	1,207,310,806
Montana International Equity Pool	349,681,991	523,437,455
Montana Private Equity Pool	209,887,966	394,496,433
Montana Real Estate Pool	286,502,301	288,720,756
Other Investments	527,645	527,645
Total	\$ <u>1,958,207,821</u>	\$ <u>3,153,447,617</u>

**Ten Largest Bond Holdings (RFBP) at fair value:**

1. US Treasury Notes/Bonds	270,349,854
2. FNMA (FANNIE MAE) –mtg-pass-throughs/notes	251,757,028
3. State Street Bank Short Term Investment Fund	79,589,990
4. LB UBS Commercial Mortgage	63,706,132
5. FHLMC (FREDDIE MAC) –mtg-pass-throughs/notes	54,955,308
6. GNMA (GINNE MAE)	49,544,222
7. CITI Group	35,454,857
8. US Dept. of Transportation	33,148,000
9. Morgan Stanley	32,000,717
10. GE Capital	27,791,982

**Ten Largest Domestic Public Equity Holdings (MDEP) at fair value:**

1. Blackrock Equity Index Fund	1,858,376,711
2. Dimensional Fund Advisors Inc	74,787,252
3. Blackrock MidCap Equity Ind Fund	74,051,105
4. State Street Bank and Trust Co	27,134,694
5. Johnson + Johnson	20,031,310
6. Apple Inc	19,517,634
7. Google Inc	17,028,997
8. Exxon Mobil Corp	15,724,712
9. Microsoft Corp	14,586,750
10. Chevron Corp	13,864,123

**Ten Largest International Equity Holdings (MTIP) at fair value:**

1. Blackrock ACWI EX US Superfund	872,671,543
2. DFA International Small Comp	67,160,784
3. Blackrock MSCI EM MKT FR FD B	34,616,110
4. Blackrock ACWI EX US Small Cap	23,510,254
5. Emerging Markets Value	22,455,008
6. EAFE Stock Performance Index	15,997,375
7. Roche Holding AG Genusschein	6,956,735
8. Nestle SA Reg	6,236,708
9. Samsung Electr GDR 144A	5,549,577
10. Royal Dutch Shell PLC A SHS	5,398,037

A complete list of the portfolio holdings is available upon request from the Montana BOI.

## Investment Management Fees

The Legislature sets the maximum management fee the BOI may charge the accounts it manages. The maximum fee is set at the aggregate level and at the beginning of each fiscal year. The BOI allocates the aggregate fees across the Pools. Custodial bank fees are paid by a statutory appropriation from the state general fund. The BOI allocates custodial bank fees across the Pools and accounts invested outside the Pools and deposits the proceeds in the general fund. The State Treasurer then pays the monthly custodial bank fees from the general fund. External manager fees are paid directly from the accounts they manage. TRS investment management fees charged each Pool and mortgages and real estate are shown below:

Investment	BOI	Custodial Bank	External Managers	Total
Short-term Investment Pool	\$ 8,080	\$ 3,696	\$	\$ 11,776
Retirement Funds Bond Pool	207,433	84,248	569,464	2,840,168
Montana Domestic Equity Pool	181,779	198,688	2,459,700	2,840,168
Montana International Pool	162,879	46,594	1,104,638	1,314,112
Montana Private Equity Pool	246,836	47,694	5,994,693	6,289,223
Montana Real Estate Pool	151,131	29,444	3,433,084	3,613,659
	<b>\$ 958,137</b>	<b>\$ 410,365</b>	<b>\$ 13,561,581</b>	<b>\$ 14,930,082</b>

# **ACTUARIAL SECTION**

## **ACTUARY'S CERTIFICATION LETTER**

### **EXHIBITS**

- 1. SUMMARY OF ACTUARIAL ASSUMPTIONS AND METHODS**
- 2. SCHEDULE OF ACTIVE MEMBER VALUATION DATA**
- 3. SCHEDULE OF RETIREES AND BENEFICIARIES ADDED TO AND REMOVED FROM ROLLS**
- 4. SOLVENCY TEST**
- 5. ANALYSIS OF FINANCIAL EXPERIENCE**
- 6. PROVISIONS OF GOVERNING LAW**

Teachers' Retirement Board  
 State of Montana  
 1500 Sixth Avenue  
 Helena, MT 59620-0139

Members of the Board:

We have completed the annual valuation of the Teachers' Retirement System of the State of Montana as of July 1, 2013. The purpose of this valuation is to determine the financial status of the Retirement System. To achieve this purpose, an actuarial valuation is made at the beginning of each fiscal year as required by MCA 19-20-201.

The purpose of this letter is to provide the Actuarial Section, the Schedule of Funding Progress, and the Schedule of Contributions from the Employers and Other Contributing Entities for the System's Comprehensive Annual Financial Report. All results prior to July 1, 2009 were determined by the prior actuarial firm.

The funding objective of the System is to establish contribution rates that will tend to remain level as a percentage of payroll. The contribution rates are:

**History of Legislated Contributions  
 (as a Percent of Pay)**

**School District and Other Employers**

	<u>Members</u>	<u>Employers</u>	<u>General Fund</u>	<u>Total</u>
Prior to July 1, 2007	7.15%	7.47%	0.11%	14.73%
July 1, 2007 to June 30, 2009	7.15%	7.47%	2.39%	16.73%
July 1, 2009 to June 30, 2013	7.15%	7.47%	2.49%	17.11%
July 1, 2013 to June 30, 2014	8.15%	8.47%	2.49%	19.11%
July 1, 2014 to June 30, 2015	8.15%	8.57%	2.49%	19.21%
July 1, 2015 to June 30, 2016	8.15%	8.67%	2.49%	19.31%
July 1, 2016 to June 30, 2017	8.15%	8.77%	2.49%	19.41%
July 1, 2017 to June 30, 2018	8.15%	8.87%	2.49%	19.51%
July 1, 2018 to June 30, 2019	8.15%	8.97%	2.49%	19.61%
July 1, 2019 to June 30, 2020	8.15%	9.07%	2.49%	19.71%
July 1, 2020 to June 30, 2021	8.15%	9.17%	2.49%	19.81%
July 1, 2021 to June 30, 2022	8.15%	9.27%	2.49%	19.91%
July 1, 2022 to June 30, 2023	8.15%	9.37%	2.49%	20.01%
July 1, 2023 to June 30, 2024	8.15%	9.47%	2.49%	20.11%

**State and University Employers**

	<u>Members</u>	<u>Employers</u>	<u>General Fund</u>	<u>Total</u>
Prior to July 1, 2007	7.15%	7.47%	0.11%	14.73%
July 1, 2007 to June 30, 2009	7.15%	9.47%	0.11%	16.73%
July 1, 2009 to June 30, 2013	7.15%	9.85%	0.11%	17.11%
July 1, 2013 to June 30, 2014	8.15%	10.85%	0.11%	19.11%
July 1, 2014 to June 30, 2015	8.15%	10.95%	0.11%	19.21%
July 1, 2015 to June 30, 2016	8.15%	11.05%	0.11%	19.31%
July 1, 2016 to June 30, 2017	8.15%	11.15%	0.11%	19.41%
July 1, 2017 to June 30, 2018	8.15%	11.25%	0.11%	19.51%
July 1, 2018 to June 30, 2019	8.15%	11.35%	0.11%	19.61%
July 1, 2019 to June 30, 2020	8.15%	11.45%	0.11%	19.71%
July 1, 2020 to June 30, 2021	8.15%	11.55%	0.11%	19.81%
July 1, 2021 to June 30, 2022	8.15%	11.65%	0.11%	19.91%
July 1, 2022 to June 30, 2023	8.15%	11.75%	0.11%	20.01%
July 1, 2023 to June 30, 2024	8.15%	11.85%	0.11%	20.11%

In addition to these contributions, the System will receive cash contributions from two sources. The first is \$25 million on an annual basis from the State. The second is a one-time contribution payable to the System by the trustees of school districts maintaining a retirement fund. The one-time contribution to the Retirement System shall be the amount earmarked as an operating reserve in excess of 20% of the adopted retirement fund budget for the fiscal year 2013. This amount has been estimated to be \$14.7 million payable on October 1, 2013.

Finally, employers are now required to contribution 9.85% of total compensation of re-employed retirees who are employed in TRS covered positions.

The July 1, 2013 actuarial valuation indicates that the current employer rate of 10.96% including the anticipated increases in the employer rate is sufficient to pay the System's normal cost and to amortize the System's Unfunded Actuarial Accrued Liability (UAAL) over a 20-year period. The normal cost of 9.20% of pay consists of 1.05% employer contributions and 8.15% employee contributions. The System's UAAL as of July 1, 2013 is \$1,524.8 million. The remaining contribution of 9.91% (10.96%-1.05%) plus the previously mentioned cash contributions go toward funding the amortization of the UAAL.

The assumptions and methods used for funding purposes meet the parameters set for the disclosures presented in the financial section by Governmental Accounting Standards Board (GASB) Statement No. 25, Financial Reporting for Defined Benefit Pension Plans.

A funding measurement that may be considered is the funding ratio of the Actuarial Accrued Liability to Assets. This ratio is shown in the Schedule of Funding Progress. As the actuarial experience varies from year to year, the funding ratio will reflect actuarial gains and losses. The Actuarial Accrued Liability represents the portion of the total plan benefits and expenses which is not provided for by future Normal Cost contributions.

The actuarial assumptions used in our 2013 actuarial valuation are summarized in Exhibit 1. Adoption dates vary by assumption and are provided in Exhibit 1.

In preparing our actuarial valuation reports, we relied, without audit, on the financial statements prepared by the staff of the System. We also relied upon the employee and beneficiary data provided to us by the staff. We compared the data for the July 1, 2013 actuarial valuation with corresponding information from the prior valuation and tested for missing or incomplete items, such as birth dates and hire dates. Based on these tests, we believe the data to be sufficient and reliable for the purposes of our calculations. It should be noted that if any data or other information is inaccurate or incomplete, our calculations might need to be revised.

On the basis of the foregoing, we hereby certify that, to the best of our knowledge and belief, this report is complete and accurate and has been prepared in accordance with generally recognized and accepted actuarial principles and practices which are consistent with the Actuarial Standards of Practice promulgated by the Actuarial Standards Board and the applicable Guides to Professional Conduct, amplifying Opinions, and supporting Recommendations of the American Academy of Actuaries.

The assumptions represent our best estimate of future conditions affecting the System, and we believe they are reasonably related to the past experience of the System. Nevertheless, the emerging costs of the System will vary from those presented in our report to the extent that actual experience differs from that projected by the actuarial assumptions. Gains or losses in future experience may result in changes in future contribution rates. The current actuarial asset method smoothes investment gains and losses over a four year period.

Future actuarial results may differ significantly from the current results presented in this report due to such factors as the following: plan experience differing from that anticipated by the economic or demographic assumptions; changes in economic or demographic assumptions; increases or decreases expected as part of the natural operation of the methodology used for these measurements (such as the end of an amortization period or additional cost or contribution requirements based on the plan's funded status); and changes in plan provisions or applicable law. Since the potential impact of such factors is outside the scope of a normal annual actuarial valuation, an analysis of the range of results is not presented herein.

## Funding and Benefits Policy

The Teachers' Retirement System has adopted a Funding and Benefits Policy to provide general guidelines to help ensure decisions are made based on sound, consistent, and thoroughly examined criteria. The Funding and Benefits Policy includes guidance on the following topics:

### 1) Additional Funding

#### a) The Funding and Benefits Policy states:

- “1. If the amortization period is greater than 30 years, the actuary will recommend the single contribution rate increase that can reasonably expect to fully amortize the UAAL over a closed 30-year period effective July 1, following the next regular legislative session.
2. If the amortization period is less than 30 years, but greater than 0, and it is projected to continue to decline over the remainder of the closed period, the actuary will not recommend a change in the statutory contribution rates.
3. If the amortization period is less than 30 years, but has increased over prior valuations and is projected to continue to grow, the actuary will recommend a contribution rate increase that is reasonably expected to reverse the recent trend and reestablish a closed amortization period equal to that of the last valuation.”

### 2) Analysis: The amortization period as of July 1, 2013 is 20 years based on actuarial assets and 18 years based on market assets. Assuming experience follows the actuarial assumptions, the amortization period is projected to decline. Therefore additional funding is not necessary at this time.

### 3) Ultimate Goal

- a) The Funding and Benefits Policy states: “It is the desire of the Board to fully fund the System. However, until the System becomes fully funded, any unfunded will be amortized over a closed period of no more than 30 years and funded as a level percent of pay. At such time as the System becomes fully funded and has a stabilization reserve of at least 10% of the actuarial accrued liability, the allowed amortization period for any subsequent unfunded liabilities will be reduced to a closed period of not greater than 20 years.”
- b) Analysis: The amortization period on an actuarial value of asset basis is 20 years and is anticipated to decline. This is within the parameters of ultimate goal of the Retirement System.

### 4) Benefit Enhancements

- a) The Funding and Benefits Policy states: “Any recommendation for a benefit enhancement must include recommendations for necessary additional funding or other benefit reduction to cover any increase in normal cost arising from the recommended enhancement and to amortize any increase in the unfunded actuarial accrued liabilities arising from the recommended enhancement over a period not to exceed 25 years.

The Board will determine its position with respect to supporting or opposing legislation, on a case-by-case basis, and will apply this policy, actuarial funding standards, and other industry-standard information and resources if finds persuasive, as decision guides. The Board may not support legislation to enhance benefits if the funded ratio is less than 85%, and the amortization period is greater than 20 years.”

- b) Analysis: Since the funded ratio at July 1, 2013 of 66.80% is below 80% the Board's Funding and Benefits policy does not currently support enhanced benefits.

## Assumption Changes

There have been no assumption changes since the previous valuation.

## Benefit Changes

During the 2013 Legislative Session, HB 377 was passed which had a significant impact on the valuation results as of July 1, 2013. HB 377 provides additional revenue and creates a two tier benefit structure. A Tier One Member is a person who first became a member before July 1, 2013 and has not withdrawn their member's account balance. A Tier Two Member is a person who first becomes a member on or after July 1, 2013 or after withdrawing their member's account balance, becomes a member again on or after July 1, 2013.

The GABA for Tier 1 members has also been modified as follows:

- If the most recent actuarial valuation of the System shows that the funded ratio is less than 90%, then the maximum increase that can be granted is 0.50%.
- If the funded ratio is at least 90% and the increase is not projected to cause the System's funded ratio to be less than 85%, an increase can be granted that is greater than 0.50% but not more than 1.50%.

The second tier benefit structure for members hired on or after July 1, 2013 is summarized below.

- (1) Final Average Compensation: average of earned compensation paid in five consecutive years of full-time service that yields the highest average
- (2) Service Retirement: Eligible to receive a service retirement benefit if the member has been credited with at least five full years of creditable service and has attained the age of 60; or has been credited with 30 or more years of full-time or part-time creditable service and has attained age 55
- (3) Early Retirement: Eligible to receive an early retirement allowance if a member is not eligible for service retirement but has at least five years of creditable service and attained age 55
- (4) Professional Retirement Option: if the member has been credited with 30 or more years of service and has attained the age of 60 they are eligible for an enhanced allowance equal to 1.85% of average final compensation times all service at retirement . Otherwise, the multiplier used to calculate the retirement allowance will be equal to 1.67%
- (5) Annual Contribution: 8.15% of member's earned compensation
- (6) Supplemental Contribution Rate: On or after July 1, 2023, the TRS Board may require a supplemental contribution up to 0.5% if the following three conditions are met:
  - a. The average funded ratio of the System based on the last three annual actuarial valuations is equal to or less than 80%; and
  - b. The period necessary to amortize all liabilities of the System based on the latest annual actuarial valuation is greater than 20 years; and
  - c. A State or employer contribution rate increase or a flat dollar contribution to the Retirement System Trust fund has been enacted that is equivalent to or greater than the supplemental contribution rate imposed by the TRS Board.
- (7) Disability Retirement: A member will not be eligible for a disability retirement if the member is or will be eligible for a service retirement on the date of termination
- (8) Guaranteed Annual Benefit Adjustment (GABA):
  - a. If the most recent actuarial valuation shows that Retirement System liabilities are at least 90% funded and the provision of the increase is not projected to cause the System's liabilities to be less than 85% funded, the GABA may increase from the 0.5% floor up to 1.5%, as set by the Board.

## Contribution Changes

Since the previous valuation the passage of HB 377 during the 2013 legislative session increased revenue from the members, employers and the State as follows:

- Annual State contribution equal to \$25 million paid to the System in monthly installments.
- One-time contribution payable to the Retirement System by the trustees of a school district maintaining a retirement fund. The one-time contribution to the Retirement System shall be the amount earmarked as an operating reserve in excess of 20% of the adopted retirement fund budget for the fiscal year 2013. This amount has been estimated to be \$14.7 million payable October 1, 2013.
- 1% supplemental employer contribution. This will increase the current employer rates:
  - School Districts contributions will increase from 7.47% to 8.47%
  - The Montana University System and State Agencies will increase from 9.85% to 10.85%.
  - The supplemental employer contribution will increase by 0.1% each fiscal year for fiscal year 2014 thru fiscal year 2024. Fiscal years beginning after June 30, 2024 the total supplemental employer contribution will be equal to 2%.
- Members hired prior to July 1, 2013 (Tier 1) under HB 377 are required to contribute a supplemental contribution equal to an additional 1% of the member's earned compensation.

In addition HB 34 was passed which requires each employer to contribute 9.85% of total compensation paid to all re-employed TRS retirees employed in a TRS reportable position to the System.

## Method Changes

Since the previous valuation, there have been no methodology changes.

The following exhibits provide further information.

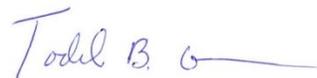
Exhibit 1	Summary of Actuarial Assumptions and Methods
Exhibit 2	Schedule of Active Member Valuation Data
Exhibit 3	Schedule of Retirees and Beneficiaries Added to and Removed from Rolls
Exhibit 4	Solvency Test
Exhibit 5	Analysis of Financial Experience
Exhibit 6	Provisions of Governing Law
Exhibit 7	Schedule of Funding Progress
Exhibit 8	Schedule of Contributions from Employers and other Contributing Entities

Edward A. Macdonald and Todd B. Green are members of the American Academy of Actuaries and a Fellow of the Conference of Consulting Actuaries, and an Associate of the Society of Actuaries and meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion contained herein.

Sincerely,



Edward A. Macdonald, ASA, FCA, MAAA  
President



Todd Green, ASA, FCA, MAAA  
Principal and Consulting Actuary

EAM/kc

Enclosures

**Exhibit 1**

**TEACHERS' RETIREMENT SYSTEM OF MONTANA  
SUMMARY OF ACTUARIAL ASSUMPTIONS AND METHODS**

Retirement, disablement and termination of employment assumptions reflect the five-year experience study for the period ending 2009 adopted by the Board on May 13, 2010.

The current asset valuation method was adopted for the July 1, 2007 valuation.

The current mortality assumptions were adopted for the July 1, 2006 valuation.

Economic assumptions were reviewed in the 2009 Investigation of Experience Study.

Tables A-3 through A-6 give rates of decrement for service retirement, disablement, mortality, and other terminations of employment.

**Actuarial Cost Method**

The actuarial valuation was prepared using the entry age actuarial cost method. Under this method, the actuarial present value of the projected benefits of each individual included in the valuation is allocated as a level percentage of the individual's projected compensation between entry age and assumed exit. The portion of this actuarial present value allocated to a valuation year is called the normal cost. The normal cost was first calculated for each individual member. The normal cost rate is defined to equal the total of the individual normal costs, divided by the total pay rate.

The portion of this actuarial present value not provided for at a valuation date by the sum of (a) the actuarial value of the assets and (b) the actuarial present value of future normal costs is called the UAAL. The UAAL is amortized as a level percentage of the projected salaries of present and future members of the System.

**Records and Data**

The data used in the valuation consist of financial information; records of age, sex, service, salary, contribution rates, and account balances of contributing members; and records of age, sex, and amount of benefit for retired members and beneficiaries. All of the data were supplied by the System and are accepted for valuation purposes without audit.

**Exhibit 1  
(Continued)**

**TEACHERS' RETIREMENT SYSTEM OF MONTANA**

**SUMMARY OF ACTUARIAL ASSUMPTIONS AND METHODS**

**Replacement of Terminated Members**

The ages at entry and distribution by sex of future members are assumed to average the same as those of the present members they replace. If the number of active members should increase, it is further assumed that the average entry age of the larger group will be the same, from an actuarial standpoint, as that of the present group. Under these assumptions, the normal cost rates for active members will not vary with the termination of present members.

**Employer Contributions**

At the time of this valuation, the total employer contribution rate for normal costs and amortization of the UAAL was 10.96% of members' salaries. The employer contribution rate will increase by 0.10% each year beginning July 1, 2014 until the total employer contribution rate equals 11.96%.

**Administrative and Investment Expenses**

The administrative and investment expenses of the System are assumed to be funded by investment earnings in excess of 7.75% per year.

**Valuation of Assets - Actuarial Basis**

The actuarial asset valuation method spreads asset gains and losses over four years. The expected return is determined each year based on the beginning of year market value and actual cash flows during the year. Any difference between the expected market value return and the actual market value return is recognized evenly over a period of four years. The gains and losses are measured starting with the year ended June 30, 2007. The actuarial value of assets is not allowed to be greater than 120% or less than 80% of the market assets. (Adopted effective July 1, 2007.)

**Investment Earnings**

The annual rate of investment earnings of the assets of the System is assumed to be 7.75% per year, compounded annually. (Adopted effective July 1, 2004)

**Interest on Member Contributions**

Interest on member contributions is assumed to accrue at a rate of 5% per annum, compounded annually. This assumption was set as of July 1, 2004.

**Postretirement Benefit Increases**

On January 1 of each year, the retirement allowance payable must be increased by 0.5% if the retiree has received benefits for at least 36 months prior to January 1 of the year in which the adjustment is to be made.

**Exhibit 1  
(Continued)**

**TEACHERS' RETIREMENT SYSTEM OF MONTANA**

**SUMMARY OF ACTUARIAL ASSUMPTIONS AND METHODS**

**Future Salaries**

The rates of annual salary increase assumed for the purpose of the valuation are illustrated in Table A-2. In addition to increases in salary due to merit and longevity, this scale includes an assumed 4.5% annual rate of increase in the general wage level of the membership. The merit and longevity increases for the MUS members did not show a pattern of increasing or decreasing with service at the time of our most recent study. Therefore, the MUS members have a flat 1% merit and longevity assumption. The general wage increase assumption was adopted July 1, 2004 and the merit and longevity scales were adopted July 1, 2002.

Montana University System (MUS) members are assumed to have a 0.63% higher average final compensation to account for the larger than average annual compensation increases observed in the years immediately preceding retirement.

**Service Retirement**

Table A-3 shows the annual assumed rates of retirement among members eligible for service retirement. Separate rates are used when a member is eligible for reduced benefits, for the first year a member is eligible for full benefits, and for the years following the first year a member is eligible for full benefits. The rates for General Members were adopted May 13, 2010. The rates for University Members were adopted May 13, 2010.

**Disablement**

The rates of disablement used in this valuation are illustrated in Table A-4. These rates were adopted May 13, 2010.

**Mortality**

The mortality rates used in this valuation are illustrated in Table A-5. A written description of each table used is included in Table A-1. These rates were adopted July 1, 2006.

**Other Terminations of Employment**

The rates of assumed future withdrawal from active service for reasons other than death, disability or retirement are shown for representative ages in Table A-6. These rates were adopted May 13, 2010.

**Exhibit 1  
(Continued)**

**TEACHERS' RETIREMENT SYSTEM OF MONTANA**

**SUMMARY OF ACTUARIAL ASSUMPTIONS AND METHODS**

**Benefits for Terminating Members**

Members terminating with less than five years of service are assumed to request an immediate withdrawal of their contributions with interest. Table A-7 shows the assumed probability of retaining membership in the System among members terminating with five or more years of service. These rates were adopted July 1, 2002.

We estimated the present value of future benefits for terminated vested members based on the greater of the present value of their deferred benefit at age 60 or their available contribution account.

**Part-Time Employees**

The valuation data for active members identify part-time members. Part-time members earning less than \$1,000 during the last year were valued at their current member contribution balance.

**Optional Retirement Program**

ORP payroll as of June 30, 2013 was \$198,324,794.

Effective for fiscal years after June 30, 2007 until June 30, 2033, the Optional Retirement Program contribution rate is 4.72%, pursuant to MCA 19-20-621.

**Buybacks, Purchase of Service, and Military Service**

The active liabilities and normal cost (excluding liabilities and normal cost in respect of Return of Employee Contributions) were increased to 100.5% of their original value to fund this additional service based on a study of the System's experience for the five calendar years 1995 through 1999. Effective July 1, 2008.

**Probability of Marriage**

If death occurs in active status, all members are assumed to have an eligible surviving spouse and two children. The spouse is assumed to be the same age as the member.

**Records with no Birth Date**

New records with no birth date are assumed to be 25 years old. Records that are not new and have no birth date used the same birth date as the prior year's valuation.

**Exhibit 1  
(Continued)**

**TEACHERS' RETIREMENT SYSTEM OF MONTANA  
SUMMARY OF ACTUARIAL ASSUMPTIONS AND METHODS**

**Table A-1**

I. Economic assumptions		
A.	General wage increases* (Adopted July 1, 2004)	4.50%
B.	Investment return (Adopted July 1, 2004)	7.75%
C.	Price Inflation Assumption (Adopted July 1, 2004)	3.50%
D.	Growth in membership	0.00%
E.	Postretirement benefit increases (Starting three years after retirement)	0.50%
F.	Interest on member accounts (Adopted July 1, 2004)	5.00%
II. Demographic assumptions		
A.	Individual salary increase due to promotion and longevity (General Member assumptions adopted July 1, 2002) (University Member assumptions adopted July 1, 2000)	Table A-2
B.	Retirement (adopted May 13, 2010)	Table A-3
C.	Disablement (adopted May 13, 2010)	Table A-4
D.	Mortality among contributing members, service retired members, and beneficiaries  For Males: RP 2000 Combined Mortality Table for Males, set back three years, with mortality improvements projected by Scale AA to 2008 (adopted July 1, 2006).  For Females: RP 2000 Combined Mortality Table for Females, set back two years, with mortality improvements projected by Scale AA to 2008 (adopted July 1, 2006).	Table A-5
E.	Mortality among disabled members  For Males: RP 2000 Disabled Mortality Table for Males, set back three years, with mortality improvements projected by Scale AA to 2008 (adopted July 1, 2006).  For Females: RP 2000 Disabled Mortality Table for Females, set forward three years, with mortality improvements projected by Scale AA to 2008 (adopted July 1, 2006).	Table A-5
F.	Other terminations of employment (adopted May 13, 2010)	Table A-6
G.	Probability of retaining membership in the System upon vested termination (adopted July 1, 2002)	Table A-7

\* *Montana University System (MUS) members are assumed to have a 0.63% higher average final compensation to account for the larger than average annual compensation increases observed in the years immediately preceding retirement.*

**Exhibit 1  
(Continued)**

**TEACHERS' RETIREMENT SYSTEM OF MONTANA  
SUMMARY OF ACTUARIAL ASSUMPTIONS AND METHODS**

**Table A-2  
Future Salaries**

Years of Service	General Members			University Members		
	Individual Merit & Longevity	General Wage Increase	Total Salary Increase	Individual Merit & Longevity	General Wage Increase	Total Salary Increase
1	4.51%	4.50%	9.01%	1.00%	4.50%	5.50%
2	4.09	4.50	8.59	1.00	4.50	5.50
3	3.46	4.50	7.96	1.00	4.50	5.50
4	2.94	4.50	7.44	1.00	4.50	5.50
5	2.52	4.50	7.02	1.00	4.50	5.50
6	2.21	4.50	6.71	1.00	4.50	5.50
7	1.89	4.50	6.39	1.00	4.50	5.50
8	1.68	4.50	6.18	1.00	4.50	5.50
9	1.47	4.50	5.97	1.00	4.50	5.50
10	1.31	4.50	5.81	1.00	4.50	5.50
11	1.16	4.50	5.66	1.00	4.50	5.50
12	1.00	4.50	5.50	1.00	4.50	5.50
13	0.84	4.50	5.34	1.00	4.50	5.50
14	0.68	4.50	5.18	1.00	4.50	5.50
15	0.58	4.50	5.08	1.00	4.50	5.50
16	0.47	4.50	4.97	1.00	4.50	5.50
17	0.37	4.50	4.87	1.00	4.50	5.50
18	0.26	4.50	4.76	1.00	4.50	5.50
19	0.21	4.50	4.71	1.00	4.50	5.50
20	0.16	4.50	4.66	1.00	4.50	5.50
21	0.11	4.50	4.61	1.00	4.50	5.50
22 & Up	0.00	4.50	4.50	1.00	4.50	5.50

**Exhibit 1  
(Continued)**

**TEACHERS' RETIREMENT SYSTEM OF MONTANA  
SUMMARY OF ACTUARIAL ASSUMPTIONS AND METHODS**

**Table A-3  
Retirement**

**Annual Rates**

Age	General Members			University Members		
	Eligible for Reduced Benefits	First Year Eligible for Full Benefits	Thereafter	Eligible for Reduced Benefits	First Year Eligible for Full Benefits	Thereafter
45		8.0%	5.5%		17.0%	8.0%
46		8.0	5.5		17.0	8.0
47		8.0	5.5		17.0	8.0
48		8.0	5.5		17.0	8.0
49	*	8.0	5.5	*	17.0	8.0
50	5.0%	8.0	5.5	7.0%	17.0	8.0
51	5.0	8.0	6.3	7.0	17.0	8.0
52	5.0	8.0	8.0	7.0	17.0	8.0
53	5.0	9.0	7.3	7.0	17.0	8.0
54	5.0	9.0	8.2	7.0	17.0	8.0
55	7.0	9.0	9.8	7.0	15.0	8.0
56	7.0	12.0	11.3	7.0	15.0	8.0
57	7.0	11.8	12.5	7.0	15.0	8.0
58	7.0	14.8	13.1	7.0	15.0	8.0
59	7.0	17.4	14.8	7.0	15.0	8.0
60	*	14.6	17.0	*	15.0	8.5
61		21.3	25.0		14.0	14.5
62		23.8	25.0		20.0	19.0
63		11.4	25.0		14.0	14.5
64		19.0	25.0		20.0	18.0
65		40.0	35.0		28.0	26.0
66		8.0	20.0		21.0	21.0
67		30.0	20.0		21.0	24.5
68		6.0	20.0		21.0	19.5
69		6.0	20.0		21.0	30.0
70		**	**		**	**

\* All benefits are unreduced after attaining age 60. Reduced benefits are not available before age 50.  
 \*\* Immediate retirement is assumed at age 70 or over.

**Exhibit 1  
(Continued)**

**TEACHERS' RETIREMENT SYSTEM OF MONTANA  
SUMMARY OF ACTUARIAL ASSUMPTIONS AND METHODS**

**Table A-4  
Disablement**

**Annual Rates**

<u>Age</u>	<u>All Members</u>
25	.005%
30	.005
35	.008
40	.028
45	.044
50	.063
55	.084
60	.100

**Exhibit 1  
(Continued)**

**TEACHERS' RETIREMENT SYSTEM OF MONTANA  
SUMMARY OF ACTUARIAL ASSUMPTIONS AND METHODS**

**Table A-5  
Mortality**

**Annual Rates**

Age	Contributing Members, Service Retired Members and Beneficiaries		Disabled Members	
	Men	Women	Men	Women
25	.03%	.02%	1.97%	.68%
30	.04	.02	2.17	.69
35	.05	.04	2.17	.67
40	.09	.05	2.17	.66
45	.11	.08	2.08	.85
50	.15	.12	2.23	1.31
55	.23	.20	2.69	1.89
60	.41	.38	3.32	2.43
65	.78	.73	3.99	3.19
70	1.45	1.29	4.90	4.33
75	2.42	2.17	6.15	6.01
80	4.22	3.55	8.30	8.30
85	7.55	5.91	11.43	11.86

**Exhibit 1  
(Continued)**

**TEACHERS' RETIREMENT SYSTEM OF MONTANA  
SUMMARY OF ACTUARIAL ASSUMPTIONS AND METHODS**

**Table A-6  
Other Terminations of Employment  
Among Members Not Eligible to Retire  
Annual Rates**

<u>Years of Service</u>	<u>All Members</u>
1	36.5%
2	20.5
3	14.6
4	10.5
5	8.5
6	7.0
7	6.4
8	5.8
9	5.4
10	5.0
11	4.3
12	3.9
13	3.5
14	3.2
15	2.9
16	2.6
17	2.3
18	2.0
19	1.9
20	1.8
21	1.7
22	1.6
23	1.5
24	1.5

**Exhibit 1  
(Continued)**

**TEACHERS' RETIREMENT SYSTEM OF MONTANA  
SUMMARY OF ACTUARIAL ASSUMPTIONS AND METHODS**

**Table A-7  
Probability of Retaining Membership in the System  
Upon Vested Termination**

<u>Age</u>	<u>Probability of Retaining Membership</u>
25	54%
30	54
35	58
40	58
45	60
50	70
55	75

**Exhibit 2**

**TEACHERS' RETIREMENT SYSTEM OF MONTANA  
SCHEDULE OF ACTIVE MEMBER VALUATION DATA**

<b>Full-Time Members</b>				
<u>Valuation Date</u>	<u>Number</u>	<u>Annual Payroll</u>	<u>Average Annual Payroll</u>	<u>Annualized % of Increase in Average Pay</u>
July 1, 2004	12,601	510,808,000	40,537	6.7%
July 1, 2005	12,523	523,909,000	41,836	3.2%
July 1, 2006	12,715	549,268,000	43,198	3.3%
July 1, 2007	12,634	568,351,000	44,986	4.1%
July 1, 2008	12,694	592,514,000	46,677	3.8%
July 1, 2009	12,673	613,077,000	48,377	3.6%
July 1, 2010	12,711	630,444,000	49,598	2.5%
July 1, 2011	12,506	633,005,000	50,616	2.1%
July 1, 2012	12,202	622,140,000	50,987	0.7%
July 1, 2013	12,229	628,832,000	51,421	0.9%
<b>Part-Time Members*</b>				
<u>Valuation Date</u>	<u>Number</u>	<u>Annual Payroll</u>	<u>Average Annual Payroll</u>	<u>Annualized % of Increase in Average Pay</u>
July 1, 2004	5,013	60,300,000	12,029	6.1%
July 1, 2005	5,019	62,000,000	12,353	2.7%
July 1, 2006	4,840	57,700,000	11,921	(3.5)%
July 1, 2007	4,994	61,100,000	12,235	2.6%
July 1, 2008	5,077	64,900,000	12,783	4.5%
July 1, 2009	5,270	69,900,000	13,264	3.8%
July 1, 2010	5,642	74,571,000	13,217	(0.4)%
July 1, 2011	5,400	73,275,000	13,569	2.7%
July 1, 2012	5,534	73,788,000	13,334	(1.7)%
July 1, 2013	5,387	73,430,000	13,631	2.2%

\* Excludes part-time active members with annual compensation less than \$1,000.

**Exhibit 3**

**TEACHERS' RETIREMENT SYSTEM OF MONTANA**

**SCHEDULE OF RETIREES AND BENEFICIARIES ADDED TO AND REMOVED FROM ROLLS\***

Year Ended	Added to Rolls		Removed from Rolls		Rolls End of Year		% Increases in Annual Allowances	Average Annual Allowances
	No.	Annual Allowances	No.	Annual Allowances	No.	Annual Allowances		
June 30, 2004	1,232	N/A	625	N/A	10,375	157,776,000	14.8%	15,400
June 30, 2005	613	N/A	324	N/A	10,664	170,129,000	6.5%	15,954
June 30, 2006	617	12,898,000	262	1,913,000	11,019	181,114,000	6.5%	16,436
June 30, 2007	668	16,737,000	331	2,614,000	11,356	195,237,000	7.8%	17,192
June 30, 2008	762	17,688,000	330	3,940,000	11,788	208,985,000	7.0%	17,729
June 30, 2009	512	12,072,000	264	1,790,000	12,036	219,267,000	4.9%	18,218
June 30, 2010	698	16,124,000	294	1,343,000	12,440	234,048,000	6.7%	18,814
June 30, 2011	789	20,846,000	330	4,394,000	12,899	250,500,000	7.0%	19,420
June 30, 2012	777	22,108,000	313	4,757,000	13,363	267,851,000	6.9%	20,044
June 30, 2013	834	21,500,000	329	5,018,000	13,868	284,333,000	6.2%	20,503

\*Information provided where available

**Exhibit 4**

**TEACHERS' RETIREMENT SYSTEM OF MONTANA**

**SOLVENCY TEST**

(All dollar amounts in millions)

<b>Actuarial Valuation Date</b>	<b>Actuarial Value of Assets</b>	<b>Aggregate Accrued Liabilities For</b>			<b>Portion of Accrued Liabilities Covered by Reported Asset</b>		
		<b>(1) Active Member Contributions</b>	<b>(2) Retirants and Beneficiaries</b>	<b>(3) Active Members (Employer Financed Portion)</b>	<b>(1)</b>	<b>(2)</b>	<b>(3)</b>
July 1, 2006	2,745.8	791.3	2,033.8	908.5	100.0%	96.1%	0.0%
July 1, 2007	3,006.2	804.5	2,171.1	952.9	100.0%	100.0%	3.2%
July 1, 2008	3,159.1	823.6	2,313.0	974.2	100.0%	100.0%	2.3%
July 1, 2009	2,762.2	832.8	2,415.8	1,082.4	100.0%	79.9%	0.0%
July 1, 2010	2,956.6	823.9	2,557.0	1,137.2	100.0%	83.4%	0.0%
July 1, 2011	2,866.5	803.3	2,721.4	1,133.8	100.0%	75.8%	0.0%
July 1, 2012	2,852.0	780.7	2,898.9	1,135.1	100.0%	71.5%	0.0%
July 1, 2013	3,067.9	756.9	2,828.6	1,007.2	100.0%	81.7%	0.0%

## **Exhibit 5**

### **TEACHERS' RETIREMENT SYSTEM OF MONTANA ANALYSIS OF FINANCIAL EXPERIENCE**

An analysis of financial experience is performed in conjunction with all regularly scheduled valuations.

The results of our analysis of the financial experience of the System in the two most recent regular actuarial valuations are presented in this Exhibit 5. Each gain or loss shown represents our estimate of how much the given type of experience caused the Unfunded Actuarial Accrued Liability or Funding Reserve to change in the period since the previous actuarial valuation.

Gains and losses shown due to demographic sources are approximate. Demographic experience is analyzed in greater detail in our periodic assumption studies.

Non-recurring gains and losses result from changes in the actuarial assumptions and benefit improvements.

**Exhibit 5**  
**(Continued)**

**TEACHERS' RETIREMENT SYSTEM OF MONTANA**

**ANALYSIS OF FINANCIAL EXPERIENCE \***

(All dollar amounts in millions)

	<b>UAAL (Gain)/Loss</b>		
	<b>June 30, 2013</b>	<b>June 30, 2012</b>	<b>June 30, 2011</b>
<b>Investment Income</b>			
Investment income was (greater) less than expected based on actuarial value of assets.	\$ (118.2)	\$ 128.0	\$ 229.8
<b>Pay Increases</b>			
Pay increases were (less) greater than expected.	(38.2)	(58.2)	(36.7)
<b>Age &amp; Service Retirements</b>			
Members retired at (older) younger ages or with (less) greater final average pay than expected	19.3	19.8	19.0
<b>Disability Retirements</b>			
Disability claims were (less) greater than expected	0.3	0.4	0.2
<b>Death-in-Service Benefits</b>			
Survivor claims were (less) greater than expected	(0.4)	(0.1)	(0.5)
<b>Withdrawal From Employment</b>			
(More) less reserves were released by withdrawals than expected	4.1	6.7	5.4
<b>Death After Retirement</b>			
Retirees (died younger) lived longer than expected	2.3	4.6	2.6
<b>Data Adjustments and Benefit Payment Timing</b>			
Service purchases, data corrections, etc.	(4.4)	10.2	(10.9)
<b>Other</b>			
Miscellaneous (gains) and losses	0.1	0.5	5.8
<b>Total (Gain) or Loss During Period From Financial Experience</b>	<b>\$ (135.1)</b>	<b>\$ 111.9</b>	<b>\$ 214.7</b>
<b>Non-Recurring Items.</b>			
Changes in actuarial assumptions and methods			
Changes in benefits caused a (gain) loss	(371.1)		(6.7)
<b>Composite (Gain) Loss During Period</b>	<b>\$ (506.2)</b>	<b>\$ 111.9</b>	<b>\$ 208.0</b>

\* Effects related to gains are shown in parentheses. Numerical results are expressed as a (decrease) increase in the Unfunded Actuarial Accrued Liability (UAAL). Gains decrease the UAAL and losses increase the UAAL.

## **Exhibit 6**

### **TEACHERS' RETIREMENT SYSTEM OF MONTANA**

#### **PROVISIONS OF GOVERNING LAW**

##### **Effective Date**

September 1, 1937.

##### **Vesting Period**

Five years. No benefits are payable unless the member has a vested right, except the return of employee contributions with interest.

##### **Tier One Member**

A person who became a member before July 1, 2013 and who has not withdrawn the member's account balance.

##### **Tier Two Member**

A person who became a member on or after July 1, 2013, or who after withdrawing the member's account balance, became a member again after July 1, 2013.

##### **Final Compensation**

Tier One Members

Average of highest three consecutive years of earned compensation.

Tier Two Members

Average of highest five consecutive years of earned compensation.

##### **Normal Form of Benefits**

Life only annuity. All benefits cease upon death; however, in no event will the member receive less than the amount of employee contributions with interest.

## **Exhibit 6 (Continued)**

### **Normal Retirement Benefits**

#### Tier One Members

- Eligibility: 25 years of service or age 60 with five years of service.
- Benefit: The retirement benefit is equal to 1/60 of final compensation for each year of service.

#### Tier Two Members

- Eligibility: Age 55 with 30 years of service or age 60 with five years of service.
- Benefit: A member age 60 with at least 30 years of creditable service will receive a retirement allowance equal to 185/100 of final compensation for each year of service. Otherwise, the multiplier used to calculate the retirement allowance will equal 1/60 of final compensation for each year of service.

### **Early Retirement Benefits**

#### Tier One Member

- Eligibility: Five years of service and age 50.
- Benefit: The retirement benefit is calculated in the same manner as described for normal retirement, but the benefit is actuarially reduced by the lesser of the number of years equal to the age of the participant at the early retirement subtracted from age 60 or the number of years of service at early retirement subtracted from 25 years of service.

#### Tier Two Member

- Eligibility: Five years of service and age 55.
- Benefit: The retirement benefit is calculated in the same manner as described for normal retirement, but the benefit is actuarially reduced by the lesser of the number of years equal to the age of the participant at the early retirement subtracted from age 60 or the number of years of service at early retirement subtracted from 30 years of service.

## Death Benefit

Eligibility: Five years of service.

Benefit: The death benefit is equal to 1/60 of final compensation for each year of service accrued at date of death, with an actuarial adjustment based on the relation of the member's age at death to the beneficiary's age. A monthly benefit of \$200 is paid to each child until age 18. In addition, a lump-sum benefit of \$500 is paid upon the death of an active or retired member.

## Disability Benefit

Eligibility: Five years of service.

Benefit: The disability benefit is equal to 1/60 of final compensation for each year of service accrued at date of disability. The minimum benefit is 1/4 of the final compensation. A Tier Two Member is not eligible for a disability retirement if the member is or will be eligible for a service retirement on or before the member's date of determination.

## Withdrawal Benefits

With less than five years of service, the accumulated employee contributions with interest are returned. With more than five years, the member may elect a refund of contributions with interest or leave the contributions and interest in the System and retain a vested right to retirement benefits.

## Contributions

Tier One Member: 7.15% of compensation. Tier One members are required to contribute a Supplemental Contribution equal to an additional 1% of compensation. The Board may decrease the Supplemental Contribution if the average funded ratio of the System based on the last three actuarial valuations is equal to or greater than 90% and the period necessary to amortize the unfunded liabilities of the System based on the most recent actuarial valuation is less than 15 years. Following one or more decreases in the supplemental contribution the Board may increase the supplemental contribution to a rate not to exceed 1% if the average funded ratio of the System based on the last three annual actuarial valuations is equal to or less than 80% and the period necessary to amortize all liabilities of the System based on the most recent annual actuarial valuation is greater than 20 years.

Tier Two Member: 8.15% of compensation. The Board may require a Tier Two member to contribute a Supplemental Contribution if the average funded ratio of the System based on the last three actuarial valuations is equal to or less than 80% and the period necessary to amortize the unfunded actuarial accrued liability is greater than 20 years and a State or employer contribution rate increase or a flat dollar contribution to the System has been enacted which is equivalent to or greater than the Supplemental Contribution Rate imposed by the Board. A single Tier Two Supplemental Contribution Rate increase cannot exceed 0.5% of compensation and in total cannot exceed 9.15% of compensation. The Board may decrease the Supplemental Contribution if the average funded ratio of the System based on the previous three annual actuarial valuations is equal to or greater than 90%; and the period necessary to amortize the unfunded actuarial accrued liability is less than 15 years.

Employer: 9.96% of compensation. Employer's are required to contribute a supplemental contribution equal to 1% for fiscal year 2014 and increase by 0.1% each fiscal year through 2024. The Board may decrease the Employer Supplemental Contribution if the average funded ratio of the System based on the last three actuarial valuations is equal to or greater than 90% and the period necessary to amortize the unfunded actuarial accrued liability based on the most recent valuation is less than 15 years and the GABA has been increased to the maximum allowable. Following one or more decreases in the Supplemental Contribution Rate the Board may increase the Supplemental Contribution Rate to a rate not to exceed 1% if the average funded ratio of the System based on the last three actuarial valuations is equal to or less than 80% and the period necessary to amortize the unfunded actuarial accrued liability is greater than 20 years.

MCA 19-20-604 specifies that the employer contribution rate will be reduced by 0.11% when the amortization period of the System's UAAL is 10 years or less according to the System's latest actuarial valuation.

State Supplemental Contribution: \$25 million per year on an annual basis

Re-employed Retirees: Employers are required to contribute 9.85% of total compensation paid to re-employed retirees who are hired in a TRS covered position.

Interest on Member

Effective July 1, 2010, the interest credited on member contributions is reduced from 1.0% to 0.25% per annum.

Cost-of-Living Adjustments

On January 1 of each year, if the retiree has received benefits for at least 36 months prior to January 1 of the year in which the adjustment is to be made, for Tier One Members, the retirement allowance will be increased by 0.5% if the funded ratio of the System is less than 90%. If the most recent actuarial valuation shows that the System is at least 90% funded and the provisions of the increase is not projected to cause the System's liabilities to be less than 85% funded, the increase can be an amount greater than 0.5% and no more than 1.5%, as set by the Board.

For Tier Two Members, the retirement allowance will be increased by an amount equal to or greater than 0.5% but no more than 1.5% if the most recent actuarial valuation shows the System to be at least 90% funded and the provisions of the increase is not projected to cause the funded to be less than 85%.

# STATISTICAL SECTION

## **SCHEDULE OF CHANGES IN NET POSITION**

This schedule allows the reader an opportunity to review trends in the revenues and expenses of the TRS for the last ten years.

## **SCHEDULE OF AVERAGE BENEFIT PAYMENTS**

This schedule shows the average monthly benefit, average final average salary, and number of retirees categorized by years of credited service for the last ten years.

## **SCHEDULE OF MEMBERSHIP**

This schedule presents the membership type for the last ten years.

## **SCHEDULE OF RETIRED MEMBERS AND BENEFICIARIES BY TYPE OF BENEFIT**

This schedule shows the number of retirees and beneficiaries by benefit type for the current year.

## **SCHEDULE OF PRINCIPAL PARTICIPATING EMPLOYERS**

This schedule presents the 15 largest employers in the TRS for the current year as compared to nine years ago.

## **LOCATION OF BENEFIT RECIPIENTS**

This schedule lists the number of current beneficiaries by geographic location.

## Teachers' Retirement System

### A Component Unit of the State of Montana

#### Schedule of Changes in Net Position

#### Last Ten Fiscal Years

*(In thousands)*

	2013	2012	2011	2010	2009	2008	2007	2006	2005	2004
Additions:										
Member Contributions	\$ 62,850	62,746	62,993	62,845	57,256	59,552	56,509	53,293	52,900	51,383
Employer Contributions	74,113	72,422	72,880	72,179	66,851	67,922	61,944	58,269	57,150	55,774
Other Contributions	17,521	16,844	17,437	17,242	14,147	13,492	50,720	100,693	656	770
Misc Income	8	10	17	65	16	16	16	4		
Net Investment Income	373,722	66,341	539,028	294,954	(613,028)	(153,312)	484,532	224,787	188,734	281,793
<b>Total Additions</b>	<b>\$ 528,214</b>	<b>218,363</b>	<b>692,355</b>	<b>447,285</b>	<b>(474,758)</b>	<b>(12,330)</b>	<b>653,721</b>	<b>437,046</b>	<b>299,440</b>	<b>389,720</b>
Deductions:										
Benefit Payments:	\$						182,827	171,957	161,247	150,271
Retirees	260,791	244,071	227,840	213,130	203,096	189,441				
Beneficiaries	4,416	4,336	4,399	4,173	4,063	3,898				
Disabilities	3,044	3,004	2,884	2,890	2,784	2,721				
Withdrawals	5,119	5,295	4,365	4,166	5,170	5,695	5,595	4,876	4,340	5,843
Administrative Expenses	1,934	1,830	1,843	1,905	1,854	1,751	1,434	1,579	1,561	1,507
Other	48	46	49	47	49	47	502			890
<b>Total Deductions</b>	<b>\$ 275,352</b>	<b>258,582</b>	<b>241,380</b>	<b>226,311</b>	<b>217,016</b>	<b>203,553</b>	<b>190,358</b>	<b>178,412</b>	<b>167,148</b>	<b>158,511</b>
<b>Change in Net Position</b>	<b>\$ 252,862</b>	<b>(40,219)</b>	<b>450,975</b>	<b>220,974</b>	<b>(691,774)</b>	<b>(215,883)</b>	<b>463,363</b>	<b>258,634</b>	<b>132,292</b>	<b>231,209</b>

**Teachers' Retirement System  
A Component Unit of the State of Montana**

**Schedule of Average Benefit Payments  
Ten Years Ended June 30, 2013**

<u>Fiscal Year of Retirement</u>		<u>Years of Credited Service</u>						
		5 - 9	10 - 14	15 - 19	20 - 24	25 - 29	30+	
2013	Average Monthly Benefit	\$	277	694	1001	1651	2274	3216
	Average Final Average Salary	\$	2,265	3,546	3,791	4,605	5,279	5,810
	Number of Retirees		54	58	63	98	129	274
2012	Average Monthly Benefit	\$	341	648	1,029	1,589	2,289	3,258
	Average Final Average Salary	\$	2,795	3,386	4,008	4,474	5,263	5,950
	Number of Retirees		41	51	52	71	139	260
2011	Average Monthly Benefit	\$	296	608	1,030	1,662	2,172	3,338
	Average Final Average Salary	\$	2,519	3,042	3,864	4,773	5,030	5,976
	Number of Retirees		47	58	64	80	132	247
2010	Average Monthly Benefit	\$	303	629	987	1,501	2,135	3,109
	Average Final Average Salary	\$	2,681	3,181	3,662	4,388	5,029	5,619
	Number of Retirees		42	51	44	65	125	247
2009	Average Monthly Benefit	\$	293	670	1,084	1,455	2,115	2,984
	Average Final Average Salary	\$	2,678	3,474	4,187	4,280	4,914	5,468
	Number of Retirees		34	32	55	75	122	197
2008	Average Monthly Benefit	\$	332	480	908	1,515	1,974	2,728
	Average Final Average Salary	\$	2,876	2,694	3,594	4,282	4,656	5,022
	Number of Retirees		38	51	53	61	147	220
2007	Average Monthly Benefit	\$	296	585	821	1,393	2,009	2,714
	Average Final Average Salary	\$	2,598	3,283	3,318	3,982	4,717	5,041
	Number of Retirees		42	42	46	74	135	193
2006	Average Monthly Benefit	\$	307	515	845	1,410	1,883	2,626
	Average Final Average Salary	\$	2,577	2,801	3,297	4,089	4,416	4,896
	Number of Retirees		43	53	43	47	140	208
2005	Average Monthly Benefit	\$	263	639	879	1,327	1,776	2,605
	Average Final Average Salary	\$	2,283	3,404	3,433	3,737	4,184	4,876
	Number of Retirees		38	31	39	57	141	205
2004	Average Monthly Benefit	\$	263	474	954	1,383	1,838	2,489
	Average Final Average Salary	\$	2,231	2,589	3,814	3,904	4,290	4,757
	Number of Retirees		35	37	34	62	127	198

**Teachers' Retirement System  
A Component Unit of the State of Montana**

**Schedule of Membership**

**Active and Inactive Members**

<u>Period Ended</u>	<u>Active Members</u>	<u>Inactive Vested Members</u>	<u>Inactive Non-vested</u>	<u>Total</u>
June 30, 2013	18,249	1,566	11,710	31,525
June 30, 2012	18,372	1,566	11,172	31,110
June 30, 2011	18,484	1,580	10,727	30,791
June 30, 2010	18,953	1,553	10,304	30,810
June 30, 2009	18,456	1,640	9,868	29,964
June 30, 2008	18,292	1,649	9,574	29,515
June 30, 2007	18,188	1,660	8,856	28,704
June 30, 2006	18,108	1,681	8,470	28,259
June 30, 2005	18,247	1,640	8,431	28,318
June 30, 2004	18,257	1,607	7,723	27,587

**Retired Members and Benefit Recipients**

<u>Period Ended</u>	<u>Retirement</u>	<u>Survivors</u>	<u>Disability</u>	<u>Total</u>
June 30, 2013	13,206	459	203	13,868
June 30, 2012	12,703	457	203	13,363
June 30, 2011	12,247	445	207	12,899
June 30, 2010	11,620	504	316	12,440
June 30, 2009	11,228	498	310	12,036
June 30, 2008	11,043	438	307	11,788
June 30, 2007	10,242	424	305	10,971
June 30, 2006	9,909	429	299	10,637
June 30, 2005	9,578	427	294	10,299
June 30, 2004	9,246	427	294	9,967

**Teachers' Retirement System  
A Component Unit of the State of Montana**

**Schedule of Retired Members and Beneficiaries by Type of Benefit**

Monthly Benefit Amount	Retired Members	Regular Retirement	Beneficiary	Disability
\$ 1 - 500	2,076	1,736	270	70
501 - 1,000	1,883	1,611	133	139
1,001 - 1,500	2,168	1,611	70	76
1,501 - 2,000	2,647	2,597	38	12
2,001 - 2,500	2,201	2,179	17	5
2,501 - 3,000	1,351	1,343	7	1
3,001 - 3,500	699	697	2	-
3,501 - 4,000	378	376	2	-
4,001 - 4,500	187	186	1	-
4,501 - 5,000	88	88	-	-
over 5,000	128	126	2	-
Totals	13,806	12,961	542	303

**Schedule of Principal Participating Employers  
Current Year and Nine Years Ago**

Employer	2013		2004	
	Covered Employees	% of Total Covered Employees	Covered Employees	% of Total Covered Employees
Billings Public Schools	1,534	8.3%	1,616	7.6%
Great Falls Public Schools	1,036	5.6%	1,140	5.4%
Missoula County Public Schools	991	5.3%	1,031	4.8%
Helena Public Schools	918	4.9%	830	3.9%
Kalispell Public Schools	550	3.0%	493	2.3%
Bozeman Public Schools	454	2.4%	569	2.7%
Butte Public Schools	390	2.1%	448	2.1%
Belgrade Public Schools	322	1.7%	248	1.2%
Hardin Public Schools	282	1.5%	260	1.2%
Browning Public Schools	278	1.5%	299	1.4%
Columbia Falls Public Schools	274	1.5%	283	1.3%
Havre Public Schools	253	1.4%	210	1.0%
University of Montana	231	1.2%	1,320	6.2%
Miles City Public Schools	227	1.2%	193	0.9%
Hamilton Public Schools	219	1.2%	188	0.9%

**Teachers' Retirement System  
A Component Unit of the State of Montana**

**Location of Benefit Recipients as of July 1, 2013**

Alabama	6	Massachusetts	12	Tennessee	13
Alaska	43	Michigan	26	Texas	88
Arizona	348	Minnesota	86	Utah	77
Arkansas	10	Mississippi	7	Vermont	4
California	147	Missouri	29	Virginia	22
Colorado	111	Montana	10,806	Washington	415
Connecticut	7	Nebraska	22	West Virginia	2
Delaware	1	Nevada	118	Wisconsin	24
Florida	59	New Hampshire	5	Wyoming	142
Georgia	16	New Jersey	5	District of Columbia	5
Hawaii	16	New Mexico	33	Australia	2
Idaho	157	New York	15	Canada	16
Illinois	20	North Carolina	41	Germany	2
Indiana	15	North Dakota	106	Israel	2
Iowa	16	Ohio	12	Marshall Islands	1
Kansas	17	Oklahoma	23	New Zealand	1
Kentucky	7	Oregon	197	United Kingdom	4
Louisiana	10	Pennsylvania	16	APO	2
Maine	5	South Carolina	10		
Maryland	11	South Dakota	61	TOTAL	13,474