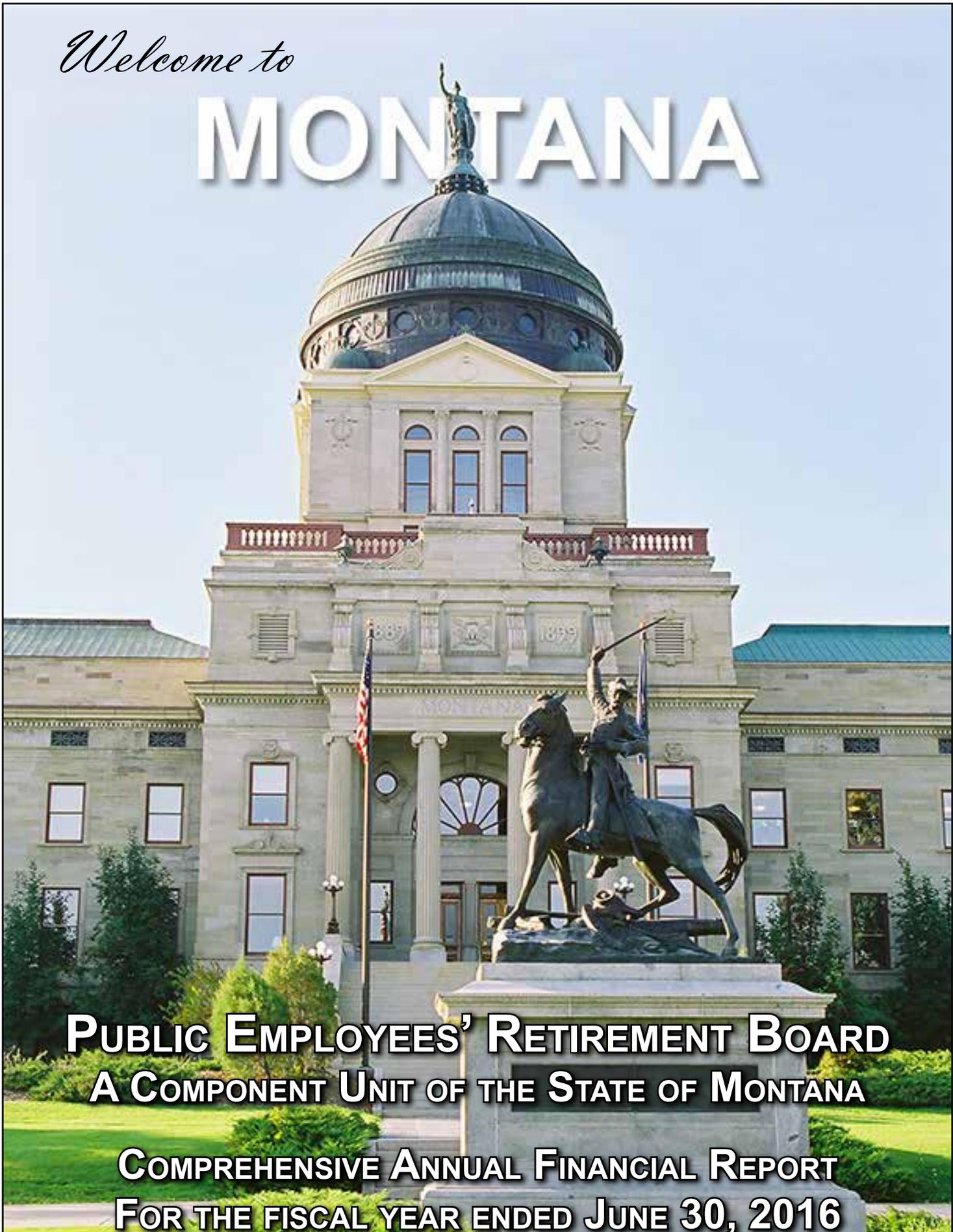


*Welcome to*

# MONTANA

The image shows the Montana State Capitol building, a grand neoclassical structure with a prominent dome. In the foreground, the Pioneer statue stands on a pedestal, depicting a man on horseback holding a rifle. The building's facade features columns and a balcony with a red railing. The sky is clear and blue.

**PUBLIC EMPLOYEES' RETIREMENT BOARD  
A COMPONENT UNIT OF THE STATE OF MONTANA**

**COMPREHENSIVE ANNUAL FINANCIAL REPORT  
FOR THE FISCAL YEAR ENDED JUNE 30, 2016**

***STATE OF MONTANA***  
**Public Employees' Retirement Board**  
*A Component Unit of the State of Montana*  
**Comprehensive Annual Financial Report**



For the Fiscal Year Ended  
June 30, 2016

Public Employees' Retirement System - Defined Benefit Retirement Plan

Judges' Retirement System

Highway Patrol Officers' Retirement System

Sheriffs' Retirement System

Game Wardens' and Peace Officers' Retirement System

Municipal Police Officers' Retirement System

Firefighters' Unified Retirement System

Volunteer Firefighters' Compensation Act

Public Employees' Retirement System - Defined Contribution Retirement Plan

Deferred Compensation (457) Plan

Public Employees' Retirement System - DCRP Disability OPEB

Prepared By:  
The Fiscal Services Bureau  
Public Employee Retirement Administration  
100 North Park, Suite 200 ~ PO Box 200131  
Helena, MT 59620-0131  
(406) 444-3154

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*Mission Statement of the PERB*

*The Montana Public Employees' Retirement Board, as fiduciaries, administers its retirement plans and trust funds, acting in the best interest of the members and beneficiaries.*

*Mission Statement of the MPERA*

*The Montana Public Employee Retirement Administration efficiently provides quality benefits, education and service to help our plan members and beneficiaries realize a successful retirement.*



## *The Fire Tower*

The fire tower is the symbol of the city of Helena. Erected in the 1870's, the fire tower was built on a hill overlooking Last Chance Gulch to alert the town to approaching fires. At first, an iron triangle was used, but that was soon replaced by a bell. The bell was salvaged from the Missouri River Steamboat 'Tacony' and hangs in the fire tower today. The fire tower is maintained by the Helena Fire Department.

Black and white photo: July 14, 1965.  
L.H. Jorud, Helena, MT, photographer. Used with permission of the Montana Historical Society.



# MONTANA PUBLIC EMPLOYEE RETIREMENT ADMINISTRATION



STEVE BULLOCK  
GOVERNOR

DORE SCHWINDEN  
EXECUTIVE DIRECTOR

STATE OF MONTANA



HELENA (406) 444-3154  
TOLL FREE (877) 275-7372  
FAX (406) 444-5428

100 N PARK, STE 200  
PO BOX 200131  
HELENA MT 59620-0131

December 23, 2016

The Honorable Steve Bullock  
Governor of Montana  
Room 204, State Capitol  
PO Box 200801  
Helena, MT 59620-0801

Dear Governor Bullock:

The Public Employees' Retirement Board (PERB) and its staff, the Montana Public Employee Retirement Administration (MPERA), are pleased to submit this Comprehensive Annual Financial Report (CAFR) for the fiscal year ended June 30, 2016, in accordance with §19-2-407, Montana Code Annotated. The purpose of this letter is to introduce the basic financial statements and provide an analytical overview of the trust funds' financial activities. The letter of transmittal is intended to complement the Management's Discussion and Analysis (MD&A) and the two should be read in conjunction.

Responsibility for both the accuracy of the data and the completeness and fairness of the presentation, including all disclosures, rests with the MPERA management, based upon a comprehensive framework of internal controls established for this purpose. To the best of our knowledge and belief, the enclosed data is accurate in all material respects and is reported in a manner designed to present fairly the financial position and results of operations of the fiduciary funds.

For financial reporting purposes, MPERA adheres to accounting principles generally accepted in the United States of America. MPERA applies all applicable pronouncements of the Governmental Accounting Standards Board (GASB), including the MD&A. Defined Benefit, Defined Contribution and Other Employee Benefit transactions are reported on the accrual basis of accounting. Investments are presented at fair value.

The external auditor conducted an independent audit of the basic financial statements in accordance with U.S. generally accepted auditing standards. This audit is described in the Independent Auditor's Report included in the Financial Section on page 15. Management provided the external auditors with full and unrestricted access to MPERA staff to facilitate independent validation of the integrity of the plans' financial reporting.

## INTRODUCTORY SECTION

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The MD&A, included in the Financial Section beginning on page 18, is a management discussion of the financial position of the retirement plans and provides an overview and analysis of the plans' basic financial statements. The Statistical Section, beginning on page 213, includes statistics regarding active and retiree membership, employer contributions, assets held, and benefits or distributions paid in accordance with the five objectives required by GASB Statement 44 - financial trends, revenue capacity, debt capacity, demographic and economic information, and operating information.

### PROFILE OF THE PERB

The PERB is a fiduciary component unit Pension Trust Fund of the State of Montana financial reporting entity. For this reason, the financial statements contained in this report are also included in the State of Montana's CAFR. Fiduciary responsibility for the systems rests with the PERB, which consists of seven members, appointed by the Governor. The members are assigned five-year, staggered terms. The PERB is required to approve a final budget before the beginning of the fiscal year. The MPERA management develops the budget for all plans administered and presents it to the PERB. As governed by statute, the PERB's defined benefit administrative expenses may not exceed 1.5 percent of the total defined benefit plan retirement benefits paid. Costs for the PERB to administer the defined contribution plans are also defined in statute and the funding is provided by the fees assessed on account balances. The budget is monitored throughout the year and quarterly updates are provided to the PERB.

The PERB oversees ten separate retirement plans and one Other Post Employment Benefit (OPEB) plan, each reported in this CAFR. There are nine defined benefit retirement plans including the Public Employees' Retirement System-Defined Benefit Retirement Plan (PERS-DBRP) in its 71st year of operation, the Judges' Retirement System (JRS), the Highway Patrol Officers' Retirement System (HPORS), the Sheriffs' Retirement System (SRS), the Game Wardens' and Peace Officers' Retirement System (GWORS), the Municipal Police Officers' Retirement System (MPORS), the Firefighters' Unified Retirement System (FURS), and the Volunteer Firefighters' Compensation Act (VFCA). The Public Employees' Retirement System - DCRP Disability OPEB (PERS-DCRP Disability OPEB) was statutorily-created through §19-3-2141, MCA, and is completely separate from the other defined benefit plans. The PERS-DCRP Disability OPEB is self-insured and provides a defined benefit disability payment for disabled members of the PERS-DCRP.

The two defined contribution retirement plans are the Public Employees' Retirement System-Defined Contribution Retirement Plan (PERS-DCRP) and the Deferred Compensation (457) Plan. The PERS-DCRP was implemented July 1, 2002. New hires in PERS have the option of choosing participation in either the PERS-DBRP or PERS-DCRP within 12 months of hire. The PERB contracts with Empower™ Retirement to provide recordkeeping services for the PERS-DCRP. University employees, in positions covered by PERS, have a third retirement option: the Montana University System Retirement Program (MUS-RP) administered by the Teachers Insurance and Annuity Association (TIAA New York, NY). State and University employees, and employees of local government entities that contract with the PERB, also have the option to

## INTRODUCTORY SECTION

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supplement their retirement income by voluntarily participating in the Deferred Compensation (457) Plan. The PERB contracts with Empower™ Retirement to provide recordkeeping services for the Deferred Compensation Plan. Participants in the deferred compensation plan can elect to defer money either into a pre-tax account or an after-tax (ROTH) account.

### ECONOMIC CONDITION AND OUTLOOK

#### INVESTMENTS

The economic condition of the defined benefit plans is based primarily upon investment earnings. For fiscal year 2016, the PERS-DBRP experienced a 2.07% rate of return; an average annualized rate of return for the last three years was 7.74% for the last five years was 7.68%; and for the last ten years was 5.89%. The ten year rate of return is below the annual actuarial return assumption of 7.75% and acts to erode the funded status of the plan. The plans are required by law to be maintained on an actuarially sound basis which protects participants' future benefits. A summary of the investment activity can be found in the *Investment Section* of this CAFR on page 152.

The investment portfolio mix at fair value as of June 30, 2016 for the PERS-DBRP was 37.74% domestic equity, 15.43% international equity, 11.15% private equity, 2.83% cash equivalents (short-term), 23.61% domestic fixed income, and 9.24% real estate. See MD&A, starting on page 18, and *Investment Section*, page 131, for more detailed analysis and information. The Systems' investment outlook is long term, allowing the portfolio to take advantage of the favorable risk-return characteristics of domestic equities by placing more emphasis on this category.

The funded status of all the MPERA administered retirement systems increased in fiscal year 2016, with the exception of the GWPORS. GWPORS funded status experienced a slight decrease of 0.35% from 84.41% in 2015 to 84.06% in 2016. A single year's funded ratio, by itself, does not provide a measure of the funding direction. The status and funding progress of the defined benefit retirement systems can be found in the *Actuarial Section* of this report on page 180-181 in accordance with GASB 67. The PERS-DCRP Disability OPEB schedule of funding progress can be found in the *Financial Section* on page 116 in accordance with GASB 43.

#### FUNDING

The primary funding objectives of the PERB for the pension trust funds are to: 1) ensure that the systems are financially sound and pay all benefits promised using assets accumulated from required employer and member contributions and investment income; and 2) achieve a well-funded status with a range of safety to absorb market volatility without creating an Unfunded Actuarial Liability (UAL). PERB's long-term goal is for all retirement systems to be 100% funded and up to 120% funded to allow a reserve in times of slow markets. The PERB's short-term goal is to obtain actuarial soundness for the systems that do not amortize.

## INTRODUCTORY SECTION

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The information received from the annual actuarial valuation is used by the PERB to recommend funding increases or system changes or both to the Legislature to address financial sustainability. The contribution rates are statutorily set through the Legislature. The rate of the employer contributions to the Systems is composed of the normal cost, amortization of the UAL, and an allowance for administrative expenses. The allowance for the administrative expenses is based upon the average recent history of administrative expenses for each System.

Funds are accumulated to meet future benefit obligations to retirees and beneficiaries. This accumulated balance is referred to as the “net position restricted for pension benefits” in the Statement of Changes in Fiduciary Net Position – Pension Trust Funds in the *Financial Section*, page 40 of this report. The total pension liability is not reported in the basic financial statements; however, it is disclosed in Note 4 to the basic financial statements and in the required supplementary information. The total pension liability is determined by the actuary and is a measure of the present value of actuarial accrued liabilities estimated to be payable in the future to current retirees and beneficiaries. The net pension liability is measured as the total pension liability less the amount of the pension plan’s fiduciary net position. The net pension liability is an accounting measurement for financial statement purposes. The plan fiduciary net position as a percentage of the total pension liability for each System is shown in the table below. This information also appears in Note 4 to the basic financial statements and in the required supplementary information.

<b>Plan Fiduciary Net Position as a Percentage of the Total Pension Liability</b>			
PERS- DBRP	74.71%	GWPORS	70.02%
JRS	162.74%	MPORS	65.62%
HPORS	64.25%	FURS	75.48%
SRS	59.85%	VFCA	74.86%

### AWARDS

The Government Finance Officers Association of the United States and Canada (GFOA) awarded a Certificate of Achievement for Excellence in Financial Reporting to the Montana Public Employees’ Retirement Board for its comprehensive annual financial report for the fiscal year ended June 30, 2015. This was the eighteenth consecutive year that the Montana Public Employees’ Retirement Board has achieved this prestigious award. In order to be awarded a Certificate of Achievement, a government entity must publish an easily readable and efficiently organized Comprehensive Annual Financial Report. This report must satisfy both generally accepted accounting principles and applicable legal requirements. A Certificate of Achievement is valid for a period of one year only. We believe our current Comprehensive Annual Financial Report continues to meet the Certificate of Achievement Program’s requirements and we are submitting it to the GFOA to determine its eligibility for another certificate.

MPERA also received the Public Pension Coordinating Council (PPCC) Public Pension Standards Award for 2016 in recognition of meeting the professional standards for funding and

## INTRODUCTORY SECTION

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plan administration set forth in the Public Pension Standards. This is the fourteenth year the PPCC is offering the PPCC Standards Award Program to public retirement systems and the twelfth time MPERA has received the PPCC award. The Public Pension Standards are intended to reflect minimum expectations for public retirement system management and administration, as well as serve as a benchmark by which all defined benefit public plans should be measured.

### ACKNOWLEDGEMENTS

The compilation of this report reflects the efforts of the MPERA Fiscal Services Bureau accounting staff. This report is intended to provide complete and reliable information to facilitate the management decision process, as a means of determining compliance with legal provisions, and as a means of determining responsible stewardship of the plans' funds. MPERA received an unmodified opinion from our independent auditors on the financial statements included in this report. This opinion provides assurance that the financial statements can be relied upon.

The reporting employers of each retirement system form the link between the plans and the members. Their cooperation contributes significantly to the success of the plans. We hope the employers and their employees find this report informative.

We would like to take this opportunity to express our gratitude to the staff, the advisors, and the many people who have worked so diligently to assure the successful operation of the plans.

Respectfully submitted,

/s/ Dore Schwinden

Dore Schwinden, Executive Director  
Montana Public Employee Retirement Administration

/s/ Sheena Wilson

Sheena Wilson, President  
Public Employees' Retirement Board



Government Finance Officers Association

**Certificate of  
Achievement  
for Excellence  
in Financial  
Reporting**

Presented to

**Montana Public Employees'  
Retirement Board**

For its Comprehensive Annual  
Financial Report  
for the Fiscal Year Ended

**June 30, 2015**

A handwritten signature in black ink, reading "Jeffrey R. Enos". The signature is written in a cursive, flowing style.

Executive Director/CEO



Public Pension Coordinating Council

***Public Pension Standards Award  
For Funding and Administration  
2016***

Presented to

***Montana Public Employees' Retirement Board***

In recognition of meeting professional standards for  
plan funding and 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)

A handwritten signature in black ink that reads "Alan H. Winkle". The signature is written in a cursive style.

Alan H. Winkle  
Program Administrator

## INTRODUCTORY SECTION

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### Public Employees' Retirement Board

*A Component Unit of the State of Montana  
as of June 30, 2016*



Standing (left to right): Mike McGinley, Marty Tuttle, Sheena Wilson, Pepper Valdez, Timm Twardoski  
Seated (left to right): Maggie Peterson, Julie McKenna

**Sheena Wilson, President**  
Helena,  
PERS Retired Member  
PERS Board Representative - BOI  
Appointed 4/1/2013  
Term Expires 3/31/2018  
Email: Sheena.Wilson@mt.gov

**Mike McGinley, Vice President**  
Dillon,  
Member at Large  
Appointed 4/1/2013  
Term Expires 3/31/2018  
Email: Mike.McGinley@mt.gov

**Timm Twardoski**  
Helena,  
Member at Large  
Reappointed 4/1/2016  
Term Expires 3/31/2021  
Email: Timm.Twardoski@mt.gov

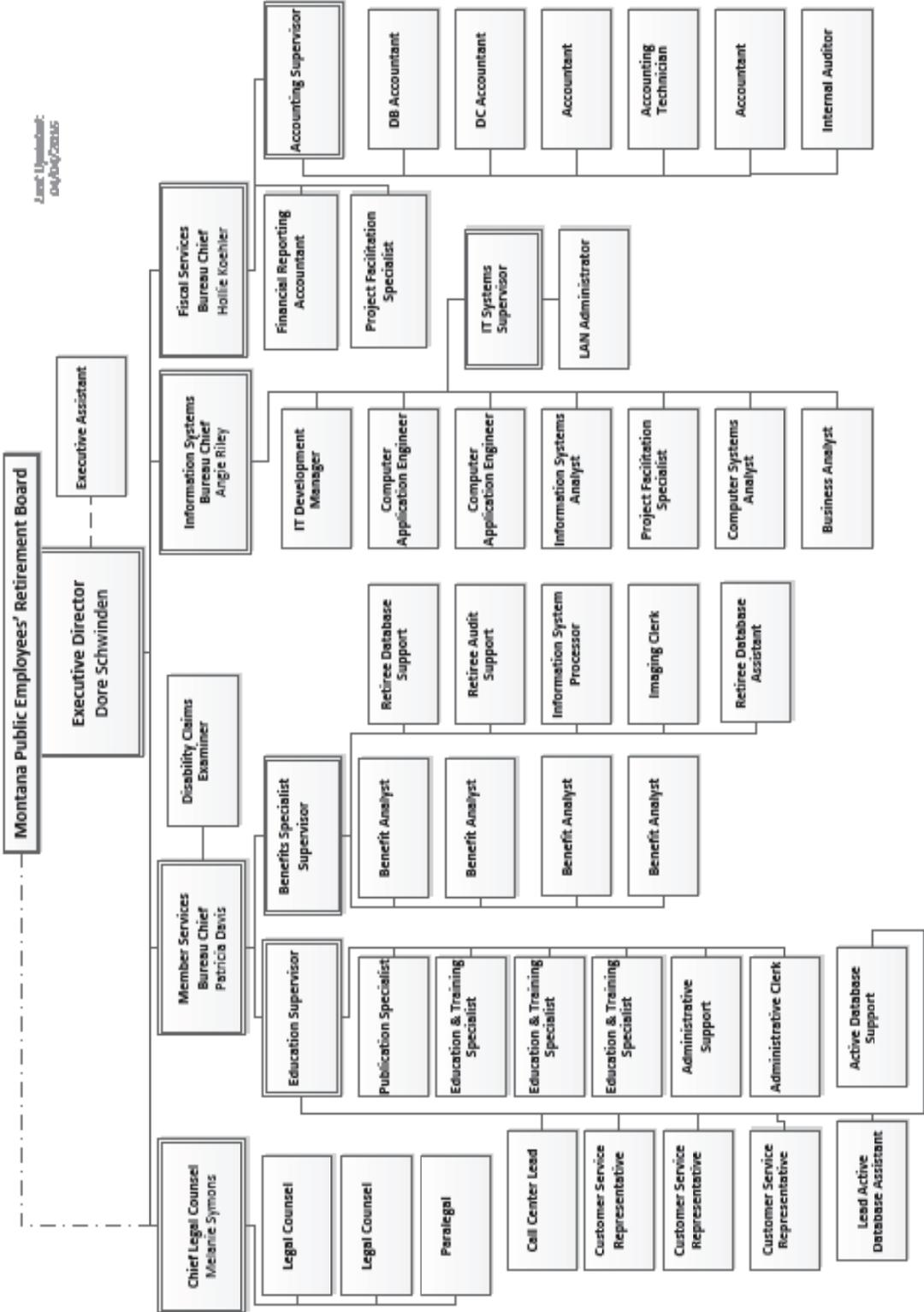
**Maggie Peterson**  
Anaconda, Experience in Investment  
Management  
Appointed 6/5/2014  
Term Expires 3/31/2019  
Email: Maggie.Peterson@mt.gov

**Marty Tuttle**  
Clancy, Active DC Plan Member  
Public Employee  
Appointed 7/31/2015  
Term Expires 3/31/2019  
Email: Marty.Tuttle@mt.gov

**Julie McKenna**  
Helena,  
Active Public Employee  
Appointed 7/31/2015  
Term Expires 3/31/2017  
Email: Julie.McKenna@mt.gov

**Pepper Valdez**  
Billings,  
Active Public Employee  
Appointed 7/31/2015  
Term Expires 3/31/2020  
Email: Pepper.Valdez@mt.gov

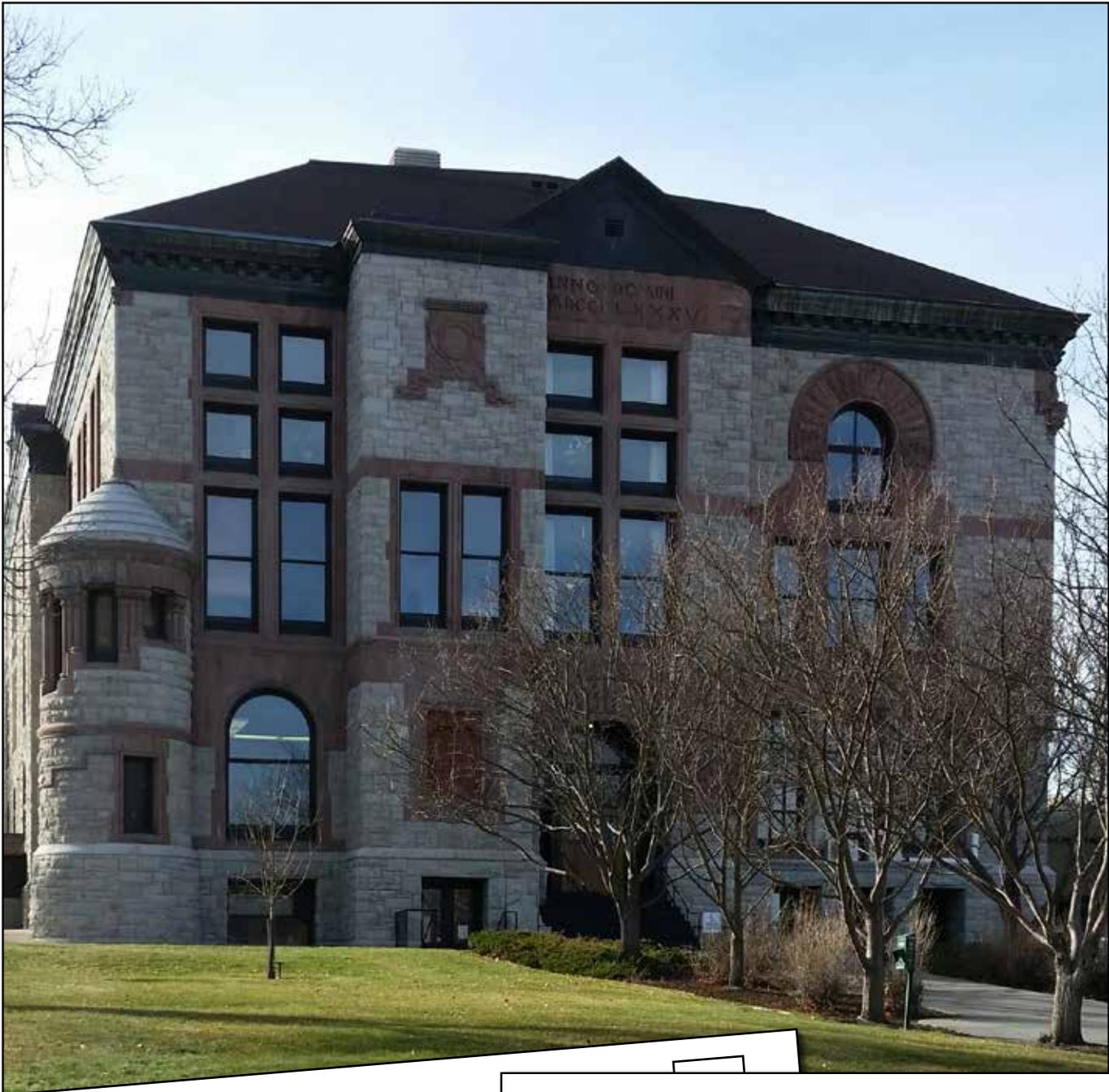
**Public Employees' Retirement Board**  
*A Component Unit of the State of Montana*  
**MPERA Organizational Chart**



## INTRODUCTORY SECTION

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## The Courthouse

Built in 1887, St. Paul architects Hodgson and Stem designed this building that served as the territorial capital and state capital. J.K Toole was sworn in as Montana's first governor here. In 1935, the earthquake damaged the clock tower. It was not replaced. - *National Register of Historic Places*

Black and white photo: July 14, 1965.  
Photographer unidentified. Used with permission of the Montana Historical Society.



## LEGISLATIVE AUDIT DIVISION

Angus Maciver, Legislative Auditor  
Deborah F. Butler, Legal Counsel



Deputy Legislative Auditors:  
Cindy Jorgenson  
Joe Murray

### INDEPENDENT AUDITOR'S REPORT

The Legislative Audit Committee  
of the Montana State Legislature:

#### *Introduction*

We have audited the accompanying Statement of Fiduciary Net Position–Pension (And Other Employee Benefit) Trust Funds of the Public Employees' Retirement Board (board), a component unit of the state of Montana, as of June 30, 2016, and the related Statement of Changes in Fiduciary Net Position–Pension (And Other Employee Benefits) Trust Funds for the fiscal year then ended, and the related notes to the 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 and the standards applicable to financial audits contained in *Government Auditing Standards*, issued by the Comptroller General of the United States. 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 board'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 board'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.

Room 160 • State Capitol Building • PO Box 201705 • Helena, MT • 59620-1705  
Phone (406) 444-3122 • FAX (406) 444-9784 • E-Mail [lad@mt.gov](mailto:lad@mt.gov)

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 fiduciary net position of the Public Employees' Retirement Board as of June 30, 2016, and the changes in fiduciary net position for the fiscal year then ended in conformity with accounting principles generally accepted in the United States of America.

#### *Emphasis of Matter*

As discussed in Note C, the Sheriffs', Game Wardens' and Peace Officers', and Public Employees' Retirement System Defined Contribution Disability OPEB retirement systems were not actuarially sound at June 30, 2016, as required by the Montana Constitution because they do not amortize. The maximum allowable amortization period is 30 years, as defined by state law. Our opinion is not modified with respect to this matter.

#### *Other Matters*

##### *Required Supplementary Information*

Accounting principles generally accepted in the United States of America require that the Management's Discussion & Analysis, and the Schedule of Changes in Multiple-Employer Plans Net Pension Liability/(Asset), Schedule of Changes in Single-Employer Plans Net Pension Liability/(Asset), Schedule of Net Pension Liability/(Asset) for Multiple-Employer Plans, Schedule of Net Pension Liability/(Asset) for Single-Employer Plans, Schedule of Employer and Non-Employer (State) Contributions for Cost-Sharing Multiple-Employer Plans, Schedule of Employer Contributions for Single-Employer Plans, Schedule of Investment Returns for Multiple-Employer Plans, Schedule of Investment Returns for Single-Employer Plans, Schedule of Funding Progress for PERS-DCRP Disability OPEB, Schedule of Employer Contributions & Other Contributing Entities for PERS-DCRP Disability OPEB, Schedule of Funding Progress for OPEB (Healthcare), and related notes 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 following schedules are supplementary information presented for purposes of additional analysis and are not a required part of the financial statements: Schedule of Administrative Expenses, Schedule of Investment Expenses, Schedule of Professional/Consultant Fees for the fiscal year ended June 30, 2016; the Detail of Fiduciary Net Position (PERS-DBRP and PERS-DBEd); and the Detail of Changes in Fiduciary Net Position (PERS-DBRP and PERS-DBEd); and the Detail of Fiduciary Net Position (PERS-DCRP, PERS-DCEd); and the Detail of Changes in Fiduciary Net Position (PERS-DCRP, PERS-DCEd) for the fiscal year ended June 30, 2016. 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.

***Other Reporting Required by Government Auditing Standards***

In accordance with *Government Auditing Standards*, we have also issued our report dated December 22, 2016, on our consideration of the Public Employees' Retirement Board's internal control over financial reporting and on our tests of its compliance with certain provisions of laws, regulations, contracts, and grant agreements and other matters. The purpose of that report is to describe the scope of our testing of internal control over financial reporting and compliance and the results of that testing, and not to provide an opinion on internal control over financial reporting or on compliance. That report is an integral part of an audit performed in accordance with *Government Auditing Standards* in considering the Public Employees' Retirement Board's internal control over financial reporting and compliance. It is included in the Legislative Auditor's separately issued report (16-08A).

Respectfully submitted,

*/s/ Cindy Jorgenson*

Cindy Jorgenson, CPA  
Deputy Legislative Auditor  
Helena, MT

December 22, 2016

## Public Employees' Retirement Board

### *A Component Unit of the State of Montana*

## Management's Discussion and Analysis

*This section presents management's discussion and analysis of the Montana Public Employees' Retirement Board's (PERB) financial presentation and performance of the plans administered by the PERB for the fiscal year ending June 30, 2016. It is presented as a narrative overview and analysis and should be read in conjunction with the Letter of Transmittal included in the Introductory Section, the financial statements and other information presented in the Financial Section of this Component Unit Financial Report. Throughout this discussion and analysis units of measure (i.e., billions, millions, thousands) are approximate, being rounded up or down to the nearest tenth of the respective unit value.*

### **Financial Highlights**

- The PERB's combined total net position of the defined benefit plans increased by \$1.7 million or 2.7% in fiscal year 2016. The increase was primarily due to an increase in cash and receivables.*
- The PERB's defined contribution plans combined total net position increased by \$21.1 million or 3.6% in fiscal year 2016. The total increase in net position was primarily due to the increase of investment income in the PERS defined contribution retirement plan and the deferred compensation plan.*
- Revenues (additions to plan net position) for the PERB's defined benefit plans for fiscal year 2016 were \$447.4 million, which includes member and employer contributions of \$317.5 million and net investment income of \$129.9 million.*
- Revenues (additions to plan net position) for the PERB's defined contribution plans for fiscal year 2016 were \$48.4 million, which includes member and employer contributions of \$39.7 million and net investment income of \$8.7 million.*
- Expenses (deductions to plan net position) for the PERB's defined benefit plans increased from \$417.3 million in fiscal year 2015 to \$445.7 million in fiscal year 2016 or 6.8%. The increase in 2016 is primarily due to an increase in benefit payments.*
- Expenses (deductions to plan net position) for the PERB's defined contribution plans decreased from \$32.0 million in fiscal year 2015 to \$27.3 million in fiscal year 2016 or 14.8%. The decrease in expenses is primarily due to a decrease in member distributions.*
- The PERB's defined benefit plans' funding objective is to meet long-term benefit obligations. As of June 30, 2016, the date of the latest actuarial valuation, five of the plans amortize the Unfunded Actuarial Liability (UAL) in 30 years or less. They are the Public Employees' Retirement System (PERS), Highway Patrol Officers' Retirement System (HPORS), Municipal Police Officers' Retirement System (MPORS), Firefighters' Unified Retirement System (FURS), and the Volunteer Firefighters' Compensation Act (VFCA). The plans that do not amortize the Unfunded Actuarial Liability are the Sheriffs' Retirement System (SRS), and*

*the Game Wardens' and Peace Officers' Retirement System (GWPORS). The PERS-DCRP Disability OPEB (DC Disability OPEB) as an other Employee Benefit also does not amortize the UAL. The Judges' Retirement System (JRS) has an actuarial surplus. This means there are more assets than liabilities in the plan. It is important to understand that this measure reflects the Actuarial Value of Assets for the defined benefit plans, which are currently greater than the actual fair value published in the financial statements. Investment earnings are critical to the defined benefit plans. The actuary uses a four-year smoothing method to determine the Actuarial Value of Assets. This method is used to reduce the impact of market volatility. Due to smoothing gains in 2013, 2014, 2015 and 2016, return on actuarial value ranged from 8.30% to 9.27% for all systems, creating actuarial experience gains. These ranges were greater than the actuarial assumed rate of return on investments of 7.75%.*

### **Overview of the Financial Statements**

This discussion and analysis is intended to serve as an introduction to the PERB's financial reporting which is comprised of the following components:

- (1) Financial Statements
- (2) Notes to the Financial Statements
- (3) Required Supplementary Information
- (4) Other Supplementary Schedules

Collectively, this information presents the combined net position restricted for pension benefits for each of the plans administered by the PERB as of June 30, 2016. This financial information also summarizes the combined changes in net position restricted

for pension benefits for the year then ended. The information in each of these components is briefly summarized as follows:

- (1) Financial Statements for the fiscal year ended June 30, 2016, are presented for the fiduciary funds administered by MPERA, staff of the PERB. Fiduciary funds are used to pay for pension benefits and expenses. The fiduciary funds are comprised of 11 trust funds that consist of ten pension and one other post-employment benefit (OPEB).

- The Statement of Fiduciary Net Position is presented for the pension trust funds at June 30, 2016. These financial statements reflect the resources available to pay benefits to retirees and beneficiaries at the end of the fiscal year reported.
- The Statement of Changes in Fiduciary Net Position is presented for the pension trust funds for the year ended June 30, 2016. These financial statements reflect the changes in the resources available to pay benefits to retirees and beneficiaries at the end of the fiscal year reported.

- (2) The Notes to the Financial Statements provide additional information that is essential for a full understanding of the data provided in the financial statements. The information in the Notes to the Financial Statements is described as follows:

- Note A provides a summary of significant accounting policies including: the basis of accounting; capital assets and equipment used in operations including PERIS, the new line of business system; operating

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lease; Governmental Accounting Standards Board (GASB) Statement No. 67 Disclosures regarding Financial Reporting for Pension Plans; GASB Statement No. 43 Financial Reporting for Post-Employment Benefit Plans Other Than Pension Plans; GASB Statement No. 45 Employer Disclosures regarding Other Post-Employment Benefits (OPEB); and summaries of the method to value investments and other significant accounting policies or explanations.

- Note B provides information about litigation.
  - Note C describes the membership and descriptions of each of the plans administered by the PERB. Summaries of benefits and contribution information are also provided.
- (3) The Required Supplementary Information (RSI) consists of multiple-employer and single-employer plan schedules of changes of employers' net pension liability, employers' net pension liability, employer contributions, and the money-weighted rate of investment returns of the defined benefit pension systems administered by the PERB. The RSI also contains, as related notes concerning actuarial information of the defined benefit pension plans, Other Post-Employment Benefits (OPEB) for the State Healthcare Benefits and the PERS-DCRP Disability OPEB and the related notes to the OPEB plans.
- (4) Other Supplementary Schedules include schedules of administrative expenses, investment expenses, and professional/consultant fees.

### ***Financial Analysis of the Systems – Defined Benefit Plans***

#### **Investments**

The State of Montana Board of Investments (BOI), as authorized by state law, invests the defined benefit plans' assets in investment pools. Each plan owns an equity position in the pools and receives proportionate investment income from the pools in accordance with respective ownership. The investment pools are: Montana Short Term Investment Pool, Montana Domestic Equity Pool, Retirement Funds Bond Pool, Montana International Equity Pool, Montana Real Estate Pool and Montana Private Equity Pool. Each plan's allocated share of the investment in the pools is shown in the Statement of Fiduciary Net Position of the plan. Investment gains and losses are reported in the Statement of Changes in Fiduciary Net Position.

#### **Economic Conditions**

According to the Board of Investments' Chief Investment Officer, Joe Cullen, "The U.S. economic conditions during the past fiscal year can be summarized as moderate growth with continued low inflation. This summary statement, however, is derived from multiple cross-sections within the U.S. economy that are exhibiting different characteristics in comparison to this average. Furthermore, it is important to recognize that even a large economy like the U.S. is significantly impacted by the economic conditions as well as policy, political, or market actions of other countries across the globe.

"At the start of the year, the Federal Open Market Committee (FOMC) of the Federal Reserve noted that the U.S. economic activity was expanding moderately and the labor market conditions were improving. Real

U.S. Gross Domestic Product (GDP), which is a measure of the total output of goods and services, adjusted for price changes, was estimated at 1.1% for fiscal year 2016. Although positive, this is an amount below the average of GDP during other periods of the current U.S. expansion beginning in 2009. The labor market strengthened, with the recent unemployment rate of 4.9%, showing continued improvement during the last year and approximately half the level of unemployment experienced in 2009. At the same time, wage growth has begun to increase recently, estimated at 2.4% in June 2016.

“The economic conditions of the individual consumer continue to be favorable. Debt payments as a percentage of disposable personal income are approximately 10%, considerably off the 2007 peak of 13%, and near the lowest levels over the last few decades. The housing sector has continued to improve with annual housing starts continuing to increase to levels last seen in 2007 thanks to an average 30-year fixed rate mortgage near all-time lows of 3.5%. The Consumer Confidence, as indicated by the University of Michigan Index of Consumer Sentiment, was a little lower at the end of the fiscal year than the beginning; however it remains near the high end of the index levels over the last decade and above the long-term average.

“The FOMC seeks to “foster maximum employment and price stability”. Consistent with this mandate, the FOMC stated earlier in the fiscal year that “it will be appropriate to raise the target range for the federal funds rate when it sees some further improvement in the labor market and is reasonably confident that inflation will move back to its 2% objective over the medium term.” Based on this philosophy, in December 2015, the FOMC raised the target range for the federal funds rate to the

current range of ¼ to ½ percent. Towards the end of the fiscal year, the FOMC concluded that “near-term risks to the economic outlook have diminished”, however, there were no additional rate changes made by the FOMC during the year. The Committee continues to maintain an accommodative monetary policy indicating that there still is risk that the growth objectives will not be achieved in the coming quarters. Longer-term U.S. interest rates continued to decline during the last year with the ten-year rate declining by -0.88% to a nominal yield of 1.47% by June 30, 2016. Even though the U.S. Treasury rates are near historic lows, they are above the rates observed from most of the other developed countries in the world.

“Measures of inflation continued to be subdued with annual estimates of 1%-2%, less than half a 50-year average and still below the FOMC target level of 2%. Oil is a significant contributor to inflation estimates and expectations. West Texas Intermediate (WTI) crude oil, which is traded in U.S. dollars and started the fiscal year at its peak near \$60/barrel, followed by a significant decline to a low in January 2016 near \$30/barrel, and eventually recovered and finished at the end of the fiscal year near \$49/barrel.

“Relative to the U.S., many other places in the world exhibited significant changes in economic conditions. Weakening economic indicators in China and the decision by the People’s Bank of China to devalue the Yuan against the U.S. dollar has caused global growth expectations to decline below levels witnessed over the last few years. On June 23, 2016, UK citizens unexpectedly voted to exit the European Union. Although this event has created much speculation, the impact on economic conditions will not be known for a few years.

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“The U.S. dollar appreciated relative to other currencies during the first several months of the fiscal year as global investors anticipated that the FOMC would raise the Fed Funds rate at the same time many of the world’s central bankers were lowering rates. However

during the first few months of calendar 2016 the dollar gave back its gains relative to other currencies partly due to the market associating lower probabilities with any additional FOMC rate hikes in 2016.

### Fiduciary Net Position - Defined Benefit Plans

As of June 30, 2016 - and comparative totals for June 30, 2015

(dollars in thousands)

	PERS-DCRP									
	PERS		DISABILITY OPEB		JRS		HPORS		SRS	
	2016	2015	2016	2015	2016	2015	2016	2015	2016	2015
<b>Assets:</b>										
Cash and Receivables	\$ 161,002	110,011	283	2,757	2,673	2,010	4,327	2,729	8,867	6,930
Securities Lending Collateral	139,758	192,830	1	6	2,431	3,306	3,568	4,912	8,314	11,240
Investments	4,875,780	4,955,166	2,835	24	84,832	84,943	124,427	126,245	290,138	288,771
Property and Equipment	31	40			1	1		1	1	1
Capital Assets	1,195	963			351	283	298	240	351	283
<b>Total Assets</b>	<b>5,177,766</b>	<b>5,259,010</b>	<b>3,119</b>	<b>2,787</b>	<b>90,288</b>	<b>90,543</b>	<b>132,620</b>	<b>134,127</b>	<b>307,671</b>	<b>307,225</b>
<b>Liabilities:</b>										
Securities Lending Liability	139,758	192,830	1	6	2,431	3,306	3,568	4,912	8,314	11,240
Other Payables	2,149	2,242			51	130	79	148	205	290
<b>Total Liabilities</b>	<b>141,907</b>	<b>195,072</b>	<b>1</b>	<b>6</b>	<b>2,482</b>	<b>3,436</b>	<b>3,647</b>	<b>5,060</b>	<b>8,519</b>	<b>11,530</b>
<b>Total Net Position</b>	<b>\$ 5,035,859</b>	<b>5,063,938</b>	<b>3,118</b>	<b>2,781</b>	<b>87,806</b>	<b>87,107</b>	<b>128,973</b>	<b>129,067</b>	<b>299,152</b>	<b>295,695</b>

### Changes In Fiduciary Net Position - Defined Benefit Plans

For the year ended June 30, 2016 - and comparative totals for June 30, 2015

(dollars in thousands)

	PERS-DCRP									
	PERS		DISABILITY OPEB		JRS		HPORS		SRS	
	2016	2015	2016	2015	2016	2015	2016	2015	2016	2015
<b>Additions:</b>										
Contributions	\$ 230,953	230,516	368	343	2,536	2,218	8,076	7,464	14,299	13,526
Investment Income (Loss)	101,213	225,110	11	3	1,779	3,842	2,605	5,738	6,064	13,042
<b>Total Additions</b>	<b>332,166</b>	<b>455,626</b>	<b>379</b>	<b>346</b>	<b>4,315</b>	<b>6,060</b>	<b>10,681</b>	<b>13,202</b>	<b>20,363</b>	<b>26,568</b>
<b>Deductions:</b>										
Benefits	344,104	319,502	42	34	3,416	3,041	10,483	9,932	15,476	14,019
Refunds	10,645	12,522					94	69	1,104	1,261
OPEB Expenses	88	95			3	2	2	2	3	2
Administrative Expenses	4,173	3,885			197	136	197	144	323	248
Miscellaneous Expenses	1,235	1,377								
<b>Total Deductions</b>	<b>360,245</b>	<b>337,381</b>	<b>42</b>	<b>34</b>	<b>3,616</b>	<b>3,179</b>	<b>10,776</b>	<b>10,147</b>	<b>16,906</b>	<b>15,530</b>
<b>Incr/(Decr) in Net Position</b>	<b>\$ (28,079)</b>	<b>118,245</b>	<b>337</b>	<b>312</b>	<b>699</b>	<b>2,881</b>	<b>(95)</b>	<b>3,055</b>	<b>3,457</b>	<b>11,038</b>
Prior Period Adjustments		17								

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“At the end of the fiscal year, the Federal Reserve continued to monitor and focus on the inflation and labor statistics; however, they seemed to also spend considerable time looking at capital markets, foreign currency

markets and economic conditions across the globe. It is this broader focus that will likely influence the FOMC’s future actions.”

(Written September 21, 2016)

	GWPORS		MPORS		FURS		VFCA		TOTAL	
	2016	2015	2016	2015	2016	2015	2016	2015	2016	2015
\$	4,979	3,680	24,037	19,380	24,158	20,188	2,772	2,475	233,098	170,160
	4,286	5,639	9,157	12,282	9,381	12,468	895	1,232	177,791	243,915
	149,488	144,876	319,442	315,650	327,308	320,400	30,950	31,578	6,205,200	6,267,653
	1	1		1	1	1		1	35	47
	351	283	314	253	310	250	285	230	3,455	2,785
	159,105	154,479	352,950	347,566	361,158	353,307	34,902	35,516	6,619,579	6,684,560
	4,286	5,639	9,157	12,282	9,381	12,468	895	1,232	177,791	243,915
	134	202	166	227	148	203	124	180	3,056	3,622
	4,420	5,841	9,323	12,509	9,529	12,671	1,019	1,412	180,847	247,537
\$	154,685	148,638	343,627	335,057	351,629	340,636	33,883	34,104	6,438,732	6,437,023

	GWPORS		MPORS		FURS		VFCA		TOTAL	
	2016	2015	2016	2015	2016	2015	2016	2015	2016	2015
\$	9,314	9,012	25,064	24,354	24,885	24,383	2,036	1,913	317,531	313,730
	3,167	6,435	7,113	14,472	7,312	14,640	623	1,480	129,887	284,762
	12,481	15,447	32,177	38,826	32,197	39,023	2,659	3,393	447,418	598,491
	5,068	4,550	21,961	20,560	20,896	19,745	2,623	2,368	424,069	393,751
	1,093	802	1,369	2,184	46	2			14,351	16,840
	3	2	3	2	2	(5)	2	2	106	102
	270	201	274	212	260	197	242	181	5,936	5,204
							12	11	1,247	1,388
	6,434	5,555	23,607	22,958	21,204	19,939	2,879	2,562	445,709	417,285
\$	6,047	9,892	8,570	15,868	10,993	19,084	(220)	831	1,709	181,207
						(7)				10

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### **Defined Benefit Plans Total Investments**

At June 30, 2016, the PERB's defined benefit plans held total investments of \$6.2 billion, a decrease of \$62.5 million from fiscal year 2015 investment totals. On the previous pages 22 and 23, are the schedules of Fiduciary Net Position and Changes in Fiduciary Net Position for the defined benefit plans, including comparative totals from fiscal year 2015.

### ***Analysis of Individual Systems***

#### **PERS-DBRP and Education**

*The PERS-DBRP provides retirement, disability, and death benefits for covered employees of the State, local governments, certain employees of the Montana University System, and school districts. Member and employer contributions and earnings on investments fund the benefits of the plan. All new members are initially members of the PERS-DBRP and have a 12-month window during which they may choose to remain in the PERS-DBRP or join the PERS-DCRP by filing an irrevocable election. The PERS-DBRP and the DB Education Fund have been combined in these comparisons. The PERS-DBRP net position restricted for pension benefits at June 30, 2016 amounted to \$5.0 billion, a decrease of \$28.1 million (0.6%) from \$5.1 billion at June 30, 2015.*

Additions to the PERS-DBRP net position restricted for pension benefits includes contributions from employer, member and the state; a statutorily appropriated coal tax contribution from the general fund, and investment income. For the fiscal year ended June 30, 2016, contributions increased to \$230.9 million in fiscal year 2016 from \$230.5 million in fiscal year 2015, an increase of \$437 thousand (0.19%). Contributions

increased due to an increased employer contribution rate and an increase in active members contributing to the plan. The plan recognized total net investment income of \$101.2 million for the fiscal year ended June 30, 2016, compared with total net investment income of \$225.1 million for the fiscal year ended June 30, 2015, a decrease of \$123.9 million (55.0%). The decrease in investment income is a result of weakening markets and global economic conditions.

As a result of the 2013 legislation and effective July 1, 2013, PERS-DBRP receives additional contributions from the State's coal severance tax fund and interest income from the coal severance tax permanent fund. The coal severance tax collections are credited to the general fund of the State of Montana and are statutorily appropriated on July 1 each year to the trust fund for the PERS-DBRP. The coal tax is transferred quarterly and the interest income is credited monthly. The amount that was received for fiscal year 2016 was \$29.8 million. These are recorded as *Coal Tax Transfers* on the financial statements.

Deductions from the PERS-DBRP net position restricted for pension benefits include retirement benefits, refunds, and administrative expenses. For fiscal year 2016, benefits amounted to \$344.1 million, an increase of \$24.6 million (7.7%) from fiscal year 2015. The increase in benefit payments was due to the increase in benefit recipients and the increase in the average recipient's benefit due to the guaranteed annual benefit adjustment (GABA). For fiscal year 2016, refunds amounted to \$10.6 million, a decrease of \$1.9 million (15.0%) from fiscal year 2015. The decrease in refunds was due to refunds being processed for smaller dollar amounts, even though there was an increase in the number of members taking a refund. For fiscal

year 2016, the costs of administering the plan's benefits amounted to \$4.2 million, an increase of \$288.0 thousand (7.4%) from fiscal year 2015. The increase in administrative expenses for fiscal year 2016 was due to the increased expenses associated with the technological development of a new computer application to modernize administration of the PERS-DBRP and disclosure and audit costs associated with the implementation of Governmental Accounting Standards Board (GASB) Statements No. 67 and 68.

At June 30, 2016, the PERS-DBRP total pension liability was \$6.7 billion. The Plan's fiduciary net position was \$5.0 billion leaving a net pension liability of \$1.7 billion. The Plan fiduciary net position as a percentage of the total pension liability was 74.71% at June 30, 2016.

An actuarial valuation of the PERS-DBRP assets and benefit obligations is performed annually. At June 30, 2016, the date of the most recent actuarial valuation, the number of years to amortize the unfunded actuarial liability decreased to 26 years from 28 years. The funded status of the plan increased to 77.31% at June 30, 2016 from 76.14% at June 30, 2015.

The PERS-DBRP actuarial value of assets was less than actuarial liabilities by \$1.540 billion at June 30, 2016, compared with \$1.544 billion at June 30, 2015. The decrease in the unfunded actuarial liability as of the last actuarial valuation is due to recognizing past investment gains of \$73.7 million and liability losses of \$57.2 million; resulting in a total gain deducting \$16.6 million from the actuarial liability during fiscal year 2016 as a result of the experience of the plan differing from the actuarial assumptions.

**PERS-DCRP DISABILITY OPEB**

*The PERS-DCRP Disability OPEB provides disability benefits for defined contribution plan members. A percentage of employer contributions and earnings on investments fund the benefits of the plan.* The DCRP Disability OPEB net position restricted for pensions at June 30, 2016 amounted to \$3.1 million, an increase of \$337 thousand (12.1%) from \$2.8 million at June 30, 2015.

Additions to the DCRP Disability OPEB net position restricted for pension benefits include employer contributions and investment income. For the fiscal year ended June 30, 2016, employer contributions amounted to \$368 thousand, an increase of \$25 thousand (7.2%) from fiscal year 2015. Contributions increased due to an increase in participants. The plan recognized total net investment income of \$11 thousand for the fiscal year ended June 30, 2016 compared with total net investment income of \$3 thousand for the fiscal year ended June 30, 2015, an increase of \$8 thousand (221.4%). The increase is due to the plan being more diversely invested in longer term asset classes.

Deductions from the DCRP Disability OPEB net position restricted for pension benefits are disability retirement benefits. For fiscal year 2016, benefits amounted to \$42 thousand, an increase of \$8.0 thousand (23.6%) from fiscal year 2015.

An actuarial valuation of the DCRP Disability OPEB assets and disability benefit obligations is performed annually. The third valuation was performed using the June 30, 2016 data and demographic and economic assumptions. At June 30, 2016, the date of the most recent actuarial valuation, the unfunded actuarial liability does not amortize, similar to the fiscal year ended June 30, 2015. The funded status of

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the plan increased to 86.83% at June 30, 2016 from 85.97% at June 30, 2015. The unfunded actuarial liability increased to \$473 thousand at June 30, 2016 from \$454 thousand at June 30, 2015, as a result of a loss adding \$24.6 thousand to the expected actuarial liability.

During the year ended June 30, 2016, the DCRP Disability OPEB assets gained 0.38% on an annualized market basis. This return was 3.12% below the DCRP Disability OPEB assumed rate of return of 3.50%. The plan earned \$91,932 less than the assumed rate at June 30, 2016, and \$169,134 less than the assumed rate at June 30, 2015.

### JRS

*The JRS provides retirement, disability, and death benefits for all Montana judges of the district courts, justices of the Supreme Court, the Chief Water Judge and the Associate Water Judge. Member and employer contributions and earnings on investments fund the benefits of the plan.* The JRS net position restricted for pensions at June 30, 2016 amounted to \$87.8 million, an increase of \$699 thousand (0.8%) from \$87.1 million at June 30, 2015.

Additions to the JRS net position restricted for pension benefits include member and employer contributions, and investment income. For the fiscal year ended June 30, 2016, contributions amounted to \$2.5 million, an increase of \$318 thousand (14.3%) from fiscal year 2015. Contributions increased due to an increase in salaries. The plan recognized total net investment income of \$1.8 million for the fiscal year ended June 30, 2016, compared with total net investment income of \$3.8 million for the fiscal year ended June 30, 2015, a decrease of \$2.1 million (53.7%). The decrease in investment income is a result of weakening markets and global economic conditions.

Deductions from the JRS net position restricted for pension benefits include retirement benefits and administrative expenses. For fiscal year 2016, benefits amounted to \$3.4 million, an increase of \$375.0 thousand (12.3%) from fiscal year 2015. The increase in benefits was due to an increase in the average recipient's benefit due to the guaranteed annual benefit adjustment (GABA) or the minimum benefit adjustment for non-GABA recipients. For fiscal year 2016, administrative expenses amounted to \$197 thousand, an increase of \$61 thousand (45.0%) from fiscal year 2015. The increase in administrative expenses for fiscal year 2016 was due to the increased expenses associated with the technological development of a new computer application to modernize administration of the JRS and disclosure and audit costs associated with the implementation of Governmental Accounting Standards Board (GASB) Statements No. 67 and 68.

At June 30, 2016, the JRS total pension liability was \$54.0 million. The Plan's fiduciary net position was \$87.8 million leaving a net pension asset of \$33.9 million. The Plan fiduciary net position as a percentage of the total pension liability was 162.74% at June 30, 2016.

An actuarial valuation of the JRS assets and benefit obligations is performed annually. At June 30, 2016, the date of the most recent actuarial valuation, the years to amortize the unfunded actuarial liability is still zero due to the actuarial surplus. The funded status of the plan increased to 166.48% at June 30, 2016 from 163.65% at June 30, 2015.

The JRS actuarial value of assets was greater than actuarial liabilities by a \$36.4 million actuarial surplus at June 30, 2016, compared with a \$33.0 million actuarial surplus at June 30, 2015. The increase in the unfunded

actuarial liability as of the last actuarial valuation is due to recognizing past investment gains of \$754.1 thousand and liability losses of \$1,003.4 thousand; resulting in a total loss adding \$249.3 thousand to the actuarial liability during fiscal year 2016 as a result of the experience of the plan differing from the actuarial assumptions.

**HPORS**

*The HPORS provides retirement, disability, and death benefits for members of the Montana Highway Patrol. Member and employer contributions, a statutory appropriation from the general fund, and earnings on investments fund the benefits of the plan.* The HPORS net position restricted for pensions at June 30, 2016 amounted to \$129.0 million, a decrease of \$94 thousand (0.1%) from \$129.1 million at June 30, 2015.

Additions to the HPORS net position restricted for pension benefits include employer and member contributions, a statutory appropriation from the general fund, and investment income. For the fiscal year ended June 30, 2016, contributions increased to \$8.1 million from \$7.5 million in fiscal year 2015, an increase of \$612 thousand (8.2%). Contributions increased due to an increase in member contribution rates. The plan recognized total net investment income of \$2.6 million for the fiscal year ended June 30, 2016, compared with total net investment income of \$5.7 million for the fiscal year ended June 30, 2015, a decrease of \$3.1 million (54.6%). The decrease in investment income is a result of weakening markets and global economic conditions.

Deductions from the HPORS net position restricted for pension benefits include retirement benefits, refunds, and administrative expenses. For fiscal year 2016, benefits amounted to \$10.5 million, an increase of

\$551 thousand (5.6%) from fiscal year 2015. The increase in benefit payments was due to the increases in the average recipient's benefit due to the guaranteed annual benefit adjustment (GABA) or the minimum monthly benefit for non-GABA recipients. For fiscal year 2016, refunds amounted to \$94 thousand, an increase of \$25 thousand (36.5%) from fiscal year 2015. Although the number of refund requests stayed the same, the increase in refunded amounts was due to refunds being processed for larger dollar amounts. For fiscal year 2016, administrative expenses were \$197 thousand, an increase of \$53.4 thousand (37.2%) from fiscal year 2015. The increase in administrative expenses for fiscal year 2016 was due to the increased expenses associated with the technological development of a new computer application to modernize administration of the HPORS and disclosure and audit costs associated with the implementation of Governmental Accounting Standards Board (GASB) Statements No. 67 and 68.

At June 30, 2016, the HPORS total pension liability was \$200.8 million. The Plan's fiduciary net position was \$129.0 million leaving a net pension liability of \$71.8 million. The Plan fiduciary net position as a percentage of the total pension liability was 64.25% at June 30, 2016.

An actuarial valuation of the HPORS assets and benefit obligations is performed annually. At June 30, 2016, the date of the most recent actuarial valuation, the number of years to amortize the unfunded actuarial liability is 28 years a decrease from 29 years at June 30, 2015. The funded status of the plan increased to 65.84% at June 30, 2016 from 65.12% at June 30, 2015.

The HPORS actuarial value of assets was less than actuarial liabilities by \$69.5 million

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at June 30, 2016, compared with \$67.3 million at June 30, 2015. The increase in the unfunded actuarial liability as of the last actuarial valuation is due to recognizing past investment gains of \$1.3 million and liability losses of \$2.8 million; resulting in a total loss adding \$1.5 million to the actuarial liability during fiscal year 2016. The actuarial liability was increased due to the passage of Senate Bill 238, which was enacted during the 2015 Legislative Session. SB 238 establishes a Deferred Retirement Option Plan (DROP) for eligible members of the HPORS effective October 1, 2015.

### SRS

*The SRS provides retirement, disability, and death benefits for all Department of Justice criminal investigators hired after July 1, 1993, detention officers hired after July 1, 2005, and all Montana sheriffs. Member and employer contributions and earnings on investments fund the benefits of the plan.* The SRS net position restricted for pension benefits at June 30, 2016 amounted to \$299.2 million, an increase of \$3.5 million (1.2%) from \$295.7 million at June 30, 2015.

Additions to the SRS net position restricted for pension benefits include member and employer contributions, and investment income. For the fiscal year ended June 30, 2016, contributions increased to \$14.3 million from \$13.5 million in fiscal year 2015, for an increase of \$773 thousand (5.7%). The increase in contributions was due to an increase in active members contributing to the plan. The plan recognized total net investment income of \$6.1 million for the fiscal year ended June 30, 2016, compared with total net investment income of \$13.0 million for the fiscal year ended June 30, 2015, a decrease of \$6.98 million (53.5%). The decrease in investment income is a result of weakening markets and

global economic conditions.

Deductions from the SRS net position restricted for pension benefits include retirement benefits, refunds, and administrative expenses. For fiscal year 2016, benefits amounted to \$15.5 million, an increase of \$1.5 million (10.4%) from fiscal year 2015. The increase in benefit payments was due to an increase in benefit recipients and the average recipient's benefit due to the guaranteed annual benefit adjustment (GABA). For fiscal year 2016, refunds amounted to \$1.1 million, a decrease of \$157 thousand (12.4%) from fiscal year 2015. The decrease in refunds was due to fewer refund requests from members. For fiscal year 2016, administrative expenses amounted to \$323 thousand, an increase of \$75 thousand (30.2%) from fiscal year 2015. The increase in administrative expenses for fiscal year 2016 was due to the increased expenses associated with the technological development of a new computer application to modernize administration of the SRS and disclosure and audit costs associated with the implementation of Governmental Accounting Standards Board (GASB) Statements No. 67 and 68.

At June 30, 2016, the SRS total pension liability was \$474.8 million. The Plan's fiduciary net position was \$299.2 million leaving a net pension liability of \$175.7 million. The Plan fiduciary net position as a percentage of the total pension liability was 63.00% at June 30, 2016.

An actuarial valuation of the SRS assets and benefit obligations is performed annually. At June 30, 2016, the date of the most recent actuarial valuation, the unfunded actuarial liability does not amortize, similar to the fiscal year ended June 30, 2015. The funded status of the plan increased to 83.21% at June 30, 2016 from 82.62% at June 30, 2015.

The SRS actuarial value of assets was less than actuarial liabilities by \$62.6 million at June 30, 2016, compared with \$60.6 million at June 30, 2015. The increase in the unfunded actuarial liability as of the last actuarial valuation is due to recognizing past investment gains of \$2.6 million and liability losses of \$1.9 million; resulting in a total gain deducting \$711.9 thousand from the actuarial liability during fiscal year 2016 as a result of the experience of the plan being different from the actuarial assumptions.

**GWPORS**

*The GWPORS provides retirement, disability, and death benefits for game wardens, warden supervisory personnel and state peace officers. Member and employer contributions and earnings on investments fund the benefits of the plan.* The GWPORS net position restricted for pension benefits at June 30, 2016, amounted to \$154.7 million, an increase of \$6.0 million (4.1%) from \$148.6 million at June 30, 2015.

Additions to the GWPORS net position restricted for pension benefits include member and employer contributions, and investment income. For the fiscal year ended June 30, 2016, contributions increased to \$9.3 million from \$9.0 million in fiscal year 2015, an increase of \$302 thousand (3.3%). The slight increase in contributions was due to an increase in salaries. The plan recognized total net investment income of \$3.2 million for the fiscal year ended June 30, 2016, compared with total net investment income of \$6.4 million for the fiscal year ended June 30, 2015, a decrease of \$3.3 million (50.8%). The decrease in investment income is a result of weakening markets and global economic conditions.

Deductions from the GWPORS net position restricted for pensions include retirement

benefits, refunds, and administrative expenses. For fiscal year 2016, benefits amounted to \$5.1 million, an increase of \$518 thousand (11.4%) from fiscal year 2015. The increase in benefit payments was due to the increase in benefit recipients and the increase in the average recipient's benefit due to the guaranteed annual benefit adjustment (GABA). For fiscal year 2016, refunds amounted to \$1.1 million, an increase of \$292 thousand (36.4%) from fiscal year 2015. The increase in refunds was due to fewer refund requests from members but processed at larger dollar amounts. For fiscal year 2016, administrative expenses amounted to \$270 thousand, an increase of \$69.4 thousand (34.5%) from fiscal year 2015. The increase in administrative expenses for fiscal year 2016 was due to the increased expenses associated with the technological development of a new computer application to modernize administration of the GWPORS and disclosure and audit costs associated with the implementation of Governmental Accounting Standards Board (GASB) Statements No. 67 and 68.

At June 30, 2016, the GWPORS total pension liability was \$187.5 million. The Plan's fiduciary net position was \$154.7 million leaving a net pension liability of \$32.8 million. The Plan fiduciary net position as a percentage of the total pension liability was 82.48% at June 30, 2016.

An actuarial valuation of the GWPORS assets and benefit obligations is performed annually. At June 30, 2016, the date of the most recent actuarial valuation, the unfunded actuarial liability does not amortize, similar to the fiscal year ended June 30, 2015. The funded status of the plan decreased to 84.06% at June 30, 2016 from 84.41% at June 30, 2015.

The GWPORS actuarial value of assets was less than actuarial liabilities by \$30.5

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million at June 30, 2016, compared with \$26.8 million at June 30, 2015. The increase in unfunded actuarial liability as of the last actuarial valuation is a result of recognizing past investment gains of \$985.1 thousand and liability losses of \$3.8 million; resulting in a total loss adding \$2.8 million to the actuarial liability as a result of the experience of the plan being different from the actuarial assumptions.

### MPORS

*The MPORS provides retirement, disability, and death benefits for municipal police officers employed by first- and second-class cities, and other cities that adopt the plan. MPORS also has an option for members to participate in a Deferred Retirement Option Plan (DROP). Member, employer, and state contributions and earnings on investments fund the benefits of the plan.* The MPORS net position restricted for pension benefits at June 30, 2016 amounted to \$343.6 million, an increase of \$8.6 million (2.6%) from \$335.1 million at June 30, 2015.

Additions to the MPORS net position restricted for pension benefits include employer, member, and state contributions, and investment income. For the fiscal year ended June 30, 2016, contributions increased to \$25.1 million from \$24.4 million in fiscal year 2015, for an increase of \$710 thousand (2.9%). Contributions increased due to an increase in active members contributing to the plan. The plan recognized total net investment income of \$7.1 million for the fiscal year ended June 30, 2016, compared with total net investment income of \$14.5 million for fiscal year ended June 30, 2015, a decrease of \$7.4 million (50.9%). The decrease in investment income is a result of weakening markets and global economic conditions.

Deductions from the MPORS net

position restricted for pension benefits include retirement benefits, refunds, and administrative expenses. For fiscal year 2016, benefits amounted to \$22.0 million, an increase of \$1.4 million (6.8%) from fiscal year 2015. The increase in benefit payments was due to the increase in benefit recipients and the increase in the average recipient's benefit due to the guaranteed annual benefit adjustment (GABA) or the minimum benefit adjustment for non-GABA recipients. For fiscal year 2016, refunds amounted to \$1.4 million, a decrease of \$814 thousand (37.3%) from fiscal year 2015. The decrease in refunds was due to fewer refund requests from members. For fiscal year 2016, administrative expenses were \$274 thousand, an increase of \$61.6 thousand (29.0%) from fiscal year 2015. The increase in administrative expenses for fiscal year 2016 was due to the increased expenses associated with the technological development of a new computer application to modernize administration of the MPORS and disclosure and audit costs associated with the implementation of Governmental Accounting Standards Board (GASB) Statements No. 67 and 68.

At June 30, 2016, the MPORS total pension liability was \$523.6 million. The Plan's fiduciary net position was \$343.6 million leaving a net pension liability of \$180.0 million. The Plan fiduciary net position as a percentage of the total pension liability was 65.62% at June 30, 2016.

An actuarial valuation of the MPORS assets and benefit obligations is performed annually. At June 30, 2016, the date of the most recent actuarial valuation, the number of years to amortize the unfunded actuarial liability decreased to 18 years from 19 years at June 30, 2015. The funded status of the plan increased to 68.79% at June 30, 2016 from 65.98% at June 30, 2015.

The MPORS actuarial value of assets was less than actuarial liabilities by \$162.0 million at June 30, 2016, compared with \$169.2 million at June 30, 2015. The decrease in the actuarial liability as of the last actuarial valuation is a result of recognizing past investment gains of \$2.0 million and other liability gains of \$4.4 million, resulting in a total liability gain deducting \$6.4 million from the actuarial liability as a result of the experience of the plan being different from the actuarial assumptions.

### FURS

*The FURS provides retirement, disability, and death benefits for firefighters employed by first- and second-class cities; other cities and rural fire departments that adopt the plan; and firefighters hired by the Montana Air National Guard (MANG) on or after October 1, 2001. Member, employer, and state contributions, and earnings on investments fund the benefits of the plan.* The FURS net position restricted for pension benefits at June 30, 2016, amounted to \$351.6 million, an increase of \$11.0 million (3.2%) from \$340.6 million at June 30, 2015.

Additions to the FURS net position restricted for pension benefits include employer, member, and state contributions, and investment income. For the fiscal year ended June 30, 2016, contributions increased to \$24.9 million from \$24.4 million in fiscal year 2015, an increase of \$502 thousand (2.1%). Contributions increased due to an increase of active members contributing to the plan. The plan recognized total net investment income of \$7.3 million for the fiscal year ended June 30, 2016, compared with total net investment income of \$14.6 million for the fiscal year ended June 30, 2015, a decrease of \$7.3 million (50.1%). The decrease in investment income is a result of weakening markets and global economic conditions.

Deductions from the FURS net position restricted for pension benefits include retirement benefits, refunds, and administrative expenses. For fiscal year 2016, benefits amounted to \$20.9 million, an increase of \$1.2 million (5.8%) from fiscal year 2015. The increase in benefit payments was due to the increase in benefit recipients and the increase in the average recipient's benefit due to the guaranteed annual benefit adjustment (GABA) or the minimum benefit adjustment for non-GABA recipients. For fiscal year 2016, refunds amounted to \$46 thousand, an increase of \$44 thousand from \$2 thousand in fiscal year 2015. Although, the number of refund requests stayed the same, the increase in refunded amounts was due to refunds being processed for larger dollar amounts. For fiscal year 2016, administrative expenses were \$260 thousand, an increase of \$62 thousand (31.5%) from fiscal year 2015. The increase in administrative expenses for fiscal year 2016 was due to the increased expenses associated with the technological development of a new computer application to modernize administration of the FURS and disclosure and audit costs associated with the implementation of Governmental Accounting Standards Board (GASB) Statements No. 67 and 68.

At June 30, 2016, the FURS total pension liability was \$465.8 million. The Plan's fiduciary net position was \$351.6 million leaving a net pension liability of \$114.2 million. The Plan fiduciary net position as a percentage of the total pension liability was 75.48% at June 30, 2016.

An actuarial valuation of the FURS assets and benefit obligations is performed annually. At June 30, 2016, the date of the most recent actuarial valuation, the years to amortize the unfunded actuarial liability decreased to 9

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years from 10 years at June 30, 2015. The funded status of the plan increased to 78.27% at June 30, 2016 from 75.51% at June 30, 2015.

The FURS actuarial value of assets was less than actuarial liabilities by \$101.4 million at June 30, 2016, compared with \$108.2 million at June 30, 2015. The decrease in unfunded actuarial liability as of the last actuarial valuation is a result of recognizing past investment gains of \$1.9 million and other liability losses of \$1.1 million; resulting in a total liability gain deducting \$848.2 thousand from the actuarial liability as a result of the experience of the plan being different from the actuarial assumptions.

### **VFCA**

*The VFCA provides retirement, disability, and death benefits for volunteer firefighters who are members of eligible volunteer fire companies in unincorporated areas. State contributions and earnings on investments fund the benefits of the plan.* The VFCA net position restricted for pension benefits at June 30, 2016 amounted to \$33.9 million, a decrease of \$221 thousand (0.6%) from \$34.1 million at June 30, 2015.

Additions to the VFCA net position restricted for pension benefits include state contributions and investment income. For the fiscal year ended June 30, 2016, contributions increased to \$2.0 million from \$1.9 million in fiscal year 2015, an increase of \$123 thousand (6.4%). Contributions increased because of increased fire insurance premium taxes distributed to the VFCA from the general fund. The plan recognized total net investment income of \$623 thousand for the fiscal year ended June 30, 2016, compared with total net investment income of \$1.5 million for the fiscal year ended June 30, 2015, a decrease of \$857 thousand

(57.9%). The decrease in investment income is a result of weakening markets and global economic conditions.

Deductions from the VFCA net position restricted for pension benefits include retirement benefits, administrative expenses, and supplemental insurance payments. For fiscal year 2016, benefits amounted to \$2.6 million, an increase of \$255.5 thousand (10.8%) from fiscal year 2015. The increase in benefit payments was due to the increase in benefit recipients. For fiscal year 2016, administrative expenses amounted to \$242 thousand, an increase of \$61 thousand (33.7%) from fiscal year 2015. The increase in administrative expenses for fiscal year 2016 was due to the increased expenses associated with the technological development of a new computer application to modernize administration of the VFCA and disclosure and audit costs associated with the implementation of Governmental Accounting Standards Board (GASB) Statements No. 67 and 68. For fiscal year 2016, supplemental insurance payments amounted to \$12 thousand, an increase of \$1 thousand from fiscal year 2015.

At June 30, 2016, the VFCA total pension liability was \$44.5 million. The Plan's fiduciary net position was \$33.9 million leaving a net pension liability of \$10.6 million. The Plan fiduciary net position as a percentage of the total pension liability was 76.17% at June 30, 2016.

An actuarial valuation of the VFCA assets and benefit obligations is performed annually. At June 30, 2016, the date of the most recent actuarial valuation, the number of years to amortize the unfunded actuarial liability decreased to 7 years from 10 years at June 30, 2015 and the funded status of the plan increased to 80.21% at June 30, 2016 from 75.38% at June 30, 2015.

The VFCA actuarial value of assets was less than actuarial liabilities by \$8.7 million at June 30, 2016, compared with \$10.9 million at June 30, 2015. The decrease in unfunded actuarial liability as of the last actuarial valuation is a result of recognizing past investment gains of \$180 thousand and other liability gains of \$989 thousand; resulting in a total liability gain deducting \$1.2 million from the actuarial liability as a result of the experience of the plan being different from the actuarial assumptions.

### ***Actuarial Valuations and Funding Progress***

An experience study was performed during fiscal year 2010 for the six-year period July 1, 2003 to June 30, 2009. The experience study resulted in changes to the demographic and some of the economic actuarial assumptions and implementation of new actuarial factors. An economic experience study was performed during August 2013. This experience study looked at the following economic assumptions: inflation, investment rate of return, wage growth, and interest on member contributions. The results were presented to the PERB at the September 2013 Board meeting. The PERB voted to maintain the assumptions of the 2010 experience study. Due to the implementation of GASB No. 67 during fiscal year 2014, the PERB did adopt a new economic assumption, the Administrative Expenses as a Percentage of Payroll. The administrative expense assumption is now explicitly stated as a cost element rather than being included implicitly within the investment return.

An actuarial valuation of each of the defined benefit plans is performed annually. The most recent actuarial valuation was performed for fiscal year ended June 30, 2016. The DCRP Disability OPEB plan valuation was last

performed on June 30, 2016.

The PERB's funding objective is to meet long-term benefit obligations through investment income and contributions. Employer and member contributions and other contributions for some systems, and the income from investments provide the cash flow needed to finance future retirement benefits. Historically the Annual Required Contribution (ARC) has been a critical component of funding for defined benefit plans. Effective for financial statements for fiscal years beginning after June 15, 2013, the Governmental Accounting Standards Board (GASB) Statement No. 67 no longer defines an ARC. This has been replaced with the Actuarial Determined Contribution (ADC). The ADC, as defined by GASB, is a target or recommended contribution to a defined benefit pension plan for the reporting period. The ADC is determined in conformity with Actuarial Standards of Practice based on the most recent measurement available when the contribution for the reporting period was adopted.

Investment earnings are also critical to the defined benefit plans' funding; investment losses deteriorate the plans' funding. Market losses were experienced in fiscal years 2008 and 2009. Positive market returns were experienced in fiscal years 2006 and 2007 and fiscal years 2010 through 2016. The asset smoothing methods utilized by the plans limits the impacts to four years. The funding status for all defined benefit plans increased in the latest valuation, except for GWPORS which had a slight decrease.

As required by Article VIII, section 15, of the Montana Constitution and section 19-2-409, MCA, the public retirement plans are to be funded on an actuarially sound basis. Public pension plans are considered actuarially sound

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if the unfunded actuarial accrued liability amortization period is 30 years or less. All systems were funded on an actuarially sound basis in 2007 and 2008. This was due to positive investment returns, prior recognition of all losses, and the \$25 million cash infusion in 2006 from the State of Montana to the PERS-DBRP. The impact of the negative investment returns in 2008 and 2009 resulted in the PERS-DBRP not amortizing in fiscal years 2009, 2010, 2011, and 2012; and GWPORS and SRS not amortizing in fiscal years 2009 through 2016.

The PERS-DC Disability OPEB is also required under the Montana's Constitution to be funded on an actuarially sound basis in 30 years or less. In fiscal years 2013, 2015 and 2016, the PERS-DC Disability OPEB did not amortize.

During the 2013 Legislative Session, House Bill (HB) 454 made changes to PERS employer contributions. These changes were effective July 1, 2013. Employers pay 1% more in addition to the 0.27% added in 2007 and 2009. The employer additional contribution rate will increase by an additional 0.1% per year for 10 years until reaching a total of 2.27%. All additional contributions including the 0.27% added in 2007 and 2009 will cease when the amortization period drops below 25 years and remains below 25 years following the reduction of all member and employer additional contributions.

Similarly, due to 2013 legislation, effective July 1, 2013, the PERS-DBRP member contributions were increased 1% from 6.9% to 7.9%, but will be reduced when the amortization period drops below 25 years and remains below 25 years following the reduction of all additional contributions.

Effective July 1, 2013, HB 454 decreased

the GABA for PERS-DBRP current and future retirees, to a cap of 1.5% and further reduced the GABA 0.1% for each 2% that the funded ratio is less than 90%. Additionally, if the amortization period exceeds 40 years the GABA will be zero. However, on March 4, 2015, a permanent injunction was granted restoring the 3% GABA for PERS members hired before July 1, 2007 and the 1.5% GABA for those hired between July 1, 2007 and June 30, 2013. Members hired on or after July 1, 2013 will have a variable GABA ranging from 0% to 1.5% as provided in HB 454.

Also effective July 1, 2013, HB 454 created a statutory appropriation to the PERS-DBRP trust fund from the coal severance tax collections during the year and an appropriation of the interest income from the coal tax permanent fund to the PERS-DBRP trust fund. The coal severance taxes collected are credited to the general fund of the State of Montana and are statutorily appropriated on July 1 each year to the trust fund for the PERS-DBRP. The coal tax is transferred quarterly and the interest income is credited monthly. They are recorded as *Coal Tax Transfers* on the financial statements.

Effective July 1, 2013, in HPORS, the employer contribution rate increased from 36.33% to 38.33% of compensation and all member contributions increase at a rate of 1% per year for four years. GABA was also reduced for new hires from 3.0% to 1.5% and the vesting period for new hires increased from 5 years to 10 years.

According to the PERB's June 30, 2016 actuarial valuations, the HPORS made considerable improvements in funding with the 2013 plan changes and now amortizes in 28 years; the unfunded liability in GWPORS, SRS, and PERS-DC Disability OPEB still does not amortize.

Overall, funding ratios range from a high of 166.48% (JRS) to a low of 65.84% (HPORS). The Schedule of Funding Progress, in the Actuarial Section of this report, shows the funding for the last ten fiscal years. The table also shows the amount by which actuarial assets exceeded or fell short of actuarial liabilities. The actuary performs a smoothing of investment gains or losses over a period of four years. At June 30, 2016, the actuarial value of assets of all plans was more than the market value of assets by \$268.8 million due to an average positive 2.05% market return in fiscal year 2016.

### ***Defined Contribution Plans***

The PERB administers two defined contribution plans: The Public Employees' Retirement System-Defined Contribution Retirement Plan (PERS-DCRP) and the Deferred Compensation (457) Plan. The schedules of Fiduciary Net Position and Changes in Fiduciary Net Position for the two defined contribution plans including comparative totals from fiscal year 2016 are presented on page 37.

#### **PERS-DCRP**

*The PERS-DCRP is established under section 401(a) of the Internal Revenue Code and Title 19, chapters 2 & 3 of the Montana Code Annotated (MCA). This plan provides retirement, disability, and death benefits for plan members. This plan was available to all active PERS members effective July 1, 2002. All new members are initially members of the PERS-DBRP and have a 12-month window during which they may choose to remain in the PERS-DBRP or join the PERS-DCRP by filing an irrevocable election. The plan member and employer contributions and earnings on investments fund the benefits of the plan. The PERS-DCRP net position restricted for*

pension benefits at June 30, 2016, amounted to \$156.3 million, an increase of \$12.8 million (8.9%) from \$143.5 million at June 30, 2015.

Additions to the PERS-DCRP net position restricted for pension benefits include contributions and investment income. For the fiscal year ended June 30, 2016, contributions increased to \$17.5 million from \$14.7 million in fiscal year 2015, an increase of \$2.8 million (19.2%). Contributions increased due to an increase in the total compensation reported as a result of an increase in active participants and an increase in employer contribution rates. The plan recognized net investment income of \$1.4 million for fiscal year ended 2016, compared with net investment income of \$6.3 million in fiscal year 2015, a decrease of \$4.9 million (77.4%). The decrease in investment income is a result of weakening markets and global economic conditions.

Deductions from the PERS-DCRP net position restricted for pension benefits include member distributions, administrative expenses, and miscellaneous expenses. For fiscal year 2016, distributions amounted to \$5.3 million, a decrease of \$803 thousand (13.2%) from fiscal year 2015. The decrease in distributions was due to fewer defined contribution members taking IRS permitted rollovers and periodic or lump sum distributions at smaller dollar amounts. For fiscal year 2016, the costs of administering the plan amounted to \$660 thousand, an increase of \$91 thousand (16.0%) from fiscal year 2015. The increase in administrative expenses for fiscal year 2016 was due to the increased expenses associated with the technological development of a new computer application to modernize administration of the PERS-DCRP.

*Miscellaneous expenses* are the PERB's administrative fees assessed by the vendors based on account balances. *Miscellaneous*

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*expenses* decreased to \$164 thousand in fiscal year 2016 from \$198 thousand in fiscal year 2015, a decrease of \$34 thousand (17.1%). The decrease in miscellaneous expenses was due to the member withdrawals and reduced investment income.

### **Deferred Compensation (457(b)) Plan**

*The Deferred Compensation Plan is established under section 457(b) of the Internal Revenue Code and Title 19, chapter 50 of the Montana Code Annotated (MCA). This plan is a voluntary supplemental retirement savings plan for those who are eligible and choose to participate. The Deferred Compensation Plan is funded by contributions and by investment earnings.* The Deferred Compensation net position restricted for pension benefits at June 30, 2016 amounted to \$448.7 million, an increase of \$8.3 million (1.9%) from \$440.3 million at June 30, 2015.

Additions to the Deferred Compensation Plan net position restricted for pension benefits include contributions and investment income. For fiscal year 2016, contributions increased to \$22.2 million from \$20.7 million in fiscal year 2015, an increase of \$1.4 million (6.9%). The increase is due to more participants actively contributing to the plan. The plan recognized net investment income of \$7.3 million for fiscal year 2016, compared with net investment income of \$11.2 million for fiscal year 2015, a decrease of \$3.9 million (35.0%). The decrease in investment income is a result of weakening markets and global economic conditions.

Deductions from the Deferred Compensation Plan net position restricted for pension benefits include member and beneficiary distributions, administrative expenses, and miscellaneous expenses. For fiscal year 2016, distributions amounted to \$20.2

million, a decrease of \$4.0 million (16.6%) from \$24.2 million in fiscal year 2015. The decrease in distributions was due to fewer deferred compensation participants taking distributions. The administrative expenses increased to \$512 thousand in fiscal year 2016 from \$460 thousand in fiscal year 2015, an increase of \$52 thousand (11.3%). The increase in administrative expenses for fiscal year 2016 was due to the increased expenses associated with the technological development of a new computer application to modernize administration of the Deferred Compensation Plan.

*Miscellaneous expenses* are the PERB's administrative fees assessed by the vendors based on account balances. *Miscellaneous expenses* decreased to \$427 thousand in fiscal year 2016 from \$457 thousand in fiscal year 2015, a decrease of \$30 thousand (6.6%) from fiscal year 2015. The decrease in miscellaneous expenses was due to the member withdrawals and reduced investment income.

**Fiduciary Net Position - Defined Contribution Plans**

*As of June 30, 2016 - and comparative totals for June 30, 2015*

(dollars in thousands)

	PERS-DCRP		457-PLAN		TOTAL	
	2016	2015	2016	2015	2016	2015
<b>Assets:</b>						
Cash and Receivables	\$ 2,125	1,651	540	1,016	2,665	2,667
Securities Lending Collateral	4	3	1	1	5	4
Investments	154,050	141,855	448,142	439,470	602,192	581,325
Property and Equipment	4	5	3	5	7	10
Capital Assets	285	230	339	273	624	503
<b>Total Assets</b>	<b>156,468</b>	<b>143,744</b>	<b>449,025</b>	<b>440,765</b>	<b>605,493</b>	<b>584,509</b>
<b>Liabilities:</b>						
Securities Lending Collateral	4	3	1	1	5	4
Other Payables	146	216	360	441	506	657
<b>Total Liabilities</b>	<b>150</b>	<b>219</b>	<b>361</b>	<b>443</b>	<b>511</b>	<b>661</b>
<b>Total Net Position - restricted for pensions</b>	<b>\$ 156,318</b>	<b>143,525</b>	<b>448,664</b>	<b>440,322</b>	<b>604,982</b>	<b>583,847</b>

**Changes In Fiduciary Net Position - Defined Contribution Plans**

*For the year ended June 30, 2016 - and comparative totals for June 30, 2015*

(dollars in thousands)

	PERS-DCRP		457-PLAN		TOTAL	
	2016	2015	2016	2015	2016	2015
<b>Additions:</b>						
Contributions	\$ 17,499	14,678	22,174	20,745	39,673	35,423
Investment Income (Loss)	1,428	6,316	7,308	11,243	8,736	17,559
<b>Total Additions</b>	<b>18,927</b>	<b>20,994</b>	<b>29,482</b>	<b>31,988</b>	<b>48,409</b>	<b>52,982</b>
<b>Deductions:</b>						
Benefits						
Distributions	5,299	6,103	20,193	24,219	25,492	30,322
OPEB Expenses	11	17	9	-9	20	8
Administrative Expenses	660	569	512	460	1,172	1,029
Miscellaneous Expenses	164	198	427	457	591	655
<b>Total Deductions</b>	<b>6,134</b>	<b>6,887</b>	<b>21,141</b>	<b>25,127</b>	<b>27,275</b>	<b>32,014</b>
<b>Incr/(Decr) in Net Position</b>	<b>\$ 12,793</b>	<b>14,107</b>	<b>8,341</b>	<b>6,861</b>	<b>21,134</b>	<b>20,968</b>
Prior Period Adjustments		4		-16		-12

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## Public Employees' Retirement Board

*A Component Unit of the State of Montana*

### Statement of Fiduciary Net Position - Pension (And Other Employee Benefit) Trust Funds

as of June 30, 2016

	PERS-DCRP					
	PERS-DBRP	DISABILITY OPEB	JRS	HPORS	SRS	GWPORS
<b>Assets</b>						
Cash and Short-term Investments	\$ 148,451,845	278,519	2,549,721	4,152,841	8,224,237	4,770,416
Securities Lending Collateral (Note A6)	139,758,365	1,116	2,431,499	3,567,655	8,314,134	4,285,960
<b>Receivables</b>						
Interest	6,834,326	455	118,835	174,444	406,284	209,347
Accounts Receivable	1,710,157	1,450	4,152		236,810	342
Due from Other Funds	565,881	3,453				
Due from Primary Government	3,410,149					
Notes Receivable	29,675					
<b>Total Receivables</b>	<b>12,550,188</b>	<b>5,358</b>	<b>122,987</b>	<b>174,444</b>	<b>643,094</b>	<b>209,689</b>
<b>Investments, at fair value (Note A6)</b>						
Commingled Equity Securities		2,834,520				
Montana Domestic Equity Pool (MDEP)	1,893,160,148		32,938,178	48,311,716	112,653,267	58,041,246
Retirement Fund Bond Pool (RFBP)	1,184,758,256		20,613,439	30,234,603	70,500,743	36,324,694
Montana International Equity Pool (MTIP)	774,560,922		13,476,434	19,766,455	46,091,240	23,747,851
Montana Private Equity Pool (MPEP)	559,718,798		9,738,383	14,283,678	33,306,603	17,160,571
Montana Real Estate Pool (MTRP)	463,582,267		8,065,786	11,830,437	27,586,096	14,213,387
Defined Contributions Fixed Investments						
Defined Contributions Variable Investments						
Deferred Compensation Life Insurance						
<b>Total Investments</b>	<b>4,875,780,391</b>	<b>2,834,520</b>	<b>84,832,220</b>	<b>124,426,889</b>	<b>290,137,949</b>	<b>149,487,749</b>
<b>Capital Assets</b>						
Property and Equipment, at cost,						
net of Accumulated Depreciation (Note A2)	30,687		531	451	531	531
Construction Work in Progress	1,194,884		350,717	297,701	350,717	350,717
<b>Total Capital Assets</b>	<b>1,225,571</b>		<b>351,248</b>	<b>298,152</b>	<b>351,248</b>	<b>351,248</b>
<b>Total Assets</b>	<b>5,177,766,360</b>	<b>3,119,513</b>	<b>90,287,675</b>	<b>132,619,981</b>	<b>307,670,662</b>	<b>159,105,062</b>
<b>Liabilities</b>						
Securities Lending Liability	139,758,365	1,116	2,431,499	3,567,655	8,314,134	4,285,960
Accounts Payable	381,986		11,302	13,684	32,632	11,115
Unearned Revenue	326,189			680	1,845	8,457
Due to Other Funds	648,551		11,963	40,370	137,100	84,011
Compensated Absences	276,981		22,353	18,975	22,353	22,353
OPEB Implicit Rate Subsidy LT	515,375		4,840	5,697	10,592	8,657
<b>Total Liabilities</b>	<b>141,907,447</b>	<b>1,116</b>	<b>2,481,957</b>	<b>3,647,061</b>	<b>8,518,656</b>	<b>4,420,553</b>
<b>Net Position - Restricted for Pension Benefits</b>	<b>\$ 5,035,858,913</b>	<b>3,118,397</b>	<b>87,805,718</b>	<b>128,972,920</b>	<b>299,152,006</b>	<b>154,684,509</b>

The notes to the financial statements are an integral part of this statement.

# FINANCIAL SECTION

Defined Benefit Pension Plans				Defined Contribution Plans			Total Pension Trust Funds
MPORS	FURS	VFCA	Total Defined Benefit Pension Plans	PERS-DCRP	457 Plan	Total Defined Contribution Plans	2016
9,743,660	9,653,872	2,728,410	190,553,521	1,455,724	245,964	1,701,688	192,255,209
9,156,951	9,381,088	894,541	177,791,309	3,823	795	4,618	177,795,927
447,867	458,698	43,420	8,693,676	398	122	520	8,694,196
93,508	76,059	300	2,122,778	24,035	294,120	318,155	2,440,933
			569,334	645,098		645,098	1,214,432
13,751,561	13,969,719		31,131,429				31,131,429
			29,675				29,675
14,292,936	14,504,476	43,720	42,546,892	669,531	294,242	963,773	43,510,665
			2,834,520				2,834,520
124,032,503	127,086,309	12,017,124	2,408,240,491				2,408,240,491
77,620,550	79,532,077	7,520,432	1,507,104,794				1,507,104,794
50,746,112	51,995,770	4,916,637	985,301,421				985,301,421
36,670,547	37,573,527	3,552,904	712,005,011				712,005,011
30,372,039	31,119,984	2,942,656	589,712,652				589,712,652
				12,750,270	238,994,979	251,745,249	251,745,249
				141,299,384	209,134,426	350,433,810	350,433,810
					12,316	12,316	12,316
319,441,751	327,307,667	30,949,753	6,205,198,889	154,049,654	448,141,721	602,191,375	6,807,390,264
475	469	432	34,107	3,892	3,280	7,172	41,279
314,014	309,936	285,467	3,454,153	285,467	338,482	623,949	4,078,102
314,489	310,405	285,899	3,488,260	289,359	341,762	631,121	4,119,381
352,949,787	361,157,508	34,902,323	6,619,578,871	156,468,091	449,024,484	605,492,575	7,225,071,446
9,156,951	9,381,088	894,541	177,791,309	3,823	795	4,618	177,795,927
21,338	12,354	9,046	493,457	41,497	278,206	319,703	813,160
7,647	12,190		357,008				357,008
107,680	95,337	89,419	1,214,431				1,214,431
20,014	19,754	18,194	420,977	45,280	41,331	86,611	507,588
9,243	8,131	7,850	570,385	59,223	40,677	99,900	670,285
9,322,873	9,528,854	1,019,050	180,847,567	149,823	361,009	510,832	181,358,399
343,626,914	351,628,654	33,883,273	6,438,731,304	156,318,268	448,663,475	604,981,743	7,043,713,047

# FINANCIAL SECTION

## Public Employees' Retirement Board

A Component Unit of the State of Montana

### Statement of Changes in Fiduciary Net Position - Pension (And Other Employee Benefit) Trust Funds

for the year ended June 30, 2016

	PERS-DCRP					
	PERS-DBRP	DISABILITY OPEB	JRS	HPORS	SRS	GWPORS
<b>Additions</b>						
<b>Contributions (Note C)</b>						
Employer	\$ 102,570,743	368,019	1,807,493	5,915,644	7,316,674	4,278,385
Plan Member	97,268,434		722,527	1,917,334	6,975,617	5,034,495
Membership Fees	3					
Interest Reserve Buyback	74,285		6,653	153	6,600	1,153
Retirement Incentive Program	239,285					
Miscellaneous Revenue	328					
State Contributions	957,324			242,749		
Coal Tax Transfers	29,843,047					
Nonvested Member Forfeitures						
<b>Total Contributions</b>	<b>230,953,449</b>	<b>368,019</b>	<b>2,536,673</b>	<b>8,075,880</b>	<b>14,298,891</b>	<b>9,314,033</b>
<b>Investments (Note A6)</b>						
Net Appreciation (Depreciation)						
in Fair Value of Investments	(99,366,343)	55	(1,283,351)	(2,466,259)	(3,888,323)	(1,240,546)
Interest	214,529,954	10,982	3,303,313	5,427,770	10,774,292	4,826,455
Dividends	15,337,351		265,009	391,569	903,376	459,743
Investment Expense	(30,281,909)		(523,400)	(773,190)	(1,784,309)	(908,768)
<b>Net Investment Income</b>	<b>100,219,053</b>	<b>11,037</b>	<b>1,761,571</b>	<b>2,579,890</b>	<b>6,005,036</b>	<b>3,136,884</b>
Securities Lending Income						
Securities Lending Income	1,454,057	50	25,132	37,116	85,675	43,628
Securities Lending Rebate and Fees	(460,317)	(20)	(7,955)	(11,750)	(27,120)	(13,808)
<b>Net Securities Lending Income</b>	<b>993,740</b>	<b>30</b>	<b>17,177</b>	<b>25,366</b>	<b>58,555</b>	<b>29,820</b>
<b>Total Net Investment Income</b>	<b>101,212,793</b>	<b>11,067</b>	<b>1,778,748</b>	<b>2,605,256</b>	<b>6,063,591</b>	<b>3,166,704</b>
<b>Total Additions</b>	<b>332,166,242</b>	<b>379,086</b>	<b>4,315,421</b>	<b>10,681,136</b>	<b>20,362,482</b>	<b>12,480,737</b>
<b>Deductions (Note C)</b>						
Benefits	344,103,875	41,809	3,416,023	10,482,414	15,476,437	5,068,318
Refunds/Distributions	10,379,388			93,811	1,028,890	1,065,541
Refunds to Other Plans	265,869				75,036	27,898
Transfers to DCRP	1,104,737					
Transfers to MUS-RP	129,897					
Supplemental Insurance Payments						
OPEB Expenses	88,504		2,742	2,276	2,742	2,742
Administrative Expenses	4,172,596		197,445	197,034	322,584	269,496
Miscellaneous Expenses						
<b>Total Deductions</b>	<b>360,244,866</b>	<b>41,809</b>	<b>3,616,210</b>	<b>10,775,535</b>	<b>16,905,689</b>	<b>6,433,995</b>
<b>Net Increase (Decrease)</b>	<b>(28,078,624)</b>	<b>337,277</b>	<b>699,211</b>	<b>(94,399)</b>	<b>3,456,793</b>	<b>6,046,742</b>
<i>Net Position Restricted for Pension Benefits</i>						
<b>Beginning of Year</b>	<b>5,063,937,537</b>	<b>2,781,120</b>	<b>87,106,507</b>	<b>129,067,319</b>	<b>295,695,213</b>	<b>148,637,767</b>
<b>Prior Period Adjustment</b>						
<b>End of Year</b>	<b>\$5,035,858,913</b>	<b>3,118,397</b>	<b>87,805,718</b>	<b>128,972,920</b>	<b>299,152,006</b>	<b>154,684,509</b>

The notes to the financial statements are an integral part of this statement.

# FINANCIAL SECTION

Defined Benefit Pension Plans				Defined Contribution Plans			Total Pension Trust Funds 2016
MPORS	FURS	VFCA	Total Defined Benefit Pension Plans	PERS-DCRP	457 Plan	Total Defined Contribution Plans	
6,927,587	6,163,464		135,348,009	6,494,143	63,517	6,557,660	141,905,669
4,382,968	4,751,806		121,053,181	9,970,012	21,915,808	31,885,820	152,939,001
			3				3
1,605			90,449				90,449
			239,285				239,285
			328	652,836	194,954	847,790	848,118
13,751,561	13,969,719	2,036,297	30,957,650				30,957,650
			29,843,047				29,843,047
				382,656		382,656	382,656
25,063,721	24,884,989	2,036,297	317,531,952	17,499,647	22,174,279	39,673,926	357,205,878
(5,353,855)	(4,394,578)	(882,801)	(118,876,001)	(4,562,010)	(6,228,255)	(10,790,265)	(129,666,266)
13,377,105	12,636,751	1,595,799	266,482,421	6,039,451	14,484,680	20,524,131	287,006,552
1,001,809	1,022,033	99,988	19,480,878				19,480,878
(1,977,091)	(2,018,478)	(197,123)	(38,464,268)	(49,834)	(948,596)	(998,430)	(39,462,698)
7,047,968	7,245,728	615,863	128,623,030	1,427,607	7,307,829	8,735,436	137,358,466
94,939	96,890	9,466	1,846,953	17	8	25	1,846,978
(30,056)	(30,672)	(2,998)	(584,696)	(7)	(3)	(10)	(584,706)
64,883	66,218	6,468	1,262,257	10	5	15	1,262,272
7,112,851	7,311,946	622,331	129,885,287	1,427,617	7,307,834	8,735,451	138,620,738
32,176,572	32,196,935	2,658,628	447,417,239	18,927,264	29,482,113	48,409,377	495,826,616
21,960,690	20,896,200	2,623,011	424,068,777				424,068,777
1,240,208	46,128		13,853,966	5,299,196	20,192,580	25,491,776	39,345,742
129,182			497,985				497,985
			1,104,737				1,104,737
			129,897				129,897
		12,150	12,150				12,150
2,452	2,424	2,286	106,168	10,811	9,257	20,068	126,236
273,951	259,560	241,726	5,934,392	660,300	511,923	1,172,223	7,106,615
				164,104	426,909	591,013	591,013
23,606,483	21,204,312	2,879,173	445,708,072	6,134,411	21,140,669	27,275,080	472,983,152
8,570,089	10,992,623	(220,545)	1,709,167	12,792,853	8,341,444	21,134,297	22,843,464
335,056,825	340,636,031	34,103,818	6,437,022,137	143,525,415	440,322,031	583,847,446	7,020,869,583
343,626,914	351,628,654	33,883,273	6,438,731,304	156,318,268	448,663,475	604,981,743	7,043,713,047

# Public Employees' Retirement Board

*A Component Unit of the State of Montana*

## Notes to the Financial Statements

*for the Fiscal Year Ended June 30, 2016*

The Public Employees' Retirement Board (PERB) is an independent, seven-member board, appointed by the Governor. The members are assigned five-year, staggered terms. The PERB consists of two members at large, two active defined benefit public employees, one active defined contribution public employee, one member experienced in investments, and one retired public employee. The PERB approves the annual operating budget, developed by the Montana Public Employee Retirement Administration (MPERA) management, before the beginning of the fiscal year. As governed by statute, the PERB's defined benefit administrative expenses may not exceed 1.5 percent of the total defined benefit plan retirement benefits paid. In addition, the PERB decides legislative priorities, hires the executive director, establishes the policies and procedures that govern operations at MPERA, and hears and rules on appeal matters of disabilities, retirees, and members. Board members do not receive compensation for their service to MPERA, but are reimbursed for necessary expenses incurred while serving.

The PERB oversees ten retirement plans, an OPEB, and the related member education funds. The Public Employees' Retirement System Defined Contribution Disability Other Post-Employment Benefit (PERS-DCRP Disability OPEB) is a trust fund providing a defined benefit for disabled members of the PERS-DCRP. The retirement plans are eight defined benefit plans and two defined contribution plans. The defined benefit retirement plans are the Public Employees' Retirement System (PERS-DBRP), Judges'

Retirement System (JRS), Highway Patrol Officers' Retirement System (HPORS), Sheriffs' Retirement System (SRS), Game Wardens' and Peace Officers' Retirement System (GWPORS), Municipal Police Officers' Retirement System (MPORS), Firefighters' Unified Retirement System (FURS), and the Volunteer Firefighters' Compensation Act (VFCA). The defined contribution retirement plans are the Public Employees' Retirement System (PERS-DCRP) and the Deferred Compensation (457) Plan, governed by IRC §457.

The PERS-DCRP was implemented July 1, 2002. All new PERS members, after July 1, 2002, have a 12-month window to file an irrevocable plan choice election. PERS members are provided education regarding their decision to participate in the Defined Benefit Retirement Plan (PERS-DBRP) or the Defined Contribution Retirement Plan (PERS-DCRP). If members are employees of the university system they have a third choice, the Montana University System Retirement Program (MUS-RP). Further education is provided for the members who choose the PERS-DCRP, including information on investment choices.

The PERB began oversight of the Deferred Compensation (457) Plan on July 1, 1999. The Deferred Compensation Plan is available to all employees of the State, the Montana University System and contracting political subdivisions. The MPERA, as a state agency, participates as an employer in the PERS-DBRP, PERS-DCRP and the Deferred Compensation Plan.

The assets of each plan are maintained separately, including member education funds. The assets may be used only for the payment of benefits to the members and administrative expenses of the appropriate plan, in accordance with the terms of each plan as prescribed in Title 19 of the Montana Code Annotated (MCA). The financial statements are presented by combining the PERS-DBRP and the DBRP Education Fund and by combining the PERS-DCRP and the DCRP Education Fund. A presentation of the individual funds is shown at the end of the financial section on pages 126 to 129.

**A. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES**

**1. BASIS OF ACCOUNTING**

The PERB is a fiduciary component unit Pension Trust Fund of the State of Montana financial reporting entity. The MPERA, staff of the PERB, prepares the accounting records and financial statements for the fiduciary pension trust funds using fund accounting principles and the accrual basis of accounting. For the pension trust funds, member contributions are recognized in the period in which contributions are due. Employer contributions are recognized when due and the employer has made a formal commitment to provide the contributions. Revenues are recognized in the accounting period in which they are earned and become measurable. Benefit payments and refunds/distributions are recognized in the accounting period in which they are due and payable in accordance with benefit terms. Expenses are recognized in the period incurred. Administrative expenses are financed through investment earnings

on the pension trust fund for the defined benefit plans. Interfund receivables and payables exist at year-end for defined benefit administrative expenses that are accounted for within PERS-DBRP and allocated to the other defined benefit plans at year-end. Costs specifically related to the MPERA program are charged directly to the individual plans.

For financial reporting purposes, the PERB adheres to accounting principles generally accepted by the United States of America. The PERB applies all applicable pronouncements of the Governmental Accounting Standards Board (GASB).

Implementation in fiscal year 2014 of GASB Statement No. 67, *Financial Reporting for Pensions* addresses accounting and financial requirements for pension plans. GASB No. 67 requires improvements in financial reporting primarily through enhanced notes to the financial statements, and schedules of required supplementary information. Significant changes include an actuarial calculation of total and net pension liability. It also includes comprehensive footnote disclosures regarding the pension liability, the sensitivity of the net pension liability to the discount rate, and increased investment activity disclosures. The PERB is required to report under GASB No. 67. The total pension liability, as determined by GASB No. 67, is presented in Note 4 and in the Required Supplementary Information (RSI) on pages 98 to 104.

GASB Statement No. 72, *Fair Value Measurement and Application*, implemented in fiscal year 2016, addresses accounting and reporting issues related to fair value measurements. This Statement

## FINANCIAL SECTION

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requires disclosures to be made about fair value measurements, the level of fair value hierarchy, and valuation techniques. A comprehensive footnote disclosure regarding this Statement is found in Note 6 beginning on page 51.

On a quarterly basis, participants of the PERS-DCRP are charged a flat basis point fee based on their individual account balances. The record keeper, Empower™ Retirement, withholds the basis point fees from participant accounts. The PERB incurs administrative expenses for the cost of Empower™ services and agency expenses. Fees collected from participant accounts are used to offset the costs of Empower™'s fees. Any remaining fees are remitted to the PERB to cover the PERB's plan administrative expenses. The excess basis point fees remitted to the PERB are recorded as *Miscellaneous Revenue* in the financial statements.

On a quarterly basis, participants of the Deferred Compensation Plan are charged a basis point fee on their individual account balances. The record keeper, Empower™ Retirement, withholds the basis point fees from the participant accounts. The PERB incurs administrative expenses for the cost of Empower™ services and agency expenses. Fees collected from participant accounts are used to offset the costs of Empower™'s fees. Any remaining fees are remitted to the PERB to cover the PERB's administrative expenses of the plan. The excess basis point fees remitted to the PERB are recorded as *Miscellaneous Revenue* in the financial statements.

### 2. CAPITAL ASSETS AND EQUIPMENT USED IN OPERATIONS

Assets under \$5,000 are expensed in

the year purchased. Assets (equipment) valued at \$5,000 or more are recorded at cost less straight-line depreciation over the estimated useful life of five to ten years. Assets (other intangibles) valued at \$100,000 or more are recorded at cost less straight-line depreciation over the estimated useful life of five to ten years. Equipment consists of two servers purchased for the data cleansing project which is part of the MPERAtiv program, and a primary file server. Property consists of a remodel to the office space.

The \$4,078,102 *Construction Work in Progress* on the Statement of Fiduciary Net Position consists of the development of the MPERAtiv software. This is an intangible asset and the intangible asset will be amortized over 10 years.

### 3. OPERATING LEASE

Operating leases are rental agreements where the payments are chargeable as rent and recorded as administrative expenses. MPERA renegotiated a 7-year lease for office space in November 2013, at the location of 100 North Park Avenue, Helena, MT. The lease is payable monthly and includes inflationary adjustments over the period of the lease.

### 4. NET PENSION LIABILITY OF EMPLOYERS

GASB Statement No. 67 addresses accounting and financial reporting requirements for pension plans. GASB No. 67 requires improvements in financial reporting primarily through enhanced notes to the financial statements, and schedules of required supplementary information. Significant changes include an actuarial calculation of total and net pension liability. It also includes comprehensive

## FINANCIAL SECTION

footnote disclosures regarding the pension liability, the sensitivity of the net pension liability to the discount rate, and increased investment activity disclosures.

The reporting date for the retirement systems is June 30, 2016. Measurements as of the reporting date are based on the fair value of assets as of June 30, 2016 and the Total Pension Liability (TPL) is based on the results of an actuarial valuation date of June 30, 2015, and rolled forward to June 30, 2016 using generally accepted actuarial procedures. Because the TPL shown in the prior report was measured as of June 30, 2014 and rolled forward to June 30, 2015, it will not match the amounts measured as of June 30, 2015 and reported for this fiscal year.

The net pension liability (the retirement systems' total pension liability determined in accordance with GASB Statement No.

67 less the fiduciary net position at fair value) as of June 30, 2016, is shown in the Schedule of Employers' Net Pension Liability (NPL) below.

The Schedule of Employers' Net Pension Liability, presented as Required Supplementary Information (RSI) following the notes to the statements, displays multi-year trend information about whether the plan fiduciary net positions are increasing or decreasing over time relative to the TPL.

Actuarial valuations of the ongoing systems involve estimates of the reported amounts and assumptions about probability of occurrence of events far into the future. The information used includes, but is not limited to, the plan provisions, employee data, and financial information provided by the PERB. Amounts determined regarding the NPL are subject to revision with each

<b>Employers' Net Pension Liability / (Asset) as of June 30, 2016</b>						
(dollar amounts are in thousands)						
System	Total Pension Liability (a)	Plan Fiduciary Net Position <sup>1</sup> (b)	Employers' Net Pension Liability / (Asset) (a-b)	Plan Fiduciary Net Position as a % of the Total Pension Liability (b/a)	Pensionable Payroll (c)	Net Pension Liability / (Asset) as a % of Covered Employee Payroll ((a-b)/c)
PERS-DBRP	\$6,736,153	\$5,032,807	\$1,703,346	74.71%	\$1,185,646	143.66%
JRS	53,954	87,806	(33,852)	162.74%	6,920	(489.17)%
HPORS	200,752	128,973	71,779	64.25%	15,276	469.88%
SRS	474,830	299,152	175,678	63.00%	70,593	248.86%
GWPORS	187,534	154,685	32,849	82.48%	47,108	69.73%
MPORS	523,641	343,627	180,014	65.62%	47,234	381.11%
FURS	465,842	351,629	114,213	75.48%	43,119	264.88%
VFCA	44,482	33,883	10,599	76.17%	N/A <sup>2</sup>	N/A <sup>2</sup>

<sup>1</sup>The PERS-DB Education Fund balance is not included in the GASB 67 reporting for fiscal year ending June 30, 2016.

<sup>2</sup>Pensionable payroll is not applicable to VFCA because members are unpaid volunteers.

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study as actual results are compared with past expectations and new estimates are made about the future.

A summary of the actuarial assumptions for fiscal year 2016 GASB No. 68 employer reporting as of June 30, 2015, is shown in the table below. A summary of the actuarial assumptions for the retirement system's GASB No. 67 reporting as of the latest actuarial valuation on June 30, 2016 is shown in the Notes to the RSI on page 114 and 115.

The long-term expected rate of return on pension plan investments was determined by considering information from various sources, including historical rates of

return, rate of return assumptions adopted by similar public sector systems, and by using a building-block method in which best-estimate ranges of expected future real rates of return (expected returns, net of pension plan investment expense and inflation) are developed for each major asset class. These ranges are combined to produce the long-term expected rate of return by weighting the expected future real rates of return by the target asset allocation percentage and by adding expected inflation. Best estimates of arithmetic real rates of return for each major asset class included in the Systems target asset allocation as of June 30, 2016, are summarized in the Target Allocations table on the top of the next page.

### Summary of Actuarial Assumptions

	PERS	JRS	HPORS	SRS	GWPORS	MPORS	FURS	VFCA
Valuation date	6/30/2015	6/30/2015	6/30/2015	6/30/2015	6/30/2015	6/30/2015	6/30/2015	6/30/2015
Actuarial Cost Method	Entry Age	Entry Age	Entry Age	Entry Age	Entry Age	Entry Age	Entry Age	Entry Age
Amortization method	Level percentage of payroll, open	Level percentage of payroll, open	Level percentage of payroll, open	Level percentage of payroll, open	Level percentage of payroll, open	Level percentage of payroll, open	Level percentage of payroll, open	Level dollar, open
Remaining amortization period for Actuarial Contribution	30	30	30	30	30	30	30	20
Amortization growth rate	4.00%	4.00%	4.00%	4.00%	4.00%	4.00%	4.00%	4.00%
Asset valuation method	4-year smoothed, market	4-year smoothed, market	4-year smoothed, market	4-year smoothed, market	4-year smoothed, market	4-year smoothed, market	4-year smoothed, market	4-year smoothed, market
<b>Actuarial assumptions:</b>								
Investment rate of return compounded annually (net of investment expenses)	7.75%	7.75%	7.75%	7.75%	7.75%	7.75%	7.75%	7.75%
Projected salary increases:								
General Wage Growth*	4.00%	4.00%	4.00%	4.00%	4.00%	4.00%	4.00%	N/A
Merit	0% - 6%	None	0% - 7.3%	0% - 7.3%	0% - 7.3%	0% - 7.3%	0% - 7.3%	N/A
*Includes inflation at	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%
Administrative Expenses as a Percentage of Payroll	0.27%	0.15%	0.23%	0.17%	0.17%	0.20%	0.19%	\$61,000
Mortality (healthy): RP-2000 Combined Mortality projected to 2015 and Mortality (disabled): RP-2000 Combined Mortality with no projections.								
<b>Benefit Adjustments</b>								
GABA	3% or 1.5% for new hires on or after July 1, 2007 and June 30, 2013; or 1.5% to 0% if hired on or after July 1, 2013; after 1 year	3% after 1 year	3% after 1 yr or 1.5% if hired on or after July 1, 2013, after 3 years	3% or 1.5% for new hires on or after July 1, 2007, after 1 year	3% or 1.5% for new hires on or after July 1, 2007, after 1 year	3% after 1 year	3% after 1 year	N/A
Non-GABA	N/A	Biennial increase to salary of active member in like position	2% per yr service, not to exceed 5%, of probationary officer's base pay	N/A	N/A	50% newly confirmed officer	50% newly confirmed officer	N/A

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<b>Target Allocations as of June 30, 2016</b>			
Asset Class	Target Asset Allocation (a)	Real Rate of Return Arithmetic Basis (b)	Long-term Expected Portfolio Real Rate of Return* (a) x (b)
Cash equivalents	2.6%	4.00%	0.10%
Domestic equity	36.0%	4.55%	1.64%
Foreign equity	18.0%	6.35%	1.14%
Fixed income	23.4%	1.00%	0.23%
Private equity	12.0%	7.75%	0.93%
Real estate	8.0%	4.00%	0.32%
<b>Totals</b>	<b>100.0%</b>		<b>4.37%</b>
Inflation			3.00%
Portfolio Return Expectation			7.37%

\*The long-term expected nominal rate of return above of 7.37% differs from the total PERB Defined Benefit long-term expected rate of return assumption of 7.75%. The assumed rate is comprised of a 3.00% inflation rate and a real long-term expected rate of return of 4.75%.

The discount rate used to measure the TPL for all Systems, except SRS, was 7.75% which is the assumed long-term expected rate of return on investments. The projection of cash flows used to determine the discount rate assumed that member, employer, and state contributions will be made at the contribution rates specified in the applicable Montana statutes, which can only be changed by the Legislature. Based on those assumptions, the fiduciary net position of all the Systems', except SRS, was projected to be available to make all the projected future benefit payments of the current plan members. Therefore, the long-term expected rate of return on pension plan investments was applied to all periods of projected benefit payments to determine the TPL.

The discount rate used to measure the TPL for SRS was 5.93%, which is a blend of the assumed long-term expected rate of return of 7.75% on investments and a municipal bond index rate of 3.01%. The projection of the SRS fiduciary net position indicates that it is not expected to be sufficient to

make projected benefit payments for current members after 2056. Therefore, the portion of future projected benefit payments after 2056 are discounted at the municipal bond index rate.

In accordance with GASB No. 67 regarding the disclosure of the sensitivity of the NPL to changes in the discount rate, the NPL of the participating employers is presented as using the discount rate of 7.75%, as well as what the employers' NPL would be if it were calculated using a discount rate that is 1.00% lower (6.75%) or 1.00% higher (8.75%) than the current rate. For SRS, the discount rates used are current rate 5.93%, 1.00% lower (4.93%) or 1.00% higher (6.93%) than the current rate. The table below presents the sensitivity disclosures for each plan.

<b>Sensitivity of NPL / (Asset) based on Changes in Discount Rate as of June 30, 2016</b>			
(dollar amounts are in thousands)			
System	1% Decrease 6.75% or 4.93%*	Current Discount Rate 7.75% or 5.93%*	1% Increase 8.75% or 6.93%*
PERS-DBRP	\$ 2,471,681	\$ 1,703,346	\$ 1,041,501
JRS	(29,753)	(33,852)	(39,015)
HPORS	99,166	71,779	50,127
SRS*	250,205	175,678	115,028
GWPORS	60,800	32,849	9,615
MPORS	242,379	180,014	111,984
FURS	179,839	114,213	60,255
VFCA	14,818	10,599	7,004

\*SRS discount rate of 5.93% is a blended rate of the long-term expected rate of return of 7.75% and a municipal bond index rate of 3.01%.

As can be seen from the table, changes in the discount rate affect the measurement of the TPL. Lower discount rates produce a higher TPL and higher discount rates produce a lower TPL. Because the discount rate does not affect the measurement of assets, the percentage change in the NPL can be very significant for a relatively small change in the discount rate.

The annual money-weighted rate of return on plan investments expresses investment performance, net of pension

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plan investment expense, adjusted for the changing amounts actually invested. A schedule of the annual money-weighted rate of return for all Systems is presented in the table below and in the RSI on pages 112 and 113.

<b>Annual Money-Weighted Rate of Return as of June 30, 2016</b>	
PERS-DBRP	2.04%
JRS	2.03%
HPORS	2.02%
SRS	2.05%
GWORS	2.09%
MPORS	2.18%
FURS	2.19%
VFCA	1.85%

### **GASB Statement No. 68 Employer Allocations and Pension Reporting**

The PERB implemented in fiscal year 2015 GASB Statement No. 68 for employers of state, local governments and other contracted agencies who provide pensions to their employees through trust administered pension plans. This information regarding the employer's proportionate share of the net pension liability, deferred outflows of resources, deferred inflows of resources, and pension expense was available to employers and auditors through MPERA's website [www.mpera.mt.gov](http://www.mpera.mt.gov) for their pension disclosures for financial statement purposes. GASB No. 68 is not required reporting for the PERB due to the PERB being the administrator of the trust pension plans.

### **5. OTHER POST-EMPLOYMENT BENEFITS (OPEB FOR HEALTH CARE)**

*Plan Description:* MPERA employees and

dependents are eligible to receive health care through the State Group Benefits Plan administered by the Montana Department of Administration. In accordance with section 2-18-704, MCA, the State provides optional post-employment medical, vision, and dental health care benefits to the following employees and dependents electing to continue coverage and pay administratively established premiums: (1) employees who retire under applicable retirement provisions and their dependents; and (2) surviving dependents of deceased employees. Plan coverage is on a calendar year basis. For GASB Statement No. 45 reporting, the State Group Benefits Plan is considered an agent multiple-employer plan and MPERA is considered to be a separate employer participating in the plan.

In addition to the employee benefits, the following post-employment benefits are provided. The Montana Department of Administration established retiree medical premiums varying between \$416 and \$1,506 per month for calendar year 2016 depending on the medical plan selected, family coverage, and Medicare eligibility. Retirees pay 100% of the premiums for medical, dental, and vision. Administratively established monthly dental premiums vary between \$41.10 and \$70.00; monthly vision premiums vary between \$7.64 and \$22.26; both premiums vary depending on the coverage selected. Basic life insurance in the amount of \$14,000 is provided until age 65 at a cost of \$1.90 per month. The State Benefit Plans reimburse all validated medical claims net of member obligations (annual deductibles and coinsurance of the members' selected medical plan). Dental claims are reimbursed at 50% to 100%

of the allowable charges, depending on the services provided. The State acts as secondary payer for retired Medicare-eligible claimants.

*Benefits Not Included in the Actuarial Valuation:* Dental and vision benefits are fully-insured and retirees pay 100% of the cost for both; therefore, no liability for these benefits is calculated in the actuarial valuation. The basic life insurance benefit is not available as an employer-provided group insurance benefit for retirees; therefore, no liability for life insurance is calculated in this valuation.

*Funding Policy:* The following estimates were prepared based on an actuarial valuation prepared as of the year ending December 31, 2015 for the Department of Administration. The resulting State of Montana Actuarial Valuation of Other Post-Employment Benefits Plan (Plan) contains the MPERA data and is available through the following address.

Montana Department of Administration  
State Accounting Division  
Room 255, Mitchell Bldg  
125 N Roberts Street  
PO Box 200102  
Helena, MT 59620-0102

GASB Statement No. 45 requires the Plan's participants, including MPERA, to report the Annual Required Contribution (ARC) each year. The ARC is an amount actuarially determined in accordance with the parameters of GASB Statement No. 45. It represents a level of funding that, if paid on an ongoing basis, is projected to cover normal cost each year of retiree health care costs and amortize any unfunded actuarial liabilities (or funding excess) over a period not to exceed 30 years. The

2016 ARC is calculated collectively for the State Plan's participants and allocated to individual participants. MPERA's 2016 allocated portion of the ARC is estimated at \$118,359 and is based on the Plan's current ARC rate of 5.26% of participants' annual covered payroll. MPERA's 2016 ARC is equal to an annual amount required each year to fully fund the liability over 30 years.

*Actuarial Methods and Assumptions:* Projections of benefits for financial reporting purposes are based on the substantive plan (the plan as understood by the employer and 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 actuarial methods and assumptions used include techniques that are designed to reduce short-term volatility in the actuarial accrued liabilities and the actuarial value of assets, consistent with the long-term perspective of the calculations. 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. Many of the assumptions adopted by the State of Montana are the same as those used in the actuarial valuations for the pension plans that cover the same employees. Examples include assumptions about marital status at time of retirement, mortality, projected payroll increases, discount rate, participation in the health care system, and the healthcare cost trend. The results of the valuation represent reasonable estimates. However, variation from these or any other estimates of future retiree medical costs is probable, as actual future costs may vary

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significantly from estimates. Significant differences between actual and expected liability can come from health cost trend or demographic experience which differ from expectations, as well as changes made to benefits offered or to valuation assumptions used.

The Schedule of Funding Progress for OPEB, presented as RSI following the notes to the statements, presents information concerning the actuarial value of plan assets and liabilities. In the January 1, 2015 actuarial valuation, the projected unit cost funding method is used. The actuarial assumptions did not include an investment rate of return since no assets meet the definition of plan assets under GASB Statements No. 43 or No. 45. Annual healthcare costs trend rates of 12% were used for both medical and prescription claims. The unfunded actuarial accrued liability is amortized following a 30-year level percent of pay amortization on an open basis, using a 4.25% discount rate and a 2.50% payroll growth rate assumption.

The State finances claims on a pay-as-you-go basis and does not advance-fund the OPEB liability. While this liability is disclosed for financial statement purposes, it does not represent a legal liability of the State of Montana or MPERA. Therefore, the following cost information shows no value for Plan Assets made by MPERA.

*Annual Other Post-Employment Benefits (OPEB) Cost:* For the fiscal year ending June 30, 2016, the annual OPEB cost (expense) allocated to MPERA increased to \$126,238 from the June 30, 2015 amount of \$106,126. For fiscal year ending June 30, 2016, the interest on the

net OPEB obligation increased to \$9,971 from \$6,174 in fiscal year 2015.

The PERB annual OPEB cost, the percentage of annual OPEB cost contributed to the plan, and the net OPEB obligation for 2016 and prior are as follows.

Annual OPEB Cost			
Fiscal Year Ended	Annual OPEB Cost	Percentage of Annual OPEB Cost Contributed	Net OPEB Obligation
6/30/2014	99,906	19.12%	499,205
6/30/2015	106,126	28.19%	575,413
6/30/2016	126,238	24.84%	670,287

FY 2016 Net OPEB Obligation	
Annual Required Contribution	\$ 118,359
Cumulative Interest on Net OPEB	36,533
Less Amortization	28,654
Annual OPEB cost	126,238
Less Contributions Made	31,364
Change in Net OPEB for Year	94,874
FY2016 Net OPEB obligation - Beginning of Year	575,413
Net OPEB obligation - End of Year	\$ 670,287

*Funded Status and Funding Progress:* The most recent actuarial valuation available by the State of Montana is as of calendar year ending December 31, 2015. This actuarial valuation is completed every two years with the next valuation as of calendar year ending December 31, 2017.

The MPERA allocation of the plan as of the calendar year ending December 31, 2015 was as follows at the top of the next page.

Actuarial Accrued Liability (AAL)	\$ 1,212,639
Actuarial Value of Plan Assets	\$ 0
Unfunded Actuarial Accrued Liability (UAAL)	\$ 1,212,639
Funded Ratio (Actuarial Value of Plan Assets/AAL)	0%
Covered Payroll (Active Plan Members)	\$ 2,266,304
UAAL as a Percentage of Covered Payroll	53.51%

Montana Department of Commerce  
 Board of Investments  
 2401 Colonial Drive, 3rd Floor  
 PO Box 200126  
 Helena, MT 59620-0126.

Defined benefit investments are reported at fair value as of June 30, 2016.

**6. METHOD USED TO VALUE INVESTMENTS**

According to Article VIII, section 13 of the Montana Constitution and section 19-2-504, MCA, the Board of Investments (BOI) has a fiduciary responsibility for investing the defined benefit plan assets on behalf of the defined benefit plan members. Investments are determined in accordance with the statutorily and constitutionally mandated “prudent expert principle.” Pursuant to Article VIII, section 15 of the Montana Constitution and sections 19-2-502 and 19-2-503, MCA, the PERB has a fiduciary responsibility for the administration of the pension trust funds. For the defined benefit pools, the PERB relies on the Investment Policy Statements that are drafted and approved by the BOI. In this process, the BOI utilizes information obtained from RV Kuhns & Associates, Inc., the investment consultant. Investments administered by the BOI for the PERB are subject to their investment risk policies. The PERB does not have an investment policy of its own to address risks. Information on investment policies, investment activity, investment management fees and a listing of specific investments owned by the pooled asset accounts can be obtained by contacting BOI, the investment manager, at the following address.

The PERS-DCRP and Deferred Compensation Plan’s Montana Fixed Fund is a stable value investment option, administered through outside vendors; Pacific Investment Management Company, LLC (PIMCO), custodial bank State Street Bank and Trust Company (State Street), and third party synthetic Guaranteed Interest Contract (GIC) providers, Transamerica Life Insurance Company (Transamerica), Prudential Insurance Company of America (Prudential), and Voya Retirement Insurance & Annuity Company (Voya). All money invested in the Montana Fixed Fund investment option of the PERS-DCRP and Deferred Compensation Plan are in a Pooled Trust.

For both the PERS-DCRP and Deferred Compensation Plan, the third party recordkeeper, Empower™ Retirement, tracks and reports the daily trading and valuations of all investment options including the assets held by the individual mutual fund companies.

In addition to the laws cited previously, the PERS-DCRP investments are also governed by section 19-3-2122, MCA and the Deferred Compensation Plan investments are governed by section 19-50-102, MCA.

The PERB has separate investment policy statements for the PERS-DCRP and Deferred Compensation plans. The

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investment policies are reviewed and revised, if necessary, by the PERB on an annual basis. The investment options are reviewed quarterly by an investment analyst who is an independent third party consultant. In the review, each investment alternative is compared to its peers and the appropriate benchmark. In addition, each investment alternative is reviewed for other indicators including, but not limited to: style drift, duplication, and fund manager or other organizational changes. Investment alternatives that are determined to have a sub-standard performance rating or other negative indicators may be recommended for probation or termination. During the reviews, the PERB may decide to retain, replace or place in a probation status any of the offered mutual funds. DCRP and 457 investments are reported at fair value as of June 30, 2016.

### **Fair Value Measurements**

The BOI categorizes their fair value measurements within the fair value hierarchy established by generally accepted accounting principles. The hierarchy is based on the valuation inputs used to measure the fair value of the asset and give the highest priority to unadjusted quoted prices in active markets for identical assets or liabilities (level 1 measurements) and the lowest priority to unobservable inputs (level 3 measurements).

Level 1: Unadjusted quoted prices for identical instruments in active markets.

Level 2: Quoted prices for similar instruments in active markets; quoted prices for identical or similar instruments in markets that are not active; and model-derived valuations in which all significant inputs are observable.

Level 3: Valuations derived from valuation techniques in which significant inputs are unobservable.

In instances where inputs used to measure fair value fall into different levels in the fair value hierarchy, fair value measurements in their entirety are categorized based on the lowest level input that is significant to the valuation. The BOI's assessment of the significance of particular inputs to their fair value measurements requires judgment and considers factors specific to each asset or liability.

The **Investment Risks** for the pooled investments in which the PERB participates in are described in the following paragraphs. Investments are administered by the BOI, for the PERB, as part of the State of Montana's Unified Investment Program and the BOI is 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. With the exception of U.S. Government securities, the fixed income instruments in the investment pools have credit risk as measured by major credit rating services.

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, cash or collateral securities that are in the possession of an outside party. As of June 30, 2016, all securities in the 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, State Street.

Concentration of Credit Risk - Concentration of credit risk is the risk of loss attributed to the magnitude of BOI’s investment in a single issuer. Investments explicitly guaranteed by the U.S. Government are excluded from the concentration of credit risk requirement.

*Bond Pools* - The RFBP Core Internal Bond Portfolios Investment Policy Statement (IPS) provides for a 2% portfolio limit for dollar denominated debt obligations of domestic and foreign corporations (Yankee bonds) and a 3% portfolio limit in nonagency Mortgage Pass-through (MBS) securities. The four RFBP external managers are limited to debt obligations of domestic and foreign corporations up to 3% of portfolio assets per issuer.

STIP – The STIP Investment Policy limits concentration of credit risk exposure by limiting portfolio investment types to 3% in any issuer with the exception of U.S. Treasury and U.S. Agency securities as well as any repurchase agreements with a financial institution.

Foreign Currency Risk - Foreign currency risk is the risk that changes in exchange rates will adversely affect the fair value of an investment. Although the MTIP, RFBP, and MTRP do not have a formal policy to limit foreign currency risk, the MTIP policy provides for the “external managers to hedge currency in a defensive manner. 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. The managers’ Investment Guidelines provide

for currency hedging and emerging market limitations. At the Pool level, MTIP will be managed on an un-hedged basis.” The MPEP policy does not address foreign currency risk, but identifies “country risk as including all of the risks associated with international alternative investments along with the political, economic and currency risks associated with investing outside of the United States.”

MPEP, MTRP, MTIP, and RFBP include assets subject to foreign currency risk. The PERB’s portion of the foreign currency risk at June 30, 2016 is presented in the following table.

PERB Foreign Currency Risk June 30, 2016		
<u>Investment</u>	<u>\$ amount of Pool</u>	<u>% of Pool</u>
MPEP	\$ 16,274,100	63.75%
MTRP	\$ 4,217,676	63.74%
MTIP	\$ 815,109	63.83%
RFBP	\$ 811,023	63.51%

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 uses effective duration as a measure of interest rate risk for the Bond Pool. Duration for two fixed income external managers must be within 25% of the established Index duration. MDEP domestic equity managers are allowed to maintain up to 5% of assets in short-term investments and index domestic equity managers are allowed to maintain up to 3% of assets in short-term investments and individual securities. MTIP international equity managers are allowed to maintain up to 5% of assets in short-term investments.

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According to the STIP investment policy “the STIP portfolio will minimize interest rate risk by:

- structuring the investment portfolio so securities mature to meet cash requirements for ongoing operations thereby normally avoiding the need to sell securities on the open market prior to maturity;
- maintaining a dollar-weighted average portfolio maturity (WAM) of 60 days or less (for this purpose, the date to the next coupon reset date will be used for all floating or variable rate securities), and
- STIP will maintain a reserve account.”

The PERB’s investments subject to credit and interest rate risk at June 30, 2016 are categorized in the following table.

Investment	Fair Value	Credit Quality Rating	Effective Duration
	6/30/2016	6/30/2016	6/30/2016
RFBP	\$1,507,104,794	AA-	5.38 yrs WAM*
STIP	\$ 186,672,379	A-1	41 days

\*Weighted Average Maturity (WAM).

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. Although the STIP investments have been rated by investment security type, 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.

With the exception of the U.S. Government securities, the RFBP fixed income instruments have credit risk as measured

by major credit rating services. Obligations of the U.S. Government or obligations explicitly guaranteed by the U.S. Government are not considered to have credit risk and do not require disclosure of credit quality. The total investments credit quality rating for RFBP is not rated (NR).

The following are the summaries of a) the BOI’s fiscal year-end statements, b) the Stable Value Group Trust contracts, and c) a statement about the variable investments.

**BOI - Pooled Investments:** 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 fair value of each unit times the number of units owned. Effective October 2015, STIP is recorded on a Net Asset Value (NAV) or “fair value” basis. The value of each participating dollar equals the fair value divided by the amortized cost. The fair value of publicly traded stocks and bonds is determined by reference to market prices supplied by State Street Bank (BOI’s 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.

As of June 30, 2016, the BOI managed six major diversified pools, Montana Short Term Investment Pool (STIP), Montana Domestic Equity Pool (MDEP), Retirement Funds Bond Pool (RFBP), Montana International Equity Pool (MTIP), Montana Private Equity Pool (MPEP) and Montana Real Estate Investment Pool (MTRP). The PERS-DCRP Disability

OPEB trust fund consists of a portfolio of commingled equity index funds that are recorded under *Commingled Equity Securities* in the financial statements.

### *Montana Domestic Equity Pool (MDEP)*

The Montana Public Retirement Plans investment in the Montana Domestic Equity Pool (MDEP) will provide the Plans with exposure to a broad and diverse spectrum of equity-related securities across different industries and market capitalization ranges. Primarily, these equity investments will be managed by external asset managers that invest in the common shares of equity for entities that have their headquarters based in the United States and are traded on eligible U.S. exchanges. MDEP will be diversified across a number of investment portfolios and investment managers that will utilize either an active or an index focused investment strategy.

### *Montana International Equity Pool (MTIP)*

The Montana Public Retirement Plans investment in the Montana International Equity Pool (MTIP) will provide the Plans with exposure to a broad and diverse spectrum of equity-related securities across different industries and market capitalization ranges. Primarily, these equity investments will be managed by external asset managers that invest in the common shares of equity for entities that have their headquarters based outside of the United States. MTIP will be diversified across a number of investment portfolios and investment managers that will utilize either an active or an index focused investment strategy.

### *Montana Private Equity Pool (MDEP)*

The Montana Public Retirement Plans

investment in the Montana Private Equity Pool (MPEP) will provide the Plans with exposures to a diverse spectrum of private investment opportunities across different industries, both within and outside the United States. Primarily, these investments will be private equity partnership interests, which may be direct limited partnerships or vehicles that primarily invest in direct limited partnerships, including fund-of-funds and secondary funds. MPEP will be diversified across a number of funds, vintage years, investment opportunities, and geographies.

### *Montana Real Estate Pool (MTRP)*

The Montana Public Retirement Plans investment in the Montana Real Estate Pool (MTRP) will provide the Plans with exposure to a diverse spectrum of real estate related investment opportunities both within and outside the United States. Primarily, these investments will be made in an open-ended institutional commingled fund or a closed-ended private investment fund. MTRP will be diversified across a number of funds, vintage years, investment opportunities, and geographies.

### *Montana Retirement Funds*

#### *Bond Pool (RFBP)*

The Montana Public Retirement Plans investment in the Retirement Funds Bond Pool (RFBP) will provide the Plans with exposure to a broad and diverse spectrum of fixed income-related securities across different sectors, industries, credit ratings and maturities. These fixed income investments will be managed internally as well as by external asset managers utilizing an active investment strategy.

### *Short-Term Investment Pool (STIP)*

The Montana Public Retirement Plans

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investment in the Short-Term Investment Pool (STIP) will provide the Plans with exposure to Cash related investments. STIP will be managed internally utilizing an active investment strategy.

<b>Investment Pools</b>	<b>Book Value</b>	<b>Fair Value</b>	<b>Net Asset Value (NAV)</b>
Short-term Investment Pool	\$ 183,250,469	\$ 186,672,379	\$ 186,672,379
Retirement Funds Bond Pool	1,507,104,794	1,507,104,794	1,507,104,794
MT Domestic Equities Pool	2,408,240,490	2,408,240,491	2,408,240,491
MT International Equities Pool	985,301,422	985,301,421	985,301,421
MT Private Equities Pool	712,005,011	712,005,011	712,005,011
MT Real Estate Pool	589,712,651	589,712,652	589,712,652
Commingled Equity Securities <sup>1</sup>	2,844,739	2,834,520	2,834,520
<b>Total</b>	<b>\$6,388,459,576</b>	<b>\$6,391,871,268</b>	<b>\$6,391,871,268</b>

<sup>1</sup>DC Disability OPEB is invested by the manager Blackrock in commingled equity index funds measured at NAV.

Investments that are measured at fair value using the net asset value per share (or its equivalent) as a practical method are not classified in the fair value hierarchy. This is the case of the Pension Investment Pools and the Short-Term Investment Pool (STIP).

The Pension Investment Pools, RFBP, MDEP, MTIP, MPEP, and MTRP, are internal investment pools managed and administered under the direction of the Montana Board of Investments (BOI) as statutorily authorized by the Unified Investment Program. They are commingled internal investment pools and only the retirement systems can participate in these pools. On a monthly basis, redemptions are processed by the BOI in order to maintain required asset allocations and to provide liquidity for retirement benefits. The fair values of the investments in this category have been determined using the Net Asset Value (NAV) per share (or its equivalent) of the investment. Refer to the fair value measurement note disclosures within BOI's annual financial statements for the underlying investments within the fair value hierarchy.

STIP is an external investment pool managed and administered under the direction of BOI as statutorily authorized by the Unified Investment Program. It is a commingled pool for investment purposes and participant requested redemptions from the pool are redeemed the next business day. The fair values of the investments in this category have been determined using the NAV per share (or its equivalent) of the investment. Refer to the fair value measurement note disclosures within BOI's annual financial statements for the underlying investments within the fair value hierarchy.

The PERS-DCRP Disability OPEB trust fund invests in commingled equity index funds through the manager Blackrock Institutional Trust Co., N.A (Blackrock), recorded under *Commingled Equity Securities* in the financial statements. This type consists of institutional investment funds that invest in domestic equities and funds that invest in international equities. The fair values of the investments of this type have been determined using the NAV per share or its equivalent) of the investments.

At June 30, 2016, the PERB's portion of the defined benefit investment pools is presented in the table below.

### PERB Portions of BOI Pools at June 30, 2016

<u>Investment</u>	<u>Fair Value June 30, 2016</u>	<u>PERB Portion June 30, 2016</u>
STIP	\$ 186,672,379	6.52%
MDEP	2,408,240,491	63.74%
RFBP	1,507,104,794	63.51%
MTIP	985,301,421	63.83%
MPEP	712,005,011	63.75%
MTRP	589,712,652	63.74%

**Securities Lending Collateral**, governed under the provisions of state statutes, BOI authorized the custodial bank, State Street Bank, to lend the BOI's 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. At June 30, 2016, 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.

**Stable Value -- Montana Fixed Fund (Fixed Investment)** The Montana Fixed Fund is a stable value investment option of the PERS-DCRP and the Deferred Compensation Plan, and is administered through outside vendors, Pacific Investment Management Company LLC (PIMCO), custodial bank, State Street Bank and Trust Company (State Street), and third-party synthetic Guaranteed Interest Contract (GIC) providers, Transamerica Life Insurance Company (Transamerica), Prudential Insurance Company of America (Prudential) and Voya Retirement Insurance & Annuity Company (Voya). When participants invest in the Montana Fixed Fund option they are guaranteed a fixed rate of return, which may be adjusted in accordance with the terms of the respective contract with

the GIC provider. The Montana Fixed Fund employs a synthetic stable value strategy in which the investment and stable value manager, PIMCO, manages a diversified bond portfolio and third party insurers, Transamerica, Prudential and Voya, guarantee the participants' principal investments and earnings in accordance with terms of the respective contract with the GIC provider. Transamerica, Prudential, and Voya calculate a rate of return each quarter called the "crediting rate", which helps smooth participants' earnings over time. From July 1, 2013 through September 30, 2013, the crediting rate was used to credit earnings to participant accounts. Effective October 1, 2013, the Montana Fixed Fund's structure was changed to incorporate a money market-like liquidity strategy and calculate member investments and earnings based on a Net Asset Value (NAV).

The PERS-DCRP and Deferred Compensation Plans' Stable Value investments are synthetic guaranteed investment contracts (GIC) that are fully benefit-responsive and are measured at contract value and do not participate in fair value changes.

The third-party insurers set a fixed quarterly rate of return based on the investment manager's portfolio market value performance, yield, and duration in accordance with the terms of the respective contract with the GIC provider.

All money invested in the Montana Fixed Fund of the PERS-DCRP and Deferred Compensation Plan are held in a Pooled Trust. The Pooled Trust qualifies as a group trust under sections 401(a), including section 401(a)(24) and 501(a), of the

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Internal Revenue Code (IRC) of 1986, as amended. The Pooled Trust assets are invested by PIMCO and are held under a custodial agreement with State Street. The Pooled Trust assets are invested by PIMCO based on an investment guideline schedule as agreed upon in the Pooled Trust Contract and approved by the PERB, PIMCO, and any GIC. PIMCO is responsible for setting the investment risk policies for the Pooled Trust. Credit Risk is risk that the issuer of a fixed income security may default in making timely principal and interest payments. With the exception of the U.S. Government securities, the Montana Fixed Fund fixed income instruments have credit risk as measured by major credit rating services. Obligations of the U.S. Government or obligations explicitly guaranteed by the U.S. Government are not considered to have credit risk and do not require disclosure of credit quality. The total investments credit quality rating for Montana Fixed Fund is AA. For Interest Rate Risk as of June 30, 2016, in accordance with GASB Statement No. 40, PIMCO has selected the effective duration method to disclose interest rate risk. The total effective duration for Montana Fixed Funds fixed income investments, as of June 30, 2016, is 3.79 years. Foreign Currency Risk is the risk that changes in exchange rates will adversely affect the fair value of an investment. The Montana Fixed Fund may include securities subject to foreign currency risk.

**Variable Investments** for the PERS-DCRP and Deferred Compensation Plan are held and managed in a selection of retail and institutional mutual funds, which cover all standard asset classes and categories. The selection of offered mutual funds is designed to provide participants

with the ability to diversify investments and meet their individual investment goals and strategies. With advice from an independent investment analyst and assistance from the statutorily-created Employee Investment Advisory Council (EIAC), the PERB conducts annual reviews of the offered mutual funds. The goal of the reviews is to ensure that the offered mutual funds meet standards established in the Investment Policy Statements adopted by the PERB. Each investment alternative is compared to its peers and an appropriate benchmark. PIMCO is responsible for setting the investment risk policies. Concentration of Credit Risk is not addressed in the investment policy statements and investments in mutual funds are not required to be disclosed.

Available funds in the PERS-DCRP and Deferred Compensation Plan are listed on pages 90-91 and 93-94, respectively. A current listing may also be obtained by contacting MPERA.

The valuation method for investments measured at the net asset value (NAV) per share (or its equivalent) is presented in the table on the following page for the defined benefit investments and on page 60 for the defined contribution investments.

**PERB Defined Benefit Investments Measured at Fair Value**

	Fair Value Measurements Using			
	June 30, 2016	Quoted Prices in Active Markets for Identical Assets (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable (Level 3)
Investments by fair value level				
Total Investments by fair value level <sup>1</sup>	\$	\$	\$	\$
<b>Investments measured at the net asset value (NAV)</b>				
Retirement Funds Bond Pool (RFBP)	\$1,507,104,794			
Montana Domestic Equity Pool (MDEP)	2,408,240,491			
Montana International Equity Pool (MTIP)	985,301,421			
Montana Private Equity Pool (MPEP)	712,005,011			
Montana Real Estate Pool (MTRP)	589,712,652			
Short Term Investment Pool (STIP)	186,672,379			
Commingled Equity Securities <sup>2</sup>	2,834,520			
Total investments measured at the NAV	<u>\$6,391,871,268</u>			
Total investments measured at fair value	<u>\$6,391,871,268</u>			

<sup>1</sup>All PERB investments are measured at net asset value (NAV) and not within the fair value level hierarchy.

<sup>2</sup>The DC Disability OPEB trust fund is invested by the manager Blackrock in commingled equity index funds measured at NAV.

**PERB Defined Benefit Investments Measured at Net Asset Value (NAV)**

	June 30, 2016			
	“Fair Value”	Unfunded Commitments	Redemption Frequency (If Currently Eligible)	Redemption Notice Period
Retirement Funds Bond Pool (RFBP)	\$1,507,104,794		Monthly	30 days
Montana Domestic Equity Pool (MDEP)	2,408,240,491		Monthly	30 days
Montana International Equity Pool (MTIP)	985,301,421		Monthly	30 days
Montana Private Equity Pool (MPEP)	712,005,011		Monthly	30 days
Montana Real Estate Pool (MTRP)	589,712,652		Monthly	30 days
Short Term Investment Pool (STIP)	186,672,379		Daily	1 day
Commingled Equity Securities <sup>1</sup>	2,834,520		Daily	1 day
Total investments measured at the NAV	<u>\$6,391,871,268</u>			

<sup>1</sup>The DC Disability OPEB trust fund is invested by the manager Blackrock in commingled equity index funds measured at NAV.

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### PERB Defined Contribution and Deferred Compensation Investments Measured at Fair Value

	Fair Value Measurements Using			
	June 30, 2016	Quoted Prices in Active Markets for Identical Assets (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable (Level 3)
Investments by fair value level				
Total Investments by fair value level <sup>1</sup>	\$	\$	\$	\$
Investments measured at the net asset value (NAV)				
Montana Fixed Fund (Stable Value Pool) <sup>2</sup>	\$	251,745,249		
Variable Pooled Investments <sup>3</sup>		350,433,810		
Short Term Investment Pool <sup>4</sup>		1,095,966		
Total investments measured at the NAV		\$603,275,025		
Total investments measured at fair value	\$	603,275,025		

<sup>1</sup>All investments are pooled and measured at net asset value (NAV) and not within the fair value level hierarchy.

<sup>2</sup>The Montana Fixed Fund is a stable value option that invests in cash, other liquid investments, and synthetic Guaranteed Investment Contract (GICs) that are fully benefit-responsive and is reported at contract value.

<sup>3</sup>The Variable Pooled Investments are all mutual funds measured at Net Asset Value (NAV).

<sup>4</sup>Short Term Investment Pool (STIP) is an external investment pool managed and administered through Montana Board of Investments (BOI) and fair values are determined using the Net Asset Value (NAV) per share for the investment.

### PERB Defined Contribution and Deferred Compensation Investments Measured at Net Asset Value

	June 30, 2016			
	"Fair Value"	Unfunded Commitments	Redemption Frequency (If Currently Eligible)	Redemption Notice Period
Montana Fixed Fund (Stable Value Pool) <sup>1</sup>	\$ 251,745,279		Daily	None
Variable Pooled Investments <sup>2</sup>	350,433,810		Daily	None
Short Term Investment Pool <sup>3</sup>	1,095,966		Daily	1 day
Total investments measured at the NAV	\$ 603,275,025			

<sup>1</sup>The Montana Fixed Fund is a stable value option that invests in cash, other liquid investments, and synthetic Guaranteed Investment Contract (GICs) that are fully benefit-responsive and are reported at contract value.

<sup>2</sup>The Variable Pooled Investments are all mutual funds measured at Net Asset Value (NAV).

<sup>3</sup>Short Term Investment Pool (STIP) is an external investment pool managed and administered through Montana Board of Investments (BOI). The fair values are determined using the Net Asset Value (NAV) per share for the investment.

**B. LITIGATION**

Each of the plans administered by the PERB may be involved in various claims and legal actions arising in the ordinary course of business. In the opinion of management and legal counsel, the disposition of those matters should not have a material, adverse affect on any plan's financial position as a whole. The Wrzesien case was decided by the Montana Supreme Court in favor of the PERB and the State and will not impact PERS' financial position. Management and legal counsel also believe the possibility that the plaintiff in Tadman will prevail is remote as the predominant claim in the Complaint was based on reporting mandated in a Private Letter Ruling PERB obtained from the Internal Revenue Service.

*Wrzesien v. State.* Three members of PERS who elected to participate in either the PERS Defined Contribution Retirement Plan or the University System's Optional Retirement Program (now known as the Montana University System Retirement Program (MUS-RP)) sued the State of Montana and MPERA in late 2012 over the PERS plan choice rate (PCR). The complaint alleged equal protection and due process violations, and requested issuance of a declaratory judgment granting plaintiffs the employer contributions paid toward the plan choice rate. Class action certification was also requested. The plaintiffs were represented by Travis Dye of Kalkstein, Johnson & Dye in Missoula, Montana. The State and MPERA were represented by J. Stuart Segrest of the Montana Attorney General's Office. The complaint was amended in 2013 to include the 1% in employer contributions for DCRP plan members

that, pursuant to HB 454 (2013), went to the PERS defined benefit retirement plan starting July 1, 2013. The First Judicial District Court, Judge Reynolds presiding, ruled against the plaintiffs and found that neither the PCR nor the allocation of the additional 1% employer contribution to the defined benefit plan's unfunded actuarial liability violated the plaintiffs' equal protection or substantive due process rights. Plaintiffs appealed this decision to the Montana Supreme Court, which affirmed the lower court in an order issued on September 28, 2016. The contributions previously directed to the plan choice rate for over 3,000 PERS-DCRP and MUS-RP participants, at June 30, 2016, in the amounts of \$26,488,006 and \$5,934,921, respectively, will not be paid to PERS-DCRP and MUS-RP plan members as requested by the complaint.

*Tadman, et al. v. State of Montana.* A retired member of the Sheriffs' Retirement System filed a class action against the State of Montana on October 6, 2015, alleging the inappropriate payment of state and federal income tax on certain line-of-duty disability benefits. Plaintiff is represented by Lawrence A. Anderson, an attorney in Great Falls, Montana. The State was served with the Complaint on November 25, 2015, and will be represented by Eric Biehl and Hanna Warhank from Church, Harris, Johnson & Williams PC, in Great Falls, Montana and the Board's legal counsel. The State responded to the Complaint and as of the date of the printing of this document, no further action other than discovery has taken place in this matter.

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### C. PLAN MEMBERSHIP, DESCRIPTIONS AND CONTRIBUTION INFORMATION

The plans are established and amended statutorily by the Legislature. In all defined benefit plans (except VFCA), if a member leaves covered employment before retirement, the member contributions plus accrued interest (accumulated contributions)

may be refunded to the member. If a member returns to service and repays the withdrawn accumulated contributions plus the interest the accumulated contributions would have earned had they remained on deposit, membership service is restored. Membership in each plan as of June 30, 2016 is detailed in the following chart.

Type of Plan for Reporting Purposes	Single-Employer Defined Benefit		Multi-Employer Defined Benefit						Multi-Employer Defined Contribution	
	JRS	HPORS*	PERS-DBRP	SRS	GWPORS	MPORS*	FURS	VFCA	PERS-DCRP	457
<b>Classification of Member</b>										
Active	55	228	28,390	1,364	989	762	644	1,895	2,409	5,417
Inactive: entitled to, but not yet receiving benefits or a refund:										
Vested	2	16	3,062	95	105	61	27	878	346	3,970
Non-Vested		18	10,031	394	278	112	77		590	
Inactive members and beneficiaries currently receiving benefits:										
Service Retirements	62	311	20,712	567	238	714	595	1,422	38	
Disability Retirements	1	6	169	29	3	23	7	1	7	
Survivor Benefits	5	12	452	24	9	31	19	2	3	
<b>Total Membership</b>	<b>125</b>	<b>591</b>	<b>62,816</b>	<b>2,473</b>	<b>1,622</b>	<b>1,703</b>	<b>1,369</b>	<b>4,198</b>	<b>3,393</b>	<b>9,387</b>

\*Includes DROP in the Active count.



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### **PERS-DBRP Summary of Benefits (continued)**

retire **on or after** January 1, 2016 and accumulate **less than 5 years** additional service credit:

- A refund of member's contributions plus regular interest (.25%);
- No service credit for second employment;
- Start the same benefit amount the month following termination; and
- GABA starts again in the January immediately following the second retirement.

Retire **before** January 1, 2016 and accumulate **at least 2 years** of additional service credit:

- A recalculated retirement benefit based on provisions in effect after the initial retirement; and
- GABA starts on the recalculated benefit in the January after receiving the new benefit for 12 months.

Retire **on or after** January 1, 2016 and accumulate **5 or more years** of service credit:

- The same retirement as prior to the return to service;
- A second retirement benefit as prior to the second period of service based on laws in effect upon the rehire date; and
- GABA starts on both benefits in the January after receiving the original and the new benefit for 12 months.

**Vesting**      5 years of membership service

### **Monthly benefit formula**

Members hired prior to July 1, 2011:

- Less than 25 years of membership service: 1.785% of HAC per year of service credit;
- 25 years of membership service or more: 2% of HAC per year of service credit.

Members hired on or after July 1, 2011:

- Less than 10 years of membership service: 1.5% of HAC per year of service credit;
- 10 years or more, but less than 30 years of membership service: 1.785% of HAC per year of service credit;
- 30 years or more of membership service: 2% of HAC per year of service credit.

### **Guaranteed Annual Benefit Adjustment (GABA)**

After the member has completed 12 full months of retirement, the member's benefit increases by the applicable percentage (provided below) each January, inclusive of all other adjustments to the member's benefit.

- 3.0% for members hired prior to July 1, 2007
- 1.5% for members hired between July 1, 2007 and June 30, 2013
- Members hired on or after July 1, 2013:
  - (a) 1.5% for each year if PERS is funded at or above 90%;
  - (b) 1.5% is reduced by 0.1% for each 2% PERS is funded below 90%; and,
  - (c) 0% whenever the amortization period for PERS is 40 years or more.

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<b>PERS-DBRP PARTICIPATING EMPLOYERS</b>		
Employers	June 30, 2016	June 30, 2015
State Agencies	34	34
Counties	55	55
Cities and Towns	98	98
Colleges and Universities	5	5
School Districts	229	232
High Schools	5	6
Other Agencies	<u>109</u>	<u>109</u>
Total	535	539

PERS-DBRP Active Membership by Employer Type		
Employer Type	June 30, 2016	June 30, 2015
State Agencies	10,668	10,640
Counties	5,426	5,348
Cities	3,360	3,307
Universities	2,661	2,623
High Schools	63	62
School Districts	5,097	5,148
Other Agencies	<u>1,115</u>	<u>1,109</u>
Total	28,390	28,237

*Contributions:* Member and employer contribution rates are established by state law and may be amended only by the Legislature.

<b>Contribution Rates as a % of Covered Payroll</b>	
<i>Fiscal year ended June 30, 2016</i>	
Member	7.90%
State & University Employer	8.37%
Local Government Employer	8.27%
School District Employer	8.00%
State for Local Governments	0.10%
State for School Districts	0.37%

Contributions are deducted from each member's salary and remitted by participating employers. An individual account is established for each member's contributions and interest allocations until a request for retirement or refund is processed.

The 7.9% member contributions will be decreased to 6.9% on January 1 following actuary valuation results that show the

amortization period has dropped below 25 years and would remain below 25 years following the reduction of both the additional employer and additional member contribution rates. There will be no reduction to the member contributions on January 1, 2017 due to the amortization period being 26 years at June 30, 2016.

The employee education program is funded by 0.04% of the employer's contributions.

Effective July 1, 2013, employer contributions temporarily increased 1.0%. Further, employer contribution increase an additional 0.1% a year over 10 years beginning July 1, 2014, through 2024. The employer additional contributions, including the 0.27% added in 2007 and 2009, terminate on January 1 following actuary valuation results that show the amortization period has dropped below 25 years and would remain below 25 years following the reduction of both the additional employer and member contribution rates. On January 1, 2017, the additional contributions will not be terminated. (Reference Schedule of Contribution Rates on page 97).

Effective July 1, 2013, PERS-DBRP received other contributions including 1% employer contributions for DCRP and MUS-RP participants and additional Plan Choice Rate contributions. As per the law of the 2015 Legislative Session and effective July 1, 2015, with the first fiscal year 2016 payroll pay date, the additional 1% employer contribution was directed to the Plan Choice Rate Unfunded Actuarial Liability rather than the Defined Benefit Unfunded Actuarial Liability. As of March 2016, the Plan Choice Rate Unfunded Actuarial Liability was paid in full and the additional employer contribution is now being directed to defined contribution members' accounts.

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Effective July 1, 2013, PERS-DBRP received additional contributions from the coal severance tax fund and interest income from the coal severance tax permanent fund. The coal severance taxes collected are credited to the general fund of the State of Montana and are statutorily appropriated on July 1 each year to the trust fund for the PERS-DBRP. The coal tax is transferred quarterly and the interest income is credited monthly. The amount received for fiscal year 2016 was \$29.8 million. These contributions are recorded as *Coal Tax Transfers* in the financial statements.

Effective July 1, 2013, employers are required to make contributions on working retirees' compensation. Member contributions for working retirees are not required.

*Plan Membership Elections:* MPERA has included in the financial statements transfers of \$1,104,737 in Transfers to DCRP and \$129,897 in Transfers to MUS-RP. These transfers reflect the DCRP and MUS-RP contributions of participants that filed elections at or near the June 30 cutoff date. The contributions were transferred in early fiscal year 2017.

*Additional Service Purchase Due to a Reduction in Force:* Section 19-2-706, MCA allows state and university system employees who are eligible for a service retirement and whose positions have been eliminated due to a reduction in force, to have their employer pay a portion of the total cost of purchasing up to three years of "1-for-5" additional service. The employer has up to ten years to complete payment for the service purchases and is charged the actuarially required rate of return as established by the PERB on the unpaid balance. The employees participating under section 19-2-706, MCA

increased from 233 in fiscal year 2015 to 242 in fiscal year 2016. The contributions received (including interest) during fiscal year 2016 totaled \$239,285. The outstanding balance at June 30, 2016, totaled \$29,675.

*Public Employees' Retirement System-DBRP Education Fund:* Education is provided to all members of the PERS regardless of plan choice as governed by section 19-3-112, MCA. The education must be presented with impartial and balanced information about plan choices, investments and retirement planning.

The education program consists of ongoing transfer education for new members and investment/retirement planning education for all active members.

The education program was funded by 0.04% of PERS-covered payroll in fiscal year 2016.

*GASB Statement No. 67 Reporting:* The membership data, actuarial assumptions and plan provisions are the same as were described in the June 30, 2015 Actuarial Valuation Report for PERS-DBRP.

The discount rate as of June 30, 2016 is 7.75% which is the assumed long-term expected rate of return on PERS-DBRP investments. Projections of the fiduciary net position have indicated that it is expected to be sufficient to make projected benefit payments for current members.

The Total Pension Liability (TPL) at the end of the measurement year, June 30, 2016, is measured as of a valuation date of June 30, 2015, rolled forward to June 30, 2016. The rolled forward procedures include the addition of service cost and interest cost offset by actual benefit payments, adjusted for liability

gains or losses due to the experience as well as significant events occurring between the valuation date and the measurement date, if applicable. The TPL at June 30, 2016 is \$6.7 billion.

During the measurement year there were no changes in benefits or changes in assumptions. Because the beginning and end of year TPL are based on different actuarial valuations, the differences between expected and actual experience reported this year was an actuarial experience loss of \$12.3 million. The actuarially determined service cost, interest cost, and administrative expenses exceeded the total contributions and investment income combined with favorable plan experience, resulting in an increase in the Net Pension Liability (NPL) of \$305.5 million. The NPL remaining as of June 30, 2016 is \$1.7 billion.

Changes in the discount rate affect the measurement of the TPL. Lower discount rates produce a higher TPL and higher discount rates produce a lower TPL. Because the discount rate does not affect the measurement of assets,

the percentage change in the NPL can be very significant for a relatively small change in the discount rate. At June 30, 2016, the sensitivity of the NPL to the changes in the discount rate are as follows.

	1% decrease 6.75%	Discount Rate 7.75%	1% Increase 8.75%
As of June 30, 2016			
Total Pension Liability	\$7,504,487,618	\$6,736,152,999	\$6,074,307,999
Fiduciary Net Position	5,032,807,110	5,032,807,110	5,032,807,110
Net Pension Liability	<u>\$2,471,680,508</u>	<u>\$1,703,345,889</u>	<u>\$1,041,500,889</u>
Fiduciary Net Position as a % of the TPL	67.06%	74.71%	82.85%

*Actuarial Status:* The statutory funding rate is tested in the valuation to determine if it is sufficient to cover the Normal Cost Rate plus an amortization payment of the Unfunded Actuarial Liability, if any, over no more than 30 years. As of June 30, 2016, the statutory contribution rates are sufficient to amortize the unfunded actuarial liability within 26 years.

Under the provisions of HB 454 (2013), the additional member and employer contributions, effective July 1, 2013, will remain in effect on January 1, 2017.

## Public Employees’ Retirement System-DCRP Disability OPEB (DCRP Disability OPEB)

*Plan Description:* For GASB Statement No. 43, *Financial Reporting by Employers for Post-Employment Benefits Other Than Pension Plans* reporting, the DCRP Disability OPEB is considered a cost-sharing multiple-employer plan that provides an other post-employment defined benefit for the PERS-DCRP members.

All new PERS members are initially members of the PERS-DBRP and have a 12-month window during which they may choose to remain in the PERS-DBRP or join the PERS-

DCRP by filing an irrevocable election. Members may not be members of both the defined benefit and defined contribution retirement plans. The PERS-DCRP provides disability to eligible members who elect the PERS-DCRP.

The DCRP Disability OPEB Trust Fund was established on July 1, 2002, and is governed by section 19-3-2141, MCA. Benefits of this long-term disability plan are established by state law and can only be amended by the Legislature. This benefit is based on eligibility,

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years of service, and compensation. Member rights are vested after five years of service. A brief summary of eligibility and benefits follows.

### **PERS-DCRP Disability OPEB Summary of Benefits**

#### **Member's highest average compensation (HAC)**

Hired prior to July 1, 2011 - HAC during the highest 36 consecutive months.

Hired on or after July 1, 2011 - HAC during the highest 60 consecutive months.

#### **Eligibility for benefit**

Any age with 5 years of membership service.

**Vesting**        5 years of membership service

#### **Monthly benefit formula**

Members hired prior to July 1, 2011:

Less than 25 years of membership service: 1.785% of HAC per year of service credit;

25 years of membership service or more: 2% of HAC per year of service credit.

Benefit is payable to later of age 65 for disabilities occurring prior to age 60, or five years for disabilities occurring after age 65.

Members hired on or after July 1, 2011:

Less than 10 years of membership service: 1.5% of HAC per year of service credit;

10 years or more, but less than 30 years of membership service: 1.785% of HAC per year of service credit;

30 years or more of membership service: 2% of HAC per year of service credit.

Benefit is payable to age 70 for disabilities occurring prior to age 65, or five years for disabilities occurring after age 65.

Members cannot receive distributions from their individual defined contribution account while receiving payments from the DCRP Disability OPEB Trust Fund. Participants may choose to receive a distribution from their individual account instead of applying for or receiving a disability benefit.

*Contributions:* Under section 19-3-2117, MCA the employers are the only contributors to the DCRP Disability OPEB. The employer contribution rate is 0.30% of a DCRP member's compensation, which is allocated to the long-term disability plan trust fund to provide disability benefits to eligible DCRP members. (Reference Schedule of Contribution Rates on page 97).

As of June 30, 2016, there are seven members receiving a benefit from the disability plan, one more than as of June 30, 2015.

On top of the following page is a table with the DCRP active membership by employer type as of June 30, 2016. This data was used in the June 30, 2016 actuarial valuation of the DCRP Disability OPEB.

PERS-DCRP Active Membership by Employer Type	
Employer Type	June 30, 2016
State Agencies	1,175
Counties	373
Cities	285
Universities	125
High Schools	3
School Districts	256
Other Agencies	192
Total	2,409

*Funding Policy:* The following estimates were prepared based on an actuarial valuation as of June 30, 2016. This is the third valuation performed on this plan.

GASB Statement No. 43 requires the PERB to report each year the annual required contribution (ARC), an amount actuarially determined in accordance with the parameters of GASB Statement No. 43. The ARC represents a level of funding that, if paid on an ongoing basis, is projected to cover normal costs each year and amortize any unfunded actuarial liabilities (or funding excess) over a period not to exceed 30 years. The present statutory contribution rates are not sufficient to amortize the unfunded liability. Thus the plan does not amortize as required by Montana constitution and section 19-2-409, MCA.

*Actuarial Methods and Assumptions:* Projections of benefits for financial reporting purposes are based on the plan as understood by the employer and plan members, and includes the type of benefits provided at the time of each valuation and the historical pattern of costs to that point. The actuarial methods and assumptions used include techniques that are designed to reduce

short-term volatility in the actuarial accrued liabilities and the actuarial value of assets, consistent with the long-term perspective of the calculations. 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. 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. Given insufficient DCRP member experience, the actuarial assumptions used were based on those used for the PERS-DBRP members, except for the assumed investment return and an exception to the retirement and disability assumptions. Because the assets were invested in short-term fixed income securities, the assumed rate of return of 3.50% was used. This assumed rate of return is 0.50% in excess of the assumed rate of inflation.

In the June 30, 2016 actuarial valuation, the entry age normal funding method is used. The unfunded actuarial liability is amortized using an open 30-year period, level percent of pay, an investment rate of return of 3.50%, and general wage growth of 4.00% which includes inflation at 3.00% and merit salary increases of 0.00% to 6.00%.

*Funded Status and Funding Progress:* The Schedule of Funding Progress for DCRP Disability OPEB, presented as RSI following the notes to the statements, presents information concerning the actuarial value of plan assets and liabilities. The most recent actuarial valuation available was completed by Cavanaugh MacDonald Consulting, the PERB’s actuary, as of June 30, 2016 for the fiscal year ending June 30, 2016. This actuarial valuation is completed every year.

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The allocation of the DCRP Disability OPEB as of the fiscal year ending June 30, 2016 was as follows:

Actuarial Accrued Liability (AAL)	\$	3,591,249
Actuarial Value of Plan Assets	\$	3,118,397
Unfunded Actuarial Accrued Liability (UAAL)	\$	472,852
Funded Ratio		
(Actuarial Value of Plan Assets/AAL)		86.83%
Covered Payroll (Active Plan Members)	\$	114,883,091
UAAL as a Percentage of Covered Payroll		0%

*Actuarial Status:* The statutory funding rate is tested in the valuation to determine if it is sufficient to cover the Normal Cost Rate plus an amortization payment of the Unfunded Actuarial Liability, if any, over no more than 30 years. As of June 30, 2016, the most recent actuarial valuation, the statutory contribution rates are not sufficient to amortize the unfunded

actuarial liability. The DCRP Disability OPEB assets gained 0.38% on an annualized market value basis during the year ended June 30, 2016. This return was below the assumed rate of return of 3.50%, resulting in an investment loss of about \$91,932 for year ended June 30, 2016. The actuarial value of assets is set equal to the market value of assets. As of the June 30, 2016 Actuarial Valuation, the DCRP Disability OPEB unfunded actuarial liability was \$0.47 million and the funded ratio was 86.83%. At the June 30, 2015 actuarial valuation, the Plan's unfunded liability was \$0.45 million, and the funded ratio was 85.97%.

*GASB Statement No. 67 Reporting* does not pertain to the PERS-DCRP Disability OPEB trust fund.

## Judges' Retirement System (JRS)

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*Plan Description:* The JRS is a single-employer defined benefit plan established in 1967, and governed by Title 19, chapters 2 & 5 of the MCA. This system provides benefits for all Montana judges of the district courts, justices of the Supreme Court, the Chief Water Judge and the Associate Water Judge. Benefits are established by state law and can only be

amended by the Legislature. The JRS provides retirement, disability, and death benefits to plan members and their beneficiaries. Benefits are based on eligibility, years of service, and compensation. Member rights are vested after five years of service. A brief summary of eligibility and benefits follows.

### **JRS Summary of Benefits**

#### **Member's current salary<sup>1</sup> or highest average compensation (HAC)<sup>2</sup>**

<sup>1</sup>Hired prior to July 1, 1997 and non-GABA - monthly compensation at time of retirement;

<sup>2</sup>Hired on or after July 1, 1997 or electing GABA - HAC during any consecutive 36 months.

Hired on or after July 1, 2013 - 110% annual cap on compensation considered as part of a members' highest average compensation.

#### **Eligibility for benefit**

Age 60, 5 years of membership service;

Any age with 5 years of membership service - involuntary termination, actuarially reduced.

**Vesting**      5 years of membership service

**JRS Summary of Benefits continued**

**Monthly benefit formula**

3-1/3% of current salary<sup>1</sup> (non-GABA) or HAC<sup>2</sup> (GABA) per year of service credit for the first 15 years of service credit, plus 1.785% per year for each year after 15 years.

**Guaranteed Annual Benefit Adjustment (GABA)**

Hired on or after July 1, 1997, or those electing GABA - after the member has completed 12 full months of retirement, the member’s benefit increases by a maximum of 3.0% each January, inclusive of all other adjustments to the member’s benefit.

**Minimum benefit adjustment (non-GABA)**

If hired prior to July 1, 1997 and member did not elect GABA - current salary of an active member in same position is used in the calculation of the monthly benefit each time the Legislature increases salaries for active judges.

<b>JRS PARTICIPATING EMPLOYERS</b>		
<u>Employer</u>	<u>June 30, 2016</u>	<u>June 30, 2015</u>
State Agency - Supreme Court	1	1
Total	1	1

or refund request is processed. (Reference Schedule of Contribution Rates on page 97).

*GASB Statement No. 67 Reporting:* The membership data, actuarial assumptions and plan provisions are the same as were described in the June 30, 2015 Actuarial Valuation Report for JRS.

<b>JRS Active Membership by Employee Type</b>		
<u>Employee Type</u>	<u>June 30, 2016</u>	<u>June 30, 2015</u>
GABA	49	49
Non-GABA	6	6
Total	55	55

The discount rate as of June 30, 2016 is 7.75% which is the assumed long-term expected rate of return on JRS investments. Projections of the fiduciary net position have indicated that it is expected to be sufficient to make projected benefit payments for current members.

*Contributions:* Member and employer contribution rates are established by state law and may be amended only by the Legislature.

The Total Pension Liability (TPL) at the end of the measurement year, June 30, 2016, is measured as a valuation date of June 30, 2015, rolled forward to June 30, 2016. The rolled forward procedures include the addition of service cost and interest cost offset by actual benefit payments, adjusted for liability gains or losses due to the experience as well as significant events occurring between the valuation date and the measurement date, if applicable. The TPL at June 30, 2016 is \$54.0 million.

<b>Contribution Rates as a % of Covered Payroll</b>	
<i>Fiscal year ended June 30, 2016</i>	
Member	7.00%
Employer	25.81%

Contributions are deducted from each member’s salary and remitted by the participating employer. An individual account is established for each member’s contributions and interest allocations until a retirement

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During the measurement year there were no changes in benefits or changes in assumptions. Because the beginning and end of year TPL are based on different actuarial valuations, the differences between expected and actual experience reported this year were \$1.3 million. The actuarially determined service cost, interest cost, and administrative expenses exceeded the total contributions and investment income combined with the favorable plan experience, resulting in a decrease in the Net Pension Asset (NPA) of \$108.6 thousand. The NPA remaining as of June 30, 2016 is \$33.9 million.

Changes in the discount rate affect the measurement of the TPL. Lower discount rates produce a higher TPL and higher discount rates produce a lower TPL. Because the discount rate does not affect the measurement

of assets, the percentage change in the NPL or NPA can be very significant for a relatively small change in the discount rate. At June 30, 2016, the sensitivity of NPA to changes in the discount rate are as follows.

	1% decrease	Discount Rate	1% Increase
As of June 30, 2015	6.75%	7.75%	8.75%
Total Pension Liability	\$ 58,052,764	\$ 53,953,458	\$ 48,790,416
Fiduciary Net Postion	87,805,718	87,805,718	87,805,718
Net Pension Asset	<u>\$(29,752,954)</u>	<u>\$(33,852,260)</u>	<u>\$(39,015,302)</u>
Fiduciary Net Postion as a % of the TPL	151.25%	162.74%	179.97%

*Actuarial status:* The statutory funding rate is tested in the valuation to determine if it is sufficient to cover the Normal Cost Rate plus an amortization payment of the Unfunded Actuarial Liability, if any, over no more than 30 years. As of June 30, 2016, the JRS amortizes in 0 years.

### ***Highway Patrol Officers' Retirement System (HPORS)***

*Plan Description:* The HPORS is a single-employer, defined benefit plan established July 1, 1945, and governed by Title 19, chapters 2 & 6 of the MCA. This system provides retirement benefits to all members of the Montana Highway Patrol, including supervisory personnel. Benefits are established by state law and can only be amended by the Legislature. The HPORS provides retirement,

disability, and death benefits to plan members and their statutory beneficiaries. Benefits are based on eligibility, years of service, and highest average compensation. Member rights for death and disability are vested immediately. All other rights are vested after five or ten years of service. A brief summary of eligibility and benefits follows.

#### **HPORS Summary of Benefits**

##### **Member's highest average compensation (HAC)**

Highest average compensation during any consecutive 36 months.

Hired on or after July 1, 2013 - 110% annual cap on compensation considered as part of a member's highest average compensation.

##### **Eligibility for benefit**

20 years of membership service, regardless of age.

**HPORS Summary of Benefits continued:**

**Early Retirement**

Hired prior to July 1, 2013 - 5 years of membership service, actuarially reduced from age 60.

Hired on or after July 1, 2013 - 10 years of membership service, actuarially reduced from age 60.

**Vesting**     Hired prior to July 1, 2013 - 5 years of membership service  
                   Hired on or after July 1, 2013 - 10 years of membership service

**Monthly benefit formula**

Retire prior to July 1, 2013 - 2.5% of HAC per year of service credit.

Retire on or after July 1, 2013 - 2.6% of HAC per year of service credit.

**Guaranteed Annual Benefit Adjustment (GABA)**

Hired on or after July 1, 1997, or those electing GABA - after the member has completed 12 full months of retirement, the member’s benefit increases by a maximum of 3.0% each January, inclusive of all other adjustments to the member’s benefit.

Hired on or after July 1, 2013 - after the member has completed 36 full months of retirement, the member’s benefit increases by a maximum of 1.5% each January, inclusive of all other adjustments to the member’s benefit.

**Minimum monthly benefit (non-GABA)**

If hired prior to July 1, 1997 and member did not elect GABA - monthly benefits are increased each July when they fall below a statutorily guaranteed minimum. Any annual increase is limited to 5.0% over the current benefit and may not exceed 60% of the current base salary of a probationary officer.

<b>HPORS PARTICIPATING EMPLOYERS</b>		
<u>Employer</u>	<u>June 30, 2016</u>	<u>June 30, 2015</u>
State Agency - Department of Justice	1	1
<b>Total</b>	<b>1</b>	<b>1</b>

<b>HPORS Active Membership by Employee Type</b>		
<u>Employee Type</u>	<u>June 30, 2016</u>	<u>June 30, 2015</u>
GABA	228	241
Non-GABA	0	0
<b>Total</b>	<b>228</b>	<b>241</b>

All HPORS member contributions, regardless of hire date, will increase 1.0% annually, effective July 1, 2013 and ending July 1, 2016.

<b>Contribution Rates as a % of Covered Payroll</b>	
<i>Fiscal year ended June 30, 2016</i>	
Member:	
Hired prior to 7/1/1997 and not electing GABA	12.00%
Hired after 6/30/1997 and electing GABA	12.05%
Employer	28.15%
State (General Fund)	10.18%

*Contributions:* Member and employer contribution rates are established by state law and may be amended only by the Legislature.

Contributions are deducted from each member’s salary and remitted by the participating employer. An individual account is established for each member’s contributions

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and interest allocations until a retirement or refund request is processed. (Reference Schedule of Contribution Rates on page 97).

*Additional Service Purchase Due to a Reduction in Force:* Section 19-2-706, MCA allows state and university system employees who are eligible for a service retirement and whose positions have been eliminated to have their employer pay a portion of the total cost of purchasing up to three years of “1-for-5” additional service. The employer has up to ten years to complete payment for the service purchases and is charged the actuarially required rate of return as established by the PERB on the unpaid balance. No employees have taken advantage of this provision to date.

*Supplemental Benefit for Retirees:* Section 19-6-709, MCA provides eligible Montana highway patrol officers retired prior to July 1, 1991, or their survivors, an annual supplemental lump-sum payment distributed each September. This lump-sum payment is funded by a statutory appropriation requested by the PERB from the general fund. Factors impacting eligibility include the number of years the recipient has received a service retirement benefit or disability benefit, the recipient’s age, and whether the recipient is employed in a position covered by a retirement system under Title 19. The average annual supplemental payment for non-GABA retirees was \$3,159 in September 2016.

*Deferred Retirement Option Program (DROP):* Beginning October 1, 2015, eligible members of HPORS can participate in the DROP by filing a one-time irrevocable election with the PERB. The DROP is governed by Title 19, chapter 6, part 10. A member must have completed at least twenty years of membership service to be eligible.

The member may elect to participate in the DROP for a minimum of one month and a maximum of 60 months and may participate in the DROP only once. A participant remains a member of the HPORS, but will not receive membership service or service credit in the system for the duration of the member’s DROP period. During participation in the DROP, all mandatory contributions continue to the retirement system, except the member contribution which goes to the member’s DROP account. A monthly benefit is calculated based on salary and years of service to date as of the beginning of the DROP period. The monthly benefit is paid into the member’s DROP account until the end of the DROP period. At the end of the DROP period, the participant may receive the balance of the DROP account in a lump-sum payment or in a direct rollover to another eligible plan, as allowed by the IRS. If the participant continues employment after the DROP period ends, they will again accrue membership service and service credit. The DROP account cannot be distributed until the employment is formally terminated. This is the year of inception for the HPORS DROP. As of June 30, 2016, there were six DROP participants. The balance of the DROP accounts is \$161,249.

HPORS DROP Participation	
	<u>June 30, 2016</u>
Participants Beginning of Year	0
Participants Added	6
Completed DROP	0
Participants End of Year	6
DROP Distributions	\$ 0.00

*GASB Statement No. 67 Reporting:* The membership data, actuarial assumptions and

plan provisions are the same as were described in the June 30, 2015 Actuarial Valuation Report for HPORS.

The discount rate as of June 30, 2016 is 7.75%, which is the assumed long-term expected rate of return on HPORS investments. Projections of the fiduciary net position have indicated that it is expected to be sufficient to make projected benefit payments for current members.

The Total Pension Liability (TPL) at the end of the measurement year, June 30, 2016, is measured as a valuation date of June 30, 2015, rolled forward to June 30, 2016. The rolled forward procedures include the addition of service cost and interest cost offset by actual benefit payments, adjusted for liability gains or losses due to the experience as well as significant events occurring between the valuation date and the measurement date, if applicable. The TPL at June 30, 2016 is \$200 million.

During the measurement year there were no changes to benefits or changes in assumptions. Because the beginning and end of year TPL are based on different actuarial valuations, the differences between expected and actual experience reported this year were an actuarial experience loss of \$18.3 thousand. The actuarially determined service cost, interest

cost, and administrative expenses combined with unfavorable plan experience exceeded the total contributions and investment income, resulting in an increase in the Net Pension Liability (NPL) of \$7.9 million. The NPL remaining as of June 30, 2016 is \$71.8 million.

Changes in the discount rate affect the measurement of the TPL. Lower discount rates produce a higher TPL and higher discount rates produce a lower TPL. Because the discount rate does not affect the measurement of assets, the percentage change in the NPL can be very significant for a relatively small change in the discount rate. At June 30, 2016, the sensitivity of the NPL to the changes in the discount rate are as follows.

	1% decrease 6.75%	Discount Rate 7.75%	1% Increase 8.75%
As of June 30, 2016			
Total Pension Liability	\$ 228,138,940	\$ 200,751,512	\$ 179,099,538
Fiduciary Net Position	<u>128,972,920</u>	<u>128,972,920</u>	<u>128,972,920</u>
Net Pension Liability	<u>\$ 99,166,020</u>	<u>\$ 71,778,592</u>	<u>\$ 50,126,618</u>
 Fiduciary Net Position as a % of the TPL	 56.53%	 64.25%	 72.01%

*Actuarial Status:* The statutory funding rate is tested in the valuation to determine if it is sufficient to cover the Normal Cost Rate plus an amortization payment of the Unfunded Actuarial Liability, if any, over no more than 30 years. As of June 30, 2016, the HPORS amortizes in 28 years.

### ***Sheriffs' Retirement System (SRS)***

*Plan Description:* The SRS is a multiple-employer, cost-sharing defined benefit plan established July 1, 1974, and governed by Title 19, chapters 2 & 7, MCA. This plan provides retirement benefits to all Department of Justice criminal and gambling investigators hired after July 1, 1993, all detention officers hired after July 1, 2005, and to all Montana sheriffs. Benefits are established by state law

and can only be amended by the Legislature. The SRS provides retirement, disability, and death benefits to plan members and their beneficiaries. Benefits are based on eligibility, years of service, and highest average compensation. Member rights are vested after five years of service. A brief summary of eligibility and benefits follows on the top of the next page.

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### SRS Summary of Benefits

#### **Member's highest average compensation (HAC)**

Hired prior to July 1, 2011 - highest average compensation during any consecutive 36 months;  
 Hired on or after July 1, 2011 - highest average compensation during any consecutive 60 months.  
 Hired on or after July 1, 2013 - 110% annual cap on compensation considered as a part of a member's highest average compensation.

#### **Eligibility for benefit**

20 years of membership service, regardless of age.

#### **Early Retirement**

Age 50, 5 years of membership service, actuarially reduced.

**Vesting** 5 years of membership service

#### **Monthly benefit formula**

2.5% of HAC per year of service credit.

#### **Guaranteed Annual Benefit Adjustment (GABA)**

After the member has completed 12 full months of retirement, the member's benefit increases by the applicable percentage (provided below) each January, inclusive of all other adjustments to the member's benefit.

- 3.0% for members hired prior to July 1, 2007
- 1.5% for members hired on or after July 1, 2007

SRS PARTICIPATING EMPLOYERS		
Employers	June 30, 2016	June 30, 2015
State Agencies - Department of Justice	1	1
Counties	56	56
Total	57	57

SRS Active Membership by Employer Type		
Employer Type	June 30, 2016	June 30, 2015
Dept of Justice	57	61
Counties	1,307	1,275
Total	1,364	1,336

*Contributions:* Member and employer contribution rates are established by state law and may be amended only by the Legislature.

Contribution Rates as a % of Covered Payroll	
<i>Fiscal year ended June 30, 2016</i>	
Member	9.245%
Employer	10.115%

Contributions are deducted from each member's salary and remitted by participating employers. An individual account is established for each member's contributions and interest allocations until a retirement or refund request is processed. (Reference Schedule of Contribution Rates on page 97).

Effective July 1, 2013, employer contributions are required to be paid on working retiree compensation. Member contributions are not required for working retirees.

*Additional Service Purchase Due to a Reduction in Force:* Section 19-2-706, MCA allows state employees who are eligible for a service retirement and whose positions have been eliminated to have their employer pay a portion of the total cost of purchasing up to three years of “1-for-5” additional service. The employer has up to ten years to complete payment for the service purchases and is charged the actuarial rate of return as established by the PERB on the unpaid balance. Three employees have taken advantage of this provision to date. All purchases are paid in full.

*GASB Statement No. 67 Reporting:* The membership data, actuarial assumptions and plan provision are the same as were described in the June 30, 2015 Actuarial Valuation Report for SRS.

The discount rate as of June 30, 2016 is 5.93%, which is a blend of the assumed long-term expected rate of return of 7.75% on SRS investments and a municipal bond index rate of 3.01%. The municipal bond index rate is a yield or index rate for 20-year, tax-exempt general obligation municipal bonds with an average rating of AA/Aa or higher (or equivalent quality on another rating scale). Projections of the fiduciary net position have indicated that assets are not expected to be sufficient to make projected benefit payments for current members after 2056. Therefore, the portion of future projected benefit payments after 2056 are discounted at the municipal bond index rate.

The Total Pension Liability (TPL) at the end of the measurement year, June 30, 2016, is measured as a valuation date of June 30, 2015, rolled forward to June 30, 2016. The rolled forward procedures include the addition of service cost and interest cost offset by actual benefit payments, an adjustment for the

change in discount rate from 6.86% to 5.93%, and adjusted for liability gains or losses due to the experience as well as significant events occurring between the valuation date and the measurement date, if applicable. The TPL at June 30, 2016 is \$474.8 million.

During the measurement year there were no changes in benefits or in demographic assumptions. However, there was a change of assumptions due to the blended discount rate of 5.93% as previously stated. This change resulted in an increase in the liability of \$56.8 million. Because the beginning and end of year TPL are based on different actuarial valuations, the differences between expected and actual experience reported this year was an actuarial experience loss of \$749 thousand. The combination of actuarially determined service cost, interest cost, administrative expenses, and unfavorable plan experience, as well as a decrease in the discount rate, exceeded the total contributions and investment income, resulting in an increase in the Net Pension Liability (NPL) of \$79.3 million. The NPL remaining as of June 30, 2016 is \$175.7 million.

Changes in the discount rate affect the measurement of the TPL. Lower discount rates produce a higher TPL and higher discount rates produce a lower TPL. Because the discount rate does not affect the measurement of assets, the percentage change in the NPL can be very significant for a relatively small change in the discount rate. At June 30, 2016, the sensitivity of the NPL to the changes in the blended discount rate is as follows.

	1% decrease	Discount Rate	1% Increase
As of June 30, 2016	4.93%	5.93%	6.93%
Total Pension Liability	\$ 549,356,535	\$ 474,829,830	\$ 414,179,970
Fiduciary Net Postion	299,152,006	299,152,006	299,152,006
Net Pension Liability	<u>\$ 250,204,529</u>	<u>\$ 175,677,824</u>	<u>\$ 115,027,964</u>
Fiduciary Net Postion as a % of the TPL	54.45%	63.00%	72.23%

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*Actuarial Status:* The statutory funding rate is tested in the valuation to determine if it is sufficient to cover the Normal Cost Rate plus an amortization payment of the Unfunded Actuarial Liability, if any, over no more than

30 years. As of June 30, 2016, the statutory contribution rates are not sufficient to amortize the unfunded actuarial liability. The SRS does not amortize.

### ***Game Wardens' and Peace Officers' Retirement System (GWPORS)***\_\_

*Plan Description:* The GWPORS is a multiple-employer, cost-sharing defined benefit plan established in 1963 and governed by Title 19, chapters 2 & 8, MCA. This system provides retirement benefits to all persons employed as a game warden, warden supervisory personnel, or state peace officer. Benefits are established by state law and can

only be amended by the Legislature. The GWPORS provides retirement, disability, and death benefits to plan members and their beneficiaries. Benefits are based on eligibility, years of service, and highest average compensation. Member rights are vested after five years of service. A brief summary of eligibility and benefits follows.

#### **GWPORS Summary of Benefits**

##### **Member's highest average compensation (HAC)**

Hired prior to July 1, 2011 - highest average compensation during any consecutive 36 months;  
Hired on or after July 1, 2011 - highest average compensation during any consecutive 60 months.  
Hired on or after July 1, 2013 - 110% annual cap on compensation considered as a part of a member's highest average compensation.

##### **Eligibility for benefit**

Age 50, 20 years of membership service.

##### **Early Retirement (reduced benefit)**

Age 55, vested members who terminate employment prior to 20 years of membership service.

**Vesting** 5 years of membership service

##### **Monthly benefit formula**

2.5% of HAC per year of service credit.

#### **GWPORS Summary of Benefit (continued)**

##### **Guaranteed Annual Benefit Adjustment (GABA)**

After the member has completed 12 full months of retirement, the member's benefit increases by the applicable percentage (provided below) each January, inclusive of all other adjustments to the member's benefit.

- 3.0% for members hired prior to July 1, 2007
- 1.5% for members hired on or after July 1, 2007

<b>GWPORS PARTICIPATING EMPLOYERS</b>		
Employers	June 30, 2016	June 30, 2015
State Agencies	4	4
Colleges and Universities	<u>3</u>	<u>3</u>
Total	7	7

<b>GWPORS Active Membership by Employer Type</b>		
Employer	June 30, 2016	June 30, 2015
Dept of Corrections	723	724
Dept FW&P	109	107
Dept of Livestock	34	34
Dept of Transportation	81	83
Universities	42	<u>45</u>
Total	989	993

*Contributions:* Member and employer contribution rates are established by state law and may be amended only by the Legislature.

<b>Contribution Rates as a % of Covered Payroll</b>	
<i>Fiscal year ended June 30, 2016</i>	
Member	10.56%
Employer	9.00%

Contributions are deducted from each member’s salary and remitted by participating employers. An individual account is established for each member’s contributions and interest allocations until a retirement or refund request is processed. (Reference Schedule of Contribution Rates on page 97).

*Additional Service Purchase Due to a Reduction in Force:* Section 19-2-706, MCA allows state and university system employees who are eligible for a service retirement and whose positions have been eliminated to have their employer pay a portion of the total cost of purchasing up to three years of “1-for-5” additional service. The employer has up to ten years to complete

payment for the service purchases and is charged the actuarially required rate of return as established by the PERB on the unpaid balance. No employees have taken advantage of this provision to date.

*GASB Statement No. 67 Reporting:* The membership data, actuarial assumptions and plan provisions are the same as were described in the June 30, 2015 Actuarial Valuation Report for GWPORS.

The discount rate as of June 30, 2016 is 7.75%, which is the assumed long-term expected rate of return of 7.75% on GWPORS investments. Projections of the fiduciary net position have indicated that it is expected to be sufficient to make projected benefit payments for current members.

The Total Pension Liability (TPL) at the end of the measurement year, June 30, 2016, is measured as a valuation date of June 30, 2015, rolled forward to June 30, 2016. The rolled forward procedures include the addition of service cost and interest cost offset by actual benefit payments, adjusted for liability gains or losses due to the experience as well as significant events occurring between the valuation date and the measurement date, if applicable. The TPL at June 30, 2016 is \$187.5 million.

During the measurement year there were no changes in benefits or changes in assumptions. Because the beginning and end of year TPL are based on different actuarial valuations, the differences between expected and actual experience reported this year was an actuarial experience loss of \$2.7 million. The combination of actuarially determined service cost, interest cost, administrative expenses, and unfavorable plan experience, exceeded the total contributions and investment income,

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resulting in an increase in the Net Pension Liability (NPL) of \$11.8 million. The NPL remaining as of June 30, 2016 is \$32.8 million.

Changes in the discount rate affect the measurement of the TPL. Lower discount rates produce a higher TPL and higher discount rates produce a lower TPL. Because the discount rate does not affect the measurement of assets, the percentage change in the NPL can be very significant for a relatively small change in the discount rate. At June 30, 2016, the sensitivity of the NPL to the change in the discount rate is as follows.

	1% decrease	Discount Rate	1% Increase
As of June 30, 2016	6.75%	7.75%	8.75%
Total Pension Liability	\$ 215,484,918	\$ 187,533,830	\$ 164,299,148
Fiduciary Net Position	154,684,509	154,684,509	154,684,509
Net Pension Liability	\$ 60,800,409	\$ 32,849,321	\$ 9,614,639
Fiduciary Net Position as a % of the TPL	71.78%	82.48%	94.15%

*Actuarial Status:* The statutory funding rate is tested in the valuation to determine if it is sufficient to cover the Normal Cost Rate plus an amortization payment of the Unfunded Actuarial Liability, if any, over no more than 30 years. As of June 30, 2016, the statutory contribution rates are not sufficient to amortize the unfunded actuarial liability. The GWPORS does not amortize.

### ***Municipal Police Officers' Retirement System (MPORS)***

*Plan Description:* The MPORS is a multiple-employer, cost-sharing defined benefit plan established in 1974 and is governed by Title 19, chapters 2 & 9 of the MCA. This plan covers all municipal police officers employed by first- and second-class cities and other cities that adopt the plan. Benefits are established by state law and can only be amended by the Legislature. The

MPORS provides retirement, disability, and death benefits to plan members and their statutory beneficiaries. Benefits are based on eligibility, years of service, and compensation. Member rights for death and disability are vested immediately. All other rights are vested after five years of service. A brief summary of eligibility and benefits follows.

#### **MPORS Summary of Benefits**

##### **Member's final average compensation (FAC)**

Hired prior to July 1, 1977 - average monthly compensation of final year of service;  
 Hired on or after July 1, 1977 - final average compensation (FAC) for last consecutive 36 months.  
 Hired on or after July 1, 2013 - 110% annual cap on compensation considered as a part of a member's final average compensation.

##### **Eligibility for benefit**

20 years of membership service, regardless of age.

**MPORS Summary of Benefits continued**

**Second Retirement**

Age 50, re-employed in a MPORS position

**Early Retirement**

Age 50, 5 years of membership service.

**Vesting** 5 years of membership service

**Monthly benefit formula**

2.5% of FAC per year of service credit.

**Second retirement benefit formula**

Re-calculated using specific criteria:

Less than 20 years of membership service, upon re-employment, repays benefits and subsequent retirement is based on total MPORS service

More than 20 years of membership service, upon re-employment, receives initial benefit and a new retirement benefit based on additional service credit and FAC after re-employment.

**Guaranteed Annual Benefit Adjustment (GABA)**

Hired on or after July 1, 1997, or those electing GABA - after the member has completed 12 full months of retirement, the member's benefit increases by a maximum of 3.0% each January, inclusive of all other adjustments to the member's benefit.

**Minimum benefit adjustment (non-GABA)**

If hired before July 1, 1997 and member did not elect GABA - the monthly retirement, disability or survivor's benefit may not be less than ½ the compensation of a newly confirmed officer in the city where the member was last employed.

<b>MPORS PARTICIPATING EMPLOYERS</b>		
<u>Employers</u>	<u>June 30, 2016</u>	<u>June 30, 2015</u>
Cities	<u>32</u>	<u>32</u>
Total	32	32

*Contributions:* Member and employer contribution rates are established by state law and may be amended only by the Legislature.

Member contribution rates are dependent upon date of hire as a police officer. Contributions

are deducted from each member's salary and remitted by participating employers. An individual account is established for each member's contributions and interest allocations until a retirement or refund request is processed.

<b>MPORS Active Membership by Employee Type</b>		
<u>Employee Type</u>	<u>June 30, 2016</u>	<u>June 30, 2015</u>
GABA	756	738
Non-GABA	<u>6</u>	<u>6</u>
Total	762	744

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The State contributions are requested at the beginning of the fiscal year based on the previous fiscal year compensation and are due no later than November 1. (Reference Schedule of Contribution Rates on page 97).

Contribution Rates as a Percent of Salary	
<i>Fiscal year ended June 30, 2016</i>	
Member:	
Hired after 6/30/1975 and prior to 7/1/1979 and not electing GABA	7.00%
Hired after 6/30/1979 and prior to 7/1/1997 and not electing GABA	8.50%
Hired after 6/30/1997 and members electing GABA	9.00%
Employer	14.41%
State (General Fund)	29.37%

*Deferred Retirement Option Plan (DROP):* Beginning July 2002, eligible members of MPORS can participate in the DROP by filing a one-time irrevocable election with the PERB. The DROP is governed by Title 19, chapter 9, part 12, MCA. A member must have completed at least twenty years of membership service to be eligible. They may elect to participate in the DROP for a minimum of one month and a maximum of 60 months and may participate in the DROP only once. A participant remains a member of the MPORS, but will not receive membership service or service credit in the system for the duration of the member's DROP period. During participation in the DROP, all mandatory contributions continue to the retirement system. A monthly benefit is calculated based on salary and years of service to date as of the beginning of the DROP period. The monthly benefit is paid into the member's DROP account until the end of the DROP period. At the end of the DROP period, the participant may receive the balance of the DROP account in a lump-sum payment or in a direct rollover to another eligible plan, as

allowed by the IRS. If the participant continues employment after the DROP period ends, they will again accrue membership service and service credit. The DROP account cannot be distributed until employment is formally terminated. As of June 30, 2016, there were 60 DROP participants. Since program inception, a total of 142 members have participated in the DROP. The balance of the DROP accounts is \$7.2 million.

MPORS DROP Participation		
	June 30, 2016	June 30, 2015
Participants Beginning of Year	50	47
Participants Added	15	13
Completed DROP	5	10
Participants End of Year	60	50
DROP Distributions	\$ 796,713	\$1,445,727

*GASB Statement No. 67 Reporting:* The membership data, actuarial assumptions and plan provisions are the same as were described in the June 30, 2015 Actuarial Valuation Report for MPORS.

The discount rate as of June 30, 2016 is 7.75%, which is the assumed long-term expected rate of return on MPORS investments. Projections of the fiduciary net position have indicated that it is expected to be sufficient to make projected benefit payments for current members.

The Total Pension Liability (TPL) at the end of the measurement year, June 30, 2016, is measured as a valuation date of June 30, 2015, rolled forward to June 30, 2016. The rolled forward procedures include the addition of service cost and interest cost offset by actual benefit payments, adjusted for liability gains or losses due to the experience as well as significant events occurring between the

valuation date and the measurement date, if applicable. The TPL at June 30, 2016 is \$523.6 million.

During the measurement year there were no changes in benefits or changes in assumptions. Because the beginning and end of year TPL are based on different actuarial valuations, the differences between expected and actual experience reported this year was an actuarial experience gain of \$3.5 million. The actuarially determined service cost, interest cost, and administrative expenses exceeded the total contributions and investment income combined with the favorable plan experience, resulting in an increase in the Net Pension Liability (NPL) of \$14.6 million. The NPL remaining as of June 30, 2016 is \$180.0 million.

Changes in the discount rate affect the measurement of the TPL. Lower discount rates produce a higher TPL and higher discount

rates produce a lower TPL. Because the discount rate does not affect the measurement of assets, the percentage change in the NPL can be very significant for a relatively small change in the discount rate. At June 30, 2016, the sensitivity of the NPL to the change in the discount rate is as follows.

As of June 30, 2016	1% decrease 6.75%	Discount Rate 7.75%	1% Increase 8.75%
Total Pension Liability	\$586,005,655	\$523,640,520	\$455,611,115
Fiduciary Net Postion	343,626,914	343,626,914	343,626,914
Net Pension Liability	<u>\$242,378,741</u>	<u>\$180,013,606</u>	<u>\$111,984,201</u>
Fiduciary Net Postion as a % of the TPL	58.64%	65.62%	75.42%

*Actuarial Status:* The statutory funding rate is tested in the valuation to determine if it is sufficient to cover the Normal Cost Rate plus an amortization payment of the Unfunded Actuarial Liability, if any, over no more than 30 years. As of June 30, 2016, the MPORS amortizes in 18 years.

### ***Firefighters' Unified Retirement System (FURS)***

*Plan Description:* The FURS is a multiple-employer, cost-sharing defined benefit plan established in 1981, and governed by Title 19, chapters 2 & 13, MCA. This system provides retirement benefits to firefighters employed by first- and second-class cities; other cities and rural fire district departments that adopt the plan; and to firefighters hired by the Montana Air National Guard (MANG) on or after October 1, 2001. Benefits are established

by state law and can only be amended by the Legislature. The FURS provides retirement, disability, and death benefits to plan members and their beneficiaries. Benefits are based on eligibility, years of service, and compensation. Member rights for death and disability are vested immediately. All other member rights are vested after five years of service. A brief summary of eligibility and benefits follows on the top of the next page

#### **FURS Summary of Benefits**

##### **Member's compensation**

Hired prior to July 1, 1981 and not electing GABA - highest monthly compensation (HMC);  
 Hired on or after July 1, 1981 and those electing GABA - highest average compensation (HAC) during any consecutive 36 months.

Hired on or after July 1, 2013 - 110% annual cap on compensation considered as a part of a member's highest average compensation.

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### **FURS Summary of Benefits (continued)**

#### **Eligibility for benefit**

20 years of membership service, regardless of age.

#### **Early Retirement**

Age 50, 5 years of membership service.

**Vesting** 5 years of membership service

#### **Monthly benefit formula**

- 1) Members hired prior to July 1, 1981 and not electing GABA are entitled to the greater of:
  - 2.5% of HMC per year of service; OR
  - i) if less than 20 years of service -
    - 2% of HMC for each year of service;
    - ii) if more than 20 years of service -
      - 50% of the member's HMC plus 2% of the member's HMC for each year of service over 20 years
- 2) Members hired on or after July 1, 1981 and those electing GABA:
  - 2.5% of HAC per year of service.

#### **Guaranteed Annual Benefit Adjustment (GABA)**

Hired on or after July 1, 1997, or those electing GABA - after the member has completed 12 full months of retirement, the member's benefit increases by a maximum of 3.0% each January, inclusive of all other adjustments to the member's benefit.

#### **Minimum benefit adjustment (non-GABA)**

If hired before July 1, 1997 and member did not elect GABA, the monthly retirement, disability or survivor's benefit may not be less than ½ the compensation of a newly confirmed firefighter employed by the city that last employed the member (provided the member has at least ten years of membership service).

<b>FURS PARTICIPATING EMPLOYERS</b>		
<u>Employers</u>	<u>June 30, 2016</u>	<u>June 30, 2015</u>
State Agencies -		
Department of		
Military Affairs	1	1
Cities	15	16
Rural Fire Districts	<u>10</u>	<u>9</u>
Total	26	26

<b>FURS Active Membership by Employee Type</b>		
<u>Employee Type</u>	<u>June 30, 2016</u>	<u>June 30, 2015</u>
GABA	640	622
Non-GABA	<u>4</u>	<u>5</u>
Total	644	627

*Contributions:* Member and employer contribution rates are established by state law and may be amended only by the Legislature.

Contributions are deducted from each member's salary and remitted by participating employers. An individual account is

established for each member’s contributions and interest allocations until a retirement or refund request is processed.

State contributions are requested at the beginning of each fiscal year based on previous fiscal year salary and are due no later than November 1. (Reference Schedule of Contribution Rates on page 97).

<b>Contribution Rates as a % of Covered Payroll</b>	
<i>Fiscal year ended June 30, 2016</i>	
Member:	
Hired prior to 7/1/97 and not electing GABA	9.50%
Hired after 6/30/1997 and electing GABA	10.70%
Employer	14.36%
State (General Fund)	32.61%

Effective July 1, 2013, employer and state contributions are required to be paid on working retiree compensation. Member contributions are not required for working retirees.

*Additional Service Purchase Due to a Reduction in Force:* Section 19-2-706, MCA allows state and university system employees who are eligible for a service retirement and whose positions have been eliminated to have their employer pay a portion of the total cost of purchasing up to three years of “1-for-5” additional service. The employer has up to ten years to complete payment for the service purchases and is charged the actuarially required rate of return as established by the PERB on the unpaid balance. No employees have taken advantage of this provision to date.

*GASB Statement No. 67 Reporting:* The membership data, actuarial assumptions and plan provisions are the same as were described in the June 30, 2015 Actuarial Valuation

Report for FURS.

The discount rate as of June 30, 2016 is 7.75%, which is the assumed long-term expected rate of return on FURS investments. Projections of the fiduciary net position have indicated that it is expected to be sufficient to make projected benefit payments for current members.

The Total Pension Liability (TPL) at the end of the measurement year, June 30, 2016, is measured as a valuation date of June 30, 2015, rolled forward to June 30, 2016. The rolled forward procedures include the addition of service cost and interest cost offset by actual benefit payments, adjusted for liability gains or losses due to the experience as well as significant events occurring between the valuation date and the measurement date, if applicable. The TPL at June 30, 2016 is \$465.8 million.

During the measurement year there were no changes in benefits or changes in assumptions. Because the beginning and end of year TPL are based on different actuarial valuations, the differences between expected and actual experience reported this year was an actuarial gain of \$1.2 million. The actuarially determined service cost, interest cost, and administrative expenses exceeded the total contributions and investment income combined with favorable plan experience, resulting in an increase in the Net Pension Liability (NPL) of \$11.9 million. The NPL remaining as of June 30, 2016 is \$114.2 million.

Changes in the discount rate affect the measurement of the TPL. Lower discount rates produce a higher TPL and higher discount rates produce a lower TPL. Because the discount rate does not affect the measurement of assets, the percentage change in the NPL can be very significant for a relatively small change in the discount rate. At June 30, 2016, the sensitivity

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of the NPL to the changes in the discount rate are as follows.

	1% decrease	Discount Rate	1% Increase
As of June 30, 2016	6.75%	7.75%	8.75%
Total Pension Liability	\$531,467,416	\$465,842,046	\$411,883,428
Fiduciary Net Position	351,628,654	351,628,654	351,628,654
Net Pension Liability	\$179,838,762	\$114,213,392	\$ 60,254,774
Fiduciary Net Position as a % of the TPL	66.16%	75.48%	85.37%

*Actuarial Status:* The statutory funding rate is tested in the valuation to determine if it is sufficient to cover the Normal Cost Rate plus an amortization payment of the Unfunded Actuarial Liability, if any, over no more than 30 years. As of June 30, 2016, the FURS amortizes in 9 years.

### ***Volunteer Firefighters' Compensation Act (VFCA)***

*Plan Description:* The VFCA is a multiple-employer, cost-sharing defined benefit plan. This compensation plan was established in 1965 and is governed by Title 19, chapter 17, MCA. All members are unpaid volunteers and the State of Montana is the only contributor to the plan. Benefits are established by state law and can only be amended by the Legislature. The VFCA provides pension, disability, and survivorship benefits for all eligible volunteer firefighters who are members of qualified volunteer fire companies in unincorporated areas, towns or villages and includes volunteer fire departments, fire districts, and fire service areas under the laws of the State of Montana.

Benefits are based on eligibility and years of service. Member rights are vested after ten years of credited service. VFCA also provides limited benefits for death or injuries incurred in the line of duty.

A member who chooses to retire and draw a pension benefit may return to service with a volunteer fire department without loss of benefits. However, a returning retired member may not be considered an active member accruing credit for service.

A brief summary of eligibility and benefits follows.

#### **VFCA Summary of Benefits**

##### **Eligibility for benefit**

Age 55, 20 years of credited service;  
Age 60, 10 years of credited service.

**Vesting** 10 years of credited service

##### **Monthly benefit formula** (Effective January 1, 2016)

\$8.75 per year of credited service up to 20 years;  
\$7.50 per year of credited service after 20 years

As of January 1, 2016, retirees may receive a benefit per month equal to \$8.75 for each year of credited service, for up to 20 years of credited service. All retirees who continued to be an active member beyond 20 years, the benefit must be increased by \$7.50 a month for each year of credited service up to 30 years (maximum benefit \$250).

**VFCA Summary of Benefits continued****Additional benefit**

Effective July 1, 2011, members who retire on or after July 1, 2011 and have greater than 30 years of credited service will receive \$7.50 per month for each additional year of credited service over 30 years if the pension trust fund is actuarially sound, amortizing any unfunded liabilities in 20 years or less. This determination will be made annually and a member's benefit will be capped at \$250 a month (30 years of credited service) if the amortization period grows to greater than 20 years.

*Contributions:* The State is the only contributor to the VFCA. Contributions are 5% of fire insurance premium taxes collected on certain fire risks. The State Auditor makes annual payments from the general fund to the Volunteer Firefighters' Compensation Act fund. (Reference Schedule of Contribution Rates on page 97).

*Group Insurance Payments:* Supplemental payments are available to qualified volunteer fire companies that provide additional group medical insurance for their members in case of death or injury incurred while in the line of duty. The payment is made to the volunteer fire companies and is equal to \$75 per year for each mobile firefighting unit owned by the volunteer fire company, up to a maximum of two units.

*GASB Statement No. 67 Reporting:* The membership data, actuarial assumptions and plan provisions are the same as were described in the June 30, 2015 Actuarial Valuation Report for VFCA.

The discount rate as of June 30, 2016 is 7.75%, which is the assumed long-term expected rate of return on VFCA investments. Projections of the fiduciary net position have indicated that it is expected to be sufficient to make projected benefit payments for current members.

The Total Pension Liability (TPL) at the end of the measurement year, June 30, 2016, is

measured as a valuation date of June 30, 2015, rolled forward to June 30, 2016. The rolled forward procedures include the addition of service cost and interest cost offset by actual benefit payments, adjusted for liability gains or losses due to the experience as well as significant events occurring between the valuation date and the measurement date, if applicable. Except for active members, the TPL is based upon a normal cost that increases with the inflation rate rather than being at a level dollar. The TPL at June 30, 2016 is \$44.5 million.

During the measurement year there were no changes in benefits or changes in assumptions. Because the beginning and end of year TPL are based on different actuarial valuations, the differences between expected and actual experience reported this year was an actuarial gain of \$1.1 million. The actuarial determined service cost, interest cost, and administrative expenses exceeded the experience gain, total contributions and investment income, resulting in an increase in the Net Pension Liability (NPL) of \$94.3 thousand. The NPL remaining as of June 30, 2016 is \$10.6 million.

Changes in the discount rate affect the measurement of the TPL. Lower discount rates produce a higher TPL and higher discount rates produce a lower TPL. Because the discount rate does not affect the measurement of assets, the percentage change in the NPL can be very significant for a relatively small change in the

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discount rate. At June 30, 2016, the sensitivity of the NPL to the changes of the discount rate are as follows.

	1% decrease	Discount Rate	1% Increase
At June 30, 2016	6.75%	7.75%	8.75%
Total Pension Liability	\$48,701,519	\$44,481,856	\$40,887,131
Fiduciary Net Postion	33,883,273	33,883,273	33,883,273
Net Pension Liability	\$14,818,246	\$10,598,583	\$7,003,858
Fiduciary Net Postion as a % of the TPL	69.57%	76.17%	82.87%

*Actuarial Status:* The actuarial contribution decreased to \$1,109,996 at the June 30, 2016 valuation from \$1,331,372 at the June 30, 2015 valuation. The actuarial contribution is determined as the normal cost, administrative expense, and a 20-year open amortization of the unfunded actuarial liability. As of June 30, 2016, the VFCA amoritizes in 7 years.

### ***Public Employees' Retirement System-DCRP (PERS-DCRP)***

*Plan Description:* The PERS-Defined Contribution Retirement Plan (DCRP) is a multiple-employer plan established July 1, 2002 and governed by Title 19, chapters 2 & 3, MCA. This plan is available to eligible employees of the State, Montana University System, local governments, and school districts. All new PERS members are initially members of the PERS-DBRP and have a 12-month window during which they may choose to transfer to the PERS-DCRP

or remain in the PERS-DBRP by filing an irrevocable election. If an election is not filed, the member remains in the PERS-DBRP. Members may not be members of both the defined contribution and defined benefit retirement plans. The PERS-DCRP provides retirement, disability, and death benefits to plan members and their beneficiaries.

A brief summary of eligibility and benefits follows.

#### **PERS-DCRP Summary of Benefits**

##### **Eligibility for benefit**

Termination of Service

##### **Vesting**

Immediate for participant's contributions and attributable income;  
5 years of membership service for the employer's contributions to individual accounts and attributable income.

##### **Benefit**

Depends upon eligibility and individual account balance;  
Various payout options are available, including: taxable lump sums, periodic payments per participant direction and IRS-permitted rollovers.

<b>PERS-DCRP PARTICIPATING EMPLOYERS</b>		
<u>Employers</u>	<u>June 30, 2016</u>	<u>June 30, 2015</u>
State Agencies	33	31
Counties	50	49
Cities and Towns	53	53
Universities	5	5
School Districts	105	98
High Schools	3	3
Other Agencies	<u>40</u>	<u>39</u>
Total	289	278

<b>PERS-DCRP Active Membership by Employer Type</b>		
<u>Employer Type</u>	<u>June 30, 2016</u>	<u>June 30, 2015</u>
State Agencies	1,175	1,080
Counties	373	353
Cities	285	282
Universities	125	122
High Schools	3	4
School Districts	256	257
Other Agencies	<u>192</u>	<u>186</u>
Total	2,409	2,284

**Contributions:** Member and employer contribution rates are established by state law and may be amended only by the Legislature.

<b>Contribution Rates as a % of Covered Payroll</b>	
<i>Fiscal year ended June 30, 2016</i>	
Member	7.90%
State & University Employer	8.37%
Local Government Employer	8.27%
School District Employer	8.00%
State for Local Governments	0.10%
State for School Districts	0.37%

Contributions are deducted from each member’s salary and remitted by participating employers. The entire amount of the member’s contribution is credited to the individual account and maintained by the record keeper.

The 7.9% member contributions will be decreased to 6.9% on January 1 following actuary valuation results for the PERS-DBRP that show the amortization period has dropped below 25 years and would remain below 25 years following the reduction of both the additional employer and additional member contribution rates. There is no reduction to the member contributions on January 1, 2017. (Reference Schedule of Contribution Rates on page 97).

The total employer rate of 8.37% is allocated as follows: 4.19% to the member’s retirement account, 3.84% to the member’s retirement account after the Plan Choice Rate Unfunded Actuarial liability was paid in March 2016, 0.04% to the defined contribution education fund, 0.3% to the long term disability plan.

As a result of the 2015 Legislative Session and effective July 1, 2015, with the first fiscal year 2016 payroll pay date, the additional 1.0% employer contribution was directed to the Plan Choice Rate Unfunded Actuarial Liability rather than the Defined Benefit Unfunded Actuarial Liability. As of March 2016, the Plan Choice Rate Unfunded Actuarial Liability was paid. Effective with the first payroll in April 2016, the employer contribution is now directed to the member’s retirement account.

Following the 2013 Legislative Session, PERS employer contributions were increased. Effective July 1, 2013, employer contributions increased 1.0%. Beginning July 1, 2014, employer contributions increase an additional 0.1% a year over 10 years, through 2024. The employer additional contributions, including the 0.27% added in 2007 and 2009, terminate on January 1 following actuary valuation results that show the amortization period of the PERS-DBRP has dropped below 25 years and would remain below 25 years following

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the reduction of both the additional employer and member contribution rates. On January 1, 2017, the additional contributions will not be terminated.

*Plan Membership Elections:* Included in the financial statements are employer contribution transfers of \$4,319 and member contribution transfers of \$4,249. These transfers reflect the contribution transfers of DCRP participants that filed elections at or near the June 30 cutoff date, although the contributions were not moved until early fiscal year 2017.

*DCRP Education Fund:* Implemented July 1, 2002, the DCRP Education Fund (DCEd), as governed by section 19-3-112, MCA, was established to provide funding for the required education programs for members who have joined the PERS-DCRP. The DCEd was funded by 0.04% of the employers' contributions in fiscal year 2016.

*DCRP Disability Fund:* Implemented July 1, 2002, the DCRP Disability Fund (DC Disability), as governed by section 19-3-2117, MCA, provides disability benefits to eligible members who elect the PERS-DCRP. The DCRP Disability Fund received 0.3% of the employers' contribution in fiscal year 2016. The DC Disability OPEB is reported on the financial statements under the column heading *PERS-DCRP Disability OPEB*.

Participants of the PERS-DCRP direct their contributions and a portion of their employer's contribution among the offered investment options. Participants may invest in any or all of the offered options and transfer between options on a daily basis, if desired. The remaining portion of the employer's contributions is used to fund the long-term disability benefits to participants of the DCRP

and to fund an employee education program. The investment options offered are selected by the PERB in compliance with their Investment Policy Statement, the advice of an independent investment consultant, and assistance from the statutorily-created Employee Investment Advisory Council.

The offered investment options fall into two primary types: (1) the variable investment options and (2) the fixed investment option.

*Variable investments:* The variable investment options include a variety of Large, Mid and Small Cap mutual funds, as well as a fixed income bond fund and Target Date Retirement Funds. Options range from conservative to aggressive. The mutual funds cover all standard asset classes and categories. The investment options as of June 30, 2016 are as follows.

### PERS-DCRP Investment Options

#### ***International Stock Funds***

American Funds New Perspective A  
Oakmark International I  
Vanguard Total International Stock Index Inv  
Oppenheimer Developing Markets Y

#### ***Small Company Stock Funds***

Vanguard Small Cap Growth Index Inv  
Vanguard Small Cap Index Signal Adm  
Prudential Small Cap Value Z

#### ***Mid-Sized Company Stock Funds***

Victory Munder Mid-Cap Core Growth A  
MFS Mid-Cap Value

#### ***Large Company Stock Funds***

Alger Capital Appreciation Z  
BlackRock Equity Index - Collective F  
Vanguard Equity Income - Adm  
JP Morgan US Equity R5

**Balanced Funds**

Vanguard Balanced Index - I

**Bond Funds**

Prudential Total Bond Q  
Neuberger Berman High Income Bond - 1

**Target Date Funds**

T. Rowe Price Retirement 2005 through 2055

**Fixed Investment Options**

Montana Fixed Fund

**Fixed Investment: Montana Fixed Fund.** The Montana Fixed Fund is a stable value investment option, administered through outside vendors: Pacific Investment Management Company LLC (PIMCO); custodial bank, State Street Bank and Trust Company (State Street); and third-party synthetic Guaranteed Interest Contract (GIC) providers, Transamerica Life Insurance Company (Transamerica), Prudential Insurance Company of America (Prudential), and Voya Retirement Insurance & Annuity Company (Voya). When participants invest in the Montana Fixed Fund option, they are guaranteed a fixed rate of return, which may be adjusted in accordance with the terms of the respective GIC provider. The Montana Fixed Fund employs a synthetic stable value strategy where the investment manager, PIMCO, manages a diversified bond portfolio and third party insurers, Transamerica, Prudential, and Voya, guarantee the participants' principal investments and earnings in accordance with the respective contract with the GIC provider. The third party insurers set a fixed quarterly rate of return based on the investment manager's portfolio market value performance, yield, and duration in accordance with the terms of the respective contract with the GIC provider.

All money invested in the Montana Fixed

Fund of the PERS-DCRP and Deferred Compensation Plan are held in a Pooled Trust. The Pooled Trust qualifies as a group trust under sections 401(a), including section 401(a)(24) and 501(a), of the IRC of 1986, as amended. Under the Pooled Trust agreement, the third party GIC providers provide a guarantee of principal and set a fixed quarterly crediting rate. The Pooled Trust assets are invested by PIMCO and are held under a custodial agreement with State Street. The Pooled Trust assets are invested by PIMCO based on an investment guideline schedule as agreed upon in the Pooled Trust Contract and approved by the PERB, PIMCO, and the GIC providers.

Administrative expenses and revenues are accounted for within the plan. Expenses for the DCRP can generally be classified as 1) administrative, including miscellaneous or 2) investment management. Following is a summary of revenues and expenses.

**Administrative funding:** The PERB's administrative fee is a basis point (or percent) fee charged on participants account balances. On a quarterly basis, the record keeper, Empower™ Retirement, withholds the fee from each plan participant's account. Empower™ Retirement withholds a portion of the fee collected from the participant to pay their recordkeeping fee and submits the remainder to the PERB. The PERB records this as *Miscellaneous Revenue* in the financial statements.

**Record keeping fees:** The record keeper, Empower™ Retirement, charges a set administrative fee to the PERB for all plan participants. These amounts are recorded as *Miscellaneous Expense* in the financial statements.

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*Montana Fixed Fund fees:* The Montana Fixed Fund's crediting rate is declared net of expenses. Fees on the fund are charged by each of the five providers, PIMCO, State Street, Transamerica, Prudential, and Voya. The fees are defined under each contract for specific services. The fees charged by PIMCO and State Street for the externally managed fixed investments are classified as *Investment Expense*. The fees charged by Transamerica, Prudential and Voya are classified as *Miscellaneous Expense*.

*Mutual funds/variable investments fees:* The variable investments have investment management fees and some may have additional administrative fees. These fees are not presented in the financial statements. Mutual fund earnings are declared net of expenses, both investment management and administrative expenses, in accordance with the Securities and Exchange Commission and other regulatory authorities. Current reporting standards for mutual fund companies do not require costs be made available in the detailed cost reports.

### ***Deferred Compensation Plan (457)***

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*Plan Description:* The Deferred Compensation (457) Plan is a voluntary supplemental retirement savings plan established in 1974. The Deferred Compensation Plan is governed by Title 19, chapter 50, MCA, in accordance with Internal Revenue Code (IRC) §457. This plan is available to all employees of the State, Montana University System, and contracting political subdivisions.

accounts or insurance company contracts for the exclusive benefit of participants and their beneficiaries. Empower™ Retirement is the record keeper for the plan. Participants elect to defer a portion of their salary, within IRC limits. The deferred salary is not available to employees until separation from service, retirement, death, or upon an unforeseeable emergency while still employed, provided IRS-specified criteria are met.

Assets of the Deferred Compensation Plan are required to be held in trusts, custodial

A brief summary of eligibility and benefits follows.

#### **Deferred Compensation Plan Summary**

##### **Contribution**

Voluntary, pre-tax deferral or designated Roth contribution

##### **Eligibility for benefit**

Not available to participant until separation from service, retirement, death, or upon an unforeseeable emergency, while still employed, provided IRS-specified criteria are met.

##### **Vesting**

Participants are fully vested in their accounts immediately.

##### **Benefit**

Lump sum or periodic benefit payment, at the option of the participant. Based on individual account balances and plan provisions. IRS permitted rollovers are also possible.

<b>DEFERRED COMPENSATION PARTICIPATING EMPLOYERS</b>		
<u>Employers</u>	<u>June 30, 2016</u>	<u>June 30, 2015</u>
State of Montana*	1	1
Counties	4	4
Colleges and Universities	5	5
School Districts	11	9
Cities	10	10
Other Agencies	<u>13</u>	<u>13</u>
Total	44	42

\*The State of Montana includes 34 agencies; however, due to the nature of the reporting for the 457 plan we are unable to specifically determine which agencies have participating employees.

*Contributions:* The Deferred Compensation Plan is a voluntary retirement plan designed to supplement retirement, Social Security and other retirement plans and savings. Participants designate the amount to contribute within IRC limitations.

Plan participants direct their deferred salary among the offered investment options. The investment options offered are selected by the PERB in compliance with their Investment Policy Statement, the advice of an independent investment analyst, and the statutorily-created Employee Investment Advisory Council. Participants may invest in any or all of the offered options and transfer between options on a daily basis, if desired.

The offered investment options fall into two primary types: (1) the variable investment options and (2) the fixed investment option.

*Variable investments:* The variable investment options include a variety of Large, Mid and Small Cap mutual funds, as well as a fixed income bond fund and Target Date Retirement funds. Options range from aggressive to conservative. The mutual funds cover all standard asset classes and categories. The investment options as of June 30, 2016 are as follows.

Deferred Compensation (457) Plan  
Investment Options

***International Stock Funds***

- Artisan International Inv
- Franklin Mutual Global Discovery Z
- Dodge & Cox International Stock
- American Funds New Perspective R4
- Oppenheimer Developing Markets Y

***Small Company Stock Funds***

- Vanguard Small Cap Growth Index Adm
- Vanguard Small Cap Index Inv
- Neuberger Berman Genesis-Trust

***Mid Cap Company Stock Funds***

- Victory Munder Mid-Cap Core Growth A
- MFS Mid Cap Value R5

***Large Cap Stock Funds***

- Vanguard Equity Income Adm
- Fidelity Contrafund
- Vanguard Institutional Index I
- Parnassus Core Equity Inst

***Balanced Funds***

- Vanguard Balanced Index I

***Bond Funds***

- Neuberger Berman High Income Bond Inv
- Prudential Total Return Bond Q

## FINANCIAL SECTION

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### *Target Date Funds*

T. Rowe Price Retirement 2005 through 2055

### *Fixed Investment Options*

Montana Fixed Fund

In addition to the investments listed, plan participants previously had the option to direct a portion of their deferrals to a term life insurance policy provided through Allianz Life Insurance. The ability to invest in life insurance is allowed under the IRC and was offered to plan participants prior to life insurance being offered as a standard component of health insurance benefit packages. This investment option has been discontinued; however, plan participants who had previously elected this option may continue.

*Fixed Investment: Montana Fixed Fund.* The Montana Fixed Fund is a stable value investment option, administered through outside vendors: Pacific Investment Management Company LLC (PIMCO); custodial bank, State Street Bank and Trust Company (State Street); and third-party synthetic Guaranteed Interest Contract (GIC) providers, Transamerica Life Insurance Company (Transamerica), Prudential Insurance Company of America (Prudential), and Voya Retirement Insurance & Annuity Company (Voya). When participants invest in the Montana Fixed Fund option, they are guaranteed a fixed rate of return, which may be adjusted in accordance with the terms of the respective GIC provider. The Montana Fixed Fund employs a synthetic stable value strategy where the investment manager, PIMCO, manages a diversified bond portfolio and third party insurers, Transamerica, Prudential, and Voya, guarantee the participants' principal investments and earnings in accordance with the respective contract with the GIC provider.

The third party insurers set a fixed quarterly rate of return based on the investment manager's portfolio market value performance, yield, and duration in accordance with the terms of the respective contract with the GIC provider.

All money invested in the Montana Fixed Fund of the PERS-DCRP and Deferred Compensation Plan are held in a Pooled Trust. The Pooled Trust qualifies as a group trust under sections 401(a), including section 401(a)(24) and 501(a), of the IRC of 1986, as amended. Under the Pooled Trust agreement, the third party GIC providers provide a guarantee of principal and set a fixed quarterly crediting rate. The Pooled Trust assets are invested by PIMCO and are held under a custodial agreement with State Street. The Pooled Trust assets are invested by PIMCO based on an investment guideline schedule as agreed upon in the Pooled Trust Contract and approved by the PERB, PIMCO, and the GIC providers.

Administrative expenses and revenues are accounted for within the plan. Expenses for the Deferred Compensation Plan can generally be classified as 1) administrative, including miscellaneous or 2) investment management. Following is a summary of all revenues and expenses.

*Administrative funding:* The PERB's administrative fee is a basis point (or percent) fee based on account balances. On a quarterly basis, the record keeper, Empower™ Retirement, withholds the fee from each plan participant's account. Empower™ Retirement withholds a portion of the fee collected from the participants to pay their recordkeeping fee and submits the remainder to the PERB. The PERB records this as *Miscellaneous Revenue* in the financial statements.

*Record keeping fees:* The record keeper, Empower™ Retirement, charges a set administrative fee to the PERB for all plan participants. These amounts are recorded as *Miscellaneous Expense* in the financial statements.

*Montana Fixed Fund fees:* The Montana Fixed Fund's crediting rate is declared net of expenses. Fees on the fund are charged by each of the five providers, PIMCO, State Street, Transamerica, Prudential, and Voya. The fees are defined under each contract for specific services. The fees charged by PIMCO and State Street for the externally managed fixed investments are classified as *Investment Expense*. The fees charged by Transamerica, Prudential, and Voya are classified as *Miscellaneous Expense*.

*Mutual fund/variable investments fee:* The variable investments have investment management fees and some may have additional administrative fees. These fees are not presented on the financial statements. Mutual fund earnings are declared net of both investment management and administrative expenses, in accordance with the Securities Exchange Commission and other regulatory authorities. Current reporting standards for mutual fund companies do not require costs be made available in the detailed cost reports.

## FINANCIAL SECTION

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**FINANCIAL SECTION**

<b>FY 2016 Schedule of Contribution Rates</b>			
<b>System</b>	<b>Member</b>	<b>Employer</b>	<b>State</b>
<b>PERS-DBRP*</b>	7.9% [19-3-315(1)(a), MCA]	8.37% State & University 8.27% Local Governments 8.0% School Districts (K-12) [19-3-316, MCA]	0.1% of Local Government payroll – paid from the General Fund 0.37% School Districts (K-12) payroll – paid from the General Fund [19-3-319, MCA]
<b>PERS-DCRP*</b>	7.9% [19-3-315(1)(a), MCA]	8.37% State & University 8.27% Local Governments 8.0% School Districts (K-12) [19-3-316, MCA]	0.1% of Local government payroll – paid from the General Fund 0.37% School Districts (K-12) payroll – paid from the General Fund [19-3-319, MCA]
<b>PERS-DCRP Disability OPEB</b>		0.3% - an allocation of the DCRP employer contribution [19-3-2117, MCA]	
<b>JRS</b>	7.0% [19-5-402, MCA]	25.81% [19-5-404, MCA]	
<b>HPORS*</b>	12.0% - hired prior to 7/01/97 & not electing GABA 12.05% - hired after 6/30/97 & members electing GABA [19-6-402, MCA]	28.15% [19-6-404(1), MCA]	10.18% of salaries – paid from the General Fund [19-6-404(2), MCA]
<b>SRS</b>	9.245% [19-7-403, MCA]	10.115% [19-7-404, MCA]	
<b>GWPORS</b>	10.56% [19-8-502, MCA]	9.0% [19-8-504, MCA]	
<b>MPORS</b>	7.0% - hired after 6/30/75 & prior to 7/1/79 & not electing GABA [19-9-710(1)(a), MCA] 8.5% - hired after 6/30/79 and prior to 7/1/97 & not electing GABA [19-9-710(1)(b), MCA] 9.0% - hired after 6/30/97 & members electing GABA [19-9-710(1)(c), MCA & 19-9-710(2), MCA]	14.41% [19-9-703, MCA]	29.37% of salaries – paid from the General Fund [19-9-702, MCA]
<b>FURS</b>	9.5% - hired prior to 7/1/97 & not electing GABA [19-13-601(2)(a), MCA] 10.7% - hired after 06/30/97 & members electing GABA [19-13-601(2)(b), MCA]	14.36% [19-13-605, MCA]	32.61% of salaries – paid from the General Fund [19-13-604, MCA]
<b>VFCA</b>			5.0% of fire insurance against risk premiums, paid from the General Fund [19-17-301, MCA]

\*The employer and/or member contribution rates increase on July 1, 2016 for PERS-DBRS, PERS-DCRP and HPORS.

# FINANCIAL SECTION

## Public Employees' Retirement Board

A Component Unit of the State of Montana

### Required Supplementary Information

#### Schedule of Changes in Multiple-Employer Plans

#### Net Pension Liability / (Asset)

as of June 30, 2016

Last 10 Fiscal Years<sup>1</sup>

Fiscal Year	2016	2015	2014
<b>PERS-DBRP</b>			
<b>Total pension liability</b>			
Service cost (Beginning of year)	\$ 132,620,813	\$ 138,049,956	\$ 137,452,701
Interest (includes interest on service cost)	486,830,869	476,777,225	456,406,491
Changes of benefit terms			
Differences between expected and actual experience	12,254,313	(11,276,266)	
Changes of assumptions			
Benefit payments <sup>2</sup>	(344,103,875)	(333,401,463)	(307,741,308)
Refunds of Contributions <sup>3</sup>	(10,379,388)		
<b>Net change in total pension liability</b>	<b>\$ 277,222,732</b>	<b>\$ 270,149,452</b>	<b>\$ 286,117,884</b>
Total pension liability-beginning	6,458,930,267	6,188,780,815	5,902,662,931
Total pension liability-ending (a)	\$ 6,736,152,999	\$ 6,458,930,267	\$ 6,188,780,815
<b>Plan fiduciary net position</b>			
Contributions - employer <sup>4</sup>	\$ 102,327,838	\$100,175,856	\$ 95,820,397
Contributions - non-employer	30,800,371	34,466,719	34,561,721
Contributions - member <sup>5</sup>	97,342,719	95,424,031	92,160,048
Net investment income	101,199,856	225,106,692	732,253,062
Benefit payments <sup>2</sup>	(344,103,875)	(333,401,463)	(307,741,308)
Administrative expense	(3,858,330)	(3,483,531)	(3,522,346)
Refunds of Contributions <sup>3</sup>	(10,379,388)		
Other <sup>6</sup>	(1,580,302)		
<b>Net change in plan fiduciary net position</b>	<b>\$ (28,251,111)</b>	<b>\$ 118,288,304</b>	<b>\$ 643,531,574</b>
Plan fiduciary net position - beginning	5,061,058,221	4,942,769,917	\$ 4,299,238,343
Plan fiduciary net position - ending (b)	\$ 5,032,807,110	\$ 5,061,058,221	\$ 4,942,769,917
<b>Net pension liability / (asset) - ending (a-b)</b>	<b>\$ 1,703,345,889</b>	<b>\$ 1,397,872,046</b>	<b>\$ 1,246,010,898</b>
<b>SRS</b>			
<b>Total pension liability</b>			
Service cost (Beginning of year)	\$ 18,802,901	\$ 12,574,185	\$ 15,117,708
Interest (includes interest on service cost)	22,900,429	25,664,435	23,976,049
Changes of benefit terms			
Differences between expected and actual experience	749,213	(194,994)	
Changes of assumptions <sup>7</sup>	56,788,521	43,058,238	(49,542,278)
Benefit payments <sup>2</sup>	(15,476,437)	(15,280,070)	(13,943,335)
Refunds of Contributions <sup>3</sup>	(1,028,890)		
<b>Net change in total pension liability</b>	<b>\$ 82,735,737</b>	<b>\$ 65,821,794</b>	<b>\$ (24,391,856)</b>
Total pension liability-beginning	392,094,093	326,272,299	350,664,155
Total pension liability-ending (a)	\$ 474,829,830	\$ 392,094,093	\$ 326,272,299
<b>Plan fiduciary net position</b>			
Contributions - employer <sup>4</sup>	\$ 7,316,674	\$ 6,902,448	\$ 6,689,311
Contributions - non-employer			
Contributions - member <sup>5</sup>	6,982,217	6,623,175	6,447,179
Net investment income	6,063,591	13,041,786	41,789,437
Benefit payments <sup>2</sup>	(15,476,437)	(15,280,070)	(13,943,335)
Administrative expense	(322,584)	(247,405)	(203,493)
Refunds of Contributions <sup>3</sup>	(1,028,890)		
Other <sup>6</sup>	(77,778)		
<b>Net change in plan fiduciary net position</b>	<b>\$ 3,456,793</b>	<b>\$ 11,039,934</b>	<b>\$ 40,779,099</b>
Plan fiduciary net position - beginning	295,695,213	284,655,279	243,876,180
Plan fiduciary net position - ending (b)	\$ 299,152,006	\$ 295,695,213	\$ 284,655,279
<b>Net pension liability / (asset) - ending (a-b)</b>	<b>\$ 175,677,824</b>	<b>\$ 96,398,880</b>	<b>\$ 41,617,020</b>

<sup>1</sup>This Schedule is intended to show information for 10 years. Additional years will be displayed as they become available.

<sup>2</sup>For fiscal year 2016, Benefit Payments are only benefit payments. In fiscal years 2014 and 2015 the benefit payments include refunds of contributions and transfers.

<sup>3</sup>For fiscal year 2016, the Refunds of Contributions includes Refunds and Distributions, Refunds to other plans and Transfers.

<sup>4</sup>The Contributions - employer consists of the Employer, Membership Fees and Retirement Incentive Program.

<sup>5</sup>The Contributions - member consists of the Plan Member and Interest Reserve Buyback.

<sup>6</sup>Other consists of the expense for Other Post Employment Benefits (OPEB). For PERS it also includes Refunds to other plans, and Transfers to DCRP and MUS-RP.

<sup>7</sup>The Changes in assumptions for SRS is the adjustment in the discount rate from 7.75% to 6.68% at June 30, 2015 and to 5.93% at June 30, 2016.

**Public Employees' Retirement Board**

*A Component Unit of the State of Montana*

**Required Supplementary Information**

**Schedule of Changes in Multiple-Employer Plans**

**Net Pension Liability / (Asset)**

**as of June 30, 2016**

Last 10 Fiscal Years<sup>1</sup>

Fiscal Year	2016	2015	2014
<b>GWPORS</b>			
<b>Total pension liability</b>			
Service cost (Beginning of year)	\$ 8,403,076	\$ 8,008,155	\$ 7,849,828
Interest (includes interest on service cost)	12,910,129	12,398,209	11,258,354
Changes of benefit terms			
Differences between expected and actual experience	2,705,238	730,818	
Changes of assumptions			
Benefit payments <sup>2</sup>	(5,068,318)	(5,351,847)	(5,229,489)
Refunds of Contributions <sup>3</sup>	(1,065,541)		
<b>Net change in total pension liability</b>	<b>\$ 17,884,584</b>	<b>\$ 15,785,335</b>	<b>\$ 13,878,693</b>
Total pension liability / (asset) - beginning	169,649,246	153,863,911	139,985,218
<b>Total pension liability / (asset) - ending (a)</b>	<b>\$ 187,533,830</b>	<b>\$ 169,649,246</b>	<b>\$ 153,863,911</b>
<b>Plan fiduciary net position</b>			
Contributions - employer <sup>4</sup>	\$ 4,278,385	\$ 4,088,117	\$ 3,762,217
Contributions - non-employer			
Contributions - member <sup>5</sup>	5,035,648	4,924,265	4,461,889
Net investment income	3,166,704	6,434,871	20,069,398
Benefit payments <sup>2</sup>	(5,068,318)	(5,351,847)	(5,229,489)
Administrative expense	(269,496)	(200,745)	(161,663)
Refunds of Contributions <sup>3</sup>	(1,065,541)		
Other <sup>7</sup>	(30,640)		
<b>Net change in plan fiduciary net position</b>	<b>\$ 6,046,742</b>	<b>\$ 9,894,661</b>	<b>\$ 22,902,352</b>
Plan fiduciary net position - beginning	148,637,767	138,743,106	115,840,754
<b>Plan fiduciary net position - ending (b)</b>	<b>\$ 154,684,509</b>	<b>\$ 148,637,767</b>	<b>\$ 138,743,106</b>
<b>Net pension liability / (asset) - ending (a-b)</b>	<b>\$ 32,849,321</b>	<b>\$ 21,011,479</b>	<b>\$ 15,120,805</b>
<b>MPORS</b>			
<b>Total pension liability</b>			
Service cost (Beginning of year)	\$ 12,022,841	\$ 12,083,166	\$ 11,794,994
Interest (includes interest on service cost)	37,887,975	36,830,426	35,011,854
Changes of benefit terms			
Differences between expected and actual experience	(3,546,948)	(2,014,310)	
Changes of assumptions			
Benefit payments <sup>2</sup>	(21,960,690)	(22,743,995)	(20,527,874)
Refunds of Contributions <sup>3</sup>	(1,240,208)		
<b>Net change in total pension liability</b>	<b>\$ 23,162,970</b>	<b>\$ 24,155,287</b>	<b>\$ 26,278,974</b>
Total pension liability / (asset) - beginning	500,477,550	476,322,263	450,043,289
<b>Total pension liability / (asset) - ending (a)</b>	<b>\$ 523,640,520</b>	<b>\$ 500,477,550</b>	<b>\$ 476,322,263</b>
<b>Plan fiduciary net position</b>			
Contributions - employer <sup>4</sup>	\$ 6,927,587	\$ 6,629,915	\$ 6,459,488
Contributions - non-employer	13,751,561	13,432,838	13,048,938
Contributions - member <sup>5</sup>	4,384,573	4,291,826	4,133,021
Net investment income	7,112,851	14,471,898	45,230,427
Benefit payments <sup>2</sup>	(21,960,690)	(22,743,995)	(20,527,874)
Administrative expense	(273,951)	(212,017)	(166,807)
Refunds of Contributions <sup>3</sup>	(1,240,208)		
Other <sup>6</sup>	(131,634)		
<b>Net change in plan fiduciary net position</b>	<b>\$ 8,570,089</b>	<b>\$ 15,870,465</b>	<b>\$ 48,177,193</b>
Plan fiduciary net position - beginning	335,056,825	319,186,360	271,009,167
<b>Plan fiduciary net position - ending (b)</b>	<b>\$ 343,626,914</b>	<b>\$ 335,056,825</b>	<b>\$ 319,186,360</b>
<b>Net pension liability / (asset) - ending (a-b)</b>	<b>\$ 180,013,606</b>	<b>\$ 165,420,725</b>	<b>\$ 157,135,903</b>

<sup>1</sup>This Schedule is intended to show information for 10 years. Additional years will be displayed as they become available.

<sup>2</sup>For fiscal year 2016, Benefit Payments are only benefit payments. In fiscal years 2014 and 2015, the benefit payments include refunds of contributions and transfers.

<sup>3</sup>For fiscal year 2016, the Refunds of Contributions includes Refunds and Distributions, Refunds to other plans and transfers.

<sup>4</sup>The Contributions - employer consists of the Employer, Membership Fees and Retirement Incentive Program.

<sup>5</sup>The Contributions - member consists of the Plan Member and Interest Reserve Buyback.

<sup>6</sup>Other consists of the expense for Other Post Employment Benefits (OPEB).

# FINANCIAL SECTION

## Public Employees' Retirement Board

A Component Unit of the State of Montana

### Required Supplementary Information

#### Schedule of Changes in Multiple-Employer Plans

#### Net Pension Liability / (Asset)

as of June 30, 2016

Last 10 Fiscal Years<sup>1</sup>

Fiscal Year	2016	2015	2014
<b>FURS</b>			
<b>Total pension liability</b>			
Service cost (Beginning of year)	\$ 11,519,465	\$ 11,066,391	\$ 10,608,895
Interest (includes interest on service cost)	33,514,243	32,580,262	30,847,306
Changes of benefit terms			
Differences between expected and actual experience	(1,162,342)	(159,885)	
Changes of assumptions			
Benefit payments <sup>2</sup>	(20,896,200)	(19,747,008)	(19,052,130)
Refunds of Contributions <sup>3</sup>	(46,128)		
Net change in total pension liability	\$ 22,929,038	\$ 23,739,760	\$ 22,404,071
Total pension liability / (asset) - beginning	442,913,008	419,173,248	396,769,177
Total pension liability / (asset) - ending (a)	\$ 465,842,046	\$ 442,913,008	\$ 419,173,248
<b>Plan fiduciary net position</b>			
Contributions - employer <sup>4</sup>	\$ 6,163,464	\$ 6,100,252	\$ 6,006,863
Contributions - non-employer	13,969,719	13,572,990	12,767,624
Contributions - member <sup>5</sup>	4,751,806	4,710,082	4,697,333
Net investment income	7,311,946	14,640,156	45,464,858
Benefit payments <sup>2</sup>	(20,896,200)	(19,747,008)	(19,052,130)
Administrative expense	(259,560)	(197,110)	(153,622)
Refunds of Contributions <sup>3</sup>	(46,128)		
Other <sup>6</sup>	(2,424)		
Net change in plan fiduciary net position	\$ 10,992,623	\$ 19,079,362	\$ 49,730,926
Plan fiduciary net position - beginning	340,636,031	321,556,669	271,825,743
Plan fiduciary net position - ending (b)	\$ 351,628,654	\$ 340,636,031	\$ 321,556,669
Net pension liability / (asset) - ending (a-b)	\$ 114,213,392	\$ 102,276,977	\$ 97,616,579
<b>VFCA</b>			
<b>Total pension liability</b>			
Service cost (Beginning of year)	\$ 282,498	\$ 221,969	\$ 237,639
Interest (includes interest on service cost)	3,355,483	2,851,618	2,843,095
Changes of benefit terms		6,173,245	
Differences between expected and actual experience	(1,141,179)	(618,854)	
Changes of assumptions			
Benefit payments <sup>2</sup>	(2,623,011)	(2,379,353)	(2,294,676)
Refunds of Contributions <sup>3</sup>			
Net change in total pension liability	\$ (126,209)	\$ 6,248,625	\$ 786,058
Total pension liability / (asset) - beginning	44,608,065	38,359,440	37,573,382
Total pension liability / (asset) - ending (a)	\$ 44,481,856	\$ 44,608,065	\$ 38,359,440
<b>Plan fiduciary net position</b>			
Contributions - employer <sup>4</sup>			
Contributions - non-employer	2,036,297	1,913,482	\$ 1,818,237
Contributions - member <sup>5</sup>			
Net investment income	622,331	1,479,954	4,815,491
Benefit payments <sup>2</sup>	(2,623,011)	(2,379,353)	(2,294,676)
Administrative expense	(241,726)	(180,466)	(136,079)
Refunds of Contributions <sup>3</sup>			
Other <sup>6</sup>	(14,436)		
Net change in plan fiduciary net position	\$ (220,545)	\$ 833,617	\$ 4,202,973
Plan fiduciary net position - beginning	34,103,818	33,270,201	29,067,228
Plan fiduciary net position - ending (b)	\$ 33,883,273	\$ 34,103,818	\$ 33,270,201
Net pension liability / (asset) - ending (a-b)	\$ 10,598,583	\$ 10,504,247	\$ 5,089,239

<sup>1</sup>This Schedule is intended to show information for 10 years. Additional years will be displayed as they become available.

<sup>2</sup>For fiscal year 2016, Benefit Payments are only benefit payments. In fiscal years 2014 and 2015, the benefit payments include refunds of contribution and transfers.

<sup>3</sup>For fiscal year 2016, the Refunds of Contributions includes Refunds and Distributions, Refunds to other plans and Transfers. Refunds are not applicable to VFCA.

<sup>4</sup>The Contributions - employer consists of the Employer, Membership Fees and Retirement Incentive Program.

<sup>5</sup>The Contributions - member consists of the Plan Member and Interest Reserve Buyback.

<sup>6</sup>Other consists of the expense for Other Post Employment Benefits (OPEB).

# FINANCIAL SECTION

## Public Employees' Retirement Board

A Component Unit of the State of Montana

### Required Supplementary Information

#### Schedule of Changes in Single-Employer Plans

#### Net Pension Liability / (Asset)

as of June 30, 2016

Last 10 Fiscal Years<sup>1</sup>

Fiscal Year	2016	2015	2014
<b>JRS</b>			
<b>Total pension liability</b>			
Service Cost - Beginning of year	\$ 1,578,705	\$ 1,652,926	\$ 1,593,854
Interest (includes interest on service cost)	3,986,420	3,933,947	3,824,389
Changes of benefit terms			
Differences between expected and actual experience	(1,341,333)	(1,032,091)	
Changes of assumptions			
Benefit payments <sup>2</sup>	(3,416,023)	(3,040,988)	(3,022,512)
<b>Net change in total pension liability</b>	<b>\$ 807,769</b>	<b>\$ 1,513,794</b>	<b>\$ 2,395,731</b>
Total pension liability / (asset) - beginning	53,145,689	51,631,895	49,236,164
Total pension liability / (asset) - ending (a)	<b>\$ 53,953,458</b>	<b>\$ 53,145,689</b>	<b>\$ 51,631,895</b>
<b>Plan fiduciary net position</b>			
Contributions - employer	\$ 1,807,493	\$ 1,683,990	\$ 1,651,483
Contributions - non-employer			
Contributions - member	729,180	534,091	481,461
Net investment income	1,778,748	3,842,387	12,420,597
Benefit payments <sup>2</sup>	(3,416,023)	(3,040,988)	(3,022,512)
Administrative expense	(197,445)	(135,815)	(100,567)
Other <sup>4</sup>	(2,742)		
<b>Net change in plan fiduciary net position</b>	<b>\$ 699,211</b>	<b>\$ 2,883,665</b>	<b>\$ 11,430,462</b>
Plan fiduciary net position - beginning	87,106,507	84,222,842	\$ 72,792,380
Plan fiduciary net position - ending (b)	<b>\$ 87,805,718</b>	<b>\$ 87,106,507</b>	<b>\$ 84,222,842</b>
Net pension liability / (asset) - ending (a-b)	<b>\$ (33,852,260)</b>	<b>\$ (33,960,818)</b>	<b>\$ (32,590,947)</b>
<b>HPORS</b>			
<b>Total pension liability</b>			
Service Cost - Beginning of year	\$ 3,798,553	\$ 3,598,464	\$ 3,464,399
Interest (includes interest on service cost)	14,545,022	14,112,116	13,517,924
Changes of benefit terms <sup>4</sup>		1,855,618	
Differences between expected and actual experience	18,339	267,336	
Changes of assumptions			
Benefit payments <sup>2</sup>	(10,482,414)	(10,000,856)	(9,443,007)
Refund of Contributions <sup>5</sup>	(93,811)		
<b>Net change in total pension liability</b>	<b>\$ 7,785,689</b>	<b>\$ 9,832,678</b>	<b>\$ 7,539,316</b>
Total pension liability / (asset) - beginning	192,965,823	183,133,145	175,593,829
Total pension liability / (asset) - ending (a)	<b>\$ 200,751,512</b>	<b>\$ 192,965,823</b>	<b>\$ 183,133,145</b>
<b>Plan fiduciary net position</b>			
Contributions - employer <sup>6</sup>	\$ 5,915,644	\$ 5,839,336	\$ 5,735,507
Contributions - non-employer <sup>6</sup>	242,749		
Contributions - member <sup>7</sup>	1,917,487	1,624,327	1,458,042
Net investment income	2,605,256	5,738,373	18,678,284
Benefit payments <sup>2</sup>	(10,482,414)	(10,000,856)	(9,443,007)
Administrative expense	(197,034)	(144,253)	(109,140)
Refund of Contributions <sup>5</sup>	(93,811)		
Other <sup>3</sup>	(2,276)		
<b>Net change in plan fiduciary net position</b>	<b>\$ (94,399)</b>	<b>\$ 3,056,927</b>	<b>\$ 16,319,686</b>
Plan fiduciary net position - beginning	129,067,319	126,010,392	109,690,706
Plan fiduciary net position - ending (b)	<b>\$ 128,972,920</b>	<b>\$ 129,067,319</b>	<b>\$ 126,010,392</b>
Net pension liability / (asset) - ending (a-b)	<b>\$ 71,778,592</b>	<b>\$ 63,898,504</b>	<b>\$ 57,122,753</b>

<sup>1</sup>This Schedule is intended to show information for 10 years. Additional years will be displayed as they become available.

<sup>2</sup>For fiscal year 2016, Benefit Payments are only benefit payments. In fiscal years 2014 and 2015, the benefit payments include refunds of contributions and transfers.

<sup>3</sup>Other consists of the expense for Other Post Employment Benefits (OPEB).

<sup>4</sup>For fiscal year 2015, the HPORS Changes of benefit terms was the addition of the DROP.

<sup>5</sup>For fiscal year 2016, the Refunds of Contributions includes refunds of member contributions.

<sup>6</sup>The fiscal year 2014 and 2015 HPORS employer and non-employer contribution differences are due to considering all non-employer contributions as employer.

<sup>7</sup>The HPORS Contributions - member consists of Plan Member and Interest Reserve Buyback on the financial statements.

## FINANCIAL SECTION

### Public Employees' Retirement Board

*A Component Unit of the State of Montana*

#### Required Supplementary Information

#### Schedule of Net Pension Liability / (Asset) for Multiple-Employer Plans

as of June 30, 2016

Last 10 Fiscal Years<sup>1</sup>

Fiscal Year	2016	2015	2014
<b>PERS-DBRP</b>			
Total Pension Liability	\$6,736,152,999	\$6,458,930,267	\$6,188,780,815
Plan Fiduciary Net Position	5,032,807,110	5,061,058,221	4,942,769,917
Multiple-Employers' Net Pension Liability (Asset)	\$1,703,345,889	\$1,397,872,046	\$1,246,010,898
Plan fiduciary net position as a percentage of the total pension liability	74.71%	78.36%	79.87%
Covered Payroll <sup>2</sup>	\$1,185,646,179	\$1,154,866,605	\$1,120,266,025
Net pension liability / (asset) as a percentage of covered payroll <sup>2</sup>	143.66%	121.04%	111.22%
<b>SRS</b>			
Total Pension Liability	\$ 474,829,830	\$ 392,094,093	\$ 326,272,299
Plan Fiduciary Net Position	299,152,006	295,695,213	284,655,279
Multiple-Employers' Net Pension Liability / (Asset)	\$ 175,677,824	\$ 96,398,880	\$ 41,617,020
Plan fiduciary net position as a percentage of the total pension liability	63.00%	75.41%	87.24%
Covered Payroll	\$ 70,593,304	\$ 68,045,517	\$ 64,672,635
Net pension liability / (asset) as a percentage of covered payroll	248.86%	141.67%	64.35%
<b>GWPORS</b>			
Total Pension Liability	\$ 187,533,830	\$ 169,649,246	\$ 153,863,911
Plan Fiduciary Net Position	154,684,509	148,637,767	138,743,106
Multiple-Employers' Net Pension Liability / (Asset)	\$ 32,849,321	\$ 21,011,479	\$ 15,120,805
Plan fiduciary net position as a percentage of the total pension liability	82.48%	87.61%	90.17%
Covered Payroll	\$ 47,108,310	\$ 44,884,739	\$ 41,636,566
Net pension liability / (asset) as a percentage of covered payroll	69.73%	46.81%	36.32%

<sup>1</sup>This Schedule is intended to show information for 10 years. Additional years will be displayed as they become available.

<sup>2</sup>The fiscal year 2014 covered payroll for PERS-DBRP has been re-stated due to the transfer of compensation from the PERS-DBRP to the PERS-DCRP. This also affected the dollar amount of the Actuarially Determined Contribution because it was determined as a percent of payroll.

**Public Employees' Retirement Board**

*A Component Unit of the State of Montana*

**Required Supplementary Information**

**Schedule of Net Pension Liability / (Asset) for Multiple-Employer Plans**

**as of June 30, 2016**

Last 10 Fiscal Years<sup>1</sup>

Fiscal Year	2016	2015	2014
<b>MPORS</b>			
Total Pension Liability	\$523,640,520	\$500,477,550	\$476,322,263
Plan Fiduciary Net Position	343,626,914	335,056,825	319,186,360
Multiple-Employers' Net Pension Liability / (Asset)	\$180,013,606	\$165,420,725	\$157,135,903
Plan fiduciary net position as a percentage of the total pension liability	65.62%	66.95%	67.01%
Covered Payroll	\$ 47,233,801	\$ 45,736,127	\$ 44,426,617
Net pension liability / (asset) as a percentage of covered payroll	381.11%	361.69%	353.70%
<b>FURS</b>			
Total Pension Liability	\$465,842,046	\$442,913,008	\$419,173,248
Plan Fiduciary Net Position	351,628,654	340,636,031	321,556,669
Multiple-Employers' Net Pension Liability / (Asset)	\$114,213,392	\$102,276,977	\$ 97,616,579
Plan fiduciary net position as a percentage of the total pension liability	75.48%	76.91%	76.71%
Covered Payroll	\$ 43,118,925	\$ 41,627,233	\$ 39,891,869
Net pension liability / (asset) as a percentage of covered payroll	264.88%	245.70%	244.70%
<b>VFCA</b>			
Total Pension Liability	\$ 44,481,856	\$ 44,608,065	\$ 38,359,440
Plan Fiduciary Net Position	33,883,273	34,103,818	33,270,201
Multiple-Employers' Net Pension Liability / (Asset)	\$ 10,598,583	\$ 10,504,247	\$ 5,089,239
Plan fiduciary net position as a percentage of the total pension liability	76.17%	76.45%	86.73%
Covered Payroll	N/A	N/A	N/A
Net pension liability / (asset) as a percentage of covered payroll	N/A	N/A	N/A

<sup>1</sup>This Schedule is intended to show information for 10 years. Additional years will be displayed as they become available.

## FINANCIAL SECTION

### Public Employees' Retirement Board

*A Component Unit of the State of Montana*

#### Required Supplementary Information

#### Schedule of Net Pension Liability / (Asset) for Single-Employer Plans

as of June 30, 2016

Last 10 Fiscal Years<sup>1</sup>

Fiscal Year	2016	2015	2014
<b>JRS</b>			
Total Pension Liability	\$ 53,953,458	\$ 53,145,689	\$ 51,631,895
Plan Fiduciary Net Position	87,805,718	87,106,507	84,222,842
Single-Employers' Net Pension Liability / (Asset)	\$ (33,852,260)	\$ (33,960,818)	\$ (32,590,947)
Plan fiduciary net position as a percentage of the total pension liability	162.74%	163.90%	163.12%
Covered Payroll	\$ 6,920,367	\$ 6,524,569	\$ 6,354,763
Net pension liability / (asset) as a percentage of covered payroll	-489.17%	-520.51%	-512.86%
<b>HPORS</b>			
Total Pension Liability	\$ 200,751,512	\$ 192,965,823	\$ 183,133,145
Plan Fiduciary Net Position	128,972,920	129,067,319	126,010,392
Single-Employers' Net Pension Liability / (Asset)	\$ 71,778,592	\$ 63,898,504	\$ 57,122,753
Plan fiduciary net position as a percentage of the total pension liability	64.25%	66.89%	68.81%
Covered Payroll	\$ 15,275,964	\$ 14,549,378	\$ 14,149,269
Net pension liability / (asset) as a percentage of covered payroll	469.88%	439.18%	403.72%

<sup>1</sup>This Schedule is intended to show information for 10 years. Additional years will be displayed as they become available.

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## FINANCIAL SECTION

### Public Employees' Retirement Board

*A Component Unit of the State of Montana*

#### Required Supplementary Information

#### Schedule of Employer and Non-Employer (State) Contributions for Cost-Sharing Multiple-Employer Plans

as of June 30, 2016

(in thousands)

Last 10 Fiscal Years<sup>1</sup>

Fiscal Year	2016	2015	2014
<b>PERS-DBRP</b>			
Actuarially Determined Contribution <sup>2</sup>	\$ 133,128	\$ 131,424	\$ 137,681
Contributions in Relation to the Actuarially Determined Contribution			
Employer Contributions	102,328	100,176	95,820
Non-Employer Contributions (State)	30,800	34,467	34,562
<b>Total Contributions</b>	<b>\$ 133,128</b>	<b>\$ 134,643</b>	<b>\$ 130,382</b>
<b>Contribution Deficiency / (Excess)</b>	<b>\$ 0</b>	<b>\$ (3,219)</b>	<b>\$ 7,299</b>
Covered Payroll <sup>2</sup>	\$ 1,185,646	\$ 1,154,867	\$ 1,120,266
Contributions as a Percentage of Covered Payroll <sup>2</sup>	11.23%	11.66%	11.64%
<b>SRS</b>			
Actuarially Determined Contribution	\$ 8,640	\$ 9,737	\$ 9,779
Contributions in Relation to the Actuarially Determined Contribution			
Employer Contributions	7,317	6,902	6,689
Non-Employer Contributions (State)			
<b>Total Contributions</b>	<b>\$ 7,317</b>	<b>\$ 6,902</b>	<b>\$ 6,689</b>
<b>Contribution Deficiency / (Excess)</b>	<b>\$ 1,323</b>	<b>\$ 2,835</b>	<b>\$ 3,090</b>
Covered Payroll	\$ 70,593	\$ 68,046	\$ 64,673
Contributions as a Percentage of Covered Payroll	10.36%	10.14%	10.34%

<sup>1</sup>This Schedule is intended to show information for 10 years. Additional years will be displayed as they become available.

<sup>2</sup>The fiscal year 2014 covered payroll of PERS-DBRP has been re-stated due to the transfer of compensation from the PERS-DBRP to the PERS-DCRP. This also affected the dollar amount of the Actuarially Determined Contribution (ADC) because it was determined as a percentage of payroll.

**Public Employees' Retirement Board**

*A Component Unit of the State of Montana*

**Required Supplementary Information**

**Schedule of Employer and Non-Employer (State) Contributions for Cost-Sharing Multiple-Employer Plans**

**as of June 30, 2016**

(in thousands)

Last 10 Fiscal Years<sup>1</sup>

Fiscal Year	2016	2015	2014
<b>GWPORS</b>			
Actuarially Determined Contribution	\$ 4,707	\$ 5,256	\$ 4,976
Contributions in Relation to the Actuarially Determined Contribution			
Employer Contributions	4,278	4,088	3,762
Non-Employer Contributions (State)			
<b>Total Contributions</b>	<b>\$ 4,278</b>	<b>\$ 4,088</b>	<b>\$ 3,762</b>
<b>Contribution Deficiency / (Excess)</b>	<b>\$ 429</b>	<b>\$ 1,168</b>	<b>\$ 1,214</b>
Covered Payroll	\$ 47,108	\$ 44,885	\$ 41,637
Contributions as a Percentage of Covered Payroll	9.08%	9.11%	9.04%
<b>MPORS</b>			
Actuarially Determined Contribution	\$ 20,679	\$ 17,229	\$ 17,922
Contributions in Relation to the Actuarially Determined Contribution			
Employer Contributions	6,928	6,630	6,459
Non-Employer Contributions (State)	13,751	13,433	13,049
<b>Total Contributions</b>	<b>\$ 20,679</b>	<b>\$ 20,063</b>	<b>\$ 19,508</b>
<b>Contribution Deficiency / (Excess)</b>	<b>\$ 0</b>	<b>\$ (2,834)</b>	<b>\$ (1,586)</b>
Covered Payroll	\$ 47,234	\$ 45,736	\$ 44,427
Contributions as a Percentage of Covered Payroll	43.78%	43.87%	43.91%

<sup>1</sup>This Schedule is intended to show information for 10 years. Additional years will be displayed as they become available.

## FINANCIAL SECTION

### Public Employees' Retirement Board

*A Component Unit of the State of Montana*

#### Required Supplementary Information

#### Schedule of Employer and Non-Employer (State) Contributions for Cost-Sharing Multiple-Employer Plans

as of June 30, 2016

(in thousands)

Last 10 Fiscal Years<sup>1</sup>

Fiscal Year	2016	2015	2014
<b>FURS</b>			
Actuarially Determined Contribution	\$ 20,133	\$ 13,279	\$ 13,699
Contributions in Relation to the Actuarially Determined Contribution			
Employer Contributions	6,163	6,100	6,007
Non-Employer Contributions (State)	13,970	13,573	12,767
<b>Total Contributions</b>	<b>\$ 20,133</b>	<b>\$ 19,673</b>	<b>\$ 18,774</b>
<b>Contribution Deficiency / (Excess)</b>	<b>\$ 0</b>	<b>\$ (6,394)</b>	<b>\$ (5,075)</b>
Covered Payroll	\$ 43,119	\$ 41,627	\$ 39,892
Contributions as a Percentage of Covered Payroll	46.69%	47.26%	47.06%
<b>VFCA</b>			
Actuarially Determined Contribution	\$ 2,037	\$ 890	\$ 1,116
Contributions in Relation to the Actuarially Determined Contribution			
Employer Contributions	2,036	1,913	1,818
Non-Employer Contributions (State)			
<b>Total Contributions</b>	<b>\$ 2,036</b>	<b>\$ 1,913</b>	<b>\$ 1,818</b>
<b>Contribution Deficiency / (Excess)</b>	<b>\$ 1</b>	<b>\$ (1,023)</b>	<b>\$ (702)</b>
Covered Payroll	N/A	N/A	N/A
Contributions as a Percentage of Covered Payroll	N/A	N/A	N/A

<sup>1</sup>This Schedule is intended to show information for 10 years. Additional years will be displayed as they become available.

**Public Employees' Retirement Board**

*A Component Unit of the State of Montana*

**Notes to the Required Supplementary Information**

The information presented in the GASB Statement No. 67 required supplementary schedules was determined as part of the actuarial valuations for accounting purposes at the dates indicated.

Valuation date: June 30, 2015

Key Methods and Assumptions Used to Determine the Actuarially Determined Contribution (ADC) for fiscal year end 2016:

Timing	ADC rates are calculated based on the actuarial valuation just prior to the beginning of the year
Actuarial cost method	Entry age
Amortization method	Level percentage of payroll, open
Remaining amortization period	30 years
Amortization growth rate	4.00%
Asset valuation method	4-year smoothed market
Inflation	3.00%
Salary increases	4.00% plus merit/seniority increases, where applicable
Investment rate of return	7.75% net of investment expenses
Mortality (Healthy)	Male and Female RP-2000 Combined Mortality projected to 2015 using Scale AA

# FINANCIAL SECTION

## Public Employees' Retirement Board

*A Component Unit of the State of Montana*

### Required Supplementary Information Schedule of Employer Contributions

#### for Single-Employer Plans

as of June 30, 2016

(in thousands)

Last 10 Fiscal Years<sup>1</sup>

Fiscal Year	2016	2015	2014
<b>JRS<sup>2</sup></b>			
Actuarially Determined Contribution			
Contributions in Relation to the			
Actuarially Determined Contribution:			
Employer Contributions	\$ 1,807	\$ 1,684	\$ 1,651
<b>Total Contributions</b>	<b>\$ 1,807</b>	<b>\$ 1,684</b>	<b>\$ 1,651</b>
<b>Contribution Deficiency / (Excess)</b>	<b>\$ (1,807)</b>	<b>\$ (1,684)</b>	<b>\$ (1,651)</b>
Covered Payroll	\$ 6,920	\$ 6,525	\$ 6,355
Contributions as a Percentage of			
Covered Payroll	26.11%	25.81%	25.98%
<b>HPORS<sup>2</sup></b>			
Actuarially Determined Contribution	\$ 6,158	\$ 5,706	\$ 6,121
Contributions in Relation to the			
Actuarially Determined Contribution:			
Employer Contributions <sup>3</sup>	6,158	5,839	5,736
<b>Total Contributions</b>	<b>\$ 6,158</b>	<b>\$ 5,839</b>	<b>\$ 5,736</b>
<b>Contribution Deficiency / (Excess)</b>	<b>\$ 0</b>	<b>\$ (133)</b>	<b>\$ 385</b>
Covered Payroll	\$ 15,276	\$ 14,549	\$ 14,149
Contributions as a Percentage of			
Covered Payroll	38.73%	40.13%	40.54%

<sup>1</sup>This Schedule is intended to show information for 10 years. Additional years will be displayed as they become available.

#### <sup>2</sup>Notes to Schedule

Valuation date: June 30, 2015

Key Methods and Assumptions Used to Determine the Actuarially Determined Contribution (ADC) for fiscal year end 2016:

Timing	ADC rates are calculated based on the actuarial valuation just prior to the beginning of the plan year
Actuarial cost method	Entry age
Amortization method	Level percentage of payroll, open
Remaining amortization period	30 years
Amortization growth rate	4.00%
Asset valuation method	4-year smoothed market
Inflation	3.00%
Salary increases	4.00% plus merit/seniority increases, where applicable
Investment rate of return	7.75%, net of investment expenses
Mortality (Healthy)	Male and Female RP-2000 Combined Mortality projected to 2015 using Scale AA

<sup>3</sup>For fiscal year 2014, the HPORS contributions for the supplemental benefit payment were classified as a non-employer contribution. It has been determined that the supplemental contribution should be classified as an employer contribution.

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## FINANCIAL SECTION

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### **Public Employees' Retirement Board**

*A Component Unit of the State of Montana*

#### **Required Supplementary Information**

#### **Schedule of Investment Returns for Multiple-Employer Plans**

*as of June 30, 2016*

Last 10 Fiscal Years<sup>1</sup>

	Year Ended			
	June 30	PERS-DBRP	SRS	GWPORS
Annual money-weighted rate of return, net investment expense				
	<b>2016</b>	<b>2.04%</b>	<b>2.05%</b>	<b>2.09%</b>
	2015	4.60%	4.59%	4.59%
	2014	17.18%	17.15%	17.12%

	Year Ended			
	June 30	MPORS	FURS	VFCA
Annual money-weighted rate of return, net investment expense				
	<b>2016</b>	<b>2.18%</b>	<b>2.19%</b>	<b>1.85%</b>
	2015	4.66%	4.66%	4.63%
	2014	17.16%	17.15%	17.23%

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<sup>1</sup>This Schedule is intended to show information for 10 years. Additional years will be displayed as they become available.

**Public Employees' Retirement Board**

*A Component Unit of the State of Montana*

**Required Supplementary Information**

**Schedule of Investment Returns for Single-Employer Plans**

*as of June 30, 2015*

Last 10 Fiscal Years<sup>1</sup>

	Year Ended June 30	JRS	HPORS
Annual money-weighted rate of return, net investment expense	<b>2016</b>	<b>2.03%</b>	<b>2.02%</b>
	2015	4.60%	4.61%
	2014	17.17%	17.19%

<sup>1</sup>This Schedule is intended to show information for 10 years. Additional years will be displayed as they become available.

## FINANCIAL SECTION

### Public Employees' Retirement Board

*A Component Unit of the State of Montana*

#### Notes to the Required Supplementary Information

The information presented in the required supplementary schedules was determined as part of the actuarial valuations for funding purposes at the dates indicated. Additional information as of latest actuarial valuation follows:

	PERS-DBRP	JRS	HPORS
Valuation date	June 30, 2016	June 30, 2016	June 30, 2016
Actuarial cost method	Entry Age	Entry Age	Entry Age
Amortization method	Level percentage of payroll, open	Level percentage of payroll, open	Level percentage of payroll, open
Remaining amortization period in years:			
Unfunded Liability <sup>1</sup>	26		28
Unfunded Credit <sup>2</sup>		0	
Asset valuation method	4-Year smoothed market	4-Year smoothed market	4-Year smoothed market
<b>Actuarial assumptions:</b>			
Investment rate of return compounded annually (net of investment expense)	7.75%	7.75%	7.75%
Projected salary increases			
General Wage Growth*	4.00%	4.00%	4.00%
Merit	0% - 6%	None	0% - 7.3%
*Includes inflation at	3.00%	3.00%	3.00%
Administrative Expenses as a Percentage of Payroll <sup>3</sup>	0.27%	0.15%	0.23%
Benefit Adjustments			
GABA	3% if hired prior to July 1, 2007; or 1.5% if hired between July 1, 2007 and June 30, 2013; or 0% to 1.5% if hired on or after July 1, 2013; after 1 year	3% after 1 yr	3% after 1 yr or 1.5% after 3 years if hired on or after July 1, 2013
Non-GABA	N/A	Biennial increase to salary of active member in like position	2% per yr service, not to exceed 5%, for probationary officer's base pay

<sup>1</sup> The unfunded actuarial liability in the SRS and GWPORS does not amortize.

<sup>2</sup> Assets are larger than the past service liability – creating an unfunded credit; the credit is amortized over future costs.

<sup>3</sup> The administrative expense assumption is now explicitly stated as a cost element rather than being included implicitly within the investment return.

## FINANCIAL SECTION

<b>SRS</b>	<b>GWPORS</b>	<b>MPORS</b>	<b>FURS</b>	<b>VFCA</b>
June 30, 2016	June 30, 2016	June 30, 2016	June 30, 2016	June 30, 2016
Entry Age	Entry Age	Entry Age	Entry Age	Entry Age
Level percentage of payroll, open	Level percentage of payroll, open	Level percentage of payroll, open	Level percentage of payroll, open	Level percent of inflation, open
Does not amortize <sup>1</sup>	Does not amortize <sup>1</sup>	18	9	7 Based on Current Revenue
4-Year smoothed market	4-Year smoothed market	4-Year smoothed market	4-Year smoothed market	4-Year smoothed market
7.75%	7.75%	7.75%	7.75%	7.75%
4.00%	4.00%	4.00%	4.00%	N/A
0% - 7.3%	0% - 7.3%	0% - 7.3%	0% - 7.3%	N/A
3.00%	3.00%	3.00%	3.00%	
0.17%	0.17%	0.20%	0.19%	\$65,978
3% or 1.5% for new hires on or after July 1, 2007, after 1 year	3% or 1.5% for new hires on or after July 1, 2007, after 1 year	3% after 1 yr	3% after 1 yr	N/A
N/A	N/A	50% newly confirmed officer	50% newly confirmed officer	N/A

## FINANCIAL SECTION

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### Public Employees' Retirement Board

*A Component Unit of the State of Montana*

#### Required Supplementary Information

#### Schedule of Funding Progress for PERS-DCRP Disability OPEB<sup>1</sup>

(in thousands)

System	Actuarial Valuation Date <sup>2</sup>	Actuarial Value of Assets	Actuarial Liability (AL)	Unfunded AL (UAL)	Funded Ratio %	Covered Payroll	UAL as a Percentage of Covered Payroll
<b>PERS-DCRP DISABILITY OPEB</b>	<b>6/30/2016</b>	<b>\$ 3,118</b>	<b>\$ 3,591</b>	<b>\$ 473</b>	<b>86.83%</b>	<b>\$ 114,883</b>	<b>0.41%</b>
	6/30/2015	\$ 2,781	\$ 3,235	\$ 454	85.97%	\$ 113,750	0.40%
	6/30/2013	\$ 2,184	\$ 2,715	\$ 531	80.44%	\$ 90,128	0.59%

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<sup>1</sup>This schedule is intended to show information for 10 years. Additional years will be displayed as they become available.

<sup>2</sup>The actuarial valuation for the PERS-DCRP Disability OPEB is performed on an annual basis. There were two years between the first two valuations due to the timing of the first valuation. The most recent actuarial valuation being as of June 30, 2016, with the next valuation to be completed for fiscal year ending June 30, 2017.

**Public Employees' Retirement Board**

*A Component Unit of the State of Montana*

**Required Supplementary Information**

**Schedule of Employer Contributions & Other Contributing Entities  
for PERS-DCRP Disability OPEB<sup>1, 2</sup>**

System	Year Ended <sup>3</sup> June 30	Annual Required Contributions	Employer Percentage Contributed	Annual Required Contribution Rate	Annual Required State Contribution	State Percentage Contributed
<b>PERS-DCRP</b>						
<b>DISABILITY OPEB</b>	<b>2016</b>	<b>\$ 405,059</b>	<b>90.86%</b>	<b>0.31%</b>	<b>\$ 957,324</b>	<b>100.00</b>
	2015	\$ 355,202	96.68%	0.33%	\$ 919,303	100.00
	2013	\$ 344,237	83.77%	0.35%	\$ 532,014	100.00

Refer to the "Notes to the Required Supplementary Information" (Page 118).

<sup>1</sup> This schedule is intended to show information for 6 years. Additional years will be displayed as they become available.

<sup>2</sup> This schedule has been restated to comply with GASB 43, paragraph 34F.

<sup>3</sup> The PERS-DCRP Disability OPEB actuarial valuation is performed on an annual basis. There were two years between the first two valuations due to the timing of the first valuation. The most recent actuarial valuation being as of June 30, 2016, with the next valuation to be completed for fiscal year ending June 30, 2017.

## FINANCIAL SECTION

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### **Public Employees' Retirement Board**

*A Component Unit of the State of Montana*

#### **Notes to Required Supplementary Information for PERS-DCRP Disability OPEB**

Valuation Date	June 30, 2016
Actuarial cost method	Entry age funding method
Amortization method	Level percent of payroll, open
Amortization period	30 years
Asset valuation method	Market Value

***Actuarial assumptions:***

Investment rate of return (net of expenses)	3.50%
General wage growth*	4.00%
Merit Salary Increases	0.00% - 6.00%
*Includes inflation at	3.00%

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## FINANCIAL SECTION

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### Public Employees' Retirement Board

*A Component Unit of the State of Montana*

#### Required Supplementary Information

#### Schedule of Funding Progress for OPEB (Healthcare)

(in thousands)

Actuarial Valuation Date	Actuarial Value of Assets (a)	Actuarial Accrued Liability (AAL) (b)	Unfunded AAL (UAAL) (b-a)	Funded Ratio % (a/b)	Covered Payroll (c)	UAAL as a Percentage of Covered Payroll ((b-a)/c)
1/1/2015		\$ 1,212,639	\$ 1,212,639	0.00%	\$2,266,304	53.51%
1/1/2013		\$ 969,127	\$ 969,127	0.00%	\$1,991,739	48.66%
1/1/2011 <sup>1</sup>		\$ 733,935	\$ 733,935	0.00%	\$1,664,229	44.64%

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At June 30, 2016, the most recent actuarial valuation available was performed by the State of Montana as of January 1, 2015 for the calendar year ending December 31, 2015. This actuarial valuation is performed every two years with the next valuation to be performed as of January 1, 2017 for the calendar year ending December 31, 2017. The State of Montana finances claims on a pay-as-you-go basis and does not advance fund the OPEB liability. Therefore, the funded ratio remains at 0% at June 30, 2016. This is the OPEB obligation for MPERA as a State of Montana employer and is determined by the State of Montana.

<sup>1</sup>The Actuarial Accrued Liability (AAL) and Unfunded AAL (UAAL) were adjusted for the actuarial valuation date 1/1/2011 to show the inactive membership that was not included in the amounts reported in the FY2012 CAFR.

**Public Employees' Retirement Board**

*A Component Unit of the State of Montana*

**Notes to Required Supplementary Information for OPEB (Healthcare)**

Valuation Date	January 1, 2015
Actuarial cost method	Projected unit credit funding method
Amortization method	Level percent of payroll, open
Remaining amortization period	30 years
Asset valuation method	Not applicable because no assets meeting 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%
Interest/Discount Rate	4.25%

## FINANCIAL SECTION

### Public Employees' Retirement Board

*A Component Unit of the State of Montana*

#### Schedule of Administrative Expenses

*Year Ended June 30, 2016*

	Defined Benefit Plans	PERS-DBRP Education Fund	Defined Contribution PERS-DCRP	Deferred Compensation (457) Plan
<b>Personal Services</b>				
Salaries	\$ 2,144,207	\$ 152,943	\$ 252,968	\$ 223,255
Board Members' Per Diem	3,157	59,382	385	308
Employee Benefits	735,361		83,994	72,992
<b>Total Personal Services</b>	<b>2,882,725</b>	<b>212,325</b>	<b>337,347</b>	<b>296,555</b>
<b>Other Services</b>				
Consulting and Professional Services	751,636	66	113,418	92,486
Legal Fees and Court Costs	93,529		2,940	153
Audit Fees	116,774		14,241	11,393
Medical Services	8,173		316	
Records Storage	4,594		593	415
Computer Processing	850,112	498	89,225	26,552
Printing and Photocopy Charges	20,421	6,312	2,159	1,259
Warrant Writing Services	54,975		6,704	5,363
Other	227,791	13,446	28,224	22,387
<b>Total Other Services</b>	<b>2,128,005</b>	<b>20,322</b>	<b>257,820</b>	<b>160,008</b>
<b>Communications</b>				
Recruitment Costs				
Postage and Mailing	74,130	2,580	285	263
Telephone	40,197	7,982	5,152	4,016
<b>Total Communications</b>	<b>114,327</b>	<b>10,562</b>	<b>5,437</b>	<b>4,279</b>
<b>Other Expenses</b>				
Supplies and Materials	94,094	16,893	11,874	9,690
Travel	29,647	1,621	5,963	5,479
Rent	224,638	44,873	29,001	22,593
Repairs and Maintenance	1,628	301	192	150
Compensated Absences	39,737	(8,364)	(1,888)	1,256
OPEB Expenses	97,463	8,705	10,812	9,257
Miscellaneous	105,325	15,733	14,553	11,913
<b>Total Other Expenses</b>	<b>592,532</b>	<b>79,762</b>	<b>70,507</b>	<b>60,338</b>
<b>Total Administrative Expenses</b>	<b>\$ 5,717,589</b>	<b>\$ 322,971</b>	<b>\$ 671,111</b>	<b>\$ 521,180</b>

## Public Employees' Retirement Board

*A Component Unit of the State of Montana*

### Schedule of Investment Expenses

*Year Ended June 30, 2016*

<u>Plan</u>	<u>Investment Manager</u>	<u>Fees</u>
PERS-DBRP	Board of Investments	\$ 30,281,909
JRS	Board of Investments	523,400
HPORS	Board of Investments	773,190
SRS	Board of Investments	1,784,309
GWPORS	Board of Investments	908,768
MPORS	Board of Investments	1,977,091
FURS	Board of Investments	2,018,478
VFCA	Board of Investments	197,123
DC	PIMCO	23,730
	State Street Bank	1,861
	Transamerica	9,245
	Prudential	7,337
	Voya	7,661
457	PIMCO	451,750
	State Street Bank	35,364
	Transamerica	177,142
	Prudential	139,121
	Voya	145,219
	<b><i>Total Investment Expense</i></b>	<b><u>\$ 39,462,698</u></b>

## FINANCIAL SECTION

### **Public Employees' Retirement Board**

*A Component Unit of the State of Montana*

#### **Schedule of Professional/Consultant Fees**

**Year Ended June 30, 2016**

<b>Individual or Firm</b>	<b>Nature of Service</b>	<b>Amount Paid</b>
<b>Consultant Fees</b>		
Cavanaugh Macdonald Consulting	Actuarial Audit	\$ 38,315
Cheiron, Inc	Actuarial Consultant	141,686
CMS Communication & Management	HR Consulting	473
Comserv, Inc.	Death Validation Services	1,465
Genuent USA LLC	Project Management	242,867
Government Finance Officers Assoc.	CAFR Review	865
Ice Miller	Tax Consultants	77,906
Public Pension Coordinating Council	Pension Standards Award	100
Sagitec Solutions, LLC	Pension Systems Design	225,000
Seisint, Inc.	Risk Data Management Services	334
Ventura Corporation	Data Services	146,095
Xerox Corporation dba Buck Consultants	Mutual Funds Performance Review	82,500
<b>Consultant Fees Subtotal</b>		<b>957,606</b>
<b>Other Professional Fees</b>		
Dean Gregg, PHD	Medical Consultant	1,138
Department of Justice	Legal Services	8,653
Legislative Audit Division	Independent Auditors	142,408
Timothy D. Schofield, MD PLLC	Medical Consultant	5,187
<b>Other Professional Fees Subtotal</b>		<b>157,386</b>
<b>Total Professional/Consultant Fees</b>		<b>\$ 1,114,992</b>

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## FINANCIAL SECTION

### Public Employees' Retirement Board

*A Component Unit of the State of Montana*

Detail of Fiduciary Net Position (PERS-DBRP and PERS-DBEd)

as of June 30, 2016

	PERS-DBRP	PERS-DBEd	TOTAL
<b>Assets</b>			
Cash and Short-term Investments	\$ 145,322,760	\$ 3,129,085	\$ 148,451,845
Securities Lending Collateral	139,745,427	12,938	139,758,365
Receivables			
Interest	6,832,899	1,427	6,834,326
Accounts Receivable	1,710,157		1,710,157
Due from Other Funds	565,881		565,881
Due from Primary Government	3,410,149		3,410,149
Notes Receivable	29,675		29,675
<i>Total Receivables</i>	12,548,761	1,427	12,550,188
Investments, at fair value			
Montana Domestic Equity Pool (MDEP)	1,893,160,148		1,893,160,148
Retirement Fund Bond Pool (RFBP)	1,184,758,256		1,184,758,256
Montana International Pool (MTIP)	774,560,922		774,560,922
Montana Private Equity Pool (MPEP)	559,718,798		559,718,798
Montana Real Estate Pool (MTRP)	463,582,267		463,582,267
Structured Investment Vehicles (SIV)			
<i>Total Investments</i>	4,875,780,391		4,875,780,391
Capital Assets			
Property and Equipment, at cost, net of Accumulated Depreciation	30,687		30,687
Construction Work in Progress	1,194,884		1,194,884
<i>Total Capital Assets</i>	1,225,571		1,225,571
<b>Total Assets</b>	<b>5,174,622,910</b>	<b>3,143,450</b>	<b>5,177,766,360</b>
<b>Liabilities</b>			
Securities Lending Liability	139,745,427	12,938	139,758,365
Accounts Payable	366,866	15,120	381,986
Unearned Revenue	326,189		326,189
Due to Other Funds	648,090	461	648,551
Compensated Absences	266,404	10,577	276,981
OPEB Implicit Rate Subsidy LT	462,824	52,551	515,375
<i>Total Liabilities</i>	141,815,800	91,647	141,907,447
<b>Net Position Restricted for Pension Benefits</b>	<b>\$ 5,032,807,110</b>	<b>\$ 3,051,803</b>	<b>\$ 5,035,858,913</b>

**Public Employees' Retirement Board**

*A Component Unit of the State of Montana*

**Detail of Changes in Fiduciary Net Position (PERS-DBRP and PERS-DBEd)  
for the Fiscal Year Ended June 30, 2016**

	PERS-DBRP	PERS-DBEd	TOTAL
<b>Additions</b>			
<b>Contributions</b>			
Employer	\$ 102,088,550	\$ 482,193	\$ 102,570,743
Plan Member	97,268,434		97,268,434
Membership Fees	3		3
Interest Reserve Buyback	74,285		74,285
Retirement Incentive Program	239,285		239,285
Miscellaneous Revenue		328	328
State Contributions	957,324		957,324
Coal Tax Transfers	29,843,047		29,843,047
<i>Total Contributions</i>	230,470,928	482,521	230,953,449
<b>Investment Income</b>			
Net Appreciation (Depreciation) in Fair Value of Investments	(99,366,978)	635	(99,366,343)
Interest	214,517,686	12,268	214,529,954
Dividends	15,337,351		15,337,351
Investment Expense	(30,281,909)		(30,281,909)
<i>Net Investment Income</i>	100,206,150	12,903	100,219,053
<b>Securities Lending Income</b>			
Securities Lending Income	1,454,001	56	1,454,057
Securities Lending Rebate and Fees	(460,295)	(22)	(460,317)
<i>Net Securities Lending Income</i>	993,706	34	993,740
<b>Total Net Investment Income</b>	101,199,856	12,937	101,212,793
<b>Total Additions</b>	331,670,784	495,458	332,166,242
<b>Deductions</b>			
Benefits	344,103,875		344,103,875
Refunds/Distributions	10,379,388		10,379,388
Refunds to Other Plans	265,869		265,869
Transfers to DCRP	1,104,737		1,104,737
Transfers to MUS-RP	129,897		129,897
OPEB Expenses	79,799	8,705	88,504
Administrative Expenses	3,858,330	314,266	4,172,596
<b>Total Deductions</b>	359,921,895	322,971	360,244,866
<b>Net Increase (Decrease)</b>	(28,251,111)	172,487	(28,078,624)
<b>Net Position Restricted for Pension Benefits</b>			
<b>Beginning of Year</b>	<b>5,061,058,221</b>	<b>2,879,316</b>	<b>5,063,937,537</b>
<b>Prior Period Adjustment</b>			
<b>End of Year</b>	<b>\$ 5,032,807,110</b>	<b>\$ 3,051,803</b>	<b>\$ 5,035,858,913</b>

## FINANCIAL SECTION

### Public Employees' Retirement Board

*A Component Unit of the State of Montana*

#### Detail of Fiduciary Net Position (PERS-DCRP, PERS-DCEd)

*as of June 30, 2016*

	PERS-DCRP	PERS-DCEd	TOTAL
<b>Assets</b>			
Cash and Short-term Investments	\$ 1,239,558	\$ 216,166	\$ 1,455,724
Securities Lending Collateral	2,938	885	3,823
Receivables			
Interest	300	98	398
Accounts Receivables	24,035		24,035
Due from Other Funds	644,638	460	645,098
<i>Total Receivables</i>	668,973	558	669,531
Investments, at fair value			
Defined Contributions Fixed Investments	12,750,270		12,750,270
Defined Contributions Variable Investments	141,299,384		141,299,384
Structured Investment Vehicles (SIV)			
<i>Total Investments</i>	154,049,654		154,049,654
Property and Equipment, at cost, net of Accumulated Depreciation (Note A2)	3,892		3,892
Construction Work in Progress	285,467		285,467
Total Capital Assets	289,359		289,359
<b>Total Assets</b>	156,250,482	217,609	156,468,091
<b>Liabilities</b>			
Securities Lending Liability	2,938	885	3,823
Accounts Payable	39,755	1,742	41,497
Compensated Absences	43,755	1,525	45,280
OPEB Implicit Rate Subsidy LT	53,807	5,416	59,223
<b>Total Liabilities</b>	140,255	9,568	149,823
<b>Net Position Restricted for Pension Benefits</b>	<b>\$ 156,110,227</b>	<b>\$ 208,041</b>	<b>\$ 156,318,268</b>

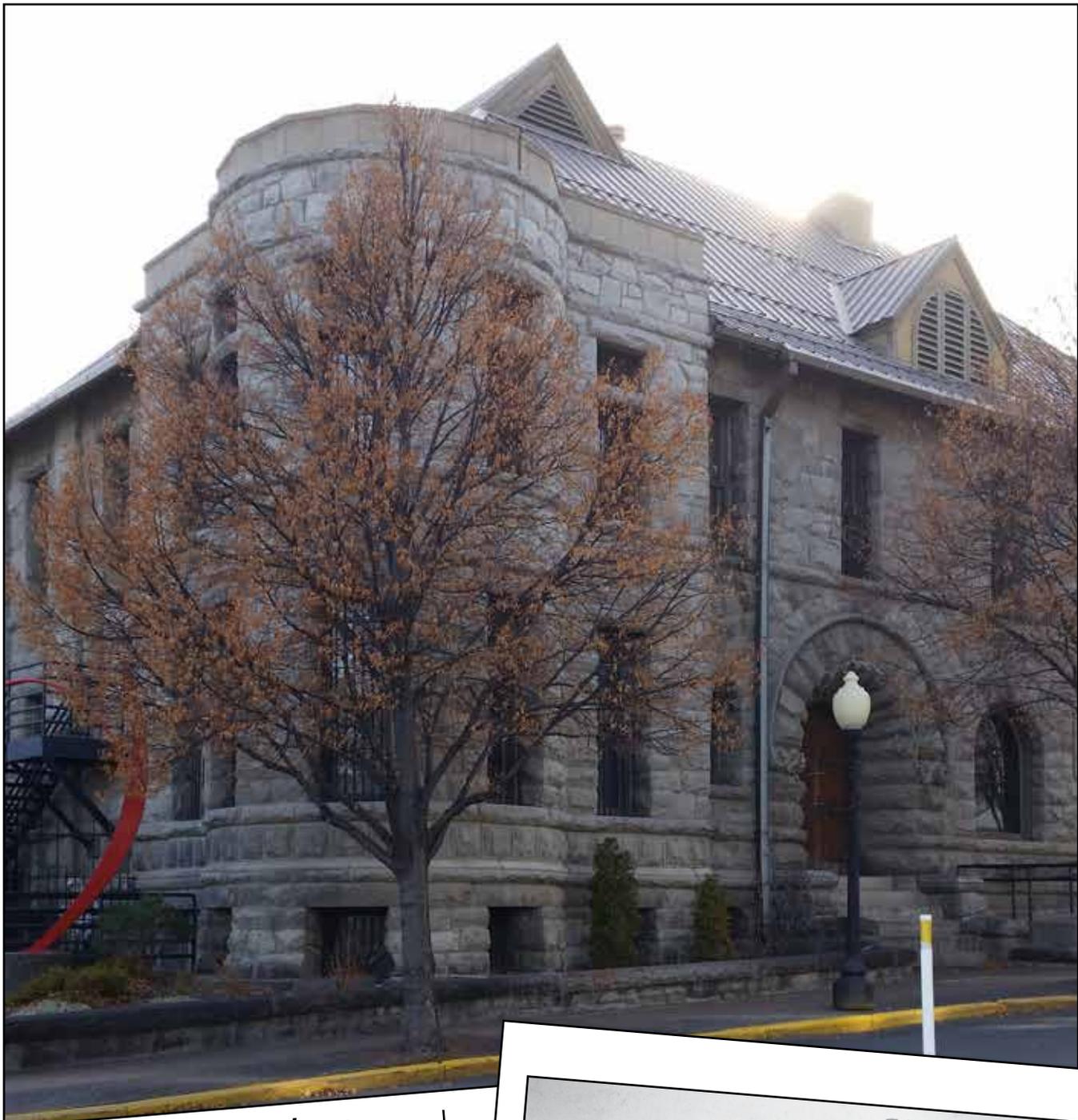
**Public Employees' Retirement Board***A Component Unit of the State of Montana***Detail of Changes in Fiduciary Net Position (PERS-DCRP, PERS-DCEd)  
for the Fiscal Year Ended June 30, 2016**

	PERS-DCRP	PERS-DCEd	TOTAL
<b>Additions</b>			
<b>Contributions</b>			
Employer	\$ 6,438,399	\$ 55,744	\$ 6,494,143
Plan Member	9,970,012		9,970,012
Miscellaneous Revenue	652,770	66	652,836
Forfeiture of Nonvested Member	382,656		382,656
<i>Total Contributions</i>	17,443,837	55,810	17,499,647
<b>Investment Income</b>			
Net Appreciation (Depreciation) in Fair Value of Investments	(4,562,010)		(4,562,010)
Interest	6,038,577	874	6,039,451
Investment Expense	(49,834)		(49,834)
<i>Net Investment Income</i>	1,426,733	874	1,427,607
<b>Securities Lending Income</b>			
Securities Lending Income	13	4	17
Securities Lending Rebate and Fees	(5)	(2)	(7)
<i>Net Securities Lending Income</i>	8	2	10
<b>Total Net Investment Income</b>	1,426,741	876	1,427,617
<b>Total Additions</b>	18,870,578	56,686	18,927,264
<b>Deductions</b>			
Distributions	5,299,196		5,299,196
OPEB Expenses	9,935	876	10,811
Administrative Expenses	623,006	37,294	660,300
Miscellaneous Expenses	164,104		164,104
<b>Total Deductions</b>	6,096,241	38,170	6,134,411
<b>Net Increase (Decrease)</b>	12,774,337	18,516	12,792,853
<b>Net Position Restricted for Pension Benefits</b>			
<b>Beginning of Year</b>	<b>143,335,890</b>	<b>189,525</b>	<b>143,525,415</b>
<b>Prior Period Adjustment</b>			
<b>End of Year</b>	<b>\$156,110,227</b>	<b>\$ 208,041</b>	<b>\$156,318,268</b>

## FINANCIAL SECTION

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## *The Myrna Loy*

The Myrna Loy Center for the Performing Arts was once the Lewis and Clark County Jail. Built in the late 1880's by John Paulsen and Noah McConnell, it was deliberately given a gloomy look. The bars are still in the windows and the door is heavy and iron-strapped.

The Myrna Loy Center was founded in 1985 and officially opened in 1991.

Black and white photo: Photographer unidentified. Used with permission of the Montana Historical Society.



### 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)

#### PERS Annual Report Investment Letter For the fiscal year ended 6/30/2016

The fiscal year 2016 return of 2.07% represented the seventh consecutive year of positive returns. All of the plan's underlying asset class pools had positive returns this year with the exception of international equities. The annualized three year plan return of 7.74% and annualized five year plan return of 7.68% are consistent with long-term expectations. The ten year annualized return of 5.89% is below long-term expectations, but relative to a public fund peer universe as reported by our investment consultant, the ten year return ranks in the top decile.

The returns across the six asset class pools this fiscal year were dispersed, illustrating the impact of asset allocation to help reduce the volatility of annual returns while focusing on the longer-term performance objectives. Real estate, like last year, was the only asset class to have a double-digit return (12.11%). Out of the remaining asset classes, fixed income (5.97%) and private equity (5.77%) performed the best and international equity (-8.90%) the worst. As with recent years, international equity performance was negatively influenced by the emerging market component. The short-term investment pool (STIP) as expected, given the low level of interest rates throughout the fiscal year, had a performance of 0.41%.

The impact that each asset pool has on the overall plan return is determined by the combination of each asset pool return and the percentage allocation of each asset pool as a percent of total plan assets. The largest contributor to the overall fiscal return of 2.07% was fixed income (+1.19%) and the largest detractor was international equity (-1.23%).

Throughout the fiscal year, the Board of Investments continued to hold the asset allocation ranges consistent with the ranges approved during the last few years. The asset allocation ranges provide a balance to target the longer-term investment objectives, provide the liquidity to fund the regular net cash needed to pay benefits, as well as the flexibility to manage risk in response to the economic and capital market cycles.

The actual asset allocation changes during the fiscal year were minimal. Net sales/distributions of domestic equity, real estate, private equity, and fixed income were made and STIP and international equities had net purchases. This activity combined with performance in the different markets led to a slight decrease in both domestic equity (-2.0%) and international equity (-1.2%) exposures

## INVESTMENT SECTION

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while the allocations to fixed income (+1.3%), STIP (+1.0%), private equity (+0.5%), and real estate (+0.4%) all increased modestly. The asset allocation exposures as of the end of the fiscal year are presented in a table following this letter on page 138. Overall, the asset allocation mix continues to be heavily weighted towards the equity oriented asset classes that provide a greater opportunity to achieve returns consistent with longer-term expectations. The remaining asset classes contribute to the overall diversification and liquidity needs of the plans.

The pension plan assets continue to be managed with a long-term focus. It is expected that over shorter time periods, investment performance will remain volatile. The consensus view of the market is that global growth will remain low with many of the world's central bankers striving to keep interest rates low to stimulate growth. The markets expect that the U.S. Federal Reserve may be in the minority of central bankers with a bias to gradually increase short-term interest rates.

The Board of Investments will continue to manage the assets with a belief that asset allocation remains the most significant driver of investment performance and that consistent execution of the investment process will have a significant influence on achieving the pension's objectives.

Respectfully submitted,

/s/ Joseph M. Cullen

Joseph M. Cullen CFA, CAIA, FRM  
Chief Investment Officer  
Montana Board of Investments

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## Public Employees' Retirement Board

*A Component Unit of the State of Montana*

### Report on Investment Activity

#### INTRODUCTION

The Montana Constitution and various Montana statutes govern the investment activity of the retirement funds administered by the Public Employees' Retirement Board (PERB). The "prudent expert principle" contained in the Montana Constitution and Montana statute requires the fiduciaries of the funds, including the Montana Board of Investments (BOI), to discharge their duties in the same manner that a prudent expert acting in a fiduciary capacity with the same resources, familiar with like matters, and under the same circumstances, exercises in the conduct of an enterprise of a similar character with similar objectives.

The prudent expert principle permits diversification of the holdings of the fund to minimize the risk of loss and maximize the rate of return. The opportunity to diversify among various asset classes enables a fund to reduce volatility and increase returns.

The BOI prepares and provides information related to the defined benefit plan investments for the PERB. The Montana Public Employee Retirement Administration (MPERA), staff of the PERB, is responsible for the presentation of the report of investment activity.

#### INVESTMENT GOALS AND OBJECTIVES

The basic goals influencing the investment activity for the PERB are two-fold. The first is to realize compounded rates of return sufficient to fund benefits as provided for in statute. The second is to provide services at the lowest possible cost to employers and members.

The basic investment objective of the BOI is the achievement of a total rate of return greater than the assumed actuarial return over the long term. In addition, the BOI will seek to outperform the appropriate market benchmarks for each asset class year to year and provide returns comparable to those attained by similar public fund peers.

To calculate the PERB's defined benefit plan investment returns, State Street Bank, BOI's custodial bank and an independent third party, uses the time-weighted total rate of return method.

#### RISK TOLERANCE

In view of the long time horizon of the pension plans, subject to the need for sufficient liquidity to pay benefits, all funds have an above-average ability to assume risk.

#### INVESTMENT MANAGEMENT AND RESULTS

The funds of each defined benefit system are invested by the BOI as part of the unified investment program. The portfolio is broadly diversified between the various asset classes including but not limited to stocks, bonds, real estate, and private equity. A complete list of portfolio information is available through the BOI. State Street Bank compiles the rates of return for the investments. The total rates of return for fiscal year 2016 are reported by the BOI for each defined benefit fund. The following tables are a summary of the information received from the BOI.

# INVESTMENT SECTION

## TOTAL RATES OF ANNUALIZED RETURN BY ASSET CLASS

12-Month Period ending June 30, 2016

<u>Asset Class</u>	<u>INDEX</u>	<u>PERS- DBRP</u>	<u>JRS</u>	<u>HPORS</u>	<u>SRS</u>
Cash Equivalents (STIP)		0.41%	0.40%	0.41%	0.40%
<i>Libor 1 Month</i>	<i>0.35%</i>				
Equities <sup>1</sup>		-1.53%	-1.53%	-1.52%	-1.53%
<i>S&amp;P 1500 Index</i>	<i>3.64%</i>				
<i>International Equities<sup>2</sup></i>	<i>-9.61%</i>				
Fixed Income <sup>3</sup>		5.96%	5.96%	5.96%	5.96%
<i>BC Aggregate Bond Index</i>	<i>6.00%</i>				
Private Equity <sup>4</sup>		5.77%	5.77%	5.77%	5.77%
<i>S&amp;P 1500 Index + 4%<sup>5</sup></i>	<i>5.18%</i>				
Real Estate <sup>6</sup>		12.07%	12.07%	12.07%	12.08%
<i>NFI-ODCE<sup>7</sup></i>	<i>12.62%</i>				
<b>Total Plan</b>		<b>2.07%</b>	<b>2.08%</b>	<b>2.07%</b>	<b>2.08%</b>
<b>Index Composite<sup>8</sup></b>		<b>2.84%</b>	<b>2.85%</b>	<b>2.85%</b>	<b>2.85%</b>
<u>Asset Class</u>	<u>INDEX</u>	<u>GWPORS</u>	<u>MPORS</u>	<u>FURS</u>	<u>VFCA</u>
Cash Equivalents (STIP)		0.41%	0.41%	0.41%	0.40%
<i>Libor 1 Month</i>	<i>0.35%</i>				
Equities <sup>1</sup>		-1.54%	-1.53%	-1.53%	-1.52%
<i>S&amp;P 1500 Comp Index</i>	<i>3.64%</i>				
<i>International Equities<sup>2</sup></i>	<i>-9.61%</i>				
Fixed Income <sup>3</sup>		5.96%	5.96%	5.96%	5.95%
<i>BC Aggregate Bond Index</i>	<i>6.00%</i>				
Private Equity <sup>4</sup>		5.77%	5.77%	5.77%	5.77%
<i>S&amp;P 1500 + 4%<sup>5</sup></i>	<i>5.18%</i>				
Real Estate <sup>6</sup>		12.08%	12.06%	12.07%	12.06%
<i>NFI-ODCE<sup>7</sup></i>	<i>12.62%</i>				
<b>Total Plan</b>		<b>2.07%</b>	<b>2.09%</b>	<b>2.08%</b>	<b>1.91%</b>
<b>Index Composite<sup>8</sup></b>		<b>2.86%</b>	<b>2.84%</b>	<b>2.85%</b>	<b>2.84%</b>

<sup>1</sup> Return is a dollar-weighted combination of Domestic and International Common Stock held in the Montana Domestic and Montana International Equity Pools.

<sup>2</sup> Montana International Equity blended benchmark.

<sup>3</sup> Retirement Fund Bond Pool.

<sup>4</sup> Montana Private Equity Pool.

<sup>5</sup> The S&P 1500 + 4% is lagged one quarter to reflect the lagged valuation nature of private equity investments.

<sup>6</sup> Montana Real Estate Pool.

<sup>7</sup> The NFI-ODCE (NCREIF Fund Index - Open-End Diversified Core Equity) is a fund-level capitalization-weighted, net of fee, time-weighted return index and includes property investments at ownership share, cash balances and leverage. This index is lagged one quarter to reflect the lagged valuation nature of private real estate investments.

<sup>8</sup> An Index Composite paralleling the Fund's Asset Allocation at market value.

The rates of return are provided by State Street Bank, the BOI's custodial bank for the plans, and are reported net of all management fees and expenses.

## INVESTMENT SECTION

### TOTAL RATES OF ANNUALIZED RETURN BY ASSET CLASS

Three-Year Period ending June 30, 2016

<u>Asset Class</u>	<u>INDEX</u>	<u>PERS- DBRP</u>	<u>JRS</u>	<u>HPORS</u>	<u>SRS</u>
Cash Equivalents (STIP)		0.23%	0.23%	0.23%	0.23%
<i>Libor 1 Month</i>	<i>0.23%</i>				
Equities <sup>1</sup>		8.20%	8.20%	8.20%	8.20%
<i>S&amp;P 1500 Comp Index</i>	<i>11.52%</i>				
<i>International Equities<sup>2</sup></i>	<i>1.57%</i>				
Fixed Income <sup>3</sup>		4.48%	4.48%	4.48%	4.48%
<i>BC Aggregate Bond Index</i>	<i>4.06%</i>				
Private Equity <sup>4</sup>		10.13%	10.13%	10.13%	10.13%
<i>S&amp;P 1500 + 4%<sup>5</sup></i>	<i>15.59%</i>				
Real Estate <sup>6</sup>		12.27%	12.28%	12.27%	12.28%
<i>NFI-ODCE<sup>7</sup></i>	<i>12.59%</i>				
<b>Total Plan</b>		<b>7.74%</b>	<b>7.74%</b>	<b>7.74%</b>	<b>7.73%</b>
<b>Index Composite<sup>8</sup></b>		<b>8.51%</b>	<b>8.51%</b>	<b>8.52%</b>	<b>8.50%</b>
<u>Asset Class</u>	<u>INDEX</u>	<u>GWPORS</u>	<u>MPORS</u>	<u>FURS</u>	<u>VFCA</u>
Cash Equivalents (STIP)		0.23%	0.23%	0.23%	0.23%
<i>Libor 1 Month</i>	<i>0.23%</i>				
Equities <sup>1</sup>		8.19%	8.20%	8.20%	8.21%
<i>S&amp;P 1500 Comp Index</i>	<i>11.52%</i>				
<i>International Equities<sup>2</sup></i>	<i>1.57%</i>				
Fixed Income <sup>3</sup>		4.48%	4.48%	4.48%	4.47%
<i>BC Aggregate Bond Index</i>	<i>4.06%</i>				
Private Equity <sup>4</sup>		10.13%	10.13%	10.13%	10.13%
<i>S&amp;P 1500 + 4%<sup>5</sup></i>	<i>15.59%</i>				
Real Estate <sup>6</sup>		12.28%	12.27%	12.27%	12.27%
<i>NFI-ODCE<sup>7</sup></i>	<i>12.59%</i>				
<b>Total Plan</b>		<b>7.73%</b>	<b>7.75%</b>	<b>7.75%</b>	<b>7.72%</b>
<b>Index Composite<sup>8</sup></b>		<b>8.50%</b>	<b>8.51%</b>	<b>8.51%</b>	<b>8.52%</b>

<sup>1</sup> Return is a dollar-weighted combination of Domestic and International Common Stock held in the Montana Domestic and Montana International Equity Pools.

<sup>2</sup> Montana International Equity blended benchmark.

<sup>3</sup> Retirement Fund Bond Pool.

<sup>4</sup> Montana Private Equity Pool.

<sup>5</sup> The S&P 1500 + 4% is lagged one quarter to reflect the lagged valuation nature of private equity investments.

<sup>6</sup> Montana Real Estate Pool.

<sup>7</sup> The NFI-ODCE (NCREIF Fund Index - Open-End Diversified Core Equity) is a fund-level capitalization-weighted, net of fee, time-weighted return index and includes property investments at ownership share, cash balances and leverage. This index is lagged one quarter to reflect the lagged valuation nature of private real estate investments.

<sup>8</sup> An Index Composite paralleling the Fund's Asset Allocation at market value.

The rates of return are provided by State Street Bank, the BOI's custodial bank for the plans, and are reported net of all management fees and expenses.

# INVESTMENT SECTION

## TOTAL RATES OF ANNUALIZED RETURN BY ASSET CLASS

Five-Year Period ending June 30, 2016

<u>Asset Class</u>	<u>INDEX</u>	<u>PERS- DBRP</u>	<u>JRS</u>	<u>HPORS</u>	<u>SRS</u>
Cash Equivalents (STIP)		0.25%	0.25%	0.25%	0.25%
<i>Libor 1 Month</i>	<i>0.23%</i>				
Equities <sup>1</sup>		7.94%	7.94%	7.94%	7.94%
<i>S&amp;P 1500 Comp Index</i>	<i>11.94%</i>				
<i>International Equities<sup>2</sup></i>	<i>0.34%</i>				
Fixed Income <sup>3</sup>		4.60%	4.60%	4.60%	4.60%
<i>BC Aggregate Bond Index</i>	<i>3.76%</i>				
Private Equity <sup>4</sup>		10.80%	10.80%	10.80%	10.80%
<i>S&amp;P 1500 + 4%<sup>5</sup></i>	<i>15.37%</i>				
Real Estate <sup>6</sup>		11.36%	11.36%	11.36%	11.36%
<i>NFI-ODCE<sup>7</sup></i>	<i>12.20%</i>				
<b>Total Plan</b>		<b>7.68%</b>	<b>7.67%</b>	<b>7.68%</b>	<b>7.67%</b>
<b>Index Composite<sup>8</sup></b>		<b>8.32%</b>	<b>8.31%</b>	<b>8.33%</b>	<b>8.31%</b>
<u>Asset Class</u>	<u>INDEX</u>	<u>GWPORS</u>	<u>MPORS</u>	<u>FURS</u>	<u>VFCA</u>
Cash Equivalents (STIP)		0.25%	0.25%	0.25%	0.25%
<i>Libor 1 Month</i>	<i>0.23%</i>				
Equities <sup>1</sup>		7.94%	7.94%	7.94%	7.94%
<i>S&amp;P 1500 Comp Index</i>	<i>11.94%</i>				
<i>International Equities<sup>2</sup></i>	<i>0.34%</i>				
Fixed Income <sup>3</sup>		4.60%	4.60%	4.60%	4.60%
<i>BC Aggregate Bond Index</i>	<i>3.76%</i>				
Private Equity <sup>4</sup>		10.80%	10.80%	10.80%	10.80%
<i>S&amp;P 1500 + 4%<sup>5</sup></i>	<i>15.37%</i>				
Real Estate <sup>6</sup>		11.36%	11.36%	11.36%	11.36%
<i>NFI-ODCE<sup>7</sup></i>	<i>12.20%</i>				
<b>Total Plan</b>		<b>7.66%</b>	<b>7.68%</b>	<b>7.68%</b>	<b>7.67%</b>
<b>Index Composite<sup>8</sup></b>		<b>8.31%</b>	<b>8.31%</b>	<b>8.31%</b>	<b>8.33%</b>

<sup>1</sup> Return is a dollar weighted combination of Domestic and International Common Stock held in the Montana Domestic and Montana International Equity Pools.

<sup>2</sup> Montana International Equity blended benchmark.

<sup>3</sup> Retirement Fund Bond Pool.

<sup>4</sup> Montana Private Equity Pool.

<sup>5</sup> The S&P 1500 + 4% is lagged one quarter to reflect the lagged valuation nature of private equity investments.

<sup>6</sup> Montana Real Estate Pool.

<sup>7</sup> The NFI-ODCE (NCREIF Fund Index - Open-End Diversified Core Equity) is a fund-level capitalization-weighted, net of fee, time-weighted return index and includes property investments at ownership share, cash balances and leverage. This index is lagged one quarter to reflect the lagged valuation nature of private real estate investments.

<sup>8</sup> An Index Composite paralleling the Fund's Asset Allocation at market value.

The rates of return are provided by State Street Bank, the BOI's custodial bank for the plans, and are reported net of all management fees and expenses.

## INVESTMENT SECTION

### TOTAL RATES OF ANNUALIZED RETURN BY ASSET CLASS

Ten-Year Period ending June 30, 2015

<u>Asset Class</u>	<u>INDEX</u>	<u>PERS- DBRP</u>	<u>JRS</u>	<u>HPORS</u>	<u>SRS</u>
Cash Equivalents (STIP)		1.33%	1.31%	1.32%	1.31%
<i>Libor 1 Month</i>	<i>1.23%</i>				
Equities <sup>1</sup>		5.28%	5.28%	5.28%	5.28%
<i>S&amp;P 1500 Comp Index</i>	<i>7.53%</i>				
<i>International Equities<sup>2</sup></i>	<i>2.07%</i>				
Fixed Income <sup>3</sup>		5.94%	5.94%	5.95%	5.94%
<i>BC Aggregate Bond Index</i>	<i>5.13%</i>				
Private Equity <sup>4</sup>		9.41%	9.40%	9.41%	9.41%
<i>S&amp;P 1500 + 4%<sup>5</sup></i>	<i>11.07%</i>				
Real Estate <sup>6</sup>		3.06%	2.66%	2.66%	2.66%
<i>NFI-ODCE<sup>7</sup></i>	<i>5.38%</i>				
<b>Total Plan</b>		<b>5.89%</b>	<b>5.89%</b>	<b>5.89%</b>	<b>5.87%</b>
<b>Index Composite<sup>8</sup></b>		<b>6.21%</b>	<b>6.21%</b>	<b>6.22%</b>	<b>6.21%</b>
<u>Asset Class</u>	<u>INDEX</u>	<u>GWPORS</u>	<u>MPORS</u>	<u>FURS</u>	<u>VFCA</u>
Cash Equivalents (STIP)		1.30%	1.71%	1.34%	1.38%
<i>Libor 1 Month</i>	<i>1.23%</i>				
Equities <sup>1</sup>		5.29%	5.26%	5.27%	5.27%
<i>S&amp;P 1500 Comp Index</i>	<i>7.53%</i>				
<i>International Equities<sup>2</sup></i>	<i>2.07%</i>				
Fixed Income <sup>3</sup>		5.93%	5.94%	5.94%	5.95%
<i>BC Aggregate Bond Index</i>	<i>5.13%</i>				
Private Equity <sup>4</sup>		9.40%	9.41%	9.41%	9.41%
<i>S&amp;P 1500 + 4%<sup>5</sup></i>	<i>11.07%</i>				
Real Estate <sup>6</sup>		2.66%	2.66%	2.66%	2.66%
<i>NFI-ODCE<sup>7</sup></i>	<i>5.38%</i>				
<b>Total Plan</b>		<b>5.87%</b>	<b>5.85%</b>	<b>5.87%</b>	<b>5.88%</b>
<b>Index Composite<sup>8</sup></b>		<b>6.20%</b>	<b>6.16%</b>	<b>6.18%</b>	<b>6.21%</b>

<sup>1</sup> Return is a dollar-weighted combination of Domestic and International Common Stock held in the Montana Domestic and Montana International Equity Pools.

<sup>2</sup> Montana International Equity blended benchmark.

<sup>3</sup> Retirement Fund Bond Pool.

<sup>4</sup> Montana Private Equity Pool.

<sup>5</sup> The S&P 1500 + 4% is lagged one quarter to reflect the lagged valuation nature of private equity investments.

<sup>6</sup> Montana Real Estate Pool.

<sup>7</sup> The NFI-ODCE (NCREIF Fund Index - Open-End Diversified Core Equity) is a fund-level capitalization-weighted, net of fee, time-weighted return index and includes property investments at ownership share, cash balances and leverage. This index is lagged one quarter to reflect the lagged valuation nature of private real estate investments.

<sup>8</sup> An Index Composite paralleling the Fund's Asset Allocation at market value.

The rates of return are provided by State Street Bank, the BOI's custodial bank for the plans, and are reported net of all management fees and expenses.

## INVESTMENT SECTION

### ASSET ALLOCATION

Asset allocation is the main determinant of investment returns, and will therefore impact the BOI's success in meeting long-term investment objectives. The asset allocation table below represents a diversified mix of asset classes designed to meet the long-term return needs of the plans while balancing

this objective with risk and liquidity considerations. The actual asset mix as of fiscal year end 2016 is listed in the following table along with the approved allocation ranges for the short term investment pool (STIP), fixed income investments, total equity investments, and real estate investments.

Fiscal Year 2016 ASSET ALLOCATION					
	Allocation Range	Actual Investment <sup>1</sup>		Allocation Range	Actual Investment <sup>1</sup>
<b>PERS-DBRP</b>			<b>GWPORS</b>		
STIP	1% to 5%	2.83%	STIP	1% to 5%	3.05%
Fixed	22% to 30%	23.64%	Fixed	22% to 30%	23.58%
Equity	58% to 72%	64.27%	Equity	58% to 72%	64.13%
Real Estate	6% to 10%	9.26%	Real Estate	6% to 10%	9.24%
<b>JRS</b>			<b>MPORS</b>		
STIP	1% to 5%	2.86%	STIP	1% to 5%	2.93%
Fixed	22% to 30%	23.63%	Fixed	22% to 30%	23.61%
Equity	58% to 72%	64.25%	Equity	58% to 72%	64.21%
Real Estate	6% to 10%	9.26%	Real Estate	6% to 10%	9.25%
<b>HPORS</b>			<b>FURS</b>		
STIP	1% to 5%	3.09%	STIP	1% to 5%	2.84%
Fixed	22% to 30%	23.57%	Fixed	22% to 30%	23.64%
Equity	58% to 72%	64.10%	Equity	58% to 72%	64.26%
Real Estate	6% to 10%	9.24%	Real Estate	6% to 10%	9.26%
<b>SRS</b>			<b>VFCA</b>		
STIP	1% to 5%	2.71%	STIP	1% to 5%	7.82%
Fixed	22% to 30%	23.67%	Fixed	22% to 30%	22.42%
Equity	58% to 72%	64.35%	Equity	58% to 72%	60.97%
Real Estate	6% to 10%	9.27%	Real Estate	6% to 10%	8.79%

<sup>1</sup> This table is prepared using the Montana Board of Investments Investment Performance Analysis for Period Ended June 30, 2016 provided by RV Kuhns & Associates, Inc. The actual investment percentages will not match the percentages in the other schedules in this section.

### PERS-DCRP DISABILITY OPEB

Pursuant to MPERA and BOI's plan to provide diversification of PERS-DCRP Disability OPEB assets, the assets of the PERS-DCRP Disability OPEB were further diversified into

longer term asset classes during the fiscal year ending June 30, 2016. In prior fiscal years, the assets had been solely invested in the STIP.

## INVESTMENT SECTION

### INVESTMENT FEES AND COMMISSIONS

Throughout the fiscal year, the investment expense for certain investments (pools, real estate) are netted against the investment earnings. At year end, investment earnings are

“grossed up” to report the investment expense for the external manager, custodial bank fees and the BOI administrative cost. This process was implemented July 1, 1995, in compliance with GASB Statement No. 25.

### Fiscal 2016 BOI Administrative Expense Reconciliation

	<u>STIP</u>	<u>MDEP</u>	<u>MPEP</u>	<u>MTIP</u>	<u>MTRP</u>	<u>RFBP</u>	<u>Total</u>
PERS	\$ 187,534	\$ 6,871,739	\$ 12,978,066	\$ 2,498,976	\$ 6,616,037	\$ 1,129,557	\$ 30,281,909
JRS	3,160	118,735	224,353	43,273	114,356	19,524	523,400
HPORS	4,846	175,439	331,302	63,773	169,002	28,828	773,190
SRS	11,011	404,748	764,597	147,640	389,780	66,533	1,784,309
GWPORS	5,431	205,983	389,464	75,441	198,574	33,875	908,768
MPORS	12,564	448,850	846,561	163,133	432,277	73,705	1,977,091
FURS	12,728	457,911	864,111	166,721	441,780	75,227	2,018,478
VFCA	1,239	44,799	84,544	16,120	43,059	7,362	197,123
<b>Totals</b>	<b>\$238,514</b>	<b>\$8,728,204</b>	<b>\$16,482,998</b>	<b>\$3,175,076</b>	<b>\$8,404,866</b>	<b>\$1,434,611</b>	<b>\$38,464,269</b>

## INVESTMENT SECTION

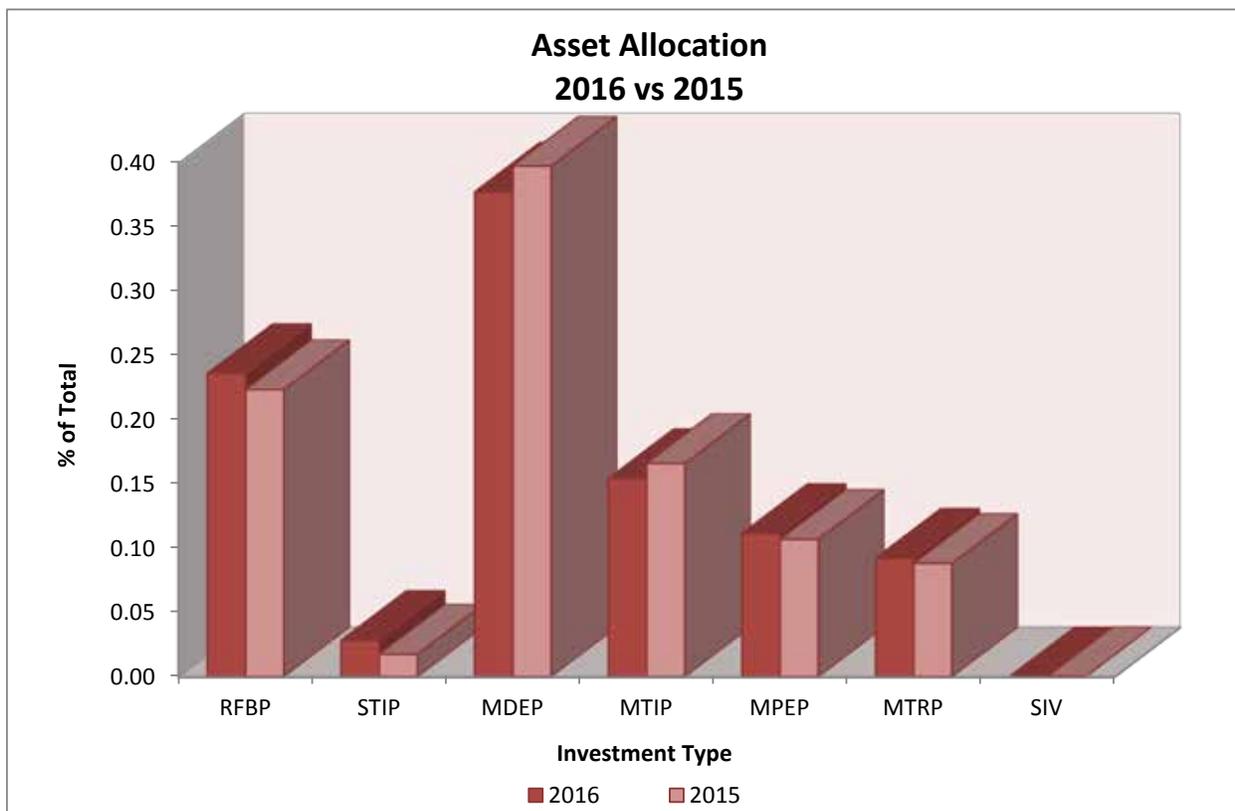
### PERS-DBRP

#### Asset Mix (fair value)

as of June 30, 2016 and 2015

(in thousands)

Investment Type	2016 Fair Value	% of Total	2015 Fair Value	% of Total	Dollar Change	% Change
<b>Fixed Income:</b>						
Retirement Funds Bond Pool (RFBP)	\$ 1,184,758	23.61%	\$ 1,127,097	22.34%	\$ 57,661	5.12%
STIP <sup>1</sup>	142,167	2.83%	89,180	1.77%	52,987	59.42%
<b>Total Fixed Income</b>	<b>\$ 1,326,925</b>	<b>26.44%</b>	<b>\$ 1,216,277</b>	<b>24.11%</b>	<b>\$ 110,648</b>	<b>9.10%</b>
<b>Equities:</b>						
Montana Domestic Equity Pool (MDEP)	\$ 1,893,160	37.74%	\$ 2,004,038	39.74%	\$ (110,878)	-5.53%
Montana International Equity Pool (MTIP)	774,561	15.43%	837,968	16.60%	(63,407)	-7.57%
Montana Private Equity Pool (MPEP)	559,719	11.15%	539,912	10.70%	19,807	3.67%
<b>Total Equities</b>	<b>\$ 3,227,440</b>	<b>64.32%</b>	<b>\$ 3,381,918</b>	<b>67.04%</b>	<b>\$ (154,478)</b>	<b>-4.57%</b>
<b>Alternative Investments:</b>						
Montana Real Estate Pool (MTRP)	\$ 463,582	9.24%	\$ 445,360	8.83%	\$ 18,222	4.09%
Structured Investment Vehicles (SIV) <sup>1</sup>			766	0.02%	(766)	
<b>Total Alternative Investments</b>	<b>\$ 463,582</b>	<b>9.24%</b>	<b>\$ 446,126</b>	<b>8.85%</b>	<b>\$ 17,456</b>	<b>3.91%</b>
<b>Total</b>	<b>\$ 5,017,947</b>	<b>100.00%</b>	<b>\$ 5,044,321</b>	<b>100.00%</b>	<b>\$ (26,374)</b>	<b>-0.52%</b>

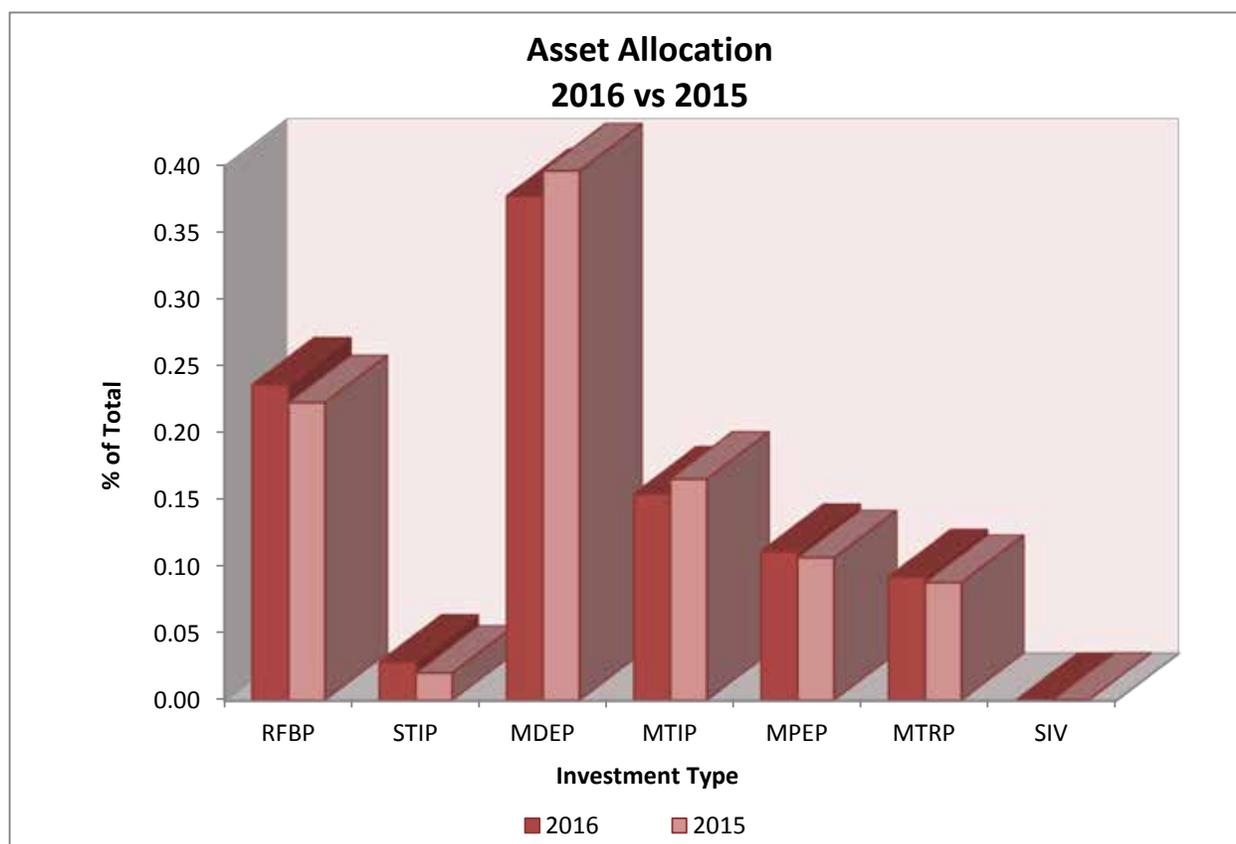


<sup>1</sup>These figures only include those of the Defined Benefit Retirement Plan, whereas the financial statements include the Defined Benefit Retirement Plan and the Defined Benefit Education Program.

**JRS**

**Asset Mix (fair value)  
as of June 30, 2016 and 2015**  
(in thousands)

Investment Type	2016 Fair Value	% of Total	2015 Fair Value	% of Total	Dollar Change	% Change
<b>Fixed Income:</b>						
Retirement Funds Bond Pool (RFBP)	\$ 20,613	23.60%	\$ 19,324	22.29%	\$ 1,289	6.67%
STIP	2,502	2.86%	1,770	2.04%	732	41.36%
<b>Total Fixed Income</b>	<b>\$ 23,115</b>	<b>26.46%</b>	<b>\$ 21,094</b>	<b>24.33%</b>	<b>\$2,021</b>	<b>9.58%</b>
<b>Equities:</b>						
Montana Domestic Equity Pool (MDEP)	\$ 32,938	37.72%	\$ 34,351	39.61%	\$ (1,413)	-4.11%
Montana International Equity Pool (MTIP)	13,477	15.43%	14,358	16.56%	(881)	-6.14%
Montana Private Equity Pool (MPEP)	9,738	11.15%	9,255	10.67%	483	5.22%
<b>Total Equities</b>	<b>\$ 56,153</b>	<b>64.30%</b>	<b>\$ 57,964</b>	<b>66.84%</b>	<b>\$ (1,811)</b>	<b>-3.12%</b>
<b>Alternative Investments:</b>						
Montana Real Estate Pool (MTRP)	\$ 8,066	9.24%	\$ 7,640	8.81%	\$ 426	5.58%
Structured Investment Vehicles (SIV)			15	0.02%	(15)	
<b>Total Alternative Investments</b>	<b>\$ 8,066</b>	<b>9.24%</b>	<b>\$ 7,655</b>	<b>8.83%</b>	<b>\$411</b>	<b>5.37%</b>
<b>Total</b>	<b>\$ 87,334</b>	<b>100.00%</b>	<b>\$ 86,713</b>	<b>100.00%</b>	<b>\$ 621</b>	<b>0.72%</b>



## INVESTMENT SECTION

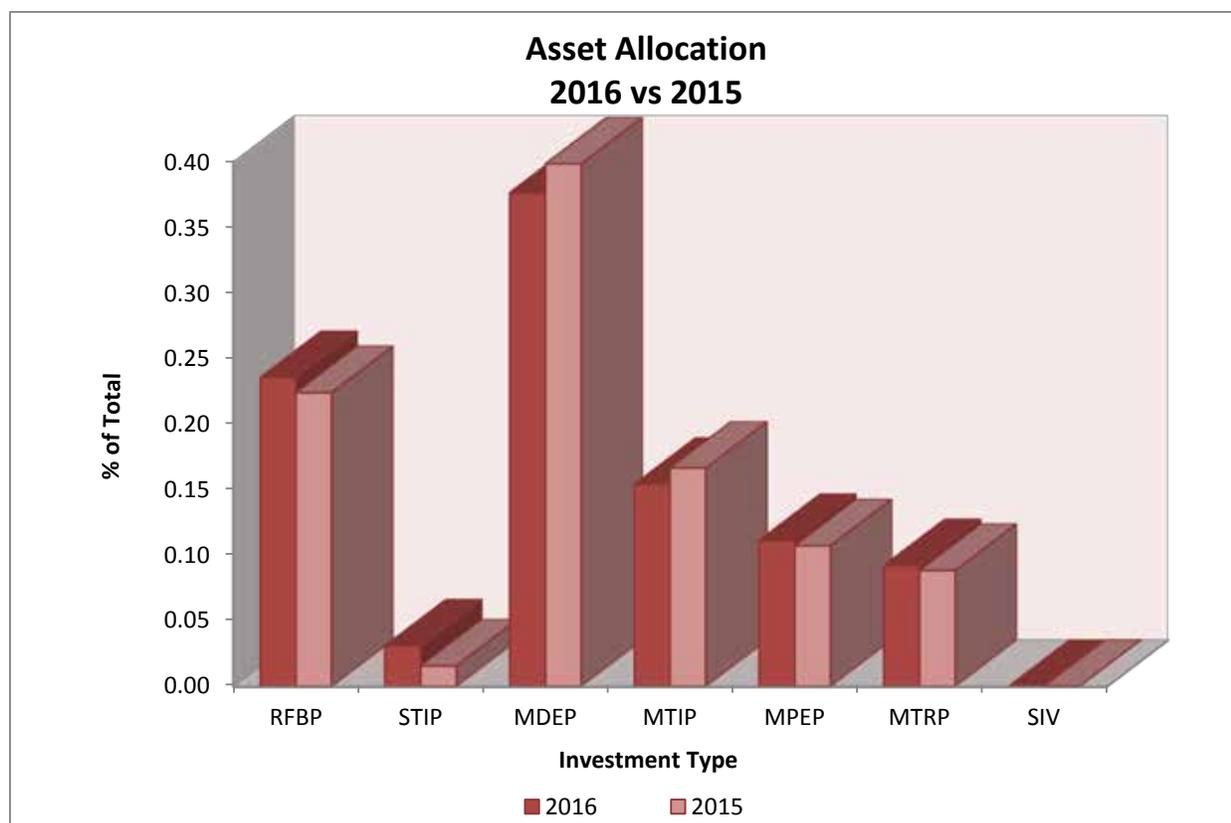
### HPORS

#### Asset Mix (fair value)

as of June 30, 2016 and 2015

(in thousands)

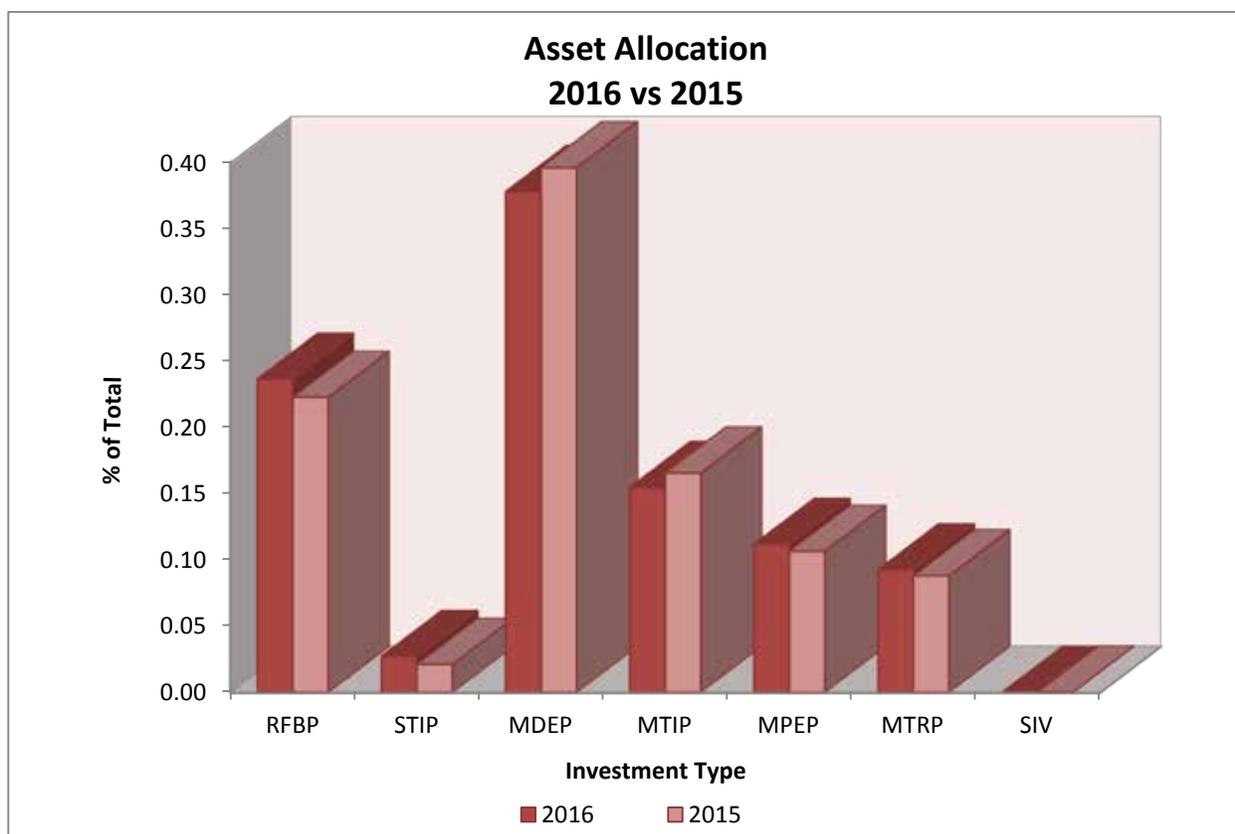
Investment Type	2016 Fair Value	% of Total	2015 Fair Value	% of Total	Dollar Change	% Change
<b>Fixed Income:</b>						
Retirement Funds Bond Pool (RFBP)	\$ 30,235	23.55%	\$ 28,714	22.39%	\$ 1,521	5.30%
STIP	3,972	3.09%	2,012	1.57%	1,960	97.42%
<b>Total Fixed Income</b>	<b>\$ 34,207</b>	<b>26.64%</b>	<b>\$ 30,726</b>	<b>23.96%</b>	<b>\$ 3,481</b>	<b>11.33%</b>
<b>Equities:</b>						
Montana Domestic Equity Pool (MDEP)	\$ 48,312	37.63%	\$ 51,060	39.82%	\$ (2,748)	-5.38%
Montana International Equity Pool (MTIP)	19,766	15.40%	21,346	16.64%	(1,580)	-7.40%
Montana Private Equity Pool (MPEP)	14,284	11.12%	13,757	10.73%	527	3.83%
<b>Total Equities</b>	<b>\$ 82,362</b>	<b>64.15%</b>	<b>\$ 86,163</b>	<b>67.19%</b>	<b>\$ (3,801)</b>	<b>-4.41%</b>
<b>Alternative Investments:</b>						
Montana Real Estate Pool (MTRP)	\$ 11,830	9.21%	\$ 11,349	8.84%	\$ 481	4.24%
Structured Investment Vehicles (SIV)			17	0.01%	(17)	
<b>Total Real Estate</b>	<b>\$ 11,830</b>	<b>9.21%</b>	<b>\$ 11,366</b>	<b>8.85%</b>	<b>\$ 464</b>	<b>4.08%</b>
<b>Total</b>	<b>\$ 128,399</b>	<b>100.00%</b>	<b>\$ 128,255</b>	<b>100.00%</b>	<b>\$ 144</b>	<b>0.11%</b>



**SRS**

**Asset Mix (fair value)  
as of June 30, 2016 and 2015**  
(in thousands)

Investment Type	2016 Fair Value	% of Total	2015 Fair Value	% of Total	Dollar Change	% Change
<b>Fixed Income:</b>						
Retirement Funds Bond Pool (RFBP)	\$ 70,501	23.64%	\$ 65,674	22.27%	\$ 4,827	7.35%
STIP	8,097	2.71%	6,236	2.11%	1,861	29.84%
<i>Total Fixed Income</i>	<i>\$ 78,598</i>	<i>26.35%</i>	<i>\$ 71,910</i>	<i>24.38%</i>	<i>\$ 6,688</i>	<i>9.30%</i>
<b>Equities:</b>						
Montana Domestic Equity Pool (MDEP)	\$ 112,653	37.78%	\$ 116,812	39.60%	\$ (4,159)	-3.56%
Montana International Equity Pool (MTIP)	46,091	15.45%	48,818	16.55%	(2,727)	-5.59%
Montana Private Equity Pool (MPEP)	33,307	11.17%	31,447	10.65%	1,860	5.91%
<i>Total Equities</i>	<i>\$ 192,051</i>	<i>64.40%</i>	<i>\$ 197,077</i>	<i>66.80%</i>	<i>\$ (5,026)</i>	<i>-2.55%</i>
<b>Alternative Investments:</b>						
Montana Real Estate Pool (MTRP)	\$ 27,586	9.25%	\$ 25,966	8.80%	\$ 1,620	6.24%
Structured Investment Vehicles (SIV)			54	0.02%	(54)	
<i>Total Alternative Investments</i>	<i>\$ 27,586</i>	<i>9.25%</i>	<i>\$ 26,020</i>	<i>8.82%</i>	<i>\$ 1,566</i>	<i>6.02%</i>
<b>Total</b>	<b>\$ 298,235</b>	<b>100.00%</b>	<b>\$ 295,007</b>	<b>100.00%</b>	<b>\$ 3,228</b>	<b>1.09%</b>



## INVESTMENT SECTION

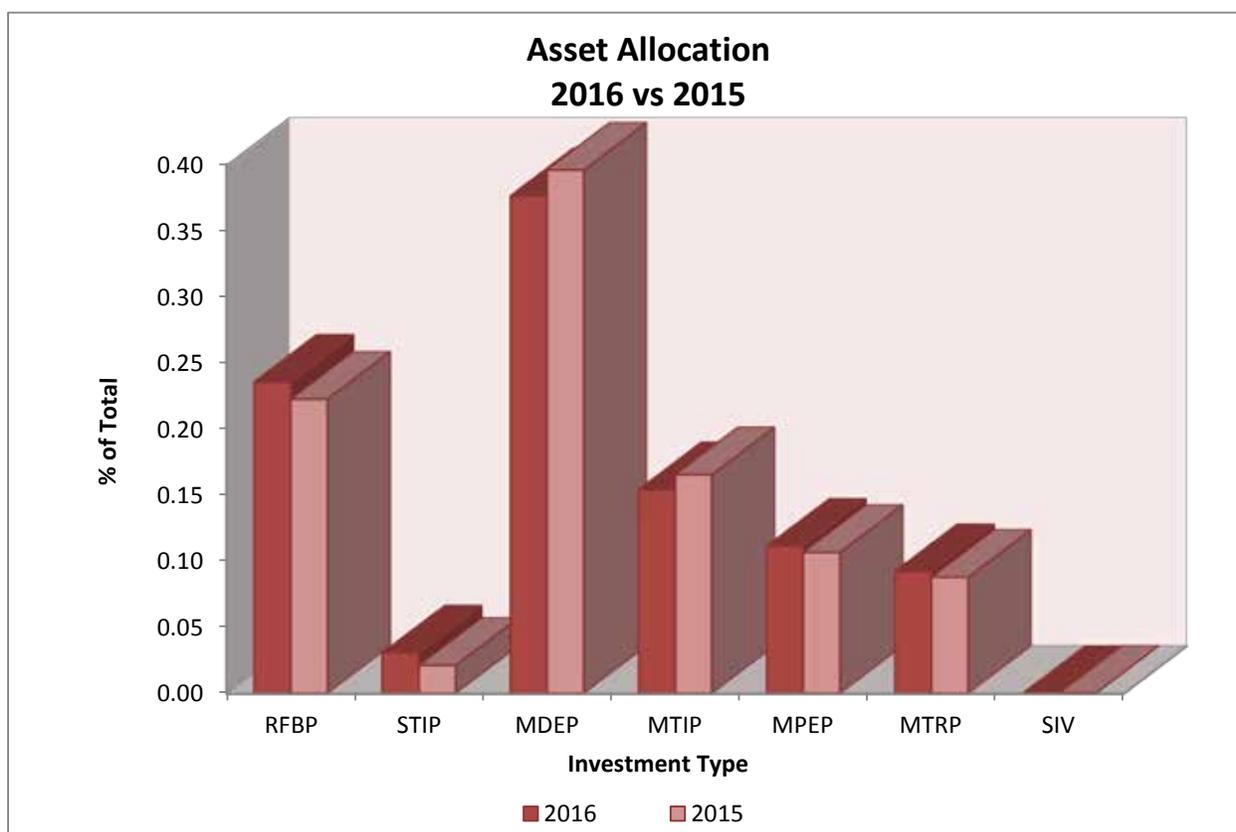
### GWPORS

#### Asset Mix (fair value)

as of June 30, 2016 and 2015

(in thousands)

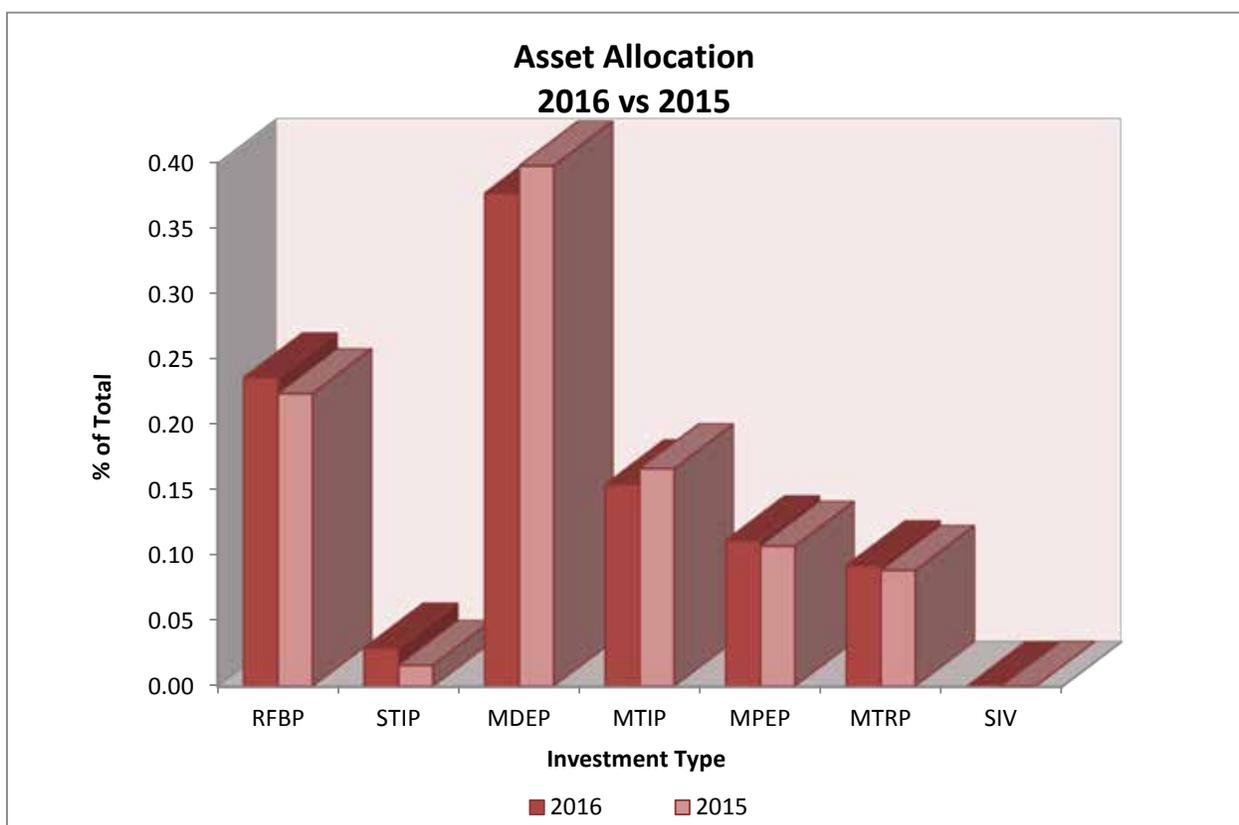
Investment Type	2016 Fair Value	% of Total	2015 Fair Value	% of Total	Dollar Change	% Change
<b>Fixed Income:</b>						
Retirement Funds Bond Pool (RFBP)	\$ 36,325	23.56%	\$ 32,954	22.27%	\$ 3,371	10.23%
STIP	4,716	3.05%	3,132	2.12%	1,584	50.57%
<b>Total Fixed Income</b>	<b>\$ 41,041</b>	<b>26.61%</b>	<b>\$ 36,086</b>	<b>24.39%</b>	<b>\$ 4,955</b>	<b>13.73%</b>
<b>Equities:</b>						
Montana Domestic Equity Pool (MDEP)	\$ 58,041	37.64%	\$ 58,608	39.60%	\$ (567)	-0.97%
Montana International Equity Pool (MTIP)	23,748	15.40%	24,481	16.54%	(733)	-2.99%
Montana Private Equity Pool (MPEP)	17,161	11.13%	15,792	10.67%	1,369	8.67%
<b>Total Equities</b>	<b>\$ 98,950</b>	<b>64.17%</b>	<b>\$ 98,881</b>	<b>66.81%</b>	<b>\$ 69</b>	<b>0.07%</b>
<b>Alternative Investments:</b>						
Montana Real Estate Pool (MTRP)	\$ 14,213	9.22%	\$ 13,014	8.78%	\$ 1,199	9.21%
Structured Investment Vehicles (SIV)			27	0.02%	(27)	
<b>Total Alternative Investments</b>	<b>\$ 14,213</b>	<b>9.22%</b>	<b>\$ 13,041</b>	<b>8.80%</b>	<b>\$ 1,172</b>	<b>8.99%</b>
<b>Total</b>	<b>\$ 154,204</b>	<b>100.00%</b>	<b>\$ 148,008</b>	<b>100.00%</b>	<b>\$ 6,196</b>	<b>4.19%</b>



**MPORS**

**Asset Mix (fair value)**  
**as of June 30, 2016 and 2015**  
 (in thousands)

Investment Type	2016 Fair Value	% of Total	2015 Fair Value	% of Total	Dollar Change	% Change
<b>Fixed Income:</b>						
Retirement Funds Bond Pool (RFBP)	\$ 77,621	23.59%	\$ 71,807	22.38%	\$ 5,814	8.10%
STIP	9,642	2.93%	5,189	1.62%	4,453	85.82%
<b>Total Fixed Income</b>	<b>\$ 87,263</b>	<b>26.52%</b>	<b>\$ 76,996</b>	<b>24.00%</b>	<b>\$ 10,267</b>	<b>13.33%</b>
<b>Equities:</b>						
Montana Domestic Equity Pool (MDEP)	\$ 124,032	37.69%	\$ 127,640	39.78%	\$ (3,608)	-2.83%
Montana International Equity Pool (MTIP)	50,746	15.42%	53,385	16.64%	(2,639)	-4.94%
Montana Private Equity Pool (MPEP)	36,671	11.14%	34,373	10.71%	2,298	6.69%
<b>Total Equities</b>	<b>\$ 211,449</b>	<b>64.25%</b>	<b>\$ 215,398</b>	<b>67.13%</b>	<b>\$ (3,949)</b>	<b>-1.83%</b>
<b>Alternative Investments:</b>						
Montana Real Estate Pool (MTRP)	\$ 30,372	9.23%	\$ 28,401	8.86%	\$ 1,971	6.94%
Structured Investment Vehicles (SIV)			45	0.01%	(45)	
<b>Total Alternative Investments</b>	<b>\$ 30,372</b>	<b>9.23%</b>	<b>\$ 28,446</b>	<b>8.87%</b>	<b>\$ 1,926</b>	<b>6.77%</b>
<b>Total</b>	<b>\$ 329,084</b>	<b>100.00%</b>	<b>\$ 320,840</b>	<b>100.00%</b>	<b>\$ 8,244</b>	<b>2.57%</b>



# INVESTMENT SECTION

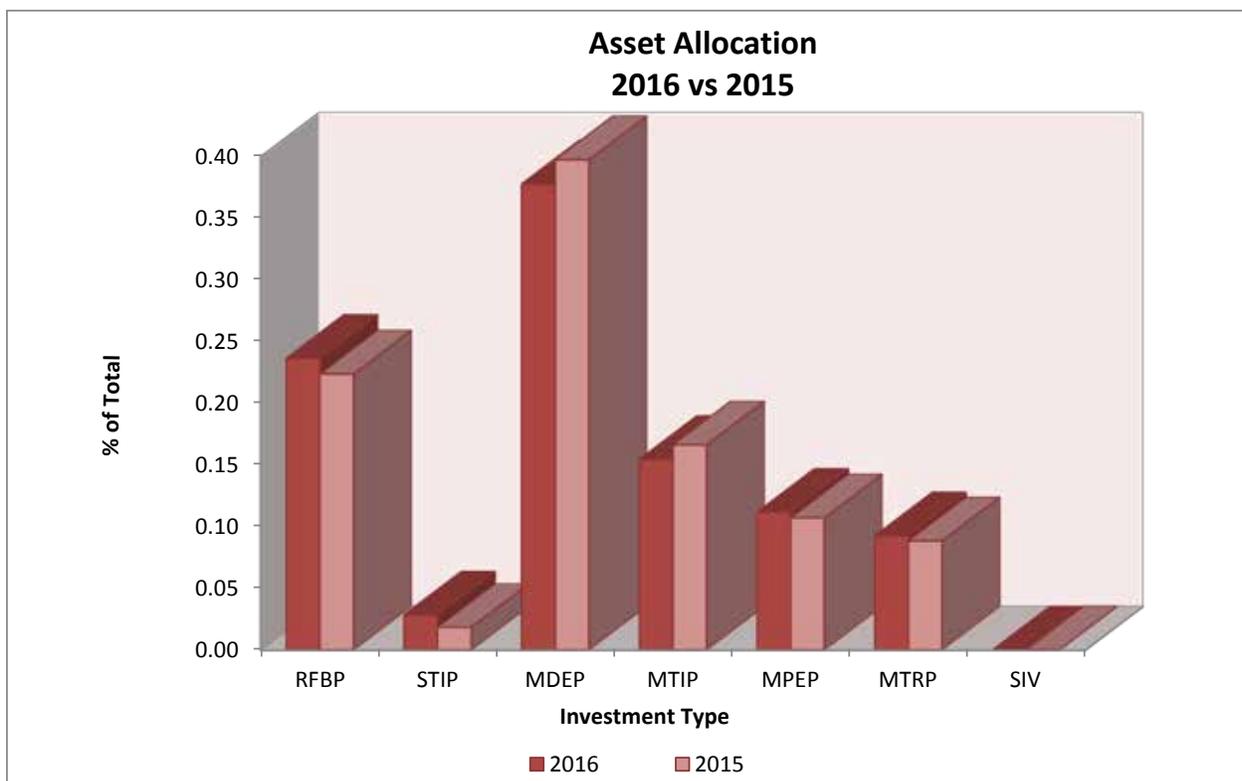
## FURS

### Asset Mix (fair value)

as of June 30, 2016 and 2015

(in thousands)

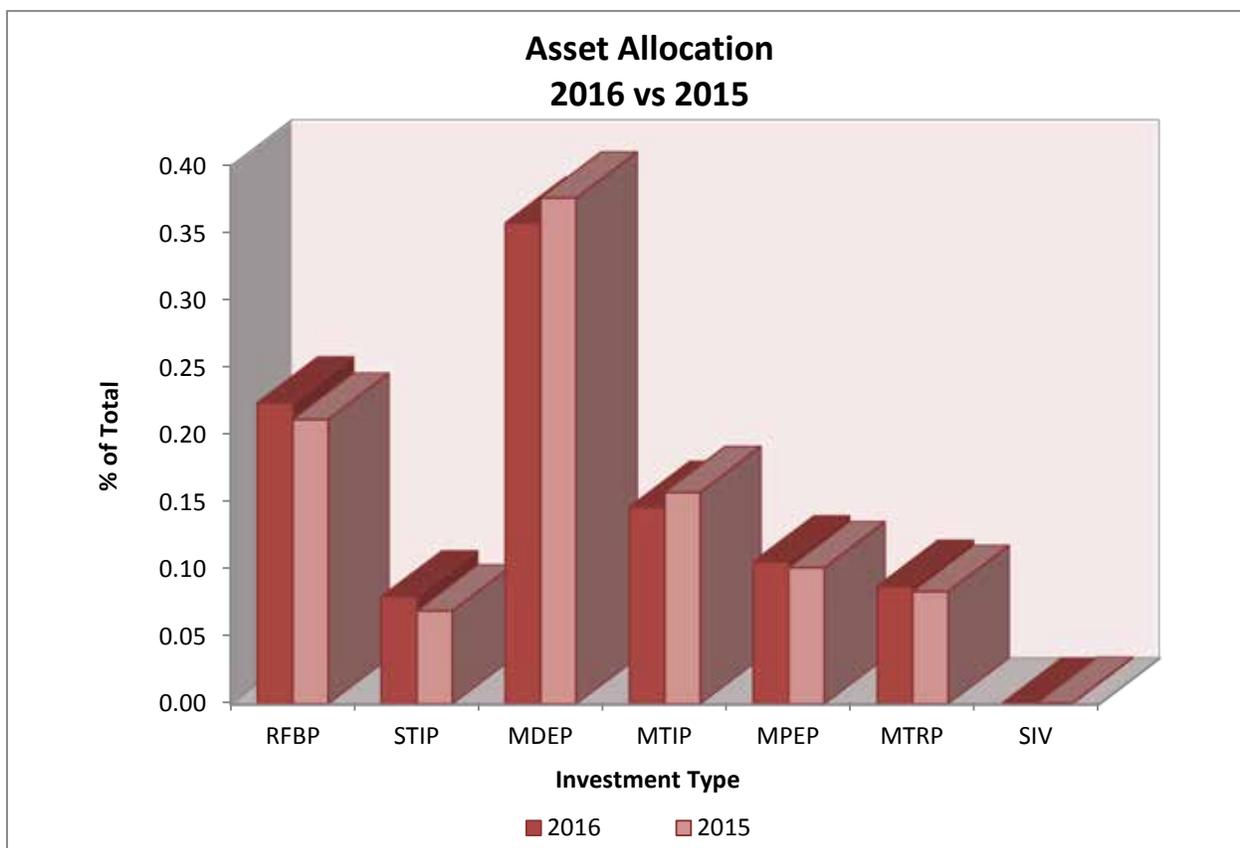
Investment Type	2016 Fair Value	% of Total	2015 Fair Value	% of Total	Dollar Change	% Change
<b>Fixed Income:</b>						
Retirement Funds Bond Pool (RFBP)	\$ 79,532	23.61%	\$ 72,899	22.34%	\$ 6,633	9.10%
STIP	9,563	2.84%	5,972	1.83%	3,591	60.13%
<b>Total Fixed Income</b>	<b>\$ 89,095</b>	<b>26.45%</b>	<b>\$ 78,871</b>	<b>24.17%</b>	<b>\$ 10,224</b>	<b>12.96%</b>
<b>Equities:</b>						
Montana Domestic Equity Pool (MDEP)	\$ 127,086	37.73%	\$ 129,543	39.69%	\$ (2,457)	-1.90%
Montana International Equity Pool (MTIP)	51,996	15.43%	54,178	16.60%	(2,182)	-4.03%
Montana Private Equity Pool (MPEP)	37,573	11.15%	34,900	10.69%	2,673	7.66%
<b>Total Equities</b>	<b>\$ 216,655</b>	<b>64.31%</b>	<b>\$ 218,621</b>	<b>66.98%</b>	<b>\$ (1,966)</b>	<b>-0.90%</b>
<b>Alternative Investments:</b>						
Montana Real Estate Pool (MTRP)	\$ 31,120	9.24%	\$ 28,829	8.83%	\$ 2,291	7.95%
Structured Investment Vehicles (SIV)			51	0.02%	(51)	
<b>Total Alternative Investments</b>	<b>\$ 31,120</b>	<b>9.24%</b>	<b>\$ 28,880</b>	<b>8.85%</b>	<b>\$ 2,240</b>	<b>7.76%</b>
<b>Total</b>	<b>\$ 336,870</b>	<b>100.00%</b>	<b>\$ 326,372</b>	<b>100.00%</b>	<b>\$ 10,498</b>	<b>3.22%</b>



**VFCA**

**Asset Mix (fair value)  
as of June 30, 2016 and 2015**  
(in thousands)

Investment Type	2016 Fair Value	% of Total	2015 Fair Value	% of Total	Dollar Change	% Change
<b>Fixed Income:</b>						
Retirement Funds Bond Pool (RFBP)	\$ 7,520	22.36%	\$ 7,181	21.16%	\$ 339	4.72%
STIP	2,679	7.97%	2,350	6.93%	329	14.00%
<b>Total Fixed Income</b>	<b>\$ 10,199</b>	<b>30.33%</b>	<b>\$9,531</b>	<b>28.09%</b>	<b>\$ 668</b>	<b>7.01%</b>
<b>Equities:</b>						
Montana Domestic Equity Pool (MDEP)	\$ 12,017	35.73%	\$ 12,759	37.60%	\$ (742)	-5.82%
Montana International Equity Pool (MTIP)	4,917	14.62%	5,339	15.74%	(422)	-7.90%
Montana Private Equity Pool (MPEP)	3,553	10.57%	3,439	10.14%	114	3.31%
<b>Total Equities</b>	<b>\$ 20,487</b>	<b>60.92%</b>	<b>\$ 21,537</b>	<b>63.48%</b>	<b>\$ (1,050)</b>	<b>-4.88%</b>
<b>Alternative Investments:</b>						
Montana Real Estate Pool (MTRP)	\$ 2,943	8.75%	\$ 2,840	8.37%	\$ 103	3.63%
Structured Investment Vehicles (SIV)			21	0.06%	(21)	
<b>Total Alternative Investments</b>	<b>\$ 2,943</b>	<b>8.75%</b>	<b>\$ 2,861</b>	<b>8.43%</b>	<b>\$82</b>	<b>2.87%</b>
<b>Total</b>	<b>\$ 33,629</b>	<b>100.00%</b>	<b>\$ 33,929</b>	<b>100.00%</b>	<b>\$ (300)</b>	<b>-0.88%</b>



## INVESTMENT SECTION

### Public Employees' Retirement Board

*A Component Unit of the State of Montana*

#### Largest Holdings (by portfolio fair value)

as of June 30, 2016

(in thousands)

A complete list of the portfolio holdings can be obtained by contacting the Montana Board of Investments. The information below is PERB's presentation of the largest holdings.

Shares/Par	MDEP Portfolio By Manager	Fair Value
2,861	Blackrock Equity Index Fund	\$ 2,084,725
1,695	T Rowe Price Large Cap	305,400
1,620	JP Morgan Partial L/S	294,394
756	Timesquare Mid Cap Growth	149,636
852	Analytic Partial L/S	133,397
753	INTECH Large Cap Enh Index	133,169
785	Artisan Mid Cap Value	130,445
406	Vaughan Nelson Small Cap	82,438
30	DFA US Small Cap	68,437
1,452	Blackrock Midcap Index	63,896

PERS' 7,383,780 shares represent 50.11% of the total MDEP portfolio at market.

JRS' 128,467 shares represent 0.87% of the total MDEP portfolio at market.

HPORS' 188,427 shares represent 1.28% of the total MDEP portfolio at market.

SRS' 439,375 shares represent 2.98% of the total MDEP portfolio at market.

GWPORS' 226,375 shares represent 1.54% of the total MDEP portfolio at market.

MPORS' 483,757 shares represent 3.28% of the total MDEP portfolio at market.

FURS' 495,667 shares represent 3.36% of the total MDEP portfolio at market.

VFCA's 46,870 shares represent 0.32% of the total MDEP portfolio at market.

Shares/Par	RFBP Portfolio By Manager	Fair Value
1,654,857	Core Internal Bond Portfolio	\$ 1,893,297
186,685	Reams Asset Management	244,753
101,063	Neuberger Berman	104,213
86,115	Post Advisory Group	97,566
16,446	Short Term Investment Pool	16,446
7,247	Montana Residential Mortgages	6,756
1,330	Aberdeen Asset Management	19

PERS' 10,280,025 shares represent 49.93% of the total RFBP portfolio at market.

JRS' 178,861 shares represent 0.87% of the total RFBP portfolio at market.

HPORS' 262,343 shares represent 1.27% of the total RFBP portfolio at market.

SRS' 611,728 shares represent 2.97% of the total RFBP portfolio at market.

GWPORS' 315,186 shares represent 1.53% of the total RFBP portfolio at market.

MPORS' 673,505 shares represent 3.27% of the total RFBP portfolio at market.

FURS' 690,092 shares represent 3.35% of the total RFBP portfolio at market.

VFCA's 65,254 shares represent 0.32% of the total RFBP portfolio at market.

**Public Employees' Retirement Board**

*A Component Unit of the State of Montana*

**Largest Holdings (by portfolio fair value)**

**as of June 30, 2016**

*(in thousands)*

Shares/Par	MTIP Portfolio By Manager	Fair Value
42,786	Blackrock ACWI EX US Superfund	\$ 910,654
1,253	Lazard Asset Management	112,290
1,197	Invesco	106,734
1,129	Acadian	92,319
926	Baillie Gifford	84,586
4,485	DFA International Small Co	75,392
499	Templeton Investment Counsel	44,566
785	Blackrock MSCI EM Mkt Fr FD B	29,683
308	American Century Inv Management	28,823
2,535	Blackrock ACWI EX US Small Cap	27,473

PERS' 4,958,458 shares represent 50.17% of the total MTIP portfolio at market.

JRS' 86,271 shares represent 0.87% of the total MTIP portfolio at market.

HPORS' 126,538 shares represent 1.28% of the total MTIP portfolio at market.

SRS' 295,059 shares represent 2.99% of the total MTIP portfolio at market.

GWPORS' 152,025 shares represent 1.54% of the total MTIP portfolio at market.

MPORS' 324,858 shares represent 3.29% of the total MTIP portfolio at market.

FURS' 332,858 shares represent 3.37% of the total MTIP portfolio at market.

VFCA's 31,475 shares represent 0.32% of the total MTIP portfolio at market.

Shares/Par	MPEP Portfolio By Manager	Fair Value
94,652	Adams Street	\$ 72,332
61,746	State Street	61,746
38,791	Harbour Vest	50,180
49,537	Lexington	47,291
32,451	Northgate	44,170
27,274	Axiom	43,845
40,683	Centerbridge	43,711
30,184	Portfolio Advisors	42,408
26,670	American Securities Partners	39,865
31,647	Veritas	39,288

PERS' 1,764,104 shares represent 50.12% of the total MPEP portfolio at market.

JRS' 30,693 shares represent 0.87% of the total MPEP portfolio at market.

HPORS' 45,018 shares represent 1.28% of the total MPEP portfolio at market.

SRS' 104,974 shares represent 2.98% of the total MPEP portfolio at market.

GWPORS' 54,086 shares represent 1.54% of the total MPEP portfolio at market.

MPORS' 115,577 shares represent 3.28% of the total MPEP portfolio at market.

FURS' 118,423 shares represent 3.36% of the total MPEP portfolio at market.

VFCA's 11,197 shares represent 0.32% of the total MPEP portfolio at market.

## INVESTMENT SECTION

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### **Public Employees' Retirement Board**

*A Component Unit of the State of Montana*

#### **Largest Holdings (by portfolio fair value)**

**as of June 30, 2016**

*(in thousands)*

<b>Shares/Par<sup>1</sup></b>	<b>MTRP Portfolio By Manager</b>	<b>Fair Value</b>
54,948	JP Morgan	\$ 155,991
7,373	UBS Realty Investors LLC	78,521
53,919,039	DRA Advisors	59,915
309	Invesco Real Estate	50,070
87,952	TIAA CREF	49,065
51,264,106	Angelo Gordon	47,797
39,059,058	Molpus Woodlands	46,848
33,872,142	CBRE Strategic Partners	39,138
37,891,849	ABR Chesapeake	37,868
29,421,509	Stockbridge LP	34,479

PERS' 4,255,228 shares represent 50.11% of the total MTRP portfolio at market.

JRS' 74,035 shares represent 0.87% of the total MTRP portfolio at market.

HPORS' 108,591 shares represent 1.28% of the total MTRP portfolio at market.

SRS' 253,213 shares represent 2.98% of the total MTRP portfolio at market.

GWPORS' 130,464 shares represent 1.54% of the total MTRP portfolio at market.

MPORS' 278,785 shares represent 3.28% of the total MTRP portfolio at market.

FURS' 285,650 shares represent 3.36% of the total MTRP portfolio at market.

VFCA's 27,010 shares represent 0.32% of the total MTRP portfolio at market.

<sup>1</sup>For this schedule the Shares/Par are not in thousands.

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## INVESTMENT SECTION

### Public Employees' Retirement Board

*A Component Unit of the State of Montana*

#### Investment Summary

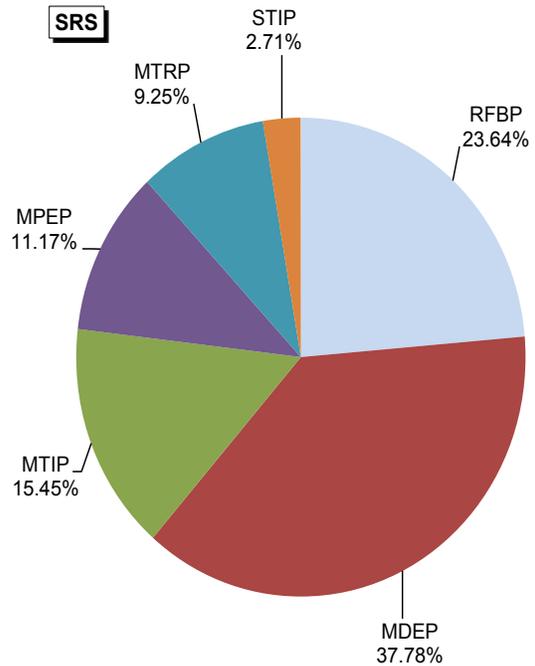
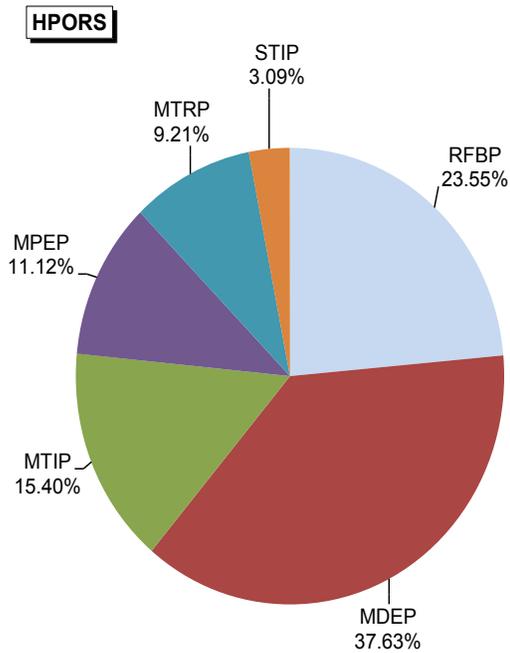
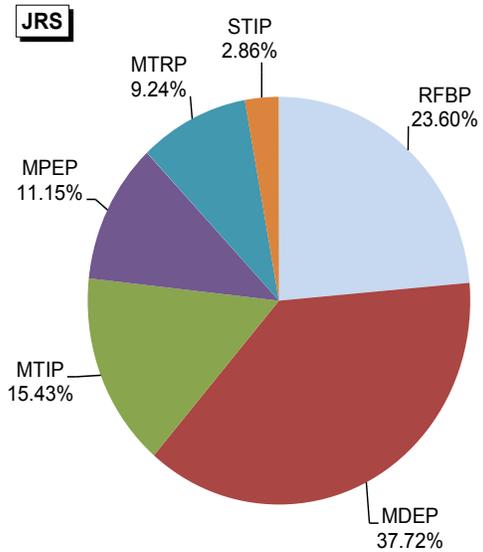
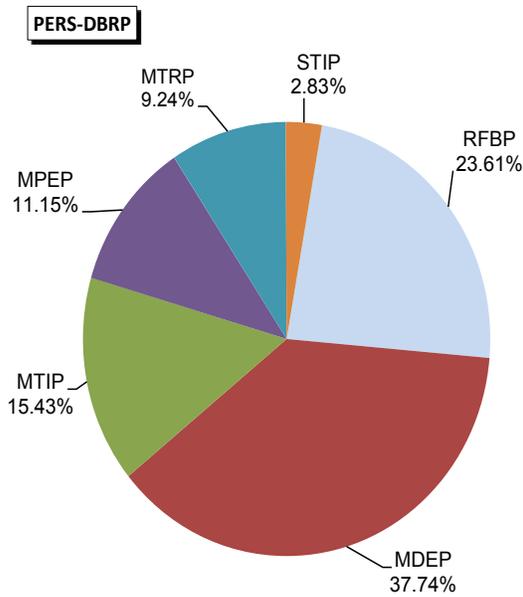
*as of June 30, 2016*

*(in thousands)*

Type of Investment	PERS-DBRP <sup>1</sup>		JRS		HPORS		SRS	
	% of Total		% of Total		% of Total		% of Total	
	Fair Value	Fair Value	Fair Value	Fair Value	Fair Value	Fair Value	Fair Value	Fair Value
Fixed Income								
Retirement Funds Bond Pool	\$ 1,184,758	23.61%	\$ 20,613	23.60%	\$ 30,235	23.55%	\$ 70,501	23.64%
Equities								
Montana Domestic Equity Pool	1,893,160	37.74%	32,938	37.72%	48,312	37.63%	112,653	37.78%
Montana International Equity Pool	774,561	15.43%	13,477	15.43%	19,766	15.40%	46,091	15.45%
Montana Private Equity Pool	559,719	11.15%	9,738	11.15%	14,284	11.12%	33,307	11.17%
Alternative Investments								
Montana Real Estate Pool	463,582	9.24%	8,066	9.24%	11,830	9.21%	27,586	9.25%
Short Term Investments								
Short Term Investment Pool <sup>1</sup>	142,167	2.83%	2,502	2.86%	3,972	3.09%	8,097	2.71%
<b>Total</b>	<b>\$ 5,017,947</b>	<b>100.00%</b>	<b>\$ 87,334</b>	<b>100.00%</b>	<b>\$ 128,399</b>	<b>100.00%</b>	<b>\$ 298,235</b>	<b>100.00%</b>

<sup>1</sup>These figures for PERS-DBRP only include those of the Defined Benefit Retirement Plan, whereas the financial statements include the total in the Defined Benefit Retirement Plan and the Defined Benefit Education Program.

# INVESTMENT SECTION



Retirement Funds Bond Pool - RFBP  
 Montana Real Estate Pool - MTRP  
 Montana Private Equity Pool - MPEP

Montana Domestic Equity Pool - MDEP  
 Montana International Equity Pool - MTIP  
 Short Term Investment Pool - STIP

# INVESTMENT SECTION

## Public Employees' Retirement Board

*A Component Unit of the State of Montana*

### Investment Summary

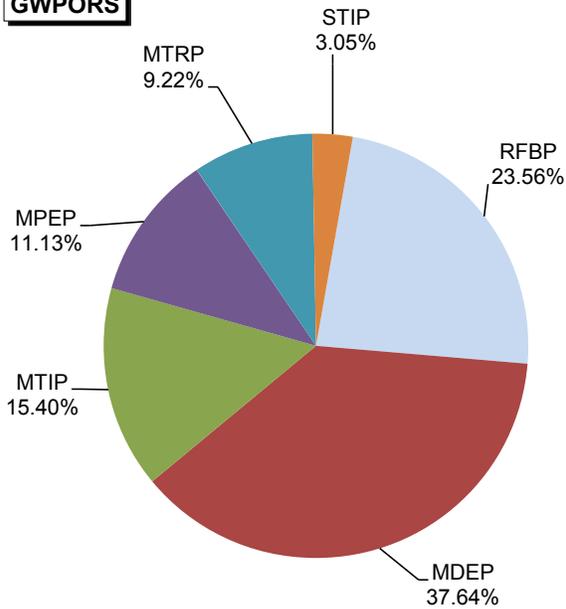
*as of June 30, 2016*

*(in thousands)*

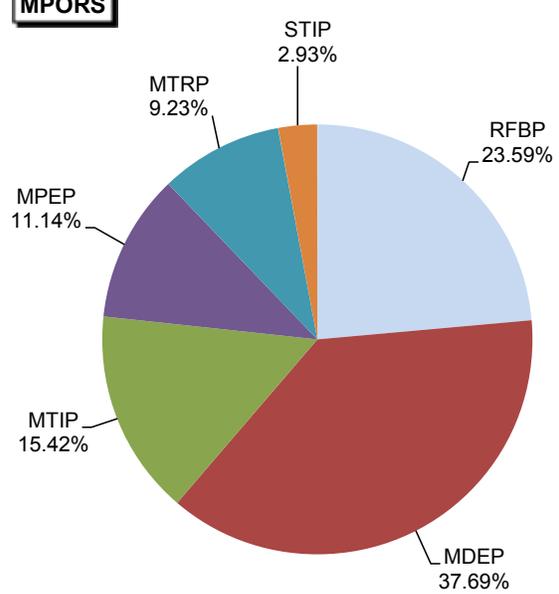
Type of Investment	GWPORS		MPORS		FURS		VFCA	
	% of Total		% of Total		% of Total		% of Total	
	Fair Value	Fair Value	Fair Value	Fair Value	Fair Value	Fair Value	Fair Value	Fair Value
Fixed Income								
Retirement Funds Bond Pool	\$ 36,325	23.56%	\$ 77,621	23.59%	\$ 79,532	23.61%	\$ 7,520	22.36%
Equities								
Montana Domestic Equity Pool	58,041	37.64%	124,032	37.69%	127,086	37.73%	12,017	35.73%
Montana International Equity Pool	23,748	15.40%	50,746	15.42%	51,996	15.43%	4,917	14.62%
Montana Private Equity Pool	17,161	11.13%	36,671	11.14%	37,573	11.15%	3,553	10.57%
Alternative Investments								
Montana Real Estate Pool	14,213	9.22%	30,372	9.23%	31,120	9.24%	2,943	8.75%
Short Term Investments								
Short Term Investment Pool	4,716	3.05%	9,642	2.93%	9,563	2.84%	2,679	7.97%
<b>Total</b>	<b>\$ 154,204</b>	<b>100.00%</b>	<b>\$ 329,084</b>	<b>100.00%</b>	<b>\$ 336,870</b>	<b>100.00%</b>	<b>\$ 33,629</b>	<b>100.00%</b>

# INVESTMENT SECTION

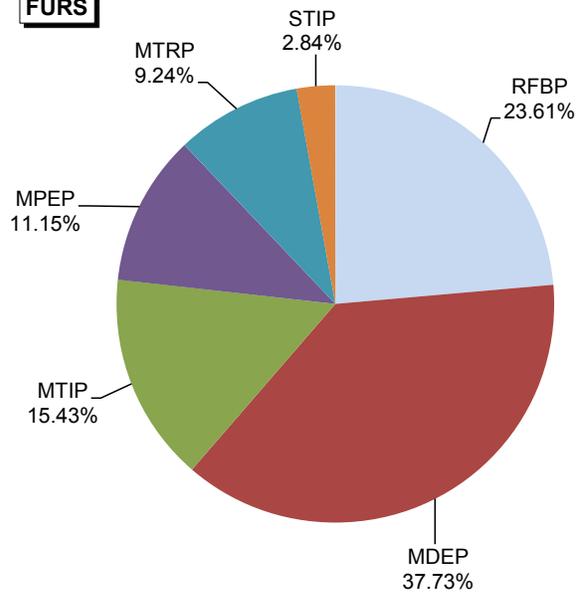
**GWPORS**



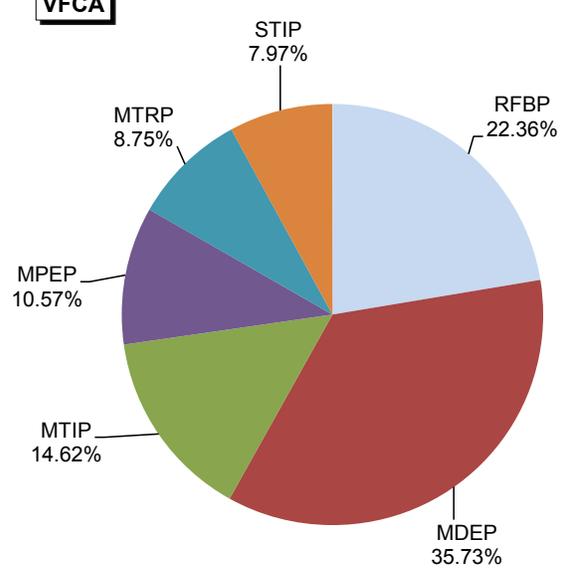
**MPORS**



**FURS**



**VFCA**



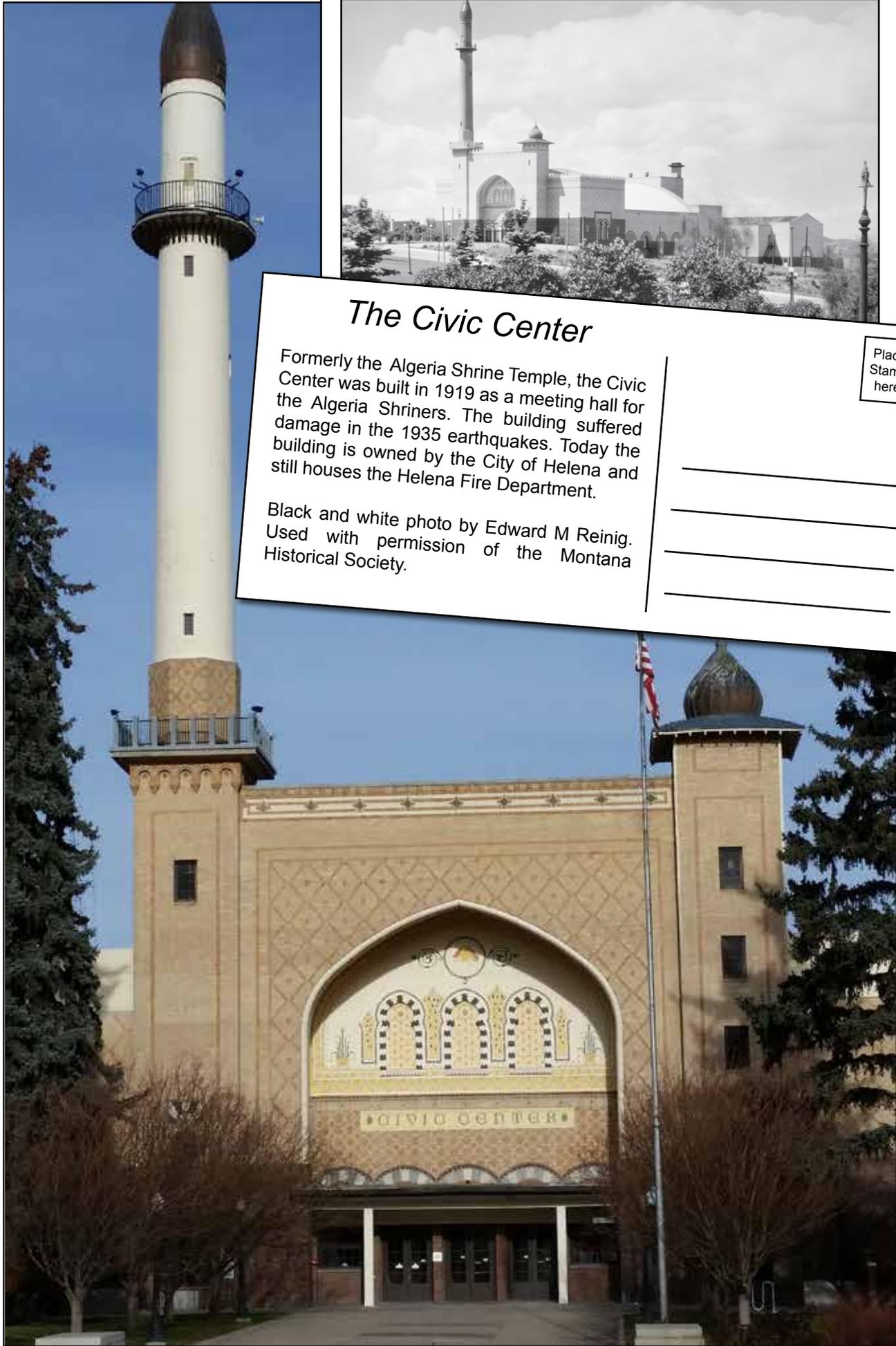
Retirement Funds Bond Pool - RFBP  
 Montana Real Estate Pool - MTRP  
 Montana Private Equity Pool - MPEP

Montana Domestic Equity Pool - MDEP  
 Montana International Equity Pool - MTIP  
 Short Term Investment Pool - STIP

## INVESTMENT SECTION

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### *The Civic Center*

Formerly the Algeria Shrine Temple, the Civic Center was built in 1919 as a meeting hall for the Algeria Shriners. The building suffered damage in the 1935 earthquakes. Today the building is owned by the City of Helena and still houses the Helena Fire Department.

Black and white photo by Edward M Reinig. Used with permission of the Montana Historical Society.

Place Stamp here

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ACTUARIAL SECTION



## Cavanaugh Macdonald

CONSULTING, LLC

*The experience and dedication you deserve*

Via Electronic Mail

November 23, 2016

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

Dear Members of the Board:

At your request, we have conducted the June 30, 2016 actuarial valuation for each of the eight funded pension programs administered by the Public Employees' Retirement Board. Actuarial valuations are performed annually. This valuation reflects the benefit provisions and contribution rates in effect as of July 1, 2016.

### ***Valuation Results***

The calculations have been made on a basis consistent with our understanding of the Systems' funding requirements and goals. The funding objective for each System is to pay the Normal Cost plus an amount that amortizes the Unfunded Actuarial Liability over a period of not more than 30 years. The member, employer, and state contributions are determined by statute. Our valuations demonstrate that the projected income stream from the expected contributions are sufficient to pay the Normal Costs and amortize the Unfunded Actuarial Liability as a level percentage of future payroll for the following four Systems. The amortization periods are shown below.

- Public Employees' Retirement System (PERS) 26 years
- Highway Patrol Officers' Retirement System (HPORS) 28 years
- Municipal Police Officers' Retirement System (MPORS) 18 years
- Firefighters' Unified Retirement System (FURS) 9 years

The amortization periods above are based upon the Actuarial Value of Assets, which recognizes investment gains and losses over a four-year period. Using the Market Value of Assets, the amortization periods above would be 34, 32, 20, and 10 years, respectively.

For two of the Systems, our findings show the projected income stream from the expected contributions are sufficient to pay the Normal Costs, but are not sufficient to amortize the Unfunded Actuarial Liability.

- Sheriffs' Retirement System (SRS)
- Game Wardens' and Peace Officers' Retirement System (GWPORS)

3550 Busbee Pkwy, Suite 250, Kennesaw, GA 30144

Phone (678) 388-1700 • Fax (678) 388-1730

[www.CavMacConsulting.com](http://www.CavMacConsulting.com)

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## ACTUARIAL SECTION

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Public Employees' Retirement Board  
November 23, 2016  
Page 2



Based on the assumed level of future revenue, the Unfunded Actuarial Liability for the Volunteer Firefighters' Compensation Act (VFCA) is expected to be amortized over 7 years using the Actuarial Value of Assets and over 11 years using Market Value of Assets. The Judges' Retirement System (JRS) has an Actuarial Surplus as of June 30, 2016.

The changes in funded status (on an Actuarial Value of Assets basis) for each System are shown below:

	<u>2015</u>	<u>2016</u>
PERS	76%	77%
JRS	164%	166%
HPORS	65%	66%
SRS	83%	83%
GWORS	84%	84%
MPORS	66%	69%
FURS	76%	78%
VFCA	75%	80%

Due to net investment losses, which are being recognized over four years, the Actuarial Value of Assets as of June 30, 2016 was more than the Market Value of Assets for each of the Systems. If the Market Value of Assets had been used to determine the funded status, the funded status of each of the Systems would have been lower than using the Actuarial Value of Assets.

HB 454 requires the PERS actuarial valuation to determine whether certain funded status and amortization thresholds are met. Once met, certain temporary employer and member contributions are discontinued. Based upon our June 30, 2016 valuation results, temporary employer and member contributions must remain in place.

At the request of the Board, we also performed a valuation as of June 30, 2016 of the PERS Long Term Disability Plan under the Defined Contribution Plan. Our findings indicate that the employer contributions are only sufficient to pay Normal Costs but with no funding to amortize the Unfunded Actuarial Liability. The funded ratio increased from 86% as of June 30, 2015 to 87% as of June 30, 2016.

### *Assumptions and Methods*

The June 30, 2016 actuarial valuations are the first performed for the Board by Cavanaugh Macdonald Consulting. The actuarial assumptions used in the valuations are based on an experience study for the period beginning July 1, 2003 up to June 30, 2009 which was adopted by the Board for the June 30, 2010 valuation. The assumptions and methods used for funding purposes conform to the parameters set by accounting principles of the United States of America as promulgated by the Governmental Accounting Standards Board.

The actuarial assumptions reflect our understanding of the likely future experience of the System, and the assumptions as a whole represent the best estimate for the future experience of the System. 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. Determinations for purposes other than meeting these requirements may be significantly different from the results in this letter. Accordingly, additional determinations may be needed for other purposes.

### ***Reliance on Others***

In preparing the actuarial valuations, we relied on information supplied by the staff of the Public Employee Retirement Administration. This information includes, but is not limited to, plan provisions, employee data, and financial information. We performed an informal examination of the obvious characteristics of the data for reasonableness and consistency in accordance with Actuarial Standard of Practice No. 23.

### ***Supporting Schedules***

The following schedules in this Actuarial Section were provided by Cavanaugh Macdonald Consulting to support these actuarial results:

- Schedule of Active Member Composition
- Schedule of Retiree Member Composition
- Schedule of Disabled Member Composition
- Schedule of Converted Disabled Member Composition
- Schedule of Beneficiary Member Composition

Other information presented in this Actuarial Section as of June 30, 2016, and in various parts of the Financial and Statistical Sections is based on information found in our actuarial valuation reports. Numbers reported for years prior to the fiscal year ending June 30, 2016 were developed by the prior actuary and are reported per their valuation reports.

### ***Certification***

This is to certify that the independent consulting actuaries, Edward Macdonald and Todd Green, are Members of the American Academy of Actuaries and meet the qualification standards of the American Academy of Actuaries to render the actuarial opinion contained herein. They have experience in performing valuations for public retirement systems. The valuations were prepared in accordance with generally recognized and accepted actuarial principles and practices which are consistent with the Code of Professional Conduct and applicable Actuarial Standards of Practice set out by the Actuarial Standards Board. The actuarial calculations were performed by qualified actuaries in accordance with accepted actuarial procedures, based on the current provisions of the retirement system and on actuarial assumptions that are internally consistent and reasonably based on the actual experience of the System.

## ACTUARIAL SECTION

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Public Employees' Retirement Board

November 23, 2016

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This letter was prepared exclusively for the Public Employees' Retirement Board for the purpose described herein. Other users of this letter are not intended users as defined in the Actuarial Standards of Practice, and Cavanaugh Macdonald Consulting LLC assumes no duty or liability to any other user.

Respectfully submitted,

/s/ Edward Macdonald

/s/ Todd B. Green

Edward A. Macdonald, ASA, FCA, MAAA  
President

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

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## Public Employees' Retirement Board

*A Component Unit of the State of Montana*

### SUMMARY OF ACTUARIAL ASSUMPTIONS AND METHODS

#### BACKGROUND

An actuarial valuation of the plans was completed for fiscal year 2016 by the PERB's new actuary, Cavanaugh Macdonald Consulting, LLC. An experience study was performed by previous actuary Cheiron during fiscal year 2010 examining the plans' experience during the six year period July 1, 2003 to June 30, 2009. The experience study investigated the actual experience of each plan administered by the PERB. The methods, assumptions, and factors adopted by the PERB were based on Cheiron's recommendations. The actuarial assumptions were approved by the PERB in May 2010 and were used in the fiscal year 2016 actuarial valuation. The recommendations were formed on the basis of recent experience of the plans and on the current expectations of future economic conditions. The actuarial methods, assumptions, factors, and any changes in the actuarial assumptions are described in this section.

Demographic assumptions are based on expected membership behavior. These include the retirement rates, termination rates, disability rates, mortality rates, and miscellaneous assumptions including marital status. Economic assumptions are based on common system elements such as investment returns, inflation, and administrative expenses. Salary increases can be considered either demographic (membership oriented) or economic (given the inflation component).

The assumptions are intended to estimate the future experience of the plans and the members of the plans in areas which affect

the projected benefit flow and anticipated investment earnings. Any variations in future experience from that expected based on these assumptions will result in corresponding changes in the estimated cost of the plans' benefits.

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

#### RECORDS AND DATA

The data used in the valuation consists of financial information and records of age, service and income of contributing members, former contributing members and their survivors. All data supplied to the actuary by MPERA was accepted for valuation purposes without audit.

#### ACTUARIAL FUNDING AND METHOD

A fundamental principle in financing the liabilities of a retirement program is to relate the cost of benefits to when they are earned, rather than when they are paid. There are a number of methods in use for making that determination. The funding method used to determine costs in these valuations is the Entry Age Actuarial Cost Method. Under this funding method, a normal cost rate is determined by taking the value of each member's projected future benefits as of entry age into the plan.

The actuarial liability is that portion of the present value of projected benefits that

## ACTUARIAL SECTION

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will not be paid by future normal cost. The difference between this liability and funds accumulated as of the same date is referred to as the unfunded actuarial liability.

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

### ACTUARIAL VALUE OF ASSETS

Asset values were supplied by MPERA and were accepted without audit by the actuary. The Actuarial Value of Assets is the current market value, adjusted by a four-year smoothing of gains and losses on a market value basis. The asset adjustment method lessens the volatility in asset values that could occur because of fluctuations in market conditions. Each year's gain or loss is determined as the difference between the actual market return and the expected market return using the assumed rate of investment return.

### INVESTMENT RETURNS

The future investment earnings of the assets of the plans are assumed to accrue at an annual rate of 7.75%, net investment-related expenses.

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

### AMORTIZATION METHODS

The unfunded actuarial liability is amortized as a level percentage of future payroll, except

for VFCA, which is amortized as level dollar amounts because there is no payroll.

### INTEREST ON MEMBER CONTRIBUTIONS

Interest on member contributions at the time of the valuation was assumed to accrue at a net annual rate of 3.50%, with the exception of VFCA, which has no member contributions.

### CAPITAL PRESERVATION PREMIUM ON MPORS DROP ACCOUNTS

Effective July 1, 2009, the interest earned on MPORS DROP accounts changed from the actual trust fund earnings with a floor of zero to the actuarial assumed rate of return.

### FUTURE SALARIES

Estimates of future salaries are based on two types of assumptions. Rates of increase in the general wage level of the membership are directly related to inflation, while individual salary changes due to promotion and longevity, referred to as the merit scale, occur even in the absence of inflation. The assumed increase in future salaries due to general wage growth is 4.00% per year for all plans. The merit scale is based on years of service and is in addition to the wage growth. The merit scale is calculated independently for each plan based on the factors applicable to the plan. VFCA is excluded from this calculation because members are unpaid volunteers.

### MARRIAGE

The probability of marriage assumption is 100% of all non-retired members. Male spouses are assumed to be three years older than female spouses for all systems except JRS where the male spouses are assumed to be four years older than female spouses.

## ACTUARIAL SECTION

### MORTALITY

The mortality assumptions among contributing members, terminated vested members, service retired members, and beneficiaries are based on RP-2000 Combined Employee and Annuitant Mortality Tables projected to 2015 with scale AA. The sample mortality rates for healthy retirees, beneficiaries and non-retired members for all plans is presented in the following table.

Healthy Retirees, Beneficiaries and Non-Retired Members Sample Mortality Rates		
<u>Age</u>	<u>Male</u>	<u>Female</u>
50	0.163%	0.130%
55	0.272%	0.241%
60	0.530%	0.469%
65	1.031%	0.900%
70	1.770%	1.553%
75	3.062%	2.492%
80	5.536%	4.129%
85	9.968%	7.076%
90	17.271%	12.588%

The mortality assumptions among Disabled Retirees are based on the RP-2000 Combined Employee and Annuitant Mortality Tables with no projections. No future mortality improvement is assumed. The sample mortality rates for the disabled retirees for all plans is presented in the table at the top of the next column.

### SERVICE RETIREMENT

The assumed rates of service retirement used in the valuations are dependent upon age and years of service and differ between plans. The rates are based on the actual experience of the individual plans. Under all plans, vested terminated members are assumed to retire when first eligible for an unreduced benefit.

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

### DISABLEMENT

The assumed rates of disablement are dependent upon age and differ between plans. It is further assumed that 75% of all disabilities are duty-related for HPORS, SRS, and GWPORS. For JRS it is assumed that 10% of all disabilities are duty-related. For PERS and VFCA all disabilities are assumed to be duty related. For MPORS and FURS there is no distinction between duty and non-duty related disabilities. It is assumed that all disabilities are permanent and that no disabled member will recover and return to work.

### OTHER TERMINATIONS OF MEMBERSHIP

The assumed rates of termination, other than for retirement, death, or disability, are calculated individually for each plan. The JRS does not assume termination for any reason other than retirement, death, or disability.

### TERMINATING MEMBERS ELECTING A REFUND

It is assumed that all terminating members that are non-vested will receive an immediate withdrawal of their member accumulated contributions. The probability of a terminating, vested member electing a refund of the

## ACTUARIAL SECTION

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member account balance is based on age and is different for each plan as described in the actuarial valuation. These assumptions do not apply to the JRS or VFCA.

### ACTUARIAL FACTORS

Retirement actuarial factors are used in determining joint, survivor and period certain annuities.

### ACTUARIAL AUDIT

An actuarial audit was performed in January 2015 by an independent auditing actuary Cavanaugh Macdonald Consulting, LLC. The audit was limited to reviewing then actuary Cheiron's work in preparing the June 30, 2014 actuarial valuation for the PERS-DBRP. The scope of the requested audit was limited to the in-depth review of a sample set of individual calculations selected rather than a complete replication of the results.

The PERB has periodic audits performed to monitor the quality of actuarial services performed on behalf of the pension plan; to enhance the credibility of the actuarial valuation process; to increase public trust in how the pension plan is being governed; to help plan fiduciaries assess whether the plan is meeting its funding objectives; to remedy errors, if discovered; and to acquire recommendations for improving the actuarial valuation process. Overall the audit did not result in any material differences in any of the above points of the audit.

This is the first valuation performed by the PERB's new actuary, Cavanaugh Macdonald Consulting, LLC. All results shown for valuations from July 1, 2009 to June 30, 2015 were derived from reports prepared by the prior actuary, Cheiron.

### CALCULATIONS BASED ON THE MARKET VALUE OF ASSETS

Section 19-2-407, MCA, as amended by the 2007 Legislature, requires the actuarial report to show how market performance is affecting the actuarial funding of the retirement systems. In the following paragraphs, the effect on each one of the defined benefit retirement systems is explained using the market value of assets.

At June 30, 2016, the market value of assets for **PERS-DBRP** was \$214.9 million less than the actuarial value of assets. If the market value of assets was used rather than the actuarial value of assets, the funded ratio on the valuation date would be 74.14% and the amortization period for the unfunded actuarial liability would be 34 years. Using the actuarial value of assets in the valuation, the funded ratio at June 30, 2016 is 77.31% and the amortization period for the unfunded actuarial liability is 26 years.

The valuation also includes calculations related to the Plan Choice Rate (PCR). The PCR is the percent of the employer contribution allocated to the PERS-DBRP for PERS members who choose the PERS-DCRP or the Montana University System Retirement Program (MUS-RP). As of June 30, 2016, the PCR unfunded accrued liability has been fully amortized.

At June 30, 2016, the valuation of the **PERS-DCRP Disability OPEB Plan** is performed based on the market value of assets. As of June 30, 2016, the statutory contribution rates are not sufficient to amortize the unfunded actuarial liability. The Plan's assets gained 0.38% on an annualized market value basis. This was below the assumed rate of return of 3.50%. The actuarial value of assets is set equal to the market value of assets.

At June 30, 2016, the market value of assets for **JRS** was \$3.3 million less than the actuarial value of assets. If the market value of assets was used rather than the actuarial value of assets, the funded ratio on the valuation date would be 160.37% and the amortization period for the unfunded actuarial liability would be zero years since the plan has a surplus. Using the actuarial value of assets in the valuation, the funded ratio at June 30, 2016 is 166.48% and the amortization period for the unfunded actuarial liability is still zero years due to the plan surplus.

At June 30, 2016, the market value of assets for **HPORS** was \$4.9 million less than the actuarial value of assets. If the market value of assets was used rather than the actuarial value of assets, the funded ratio on the valuation date would be 63.48% and the amortization period for the unfunded actuarial liability would be 32 years. Using the actuarial value of assets in the valuation, the funded ratio at June 30, 2016 is 65.84% and the amortization period for the unfunded actuarial liability is 28 years.

At June 30, 2016, the market value of assets for **SRS** was \$11.4 million less than the actuarial value of assets. If the market value of assets was used rather than the actuarial value of assets, the funded ratio on the valuation date would be 80.17% and the statutory contribution rates are not sufficient to amortize the unfunded actuarial liability within a 30-year amortization period. Using the actuarial value of assets in the valuation, the funded ratio at June 30, 2016 is 83.21% and the amortization period for the unfunded actuarial liability does not amortize.

At June 30, 2016, the market value of assets for **GWPORS** was \$5.9 million less than the actuarial value of assets. If the market value of assets was used rather than the

actuarial value of assets, the funded ratio on the valuation date would be 80.98% and the statutory contribution rates are not sufficient to amortize the unfunded actuarial liability within a 30-year amortization period. Using the actuarial value of assets in the valuation, the funded ratio at June 30, 2016 is 84.06% and the amortization period does not amortize.

At June 30, 2016, the market value of assets for **MPORS** was \$13.4 million less than the actuarial value of assets. If the market value of assets was used rather than the actuarial value of assets, the funded ratio on the valuation date would be 66.22% and the amortization period for the unfunded actuarial liability would be 20 years. Using the actuarial value of assets in the valuation, the funded ratio at June 30, 2016 is 68.79% and the amortization period is 18 years.

At June 30, 2016, the market value of assets for **FURS** was \$13.6 million less than the actuarial value of assets. If the market value of assets was used rather than the actuarial value of assets, the funded ratio on the valuation date would be 75.35% and the amortization period for the unfunded actuarial liability would be 10 years. Using the actuarial value of assets in the valuation, the funded ratio at June 30, 2016 is 78.27% and the amortization period for the unfunded actuarial liability is 9 years.

At June 30, 2016, the market value of assets for **VFCA** was \$1.4 million less than the actuarial value of assets. If the market value of assets was used rather than the actuarial value of assets, the funded ratio on the valuation date would be 76.99%. Using the actuarial value of assets in the valuation, the funded ratio at June 30, 2016 is 80.21% and the amortization period for the unfunded actuarial liability is 7 years. The total required contribution is \$1.11 million.

# ACTUARIAL SECTION

## Public Employees' Retirement Board

A Component Unit of the State of Montana

### Schedule of Active Member Valuation Data

System	Valuation Date	Number Members (a)	Nbr ERs (b)	Covered Payroll (c)	Average Annual Pay <sup>1</sup> (c/a)	% Pay Increase
PERS-DBRP	<b>June 30, 2016</b>	<b>28,390</b>	<b>535</b>	<b>\$ 1,185,646,179</b>	<b>\$ 41,763</b>	<b>2.11%</b>
	June 30, 2015	28,237	539	1,154,866,605	40,899	2.25%
	June 30, 2014	28,229	541	1,129,109,402	39,998	2.90%
	June 30, 2013	28,401	540	1,103,999,865	38,872	2.63%
	June 30, 2012	28,548	538	1,081,288,177	37,876	1.32%
	June 30, 2011	28,659	533	1,071,376,488	37,384	-0.54%
	June 30, 2010	28,834	533	1,083,779,866	37,587	4.43%
	June 30, 2009	28,983	529	1,043,214,752	35,994	2.34%
	June 30, 2008	28,293	528	995,112,779	35,172	3.86%
	June 30, 2007	27,977	528	947,424,089	33,864	5.13%
JRS	<b>June 30, 2016</b>	<b>55</b>	<b>1</b>	<b>6,920,367</b>	<b>125,825</b>	<b>6.07%</b>
	June 30, 2015	55	1	6,524,569	118,629	2.67%
	June 30, 2014	55	1	6,354,763	115,541	-0.58%
	June 30, 2013	54	1	6,275,682	116,216	1.34%
	June 30, 2012	54	1	6,192,732	114,680	9.70%
	June 30, 2011	54	1	5,645,110	104,539	-6.25%
	June 30, 2010	51	1	5,686,874	111,507	11.30%
	June 30, 2009	51	1	5,109,726	100,191	0.27%
	June 30, 2008	51	1	5,095,771	99,917	5.27%
	June 30, 2007	51	1	4,840,867	94,919	-0.33%
HPORS <sup>2</sup>	<b>June 30, 2016</b>	<b>222</b>	<b>1</b>	<b>15,275,964</b>	<b>67,000</b>	<b>10.98%</b>
	June 30, 2015	241	1	14,549,378	60,371	-2.29%
	June 30, 2014	229	1	14,149,269	61,787	0.35%
	June 30, 2013	219	1	13,484,125	61,571	-1.43%
	June 30, 2012	218	1	13,617,653	62,466	7.19%
	June 30, 2011	214	1	12,471,575	58,278	2.82%
	June 30, 2010	230	1	13,035,971	56,678	10.13%
	June 30, 2009	222	1	11,424,902	51,464	0.40%
	June 30, 2008	212	1	10,866,291	51,256	6.07%
	June 30, 2007	204	1	9,858,242	48,325	20.84%
SRS	<b>June 30, 2016</b>	<b>1,364</b>	<b>57</b>	<b>70,593,304</b>	<b>51,755</b>	<b>1.61%</b>
	June 30, 2015	1,336	57	68,045,517	50,932	2.93%
	June 30, 2014	1,307	57	64,672,635	49,482	2.72%
	June 30, 2013	1,276	57	61,467,169	48,172	0.33%
	June 30, 2012	1,241	57	59,582,678	48,012	3.53%
	June 30, 2011	1,230	57	57,041,471	46,375	0.16%
	June 30, 2010	1,181	57	54,680,650	46,300	6.63%
	June 30, 2009	1,185	57	51,456,506	43,423	2.03%
	June 30, 2008	1,109	57	47,196,418	42,558	5.00%
	June 30, 2007	1,076	57	43,611,101	40,531	19.08%

<sup>1</sup>Average Annual Pay is based on Covered Payroll. The actuary valuation average annual salary is based on Annual Payroll which is different than Covered Payroll.

<sup>2</sup>The number of members for HPORS and MPORS does not include the DROP members.

The last actuarial valuation was performed as of June 30, 2016.

## ACTUARIAL SECTION

System	Valuation Date	Number Members (a)	Nbr ERs (b)	Covered Payroll (c)	Average Annual Pay (c/a)	% Pay Increase
<b>GWPORS</b>	<b>June 30, 2016</b>	<b>989</b>	<b>7</b>	<b>\$ 47,108,310</b>	<b>\$ 47,632</b>	<b>5.38%</b>
	June 30, 2015	993	7	44,884,739	45,201	3.68%
	June 30, 2014	955	7	41,636,566	43,598	7.25%
	June 30, 2013	971	7	39,471,105	40,650	3.12%
	June 30, 2012	972	7	38,316,733	39,421	-2.13%
	June 30, 2011	951	7	38,306,496	40,280	-1.33%
	June 30, 2010	966	7	39,435,882	40,824	7.66%
	June 30, 2009	950	7	36,023,244	37,919	3.69%
	June 30, 2008	885	7	32,365,266	36,571	4.25%
	June 30, 2007	821	7	28,799,459	35,079	7.63%
<b>MPORS<sup>2</sup></b>	<b>June 30, 2016</b>	<b>702</b>	<b>32</b>	<b>47,233,801</b>	<b>66,247</b>	<b>0.52%</b>
	June 30, 2015	694	32	45,736,127	65,902	3.10%
	June 30, 2014	695	32	44,426,617	63,923	4.26%
	June 30, 2013	698	31	42,795,697	61,312	2.96%
	June 30, 2012	701	31	41,744,760	59,550	5.91%
	June 30, 2011	702	31	39,470,441	56,226	4.99%
	June 30, 2010	695	30	37,220,334	53,554	2.36%
	June 30, 2009	663	29	34,687,120	52,318	4.70%
	June 30, 2008	644	27	32,180,590	49,970	8.24%
	June 30, 2007	640	23	29,546,856	46,167	3.04%
<b>FURS</b>	<b>June 30, 2016</b>	<b>644</b>	<b>26</b>	<b>43,118,925</b>	<b>66,955</b>	<b>0.85%</b>
	June 30, 2015	627	26	41,627,233	66,391	2.52%
	June 30, 2014	616	25	39,891,869	64,760	4.06%
	June 30, 2013	610	25	37,962,748	62,234	1.50%
	June 30, 2012	590	24	36,176,675	61,316	1.87%
	June 30, 2011	579	24	34,852,160	60,194	2.91%
	June 30, 2010	570	23	33,338,599	58,489	8.21%
	June 30, 2009	558	21	30,159,570	54,049	-2.68%
	June 30, 2008	525	19	29,158,206	55,539	9.93%
	June 30, 2007	480	17	24,249,918	50,521	2.95%
<b>VFCA</b>	<b>June 30, 2016</b>	<b>1,895</b>				
	June 30, 2015	1,977				
	June 30, 2014	1,935				
	June 30, 2013	2,101				
	June 30, 2012	2,106				
	June 30, 2011	2,105				
	June 30, 2010	2,315				
	June 30, 2009	2,253				
	June 30, 2008	2,301				
	June 30, 2007	2,207				

Covered payroll is not applicable. Members are unpaid volunteers and do not contribute to the fund.

# ACTUARIAL SECTION

## Public Employees' Retirement Board

A Component Unit of the State of Montana

### Schedule of Active Member Composition

as of June 30, 2016

	PERS-DBRP	JRS	HPORS <sup>1</sup>	SRS	GWPORS	MPORS <sup>1</sup>	FURS	VFCA <sup>2</sup>	PERS-DCRP
Average Age	48.3	58.9	40.2	40.1	40.2	38.4	40.1	45.6	46.1
Average Service	9.3	9.2	10.0	7.2	7.9	8.6	10.8	9.8	6.8
Average Salary	\$ 46,442	\$ 31,796	\$ 66,893	\$ 54,255	\$ 49,850	\$ 65,433	\$ 70,422	N/A	\$ 54,363
<b>Under Age 25</b>									
Number Members	728		4	100	50	27	19	140	34
Average Salary	\$ 31,873		\$ 59,063	\$ 43,430	\$ 39,049	\$ 56,370	\$ 44,993	N/A	\$ 36,916
<b>Ages 25-29</b>									
Number Members	1,714		27	176	104	105	66	155	136
Average Salary	\$ 38,646		\$ 58,678	\$ 45,364	\$ 43,544	\$ 58,166	\$ 56,270	N/A	\$ 41,895
<b>Ages 30-34</b>									
Number Members	2,267		41	195	121	147	128	182	288
Average Salary	\$ 43,009		\$ 63,251	\$ 52,295	\$ 46,453	\$ 62,084	\$ 63,548	N/A	\$ 53,115
<b>Ages 35-39</b>									
Number Members	3,493	3	41	242	185	139	128	185	368
Average Salary	\$ 43,222	\$ 131,422	\$ 66,144	\$ 54,101	\$ 46,993	\$ 62,124	\$ 67,264	N/A	\$ 54,928
<b>Ages 40-44</b>									
Number Members	2,611	3	41	185	134	110	113	194	321
Average Salary	\$ 48,362	\$ 130,486	\$ 69,052	\$ 60,088	\$ 51,965	\$ 70,089	\$ 74,288	N/A	\$ 56,571
<b>Ages 45-49</b>									
Number Members	3,261	2	36	169	126	107	96	248	316
Average Salary	\$ 49,047	\$ 130,766	\$ 73,143	\$ 59,995	\$ 56,147	\$ 75,751	\$ 80,020	N/A	\$ 65,035
<b>Ages 50-54</b>									
Number Members	4,160	6	21	132	126	39	42	243	314
Average Salary	\$ 48,815	\$ 132,486	\$ 70,416	\$ 58,156	\$ 54,831	\$ 68,339	\$ 86,163	N/A	\$ 54,672
<b>Ages 55-59</b>									
Number Members	4,923	15	9	101	85	19	40	232	341
Average Salary	\$ 49,383	\$ 132,265	\$ 70,400	\$ 56,368	\$ 53,053	\$ 71,312	\$ 83,209	N/A	\$ 55,681
<b>Ages 60-64</b>									
Number Members	3,724	10	2	51	41	8	8	139	204
Average Salary	\$ 48,566	\$ 129,798	\$ 73,970	\$ 57,984	\$ 52,973	\$ 74,909	\$ 80,314	N/A	\$ 48,835
<b>Ages 65-69</b>									
Number Members	1,109	12		10	14	1	3	118	69
Average Salary	\$ 45,669	\$ 133,465		\$ 66,210	\$ 52,169	\$ 108,240	\$ 91,004	N/A	\$ 45,698
<b>Age 70 &amp; Over</b>									
Number Members	400	4		3	3		1	59	18
Average Salary	41,643	\$ 130,766		\$ 47,252	\$ 49,187		\$ 99,679	N/A	\$ 28,686

<sup>1</sup>The number of members for HPORS does not include 6 DROP members; MPORS does not include 60 DROP members.

<sup>2</sup>Average Salary is not applicable to VFCA, members are unpaid volunteers.

The last actuarial valuation was performed as of June 30, 2016.

# ACTUARIAL SECTION

## Public Employees' Retirement Board

*A Component Unit of the State of Montana*

### Schedule of Retiree Member Composition

as of June 30, 2016

	PERS-DBRP	JRS	HPORS	SRS	GWPORS	MPORS	FURS	VFCA
Total Count	20,158	62	291	524	220	645	538	1,422
Average Age	72.3	77.1	69.4	65.6	67.4	67.8	69.7	71.0
Average Age at Retirement	60.1	64.0	49.6	54.2	57.3	48.7	51.3	59.8
Average Service at Retirement	20.4	17.7	24.3	19.9	19.0	20.2	24.9	19.0
Average Annual Benefit	\$ 16,819	\$ 52,637	\$ 32,862	\$ 26,432	\$ 21,916	\$ 30,087	\$ 36,037	\$ 1,988

#### Under Age 45

Number Members	40		1	3		3	2	
Average Annual Benefit	\$ 6,587		\$ 33,905	\$ 34,116		\$ 39,041	\$ 39,063	

#### Ages 45-49

Number Members	27		11	16		24	14	
Average Annual Benefit	\$ 12,756		\$ 38,631	\$ 36,198		\$ 36,207	\$ 29,302	

#### Ages 50-54

Number Members	177		30	42	10	71	36	
Average Annual Benefit	\$ 22,639		\$ 38,002	\$ 24,117	\$ 31,929	\$ 26,728	\$ 35,327	

#### Ages 55-59

Number Members	828		25	81	37	81	68	89
Average Annual Benefit	\$ 23,678		\$ 32,655	\$ 27,134	\$ 23,321	\$ 30,558	\$ 37,288	\$ 2,468

#### Ages 60-64

Number Members	3,164	2	20	118	54	106	75	259
Average Annual Benefit	\$ 21,001	\$ 75,801	\$ 34,709	\$ 28,472	\$ 21,936	\$ 30,475	\$ 45,001	\$ 2,114

#### Ages 65-69

Number Members	5,166	17	54	130	54	131	102	350
Average Annual Benefit	\$ 18,853	\$ 51,925	\$ 35,325	\$ 28,221	\$ 15,556	\$ 33,995	\$ 42,836	\$ 1,961

#### Ages 70-74

Number Members	3,847	13	42	57	26	63	62	268
Average Annual Benefit	\$ 16,269	\$ 56,909	\$ 35,771	\$ 25,432	\$ 23,191	\$ 32,122	\$ 40,557	\$ 1,900

#### Ages 75-79

Number Members	2,800	8	45	39	14	48	74	214
Average Annual Benefit	\$ 14,388	\$ 57,465	\$ 32,033	\$ 23,711	\$ 28,006	\$ 26,230	31,692	\$ 1,914

#### Age 80 & Over

Number Members	4,109	22	63	38	25	118	105	242
Average Annual Benefit	\$ 11,707	\$ 46,801	\$ 25,430	\$ 14,611	\$ 24,791	\$ 26,107	\$ 23,697	\$ 1,876

The last actuarial valuation was performed as of June 30, 2016.

# ACTUARIAL SECTION

## Public Employees' Retirement Board

*A Component Unit of the State of Montana*

### Schedule of Beneficiary Member Composition

as of June 30, 2016

	PERS-DBRP	JRS	HPORS	SRS	GWPORS	MPORS	FURS	VFCA
Total Count	452	5	12	24	9	31	19	2
Average Age	63.2	69.6	50.1	63.5	50.1	69.5	72.6	52.5
Average Service at Retirement	18.7	14.1	10.2	14.8	12.5	11.4	16.4	17.0
Average Annual Benefit	\$ 11,258	\$ 28,575	\$ 19,134	\$ 22,256	\$ 9,338	\$ 25,327	\$ 25,138	\$ 1,710

#### Under Age 45

Number Members	62		5	4	3	3	2	
Average Annual Benefit	\$ 7,286		\$ 17,423	\$ 12,563	\$ 11,691	\$ 28,397	\$ 25,769	

#### Ages 45-49

Number Members	22		2	4		1		
Average Annual Benefit	\$ 8,249		\$ 9,154	\$ 19,940		\$ 33,803		

#### Ages 50-54

Number Members	32		1	2	1	2	1	2
Average Annual Benefit	\$ 7,992		\$ 6,863	\$ 31,762	\$ 3,406	\$ 21,063	\$ 30,300	\$ 1,710

#### Ages 55-59

Number Members	46		1	2	1	2	1	
Average Annual Benefit	\$ 11,030		\$ 24,926	\$ 19,595	\$ 15,347	\$ 20,748	\$ 20,371	

#### Ages 60-64

Number Members	58	2		3	2	3	2	
Average Annual Benefit	\$ 11,204	\$ 38,536		\$ 23,204	\$ 6,923	\$ 26,432	\$ 23,412	

#### Ages 65-69

Number Members	77	1	1	2	2	6	2	
Average Annual Benefit	\$ 13,065	\$ 16,293	\$ 12,253	\$ 36,577	\$ 8,185	\$ 29,138	\$ 27,913	

#### Ages 70-74

Number Members	48	1	2	1		3	3	
Average Annual Benefit	\$ 12,701	\$ 16,518	\$ 40,074	\$ 58,713		\$ 23,043	\$ 23,878	

#### Ages 75-79

Number Members	52					3	1	
Average Annual Benefit	\$ 10,580					\$ 27,473	\$ 37,795	

#### Age 80 & Over

Number Members	55	1		6		8	7	
Average Annual Benefit	\$ 15,940	\$ 32,995		\$ 16,656		\$ 22,104	\$ 23,332	

The last actuarial valuation was performed as of June 30, 2016.

# ACTUARIAL SECTION

## Public Employees' Retirement Board

*A Component Unit of the State of Montana*

### Schedule of Disabled Member Composition

as of June 30, 2016

	PERS-DBRP	JRS	HPORS	SRS	GWPORS	MPORS	FURS	VFCA
Total Count	169	1	6	29	3	23	7	1
Average Age	55.0	58.0	45.2	51.7	48.1	44.7	41.5	65.0
Average Age at Disablement	48.3	57.1	37.7	43.5	44.9	39.1	36.7	60.5
Average Service at Retirement	14.9	15.1	9.7	9.9	10.8	9.9	9.9	3.0
Average Annual Benefit	\$ 11,463	\$ 59,938	\$ 27,832	\$ 26,019	\$ 14,959	\$ 29,333	\$ 29,729	\$ 1,050

#### Under Age 45

Number Members	6		1	4		8	4	
Average Annual Benefit	\$ 5,948		\$ 26,226	\$ 30,354		\$ 30,798	\$ 26,061	

#### Ages 45-49

Number Members	9		5	7	3	15	3	
Average Annual Benefit	\$ 8,684		\$ 28,153	\$ 26,530	\$ 14,959	\$ 28,552	\$ 34,621	

#### Ages 50-54

Number Members	59			9				
Average Annual Benefit	\$ 11,516			\$ 26,125				

#### Ages 55-59

Number Members	90	1		8				
Average Annual Benefit	\$ 11,992	\$ 59,938		\$ 23,437				

#### Ages 60-64

Number Members	4			1				
Average Annual Benefit	\$ 14,132			\$ 24,818				

#### Ages 65-69

Number Members								1
Average Annual Benefit								\$ 1,050

#### Ages 70-74

Number Members	1							
Average Annual Benefit	\$ 8,082							

#### Ages 75-79

Number Members								
Average Annual Benefit								

#### Age 80 & Over

Number Members								
Average Annual Benefit								

The last actuarial valuation was performed as of June 30, 2016.



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# ACTUARIAL SECTION

## Public Employees' Retirement Board

A Component Unit of the State of Montana

### Schedule of Retirees and Beneficiaries

#### Added to and Removed from Rolls

Year Ended	Added		Removed		End of Year	Benefits <sup>2</sup>	Average Annual Benefit <sup>3</sup>	% Benefit Increase
	No.	Annual Benefits <sup>1</sup>	No.	Annual Benefits <sup>1</sup>				
<b>PERS-DBRP</b>								
<b>June 30, 2016</b>	<b>1,318</b>	<b>\$ 19,195,422</b>	<b>666</b>	<b>\$ 4,630,708</b>	<b>21,333</b>	<b>\$ 344,103,875</b>	<b>\$ 17,997</b>	<b>6.21%</b>
June 30, 2015	1,255	18,427,160	655	4,854,984	20,681	319,501,818	16,945	4.41%
June 30, 2014	1,226	15,851,006	596	4,376,529	20,081	296,183,076	16,230	4.21%
June 30, 2013	1,261	16,288,261	548	4,058,927	19,451	274,021,249	15,574	18.19%
June 30, 2012	1,220	16,262,411	605	4,117,597	18,738	252,762,398	13,177	-3.29%
June 30, 2011	1,169	15,407,952	558	3,428,851	18,123	231,222,603	13,625	8.35%
June 30, 2010	905	11,510,903	468	2,803,801	17,512	212,186,085	12,575	5.81%
June 30, 2009	953	11,308,027	505	2,147,526	17,075	196,401,589	11,884	5.81%
June 30, 2008	1,009	10,833,593	519	1,912,403	16,627	180,815,238	11,231	5.97%
June 30, 2007	962	9,242,368	479	1,740,623	16,137	166,187,966	10,598	4.19%
<b>JRS</b>								
<b>June 30, 2016</b>	<b>5</b>	<b>319,842</b>	<b>4</b>	<b>71,398</b>	<b>68</b>	<b>3,416,023</b>	<b>54,279</b>	<b>8.33%</b>
June 30, 2015	2	71,326	2	14,415	67	3,040,988	50,105	3.91%
June 30, 2014	3	171,535	1	65,592	67	3,022,512	48,221	2.31%
June 30, 2013	10	251,141	1	19,919	65	2,552,787	47,131	10.29%
June 30, 2012	0	94,034	2	36,651	56	2,344,170	42,733	3.57%
June 30, 2011	5	127,602	2	4,668	58	2,239,603	41,259	5.07%
June 30, 2010	1	129,486	1	4,668	55	2,118,121	39,269	6.06%
June 30, 2009	6	159,326	1	17,466	55	1,971,931	37,027	1.19%
June 30, 2008			1	9,691	50	1,828,680	36,590	5.35%
June 30, 2007	2	29,277	2	28,021	51	1,772,203	34,731	-1.43%
<b>HPORS</b>								
<b>June 30, 2016</b>	<b>13</b>	<b>371,167</b>	<b>11</b>	<b>61,783</b>	<b>329</b>	<b>10,482,414</b>	<b>34,193</b>	<b>4.55%</b>
June 30, 2015	14	366,606	9	57,749	327	9,932,134	32,707	3.31%
June 30, 2014	17	408,119	5	32,946	322	9,344,441	31,658	4.16%
June 30, 2013	12	401,650	7	58,709	310	8,708,925	30,394	15.35%
June 30, 2012	5	197,432	2	18,356	305	8,223,433	26,349	-0.98%
June 30, 2011	12	294,280	5	75,122	302	7,865,745	26,611	7.45%
June 30, 2010	8	264,156	4	102,241	295	7,556,735	24,765	2.95%
June 30, 2009	6	220,859	5	37,537	291	7,127,383	24,057	4.51%
June 30, 2008	9	251,808	3	22,172	290	6,813,578	23,019	4.05%
June 30, 2007	5	234,141	3	8,922	284	6,460,218	22,122	4.38%
<b>SRS</b>								
<b>June 30, 2016</b>	<b>54</b>	<b>1,008,978</b>	<b>11</b>	<b>114,283</b>	<b>620</b>	<b>15,476,437</b>	<b>26,896</b>	<b>3.50%</b>
June 30, 2015	50	791,307	6	60,636	577	14,019,543	25,986	2.12%
June 30, 2014	35	643,063	5	26,764	533	12,732,103	25,446	2.07%
June 30, 2013	38	723,040	4	44,835	503	11,582,729	24,931	15.27%
June 30, 2012	32	599,749	4	20,148	469	10,379,424	21,628	-5.97%
June 30, 2011	30	701,530	4	50,832	441	9,237,286	23,001	9.36%
June 30, 2010	17	379,084	8	82,426	415	8,276,901	21,033	7.93%
June 30, 2009	14	330,201	2	27,745	406	7,858,026	19,487	0.58%
June 30, 2008	16	312,489	6	48,025	394	7,242,828	19,375	6.74%
June 30, 2007	35	439,999	12	87,687	384	6,769,508	18,152	3.93%

<sup>1</sup>These amounts are based on annual benefit totals.

<sup>2</sup>Includes death benefit payments for active members.

<sup>3</sup>Based on June monthly benefit totals.

<sup>4</sup>For MPORS, End of Year does not include DROP.

The last actuarial valuation was performed as of June 30, 2016.

## ACTUARIAL SECTION

Year Ended	Added		Removed		End of Year <sup>4</sup>	Benefits <sup>2</sup>	Average Annual Benefit <sup>3</sup>	% Benefit Increase
	No.	Annual Benefits <sup>1</sup>	No.	Annual Benefits <sup>1</sup>				
<b>GWPORS</b>								
<b>June 30, 2016</b>	<b>23</b>	<b>\$ 338,386</b>	<b>4</b>	<b>\$ 22,118</b>	<b>250</b>	<b>\$ 5,068,318</b>	<b>\$ 22,832</b>	<b>-2.02%</b>
June 30, 2015	35	419,935	7	53,794	231	4,550,326	23,302	4.66%
June 30, 2014	26	283,359	3	21,306	203	3,979,269	22,265	1.49%
June 30, 2013	22	233,226	5	90,813	180	3,575,042	21,938	17.62%
June 30, 2012	19	235,722	1	22,860	163	3,202,597	18,652	-11.04%
June 30, 2011	12	146,846	3	16,761	145	2,863,434	20,967	4.61%
June 30, 2010	10	112,042	1	10,583	136	2,621,834	20,044	1.24%
June 30, 2009	9	157,614	2	13,612	127	2,520,735	19,799	2.52%
June 30, 2008	10	128,947	1	7,618	120	2,270,902	19,312	0.34%
June 30, 2007	6	140,228	1	7,224	111	2,085,050	19,247	5.77%
<b>MPORS</b>								
<b>June 30, 2016</b>	<b>39</b>	<b>834,722</b>	<b>15</b>	<b>80,036</b>	<b>768</b>	<b>21,960,690</b>	<b>30,357</b>	<b>3.10%</b>
June 30, 2015	43	877,021	15	125,552	744	20,560,131	29,443	2.08%
June 30, 2014	19	462,040	13	109,127	716	19,449,550	28,842	4.50%
June 30, 2013	40	883,350	13	153,027	710	18,462,730	27,601	8.10%
June 30, 2012	17	515,137	10	98,603	683	17,354,933	25,533	-1.02%
June 30, 2011	22	539,164	16	145,734	676	17,013,369	25,797	6.34%
June 30, 2010	34	559,746	10	77,537	670	15,727,576	24,260	2.81%
June 30, 2009	17	456,299	7	44,723	646	15,008,432	23,597	3.90%
June 30, 2008	51	727,211	7	56,531	636	13,706,635	22,711	2.41%
June 30, 2007	24	449,961	12	118,666	592	12,691,520	22,177	4.74%
<b>FURS</b>								
<b>June 30, 2016</b>	<b>26</b>	<b>761,390</b>	<b>14</b>	<b>95,141</b>	<b>621</b>	<b>20,896,200</b>	<b>36,047</b>	<b>1.38%</b>
June 30, 2015	27	621,742	13	95,699	609	19,745,267	35,558	6.60%
June 30, 2014	26	705,387	18	101,960	595	18,871,929	33,356	3.87%
June 30, 2013	25	620,602	9	55,278	587	17,670,032	32,112	12.43%
June 30, 2012	21	696,096	2	9,065	571	16,519,146	28,563	-3.33%
June 30, 2011	19	624,623	13	172,927	552	15,605,138	29,546	8.17%
June 30, 2010	17	501,398	13	111,575	546	14,597,875	27,314	4.17%
June 30, 2009	16	510,583	9	97,630	542	13,986,547	26,221	4.77%
June 30, 2008	24	664,186	8	64,052	535	13,353,419	25,026	5.88%
June 30, 2007	20	602,497	10	72,609	519	11,850,904	23,636	6.31%
<b>VFCA</b>								
<b>June 30, 2016</b>	<b>92</b>	<b>268,898</b>	<b>38</b>	<b>41,145</b>	<b>1,425</b>	<b>2,623,011</b>	<b>2,002</b>	<b>13.55%</b>
June 30, 2015	78	83,963	39	38,318	1,371	2,368,553	1,763	0.69%
June 30, 2014	77	81,473	30	26,715	1,332	2,280,876	1,751	0.16%
June 30, 2013	75	129,518	32	24,135	1,285	2,819,162	1,748	11.10%
June 30, 2012	87	104,535	28	19,440	1,242	2,046,233	1,574	-4.75%
June 30, 2011	76	84,810	42	32,985	1,183	1,938,060	1,652	1.52%
June 30, 2010	82	89,933	36	33,825	1,149	1,856,833	1,627	0.38%
June 30, 2009	61	67,748	40	29,115	1,103	1,779,708	1,621	0.82%
June 30, 2008	74	75,645	30	26,220	1,082	1,716,773	1,608	1.30%
June 30, 2007	74	80,123	37	22,028	1,038	1,636,980	1,587	0.57%

# ACTUARIAL SECTION

## Public Employees' Retirement Board

A Component Unit of the State of Montana

### Solvency Test

(in thousands)

System	Valuation Date	Aggregate Accrued Liabilities for				Actuarial Value of Assets	Portion of Accrued Liabilities Covered by Reported Asset		
		1	2	3	1		2	3	
		Active Member Accounts <sup>1</sup>	Retirees and Beneficiaries	Active Members (ER Financed Portion)					
PERS-DBRP	06/30/16	\$ 842,772	\$ 3,955,400	\$ 1,989,751	\$ 5,247,685	100%	100%	23%	
	06/30/15	841,907	3,687,451	1,940,945	4,926,516	100	100	20	
	06/30/14	838,145	3,436,212	1,903,147	4,595,805	100	100	17	
	06/30/13	828,657	2,790,430	1,541,864	4,139,921	100	100	34	
	06/30/12	837,663	2,958,076	1,865,543	3,816,920	100	100	1	
	06/30/11	840,762	2,728,687	1,840,696	3,800,479	100	100	13	
	06/30/10	848,756	2,481,534	1,911,529	3,889,890	100	100	29	
	06/30/09	828,390	2,272,582	1,691,847	4,002,212	100	100	53	
	06/30/08	783,801	2,232,148	1,488,794	4,065,307	100	100	70	
	06/30/07	749,000	2,051,107	1,401,143	3,825,234	100	100	73	
JRS	06/30/16	\$ 4,494	\$ 35,673	\$ 14,587	\$ 91,152	100	100	350	
	06/30/15	4,667	33,210	14,024	84,934	100	100	336	
	06/30/14	4,623	32,776	13,201	78,463	100	100	311	
	06/30/13	4,733	31,709	12,795	70,323	100	100	265	
	06/30/12	5,575	24,631	15,985	63,195	100	100	206	
	06/30/11	5,115	24,692	13,607	61,274	100	100	231	
	06/30/10	5,207	22,279	15,027	61,277	100	100	225	
	06/30/09	4,790	21,625	15,433	61,929	100	100	230	
	06/30/08	4,431	20,682	14,323	62,040	100	100	258	
	06/30/07	3,863	20,446	12,554	57,778	100	100	267	
HPORS	06/30/16	\$ 12,535	\$ 146,267	\$ 44,524	\$ 133,869	100	83	0	
	06/30/15	12,102	133,628	47,252	125,676	100	85	0	
	06/30/14	11,507	126,478	45,416	117,226	100	84	0	
	06/30/13	11,339	117,914	46,341	105,736	100	80	0	
	06/30/12	11,455	110,876	45,493	96,655	100	77	0	
	06/30/11	10,795	107,035	37,911	95,274	100	79	0	
	06/30/10	10,369	102,450	38,359	97,204	100	85	0	
	06/30/09	9,571	97,087	31,157	99,652	100	93	0	
	06/30/08	8,796	96,395	29,492	101,500	100	96	0	
	06/30/07	8,049	93,187	27,070	95,758	100	94	0	
SRS	06/30/16	\$ 47,826	\$ 213,000	\$ 112,321	\$ 310,510	100	100	44	
	06/30/15	46,500	193,359	109,054	288,269	100	100	44	
	06/30/14	45,595	176,538	103,944	264,945	100	100	41	
	06/30/13	43,007	164,339	96,838	235,310	100	100	29	
	06/30/12	41,694	149,254	93,612	211,535	100	100	22	
	06/30/11	40,737	135,189	90,579	203,689	100	100	31	
	06/30/10	39,841	117,422	89,470	200,739	100	100	49	
	06/30/09	36,225	106,352	81,316	200,690	100	100	71	
	06/30/08	31,220	102,967	70,362	199,453	100	100	93	
	06/30/07	27,651	97,660	63,725	183,894	100	100	92	

<sup>1</sup> Active Member Accounts include regular and additional contributions with interest, and excludes all accounts of inactive members.

The last actuarial valuation was performed as of June 30, 2016.

# ACTUARIAL SECTION

System	Aggregate Accrued Liabilities for							
	Valuation Date	1	2	3	Actuarial Value of Assets	Portion of Accrued Liabilities Covered by Reported Asset		
		Active Member Accounts	Retirees and Beneficiaries	Active Members (ER Financed Portion)		1	2	3
<b>GWPPORS</b>	<b>06/30/16</b>	<b>\$ 36,111</b>	<b>\$ 65,912</b>	<b>\$ 88,984</b>	<b>\$ 160,555</b>	<b>100%</b>	<b>100%</b>	<b>66%</b>
	06/30/15	34,396	58,648	79,116	145,314	100	100	66
	06/30/14	32,779	50,062	71,753	129,429	100	100	65
	06/30/13	31,918	43,498	64,569	112,100	100	100	57
	06/30/12	29,975	39,856	59,095	97,691	100	100	47
	06/30/11	28,468	35,166	56,247	90,437	100	100	48
	06/30/10	26,592	32,383	54,880	85,151	100	100	48
	06/30/09	23,800	29,536	38,820	81,177	100	100	72
	06/30/08	20,574	29,647	33,228	77,511	100	100	82
	06/30/07	17,813	27,070	28,109	68,755	100	100	85
<b>MPORS</b>	<b>06/30/16</b>	<b>\$ 38,543</b>	<b>\$ 308,635</b>	<b>\$ 171,768</b>	<b>\$ 356,985</b>	<b>100</b>	<b>100</b>	<b>6</b>
	06/30/15	37,193	297,235	162,758	328,025	100	98	0
	06/30/14	36,950	276,306	161,052	298,722	100	95	0
	06/30/13	34,778	267,540	147,725	262,678	100	85	0
	06/30/12	34,687	248,260	144,310	234,025	100	80	0
	06/30/11	32,906	239,176	129,298	221,669	100	79	0
	06/30/10	30,986	229,057	120,350	217,545	100	81	0
	06/30/09	28,693	212,169	104,399	214,345	100	88	0
	06/30/08	27,165	207,233	93,158	212,312	100	89	0
	06/30/07	27,256	185,707	97,460	198,310	100	92	0
<b>FURS</b>	<b>06/30/16</b>	<b>\$ 43,046</b>	<b>\$ 292,423</b>	<b>\$ 131,203</b>	<b>\$ 365,259</b>	<b>100</b>	<b>100</b>	<b>23</b>
	06/30/15	41,278	274,505	126,051	333,629	100	100	14
	06/30/14	38,805	260,538	119,670	300,949	100	100	1
	06/30/13	36,441	248,723	111,606	263,483	100	91	0
	06/30/12	34,790	235,553	106,868	233,121	100	84	0
	06/30/11	33,089	219,842	102,257	219,959	100	85	0
	06/30/10	31,422	207,715	96,326	213,755	100	88	0
	06/30/09	28,561	194,949	82,725	209,775	100	93	0
	06/30/08	25,482	187,999	73,737	206,127	100	96	0
	06/30/07	23,896	171,777	73,726	188,545	100	96	0
<b>VFCA</b>	<b>06/30/16</b>		<b>\$ 22,884</b>	<b>\$ 21,126</b>	<b>\$ 35,302</b>	<b>N/A</b>	<b>100</b>	<b>59</b>
	06/30/15		22,161	22,157	33,405	N/A	100	51
	06/30/14		18,888	19,088	31,281	N/A	100	65
	06/30/13		18,612	19,218	28,294	N/A	100	50
	06/30/12		17,465	18,681	26,531	N/A	100	49
	06/30/11		16,483	18,712	26,183	N/A	100	52
	06/30/10		15,846	18,665	26,575	N/A	100	57
	06/30/09		14,498	19,050	27,239	N/A	100	67
	06/30/08		20,129	12,606	27,544	N/A	100	59
	06/30/07		19,579	12,019	25,862	N/A	100	52

Active member accounts are not applicable. Members are unpaid volunteers.

## ACTUARIAL SECTION

### Public Employees' Retirement Board

*A Component Unit of the State of Montana*

#### Solvency Test

(in thousands)<sup>1</sup>

System	Valuation Date <sup>2</sup>	Aggregate Accrued Liabilities for			Actuarial Value of Assets	Portion of Accrued Liabilities Covered by Reported Asset		
		1	2	3		1	2	3
		Active Member Accounts	Disabled Members	Active Members (ER Financed Portion)				
PERS-DCRP	06/30/2016	N/A	\$ 401	\$ 3,190	\$ 3,118	100%	100%	85%
DISABILITY OPEB	06/30/2015	N/A	405	2,830	2,781	100	100	84
	06/30/2013	N/A	294	2,421	2,184	100	100	78

<sup>1</sup>This schedule is intended to show information for 10 years. Additional years will be displayed as they become available.

<sup>2</sup>The actuarial valuation for the PERS-DCRP Disability OPEB is performed on an annual basis. There were two years between the first two valuations due to the timing of the first valuation. The most recent actuarial valuation is as of June 30, 2016, with the next valuation to be performed for fiscal year ending June 30, 2017.

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# ACTUARIAL SECTION

## Public Employees' Retirement Board

A Component Unit of the State of Montana

### Schedule of Funding Progress

(in thousands)

System	Actuarial Valuation Date	Actuarial Value of Assets <sup>1</sup> (a)	Actuarial Accrued Liability (AAL) -Entry Age (b)	Unfunded AAL (UAAL) (b-a)	Funded Ratio % (a/b)	Covered Payroll (c)	UAAL as a Percentage of Covered Payroll ((b-a)/c)
PERS-DBRP	<b>06/30/16</b>	<b>\$ 5,247,685</b>	<b>\$ 6,787,923</b>	<b>\$ 1,540,238</b>	<b>77.31%</b>	<b>\$1,185,646</b>	<b>129.91%</b>
	06/30/15	4,926,516	6,470,303	1,543,787	76.14	1,154,867	133.68
	06/30/14	4,595,805	6,177,505	1,581,700	74.40	1,129,109	140.08
	06/30/13	4,139,921	5,160,951	1,021,030	80.22	1,104,000	92.48
	06/30/12	3,816,920	5,661,281	1,844,361	67.42	1,081,288	170.57
	06/30/11	3,800,479	5,410,144	1,609,665	70.25	1,071,376	150.24
	06/30/10	3,889,890	5,241,819	1,351,929	74.21	1,083,780	124.74
	06/30/09	4,002,212	4,792,819	790,607	83.50	1,043,215	75.79
	06/30/08	4,065,307	4,504,743	439,436	90.25	995,113	44.16
06/30/07	3,825,234	4,201,251	376,017	91.05	947,424	39.69	
JRS	<b>06/30/16</b>	<b>91,152</b>	<b>54,754</b>	<b>(36,398)</b>	<b>166.48</b>	<b>6,920</b>	<b>(525.99)</b>
	06/30/15	84,934	51,901	(33,033)	163.65	6,525	(506.26)
	06/30/14	78,463	50,600	(27,863)	155.07	6,355	(438.47)
	06/30/13	70,323	49,236	(21,087)	142.82	6,276	(336.00)
	06/30/12	63,195	46,190	(17,005)	136.81	6,193	(274.60)
	06/30/11	61,274	43,414	(17,860)	141.13	5,645	(316.38)
	06/30/10	61,277	42,513	(18,765)	144.13	5,687	(329.95)
	06/30/09	61,929	41,848	(20,081)	147.98	5,110	(392.99)
	06/30/08	62,040	39,435	(22,605)	157.32	5,096	(443.58)
06/30/07	57,778	36,863	(20,915)	156.74	4,841	(432.04)	
HPORS	<b>06/30/16</b>	<b>133,869</b>	<b>203,326</b>	<b>69,457</b>	<b>65.84</b>	<b>15,276</b>	<b>454.68</b>
	06/30/15	125,676	192,983	67,307	65.12	14,549	462.62
	06/30/14	117,226	183,400	66,174	63.92	14,149	467.69
	06/30/13	105,736	175,594	69,858	60.22	13,484	518.08
	06/30/12	96,655	167,824	71,169	57.59	13,618	522.62
	06/30/11	95,274	155,742	60,468	61.17	12,472	484.83
	06/30/10	97,204	151,177	53,973	64.30	13,036	414.03
	06/30/09	99,652	137,815	38,163	72.31	11,425	334.03
	06/30/08	101,500	134,683	33,183	75.36	10,866	305.38
06/30/07	95,758	128,306	32,548	74.63	9,858	330.17	
SRS	<b>06/30/16</b>	<b>310,510</b>	<b>373,146</b>	<b>62,636</b>	<b>83.21</b>	<b>70,593</b>	<b>88.73</b>
	06/30/15	288,269	348,912	60,643	82.62	68,046	89.12
	06/30/14	264,945	326,077	61,132	81.25	64,673	94.53
	06/30/13	235,310	304,185	68,875	77.36	61,467	112.05
	06/30/12	211,535	284,559	73,024	74.34	59,583	122.56
	06/30/11	203,689	266,506	62,817	76.43	57,041	110.12
	06/30/10	200,739	246,734	45,995	81.36	54,681	84.11
	06/30/09	200,690	223,893	23,203	89.64	51,457	45.09
	06/30/08	199,453	204,549	5,096	97.51	47,196	10.80
06/30/07	183,894	189,036	5,142	97.28	43,611	11.79	

Analysis of the dollar amounts of plan net assets, actuarial accrued liability, and unfunded actuarial accrued liability in isolation can be misleading. Expressing plan net assets as a percentage of the actuarial accrued liability provides one indication of the plan's funding status on a going-concern basis. Analysis of this percentage over time indicates whether the plan is becoming financially stronger or weaker. Generally, the greater this percentage, the stronger the plan.

<sup>1</sup>Refer to the "Notes to the Required Supplementary Information" for the Actuarial Asset Valuation Method (Page 114).

## ACTUARIAL SECTION

System	Actuarial Valuation Date	Actuarial Value of Assets 1 (a)	Actuarial Accrued Liability (AAL) -Entry Age (b)	Unfunded AAL (UAAL) (b-a)	Funded Ratio % (a/b)	Covered Payroll (c)	UAAL as a Percentage of Covered Payroll ((b-a)/c)
<b>GWPORS</b>	<b>06/30/16</b>	<b>\$ 160,555</b>	<b>\$ 191,007</b>	<b>\$ 30,452</b>	<b>84.06%</b>	<b>\$ 47,108</b>	<b>64.64%</b>
	06/30/15	145,314	172,160	26,846	84.41	44,885	59.81
	06/30/14	129,429	154,595	25,166	83.72	41,637	60.44
	06/30/13	112,100	139,985	27,885	80.08	39,471	70.65
	06/30/12	97,691	128,927	31,236	75.77	38,317	81.52
	06/30/11	90,437	119,881	29,444	75.44	38,306	76.87
	06/30/10	85,151	113,855	28,704	74.79	39,436	72.79
	06/30/09	81,177	92,155	10,978	88.09	36,023	30.48
	06/30/08	77,511	83,449	5,938	92.88	32,365	18.35
	06/30/07	68,755	72,992	4,237	94.20	28,799	14.71
<b>MPORS</b>	<b>06/30/16</b>	<b>356,985</b>	<b>518,946</b>	<b>161,961</b>	<b>68.79</b>	<b>47,234</b>	<b>342.90</b>
	06/30/15	328,025	497,186	169,161	65.98	45,736	369.87
	06/30/14	298,722	474,308	175,586	62.98	44,427	395.23
	06/30/13	262,678	450,043	187,365	58.37	42,796	437.81
	06/30/12	234,025	427,257	193,232	54.77	41,745	462.89
	06/30/11	221,669	401,381	179,712	55.23	39,470	455.30
	06/30/10	217,545	380,393	162,848	57.19	37,220	437.52
	06/30/09	214,345	345,261	130,916	62.08	34,687	377.42
	06/30/08	212,312	327,556	115,244	64.82	32,181	358.11
	06/30/07	198,310	310,423	112,113	63.88	29,547	379.44
<b>FURS</b>	<b>06/30/16</b>	<b>365,259</b>	<b>466,671</b>	<b>101,412</b>	<b>78.27</b>	<b>43,119</b>	<b>235.19</b>
	06/30/15	333,629	441,834	108,205	75.51	41,627	259.94
	06/30/14	300,949	419,013	118,064	71.82	39,892	295.96
	06/30/13	263,483	396,769	133,286	66.41	37,963	351.10
	06/30/12	233,121	377,211	144,090	61.80	36,177	398.30
	06/30/11	219,959	355,188	135,229	61.93	34,852	388.01
	06/30/10	213,755	335,463	121,708	63.72	33,339	365.06
	06/30/09	209,775	306,236	96,460	68.50	30,160	319.83
	06/30/08	206,127	287,218	81,091	71.77	29,158	278.11
	06/30/07	188,545	269,399	80,854	69.99	24,250	333.42
<b>VFCA</b>	<b>06/30/16</b>	<b>35,302</b>	<b>44,010</b>	<b>8,708</b>	<b>80.21</b>	<b>N/A</b>	<b>N/A</b>
	06/30/15	33,405	44,318	10,913	75.38	N/A	N/A
	06/30/14	31,281	37,975	6,694	82.37	N/A	N/A
	06/30/13	28,294	37,830	9,536	74.79	N/A	N/A
	06/30/12	26,531	36,146	9,615	73.40	N/A	N/A
	06/30/11	26,183	35,195	9,012	74.39	N/A	N/A
	06/30/10	26,576	34,512	7,936	77.01	N/A	N/A
	06/30/09	27,226	33,548	6,322	81.16	N/A	N/A
	06/30/08	27,544	32,735	5,191	84.14	N/A	N/A
	06/30/07	25,862	31,599	5,737	81.84	N/A	N/A

Covered payroll is not applicable to VFCA because members are unpaid volunteers.

Trends in the unfunded actuarial accrued liability and annual covered payroll are both affected by inflation. Expressing the unfunded actuarial accrued liability as a percentage of annual covered payroll approximately adjusts for the effects of inflation and aids analysis of the plan's progress made in accumulating sufficient assets to pay benefits when due. Generally, the smaller this percentage, the stronger the plan.

# ACTUARIAL SECTION

## Public Employees' Retirement Board

*A Component Unit of the State of Montana*

### Summary of Actuarial (Gain)/Loss by Source

(in thousands)

	<u>PERS DBRP</u>	<u>JRS</u>	<u>HPORS</u>	<u>SRS</u>
Investment (Gain) or Loss	\$ (73,748.8)	\$ (754.1)	\$ (1,254.9)	\$ (2,603.4)
Liability (Gain) or Losses:				
Salary (Gain) or Loss	43,091.1	462.4	837.6	(2,505.3)
Retirement (Gain) or Loss	2,730.4	834.5	1,016.5	1,917.9
Disability (Gain) or Loss	834.0	402.6	18.0	1,200.5
Death In-Service (Gain) or Loss	(633.4)	(44.9)	(32.1)	213.1
Withdrawal (Gain) or Loss	4,953.4	(1.5)	(380.7)	1,423.4
Death after Retirement (Gain) or Loss	(3,963.9)	(94.6)	443.7	(385.6)
New Participant / Data Adjustment (Gain) or Loss	21,259.2	14.0	178.4	1,066.0
Other (Gain) or Loss	(11,100.8)	(569.1)	697.5	(1,038.5)
Total Actuarial (Gain) or Loss	\$ (16,578.8)	\$ 249.3	\$ 1,524.0	\$ (711.9)
Plan Changes				
Total (Gain) or Loss				
Including Assumptions	\$ (16,578.8)	\$ 249.3	\$ 1,524.0	\$ (711.9)
	<u>GWPORS</u>	<u>MPORS</u>	<u>FURS</u>	<u>VFCA</u>
Investment (Gain) or Loss	\$ (985.1)	\$ (2,022.3)	\$ (1,947.2)	\$ (180.0)
Liability (Gain) or Losses:				
Salary (Gain) or Loss	1,076.8	(546.5)	(433.8)	179.5
Retirement (Gain) or Loss	126.9	3,495.5	1,471.9	
Disability (Gain) or Loss	224.6	1,280.7	80.5	
Death In-Service (Gain) or Loss	(20.0)	282.6	90.0	16.7
Withdrawal (Gain) or Loss	1,189.3	475.3	456.8	(263.1)
Death after Retirement (Gain) or Loss	(266.4)	(485.0)	84.5	(383.4)
New Participant / Data Adjustment (Gain) or Loss	1,241.5	1,614.9	(229.4)	466.4
Other (Gain) or Loss	209.7	(10,496.1)	(421.5)	(1,005.0)
Total Actuarial (Gain) or Loss	\$ 2,797.3	\$ (6,400.9)	\$ (848.2)	\$ (1,168.9)
Plan Changes				
Total (Gain) or Loss				
Including Assumptions	\$ 2,797.3	\$ (6,400.9)	\$ (848.2)	\$ (1,168.9)

The last actuarial valuation was performed as of June 30, 2016.

**Public Employees' Retirement Board**

*A Component Unit of the State of Montana*

**Summary of Actuarial (Gain)/Loss by Source**

(in thousands)

	<u>PERS-DCRP Disability OPEB</u>
Investment (Gain) or Loss	\$ 91.9
Liability (Gain) or Losses:	
Salary (Gain) or Loss	57.2
Retirement (Gain) or Loss	(0.4)
Disability (Gain) or Loss	(120.5)
Death In-Service (Gain) or Loss	4.0
Withdrawal (Gain) or Loss	(0.4)
Death after Retirement (Gain) or Loss	(70.9)
New Participant /Data Adjustment (Gain) or Loss	82.7
Other (Gain) or Loss	<u>(19.0)</u>
Total Actuarial (Gain) or Loss	\$ 24.6
Plan Changes	
Total (Gain) or Loss	
Including Assumptions	<u>\$ 24.6</u>

The last actuarial valuation was performed as of June 30, 2016.

## ACTUARIAL SECTION

### Public Employees' Retirement Board

*A Component Unit of the State of Montana*

#### Summary of Defined Benefit Retirement Plans' Provisions as of June 30, 2016

Provisions and terms common to all PERB's defined benefit retirement plans, except for the Volunteer Firefighters' Compensation Act (VFCA).

Service credit	<ul style="list-style-type: none"><li>• Service credit is used to determine the amount of a member's retirement benefit.</li><li>• One month of service credit is earned for each month where the member is paid for 160 hours. This includes certain transferred and purchased service.</li></ul>
Membership service	<ul style="list-style-type: none"><li>• Membership service is used to determine eligibility for vesting, retirement or other benefits.</li><li>• One month of membership service is earned for any month member contributions are made, regardless of the number of hours worked.</li><li>• Eligible members in all systems may purchase service that counts toward membership service.</li><li>• Additionally, eligible active and inactive Sheriffs' Retirement System (SRS) members may purchase 1 for 5 (additional) service that will count as membership service.</li></ul>
Contributions	<ul style="list-style-type: none"><li>• Member contributions are made through an "employer pick-up" arrangement which results in deferral of taxes on the contributions.</li></ul>
Compensation	<ul style="list-style-type: none"><li>• Compensation generally means all remuneration paid, excluding certain allowances, benefits, and lump sum payments. Compensation is specifically defined in law and differs amongst the systems.</li><li>• Bonuses paid on or after July 1, 2013 to any member will not be treated as compensation for retirement purposes. No member or employer contributions will be paid on bonuses.</li></ul>
Withdrawal of employee contributions	<ul style="list-style-type: none"><li>• A member is eligible for a withdrawal of their contributions when they terminate service and are either not eligible for or have not taken a retirement benefit.</li><li>• The member receives the accumulated member contributions, which consists of member contributions and regular interest.</li><li>• Upon receipt of a refund of accumulated contributions a member's vested right to a monthly benefit is forfeited.</li></ul>
Member contributions interest credited (regular interest)	<ul style="list-style-type: none"><li>• Interest is credited to member accounts at the rates determined by the Board.</li><li>• The current interest rate credited to member accounts is 0.25%.</li></ul>

**Provisions and terms common to all Plans (continued)**

<p>Vesting eligibility and benefit</p>	<p><b>All plans:</b></p> <ul style="list-style-type: none"> <li>• 5 years of membership service (except HPORS new hires as of July 1, 2013).</li> <li>• Accrued normal retirement benefit, payable when eligible for retirement.</li> <li>• In lieu of a pension, a member may receive a refund of accumulated contributions.</li> <li>• Upon receipt of a refund of contributions, a member's vested right to a monthly benefit is forfeited.</li> </ul> <p><b>Highway Patrol Officers' Retirement System (HPORS):</b></p> <p><b>Hired prior to July 1, 2013:</b> 5 years of membership service</p> <p><b>Hired on or after July 1, 2013:</b> 10 years of membership service</p>
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## ACTUARIAL SECTION

### *Public Employees' Retirement System-DBRP*

Type of Plan	<ul style="list-style-type: none"> <li>• Multiple-employer cost sharing</li> </ul>
Membership eligibility	<ul style="list-style-type: none"> <li>• Employees of the State and local governments that have contracted for PERS coverage.</li> <li>• Certain employees of the university system and school districts, not covered by a separate retirement system governed by Title 19 of Montana Code Annotated.</li> </ul>
Member contributions	<ul style="list-style-type: none"> <li>• 7.9% of member's compensation.</li> <li>• Temporary 1% increase for all members effective July 1, 2011.</li> <li>• Reduced to 6.9% when amortization period drops below 25 years and remains below 25 years following the termination of the temporary 1% increase and the additional employer contribution rate.</li> </ul>
Employer contributions	<ul style="list-style-type: none"> <li>• 8.37% of each member's compensation for state and university. Reduced when amortization period drops below 25 years and remains below 25 years following the termination of the additional employer contribution rate and the member's temporary 1% increase.</li> <li>• 8.27% of each member's compensation for local governments</li> <li>• 8.0% of each member's compensation for school districts</li> <li>• Contribution going into the PERS Defined Benefit Plan is reduced by 0.04% of compensation paid into the Educational Fund.</li> <li>• Employers who hire PERS retirees who work less than 960 hours in the calendar year, but do not become active members, contribute the employer's contribution rate on the working retiree's compensation.</li> </ul>
State contributions	<ul style="list-style-type: none"> <li>• 0.1% of compensation from the State for local governments</li> <li>• 0.37% of compensation from State for School Districts</li> <li>• Contributions are also made to the system from the Coal Tax fund.</li> </ul>
Compensation period used in benefit calculation	<ul style="list-style-type: none"> <li>• HAC = Highest Average Compensation</li> <li>• <b>Hired prior to July 1, 2011:</b> HAC is average of the highest 36 consecutive months (or shorter period of total service) of compensation paid by member.</li> <li>• <b>Hired on or after July 1, 2011:</b> HAC is average of the highest 60 consecutive months (or shorter period of total service) of compensation paid to member.</li> <li>• <b>Hired on or after July 1, 2013:</b> 110% annual cap on compensation considered as part of a member's HAC.</li> </ul>

Service retirement eligibility	<p><b>Members hired prior to July 1, 2011:</b></p> <ul style="list-style-type: none"> <li>• Age 60, 5 years membership service</li> <li>• Age 65, regardless of service</li> <li>• Any age, 30 years of membership service</li> </ul> <p><b>Members hired on or after July 1, 2011:</b></p> <ul style="list-style-type: none"> <li>• Age 65, 5 years of membership service</li> <li>• Age 70, regardless of service</li> </ul>
Service retirement benefit formula	<p><b>Members hired prior to July 1, 2011:</b></p> <ul style="list-style-type: none"> <li>• Less than 25 years of membership service: 1.785% of HAC x years of service credit</li> <li>• 25 years or more of membership service: 2% of HAC x years of service credit</li> <li>• OR, if greater than either of the above: the actuarial equivalent of 2 times the member's regular contributions and interest plus the actuarial equivalent of any additional contributions and interest.</li> </ul> <p><b>Members hired on or after July 1, 2011:</b></p> <ul style="list-style-type: none"> <li>• Less than 10 years of membership service: 1.5% of HAC x years of service credit</li> <li>• Between 10 and 30 years of membership service: 1.785% of HAC x years of service credit</li> <li>• 30 years or more of membership service: 2% of HAC x years of service credit</li> <li>• OR, if greater than any of the above: the actuarial equivalent of 2 times the member's regular contributions and interest plus the actuarial equivalent of any additional contributions and interest.</li> </ul>
Second retirement benefit	<p>Members who retire <b>before January 1, 2016, return to PERS-covered employment, and accumulate less than 2 years of additional service credit receive:</b></p> <ul style="list-style-type: none"> <li>• A refund of the member's contributions plus regular interest;</li> <li>• No service credit for second employment;</li> <li>• The same benefit amount starting the month following termination; and</li> <li>• The member's Guaranteed Annual Benefit Adjustment (GABA) increasing again in January immediately following the member's second retirement.</li> </ul>

## ACTUARIAL SECTION

### ***PERS-DBRP (continued)***

Second retirement benefit continued	<p>Members who retire <b>before January 1, 2016 and return to PERS-covered employment for at least 2 years of additional service credit receive:</b></p> <ul style="list-style-type: none"> <li>• A re-calculated retirement benefit based on provisions in effect after member's initial retirement; and</li> <li>• GABA on member's re-calculated benefit starting in January after receiving the re-calculated benefit for 12 months.</li> </ul> <p>Members who retire <b>on or after January 1, 2016, return to PERS service, and accumulate less than 5 years of additional service credit receive:</b></p> <ul style="list-style-type: none"> <li>• A refund of a member's contributions plus regular interest;</li> <li>• No service credit for second employment;</li> <li>• The same benefit amount starting the month following termination; and</li> <li>• The member's GABA increasing again in January immediately following the member's second retirement.</li> </ul> <p>Members who retire <b>on or after January 1, 2016, return to PERS service, and accumulate 5 or more years of additional service credit receive:</b></p> <ul style="list-style-type: none"> <li>• The same retirement benefit paid immediately prior to member's return to service;</li> <li>• A second retirement benefit for member's second period of service based on laws in effect upon the member's rehire date; and</li> <li>• The member's GABA on both benefits starting in January after receiving the original and new benefit for 12 months.</li> </ul>
Early retirement eligibility	<p><b>Members hired prior to July 1, 2011:</b></p> <ul style="list-style-type: none"> <li>• Age 50 with 5 years of membership service; or</li> <li>• Any age under age 60 with 25 years of membership service</li> </ul> <p><b>Members hired on or after July 1, 2011:</b></p> <ul style="list-style-type: none"> <li>• Age 55 with 5 years of membership service.</li> </ul>
Early retirement benefit formula	<p><b>Members hired prior to July 1, 2011 and</b></p> <ul style="list-style-type: none"> <li>• who retire prior to October 1, 2011</li> </ul> <p>The actuarial equivalent of the accrued portion of the service retirement benefit that would have been payable to the member commencing at age 60 or upon completion of 30 years of membership service. The service retirement benefit is reduced by a factor resulting from multiplying 0.5% (for first five years from service retirement eligibility) and 0.3% (for six to 10 years from service retirement</p>

<p>Early retirement benefit formula continued</p>	<p>eligibility) by the number of months by which the retirement date precedes the date at which the member would have attained age 60 or completed 30 years of membership service.</p> <ul style="list-style-type: none"> <li>• who retire on or after October 1, 2011</li> </ul> <p>The actuarial equivalent of the accrued portion of the service retirement benefit that would have been payable to the member commencing at age 60 or upon completion of 30 years of membership service. The service retirement benefit must be reduced using actuarially equivalent factors based on the most recent valuation.</p> <p><b>Members hired on or after July 1, 2011:</b></p> <ul style="list-style-type: none"> <li>• The actuarial equivalent of the accrued portion of the service retirement benefit that would have been payable to the member commencing at age 65. The service retirement benefit must be reduced using actuarially equivalent factors based on the most recent valuation.</li> </ul>
<p>Disability eligibility and benefit formula</p>	<ul style="list-style-type: none"> <li>• <b>5 years of membership service.</b></li> </ul> <p><b>If hired on or before February 24, 1991 and did not make a contrary election, the greater of:</b></p> <ul style="list-style-type: none"> <li>• (90% of 1.785% of HAC) x service credit, or</li> <li>• 25% of HAC</li> </ul> <p><b>If hired after February 24, 1991 and prior to July 1, 2011, or hired on or before February 24, 1991 and so elected:</b></p> <ul style="list-style-type: none"> <li>• Less than 25 years of membership service: 1.785% of HAC x service credit, or</li> <li>• At least 25 years of membership service: 2% of HAC x service credit</li> </ul> <p><b>If hired on or after July 1, 2011:</b></p> <ul style="list-style-type: none"> <li>• Less than 10 years of membership: 1.5% of HAC x years of service credit</li> <li>• Between 10 and 30 years of membership service: 1.785% of HAC x years of service credit</li> <li>• 30 years or more of membership service: 2% of HAC x years of service credit</li> </ul>
<p>Survivor's benefit eligibility</p>	<p>Member's status at time of death:</p> <ul style="list-style-type: none"> <li>• active;</li> <li>• receiving disability benefit for less than six months;</li> <li>• continuously disabled without receiving a disability benefit; or</li> <li>• inactive</li> </ul>

## ACTUARIAL SECTION

### *PERS-DBRP (continued)*

<p>Death payment benefit formula</p>	<ul style="list-style-type: none"> <li>• Accumulated contributions + (monthly compensation x lesser of years of service credit or 6) + interest until benefit paid.</li> <li>• However, a survivor of an inactive member who was inactive for more than 6 months will receive only accumulated contributions and interest from the date of death until payment.</li> <li>• A survivor may elect to receive the payment as a non-increasing annuity that is the actuarial equivalent of the death payment amount.</li> </ul>
<p>Survivor benefit formula</p>	<p><b>Members hired prior to July 1, 2011:</b></p> <ul style="list-style-type: none"> <li>• The survivorship benefit payable to a vested member's survivor is:             <ul style="list-style-type: none"> <li>○ the actuarial equivalent of the member's accrued retirement benefit at the time of death; or,</li> </ul> </li> <li>• If the member dies prior to age 50 or 25 years of membership service:             <ul style="list-style-type: none"> <li>○ the actuarial equivalent of the accrued portion of the early retirement benefit that would have been paid to the member at age 50.</li> </ul> </li> </ul> <p><b>Members hired on or after July 1, 2011:</b></p> <ul style="list-style-type: none"> <li>• The survivorship benefit payable to an active vested member's survivor is:             <ul style="list-style-type: none"> <li>○ the actuarial equivalent of the member's accrued retirement benefit at the time of death; or</li> </ul> </li> <li>• If the member dies prior to age 55:             <ul style="list-style-type: none"> <li>○ the actuarial equivalent of the accrued portion of the early retirement benefit that would have been paid to the member at age 55.</li> </ul> </li> </ul>
<p>Retirement benefits - Form of payment</p>	<p>The normal form of payment is a single life annuity with a refund of any remaining account balance to a designated beneficiary. (Option 1)</p> <p>Optional Benefits:</p> <ul style="list-style-type: none"> <li>• Option 2, a life annuity and joint 100% survivor benefit,</li> <li>• Option 3, a life annuity and joint 50% survivor benefit, and</li> <li>• Option 4, a life annuity with a period certain.</li> </ul> <p>If a retiring member selects Option 2 or 3 and the contingent annuitant predeceases or is divorced from the member, the retiree may, within 18 months of the death or divorce, choose to revert to the higher Option 1 benefit available at retirement or the retiree may select a different contingent annuitant and/or a different option.</p>

## ACTUARIAL SECTION

Post retirement benefit increases	<p>For retired members hired before July 1, 2013 who have been retired at least 12 months, a Guaranteed Annual Benefit Adjustment (GABA) will be made January 1 of each year equal to:</p> <ul style="list-style-type: none"><li>• 3% for members hired before July 1, 2007, and</li><li>• 1.5% for members hired on or after July 1, 2007</li></ul> <p>For retired members who were hired on or after July 1, 2013 and who have been retired at least 12 months, a Guaranteed Annual Benefit Adjustment (GABA) will be made January 1 of each year equal to:</p> <ul style="list-style-type: none"><li>• A maximum of 1.5% for each year PERS is funded at or above 90%, subject to a 0.1% reduction for each 2% PERS is funded below 90%; or</li><li>• 0% whenever the amortization period for PERS is 40 years or more.</li></ul>
Changes since last valuation	None.

## ACTUARIAL SECTION

### ***PERS-DCRP Disability OPEB***

Type of Plan	<ul style="list-style-type: none"> <li>Multiple-employer cost sharing OPEB</li> </ul>
Membership eligibility	<ul style="list-style-type: none"> <li>Employees of the State and local governments that have contracted for PERS coverage.</li> <li>Certain employees of the university system and school districts, not covered by a separate retirement system governed by Title 19 of Montana Code Annotated.</li> <li>Employees must have elected to be a member of the defined contribution retirement plan.</li> </ul>
Member contributions	<ul style="list-style-type: none"> <li>None</li> </ul>
Employer contributions	<ul style="list-style-type: none"> <li>0.30% of each eligible member's compensation, for those employers participating in the PERS-DCRP</li> </ul>
Compensation period used in benefit calculation	<ul style="list-style-type: none"> <li>HAC = Highest Average Compensation</li> <li><b>Hired prior to July 1, 2011:</b> HAC is average of the highest 36 consecutive months (or shorter period of total service) of compensation paid by member.</li> <li><b>Hired on or after July 1, 2011:</b> HAC is average of the highest 60 consecutive months (or shorter period of total service) of compensation paid to member.</li> <li><b>Hired on or after July 1, 2013:</b> 110% annual cap on compensation considered as part of a member's HAC</li> </ul>
Disability eligibility and benefit	<ul style="list-style-type: none"> <li><b>5 years membership service</b></li> </ul> <p><b>For members hired on or before June 30, 2011, or hired on or before February 24, 1991 and so elected:</b></p> <ul style="list-style-type: none"> <li>Less than 25 years of membership service: 1.785% of HAC multiplied by service credit, or</li> <li>At least 25 years of membership service: 2% of HAC multiplied by service credit; and</li> <li>Benefit is payable to the later of age 65 or for five years.</li> </ul> <p><b>For members hired on or after July 1, 2011:</b></p> <ul style="list-style-type: none"> <li>Between 5 and 10 years of membership service: 1.5% of HAC x years of service credit; or</li> <li>Between 10 and 30 years of membership service: 1.785% of HAC x years of service credit; or</li> <li>30 years of membership service or more: 2% of HAC x years of service credit; and</li> <li>Benefit is payable to age 65 for disabilities occurring prior to age 65, or no more than five years for disabilities occurring after age 65.</li> </ul>

## ACTUARIAL SECTION

Disability eligibility and benefit continued	Members cannot receive distributions from their individual defined contribution account while receiving payments from the PERS-DCRP Disability OPEB. Participants may choose to receive a distribution from their individual account instead of applying for and receiving a disability benefit.
Survivor's benefit	<ul style="list-style-type: none"> <li>• Disability benefits cease after death of a member, and their beneficiary is entitled to death benefits only as provided from the member's vested defined contribution account balance.</li> </ul>
Form of payment	<ul style="list-style-type: none"> <li>• Normal form of payment is an annuity</li> <li>• No other forms of payment are available</li> </ul>
Post retirement benefit increases	<ul style="list-style-type: none"> <li>• None</li> </ul>
Changes since last valuation	<ul style="list-style-type: none"> <li>• None</li> </ul>

## ACTUARIAL SECTION

### *Judges' Retirement System*

Type of plan	<ul style="list-style-type: none"> <li>• Single-employer defined benefit</li> </ul>
Membership eligibility	<ul style="list-style-type: none"> <li>• Judges of district courts</li> <li>• Justices of supreme court</li> <li>• Chief water judge</li> <li>• Associate water judge (effective July 1, 2011)</li> </ul>
Member contributions	<ul style="list-style-type: none"> <li>• 7% of member's compensation</li> </ul>
Employer contributions	<ul style="list-style-type: none"> <li>• 25.81% of each member's compensation</li> </ul>
Compensation period used in benefit calculation	<ul style="list-style-type: none"> <li>• Current salary or HAC = Highest Average Compensation</li> <li>• <b>Hired prior to July 1, 1997, and did not elect GABA</b>, benefits are calculated using current salary of the office from which the member retired.</li> <li>• <b>Hired on or after July 1, 1997, or hired prior to July 1, 1997 and elected GABA</b>, benefits are calculated using HAC, the average of the highest 36 consecutive months (or shorter period of total service) of compensation paid to the member.</li> <li>• <b>Hired on or after July 1, 2013</b>: 110% annual cap on compensation considered as part of a member's HAC.</li> </ul>
Service retirement eligibility and benefit	<ul style="list-style-type: none"> <li>• <b>Age 60 with 5 years of membership service</b></li> <li>• <b>First 15 years of service credit:</b> 3⅓% per year of current salary or HAC, and</li> <li>• <b>Over 15 years of service credit:</b> 1.785% per year of current salary or HAC</li> </ul>
Disability eligibility and benefit	<p><b>Non-duty disability:</b></p> <ul style="list-style-type: none"> <li>• 5 years membership service</li> <li>• Regular disability benefit: Actuarial equivalent of the normal retirement benefit available at the time of disability.</li> </ul> <p><b>Duty-related disability:</b></p> <ul style="list-style-type: none"> <li>• Any amount of membership service</li> <li>• Duty-related disability benefit: Greater of 50% of current salary or 50% of HAC</li> </ul>
Survivor's eligibility and benefit	<p><b>Duty-related death:</b></p> <ul style="list-style-type: none"> <li>• Active or retired member</li> <li>• Member's service retirement benefit on the date of the death.</li> </ul> <p><b>Non-duty-related death:</b></p> <ul style="list-style-type: none"> <li>• Vested member</li> <li>• Refund of the member's accumulated contributions, or</li> <li>• Actuarial equivalent of the member's service retirement benefit on date of death.</li> </ul>

## ACTUARIAL SECTION

Survivor's eligibility and benefit continued	<ul style="list-style-type: none"> <li>• A beneficiary may elect to receive the present value of the benefit as a single lump sum.</li> <li>• For retired members without a contingent annuitant, a payment will be made to the member's designated beneficiary equal to the accumulated contributions reduced by any retirement benefits already paid.</li> </ul>
Retirement benefits - Form of payment	<p>The normal form of payment is a single life annuity with a refund of any remaining accumulated contributions (account balance) to a designated beneficiary. (Option 1)</p> <p>Optional Benefits:</p> <ul style="list-style-type: none"> <li>• Option 2, a life annuity and joint 100% survivor benefit,</li> <li>• Option 3, a life annuity and joint 50% survivor benefit, and</li> <li>• Option 4, a life annuity with a period certain.</li> </ul> <p>If a retiring member selects Option 2 or 3 and the contingent annuitant predeceases or is divorced from the member, the retiree may, within 18 months of the death or divorce, choose to revert to the higher Option 1 benefit available at retirement or the retiree may select a different contingent annuitant and/or a different option.</p>
Post retirement benefit increases	<ul style="list-style-type: none"> <li>• For retired members who have been retired for at least 12 months and who were either hired after June 30, 1997 or hired prior to July 1, 1997 and elected GABA, a GABA will be made January 1 of each year equal to 3%.</li> <li>• For retired members who were hired prior to July 1, 1997 and did not elect GABA, the current salary of an active member in the same position is used to recalculate the monthly benefit.</li> </ul>
Changes since last valuation	<ul style="list-style-type: none"> <li>• None</li> </ul>

## ACTUARIAL SECTION

### *Highway Patrol Officers' Retirement System*

Type of plan	<ul style="list-style-type: none"> <li>• Single-employer defined benefit</li> </ul>
Membership eligibility	<ul style="list-style-type: none"> <li>• All members of the Montana highway patrol including supervisors and assistant supervisors</li> </ul>
Member contributions	<ul style="list-style-type: none"> <li>• 12% of member's compensation, not covered by GABA</li> <li>• 12.05% of member's compensation, covered by GABA</li> <li>• Effective July 1, 2014, member contributions increase 1% annually through the fiscal year ending 2017.</li> </ul>
Employer contributions	<ul style="list-style-type: none"> <li>• 28.15% of member's compensation</li> </ul>
State contributions	<ul style="list-style-type: none"> <li>• 10.18% of each member's compensation paid from the General Fund</li> </ul>
Compensation period used in benefit calculation	<ul style="list-style-type: none"> <li>• HAC = Highest Average Compensation</li> <li>• HAC is average of the highest 36 consecutive months (or shorter period of total service) of compensation paid to member.</li> <li>• <b>Hired on or after July 1, 2013:</b> 110% annual cap on compensation considered as part of a member's HAC.</li> </ul>
Service retirement eligibility and benefit	<ul style="list-style-type: none"> <li>• 20 years of membership service</li> <li>• 2.6% of HAC x years of service credit</li> </ul>
Early retirement eligibility and benefit	<ul style="list-style-type: none"> <li>• <b>Hired before July 1, 2013:</b> Any age with 5 years of membership service; if discontinued from service other than for cause.</li> <li>• <b>Hired on or after July 1, 2013:</b> Any age with 10 years of membership service; if discontinued from service other than for cause.</li> <li>• Normal retirement benefit calculated using HAC and service credit at early retirement, and reduced to the actuarial equivalent of a service retirement benefit based on a retirement age of 60.</li> </ul>
Disability eligibility and benefit	<p><b>Duty-related disability:</b></p> <ul style="list-style-type: none"> <li>• Any active member</li> <li>• Less than 20 years of membership service: 50% of HAC, or</li> <li>• 20 years or more of membership service: 2.6% of HAC x years of service credit</li> </ul> <p><b>Regular disability:</b></p> <ul style="list-style-type: none"> <li>• Any vested member</li> <li>• The actuarial equivalent of the normal retirement benefit based on retirement age of 60.</li> </ul>

<p>Survivor's eligibility and benefit</p>	<p><b>Duty-related deaths:</b></p> <ul style="list-style-type: none"> <li>• Active member</li> <li>• A monthly survivor benefit to the surviving spouse or dependent child: 50% of HAC of the member.</li> </ul> <p><b>Non-duty-related death:</b></p> <ul style="list-style-type: none"> <li>• Active or inactive member</li> <li>• Member's spouse will receive (or, if there is no surviving spouse or after the surviving spouse dies, each dependent child for as long as they remain dependent children) will equally receive a benefit: The actuarial equivalent of the early retirement benefit.</li> <li>• A beneficiary may elect to receive the present value of the benefit as a single lump sum.</li> <li>• For retired members without a surviving spouse or dependent child, the member's designated beneficiary will receive a payment equal to the retired member's accumulated contributions reduced by any retirement benefits already paid.</li> </ul>
<p>Retirement benefits - Form of payment</p>	<ul style="list-style-type: none"> <li>• The retirement benefit is paid for the retired member's life.</li> <li>• Upon the death of the retired member, the benefit is paid to the surviving spouse.</li> <li>• If there is no surviving spouse, or after the death of a surviving spouse, benefits are paid to the dependent children, if any, for as long as they remain dependent children.</li> </ul>
<p>Post retirement benefit increases</p>	<ul style="list-style-type: none"> <li>• For retired members who either became active members on or after July 1, 1997 and before July 1, 2013, or who were hired before July 1, 1997 and elected to be covered under GABA, and who have been retired at least 12 months, a GABA will be paid each year in January equal to 3%.</li> <li>• For retired members who were hired prior to July 1, 1997 and did not elect GABA, the minimum monthly benefit provided is equal to 2% x service credit x the current base compensation of a probationary highway patrol officer. Such benefit may not exceed 60% of the current base compensation of a probationary highway patrol officer and the annual increase may not exceed 5% of the current benefit.</li> <li>• For retired members who became active members on or after July 1, 2013, and who have been retired at least 36 months, a GABA will be paid each year in January equal to 1.5%</li> </ul>

## ACTUARIAL SECTION

### *Highway Patrol Officers' Retirement System (continued)*

Post retirement benefit increases continued	<ul style="list-style-type: none"> <li>For non-GABA members who retired prior to July 1, 1991 and meet eligibility requirements, a supplemental lump sum payment will be made each year based on the increase in the Consumer Price Index.</li> </ul>
Changes since last valuation	<ul style="list-style-type: none"> <li>HPORS DROP effective October 1, 2015</li> </ul>

### *HPORS Deferred Retirement Option Plan (DROP)*

Effective October 1, 2015, eligible members of the Highway Patrol Officers' Retirement System (HPORS) have the opportunity to participate in the DROP. The DROP allows active HPORS members to begin accumulating their retirement benefit, without terminating employment, for up to 60 months. If a member chooses to join the DROP, their monthly retirement benefit and their employee contributions will go into their individual DROP account.

Eligibility:	<ul style="list-style-type: none"> <li>Active members of HPORS with at least 20 years of membership service.</li> </ul>
Period:	<ul style="list-style-type: none"> <li>Minimum of one month up to a maximum of five years. The member will not earn additional membership service or service credit.</li> </ul>
Member contributions	<ul style="list-style-type: none"> <li>While a member is working the member's contributions go into the DROP Participant's DROP Account.</li> </ul>
Member contributions interest credited	<ul style="list-style-type: none"> <li>A member's DROP account will earn an interest rate equal to the actuarial assumed rate of return. Currently the rate of return is 7.75%.</li> </ul>
Employer contributions	<ul style="list-style-type: none"> <li>While a member is working the member's employer and the State will pay the regular contributions to HPORS.</li> </ul>
Terminate employment	<ul style="list-style-type: none"> <li>When the member terminates employment at the end of the DROP Period the member will begin receiving the HPORS monthly retirement benefit. At this time, members will receive the DROP Benefit as a lump sum payment or a direct rollover to another eligible retirement plan (as allowed by the IRS). If the member does not designate a distribution method within 60 days after termination of employment, the DROP Benefit will be paid in a taxable lump sum.</li> </ul>

## ACTUARIAL SECTION

Terminate employment continued	<ul style="list-style-type: none"> <li>If a member's HPORS-covered employment is terminated during the DROP Period, the DROP Benefit will be distributed to the member and payment of the monthly service retirement benefit will begin.</li> </ul>
Disability:	<ul style="list-style-type: none"> <li>If the member becomes disabled during the DROP Period, the member will not be eligible for HPORS disability benefits. If the member terminates service, the service retirement benefit will be paid to the member rather than to the monthly DROP Account. The member will also be eligible to receive the DROP Benefit.</li> </ul>
Survivor Benefit:	<ul style="list-style-type: none"> <li>If a member dies before the end of the DROP Period, the member's surviving spouse or dependent children are entitled to the member's DROP Benefit and the benefit they would have received had the member retired.</li> <li>If the member does not have a surviving spouse or dependent children, the member's designated beneficiary receives the balance of the member's retirement account and a lump-sum payment of the member's DROP Benefit.</li> </ul>
Benefit:	<ul style="list-style-type: none"> <li>A member may continue to work after the DROP Period ends and remain vested in HPORS. The member will not receive the service retirement benefit or the DROP Benefit during the time the member continues working. The balance of the DROP Account will continue to earn interest.</li> <li>Upon termination of employment, the member will receive the initial HPORS monthly retirement benefit; an additional benefit based on the member's service credit and highest average compensation earned after DROP participation; and the DROP Benefit.</li> </ul>
Post retirement benefit increases	<ul style="list-style-type: none"> <li>Members do not receive the Guaranteed Annual Benefit Adjustment (GABA) on the accrued DROP retirement benefit. GABA starts January 1 immediately following retirement for initial and subsequent retirement benefits.</li> </ul>
Changes since last valuation	<ul style="list-style-type: none"> <li>HPORS DROP effective October 1, 2015</li> </ul>

## ACTUARIAL SECTION

### *Sheriffs' Retirement System*

Type of plan	<ul style="list-style-type: none"> <li>Multiple-employer cost sharing</li> </ul>
Membership eligibility	<ul style="list-style-type: none"> <li>Sheriffs</li> <li>Investigators (effective July 1, 1993)</li> <li>Detention officers (effective July 1, 2005)</li> </ul>
Member contributions	<ul style="list-style-type: none"> <li>9.245% of member's compensation</li> </ul>
Employer contributions	<ul style="list-style-type: none"> <li>10.115% of each member's compensation</li> <li>Rate increased 0.29% from 9.535% to 9.825% on July 1, 2007 and then to present rate 10.115% on July 1, 2009</li> <li>This 0.58% increase in contributions as of 2009 will terminate if an actuarial valuation shows that the period required to amortize the system's unfunded liabilities is less than 25 years, and the termination of those increases would not cause the amortization to increase beyond 25 years.</li> <li><b>Beginning July 1, 2013</b>, employers of retirees who return to work in a position working less than 480 hours contribute 10.115% of the working retiree's compensation.</li> </ul>
Compensation period used in benefit calculation	<ul style="list-style-type: none"> <li>HAC = Highest Average Compensation</li> <li><b>Hired prior to July 1, 2011:</b> HAC is average of the highest 36 consecutive months (or shorter period of total service) of compensation paid to member.</li> <li><b>Hired on or after July 1, 2011:</b> HAC is average of the highest 60 consecutive months (or shorter period of total service) of compensation paid to member.</li> <li><b>Hired on or after July 1, 2013:</b> 110% annual cap on compensation considered as part of a member's HAC.</li> </ul>
Service retirement eligibility and benefit formula	<ul style="list-style-type: none"> <li>20 years of membership service</li> <li>2.5% of HAC x years of service credit</li> </ul>
Early retirement eligibility and benefit	<ul style="list-style-type: none"> <li>Age 50 with 5 years of membership service</li> <li>Normal retirement benefit calculated using HAC and service credit at early retirement, and reduced to the actuarial equivalent commencing at the earliest of age 60 or the attainment of 20 years of service credit.</li> </ul>
Disability retirement eligibility and benefit formula	<p><b>Non-duty-related:</b></p> <ul style="list-style-type: none"> <li>Active or inactive vested member</li> <li>5 years membership service</li> <li>The actuarial equivalent of the accrued normal retirement benefit available at time of disability.</li> </ul>

<p>Disability retirement eligibility and benefit formula continued</p>	<p><b>Duty-related disability:</b></p> <ul style="list-style-type: none"> <li>• Vested or non-vested active member</li> <li>• Any membership service</li> <li>• Less than 20 years of membership service: 50% of HAC, or</li> <li>• 20 years or more of membership service: 2.5% of HAC x years of service credit</li> </ul>
<p>Survivor’s eligibility and benefit formula</p>	<p><b>Duty-related death:</b></p> <ul style="list-style-type: none"> <li>• Vested or non-vested active member</li> <li>• Lump-sum payment of the member’s accumulated contributions; or</li> <li>• A monthly survivor benefit to the designated beneficiary equal to the greater of:             <ul style="list-style-type: none"> <li>○ 50% of HAC; or</li> <li>○ 2.5% of HAC for each year of service credit if over 20 years.</li> </ul> </li> </ul> <p><b>Non-duty-related death:</b></p> <ul style="list-style-type: none"> <li>• Active or Inactive member</li> <li>• Lump-sum payment of the member’s accumulated contributions; or</li> <li>• A monthly survivor benefit equal to 2.5% of HAC for each year of service credit actuarially reduced from age 60 or from the date when 20 years of membership service would have been completed, whichever provides the greater benefit.</li> <li>• A beneficiary may elect to receive the present value of the benefit as a single lump sum.</li> <li>• For retired members without a contingent annuitant, a payment will be made to the designated beneficiary equal to the accumulated contributions reduced by any retirement benefits already paid.</li> </ul>
<p>Retirement benefits - Form of payment</p>	<p>The normal form of payment is a single life annuity with a refund of any remaining accumulated contributions (account balance) to a designated beneficiary. (Option 1).</p> <p>Optional Benefits:</p> <ul style="list-style-type: none"> <li>• Option 2, a life annuity and joint 100% survivor benefit,</li> <li>• Option 3, a life annuity and joint 50% survivor benefit, and</li> <li>• Option 4, a life annuity with a period certain.</li> </ul>

## ACTUARIAL SECTION

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### *Sheriffs' Retirement System (continued)*

Retirement benefits - Form of payment continued	If a retiring member selects Option 2 or 3 and the contingent annuitant predeceases or is divorced from the member, the retiree may, within 18 months of the death or divorce, choose to revert to the higher Option 1 benefit available at retirement or the retiree may select a different contingent annuitant and/or a different option.
Post retirement benefit increases	For retired members who have been retired at least 12 months, a Guaranteed Annual Benefit Adjustment (GABA) will be made each year equal to: <ul style="list-style-type: none"><li>• 3% for members hired before July 1, 2007, and</li><li>• 1.5% for members hired on or after July 1, 2007</li></ul>
Changes since last valuation	<ul style="list-style-type: none"><li>• None.</li></ul>

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## ACTUARIAL SECTION

### *Game Wardens' and Peace Officers' Retirement System*

Type of plan	<ul style="list-style-type: none"> <li>Multiple-employer cost sharing</li> </ul>
Membership eligibility	<ul style="list-style-type: none"> <li>Game wardens</li> <li>Warden supervisor</li> <li>State peace officers</li> </ul>
Member contributions	<ul style="list-style-type: none"> <li>10.56% of member's compensation</li> </ul>
Employer contributions	<ul style="list-style-type: none"> <li>9.0% of each member's compensation</li> </ul>
Compensation period used in benefit calculation	<ul style="list-style-type: none"> <li>HAC = Highest Average Compensation</li> <li><b>Hired prior to July 1, 2011:</b> HAC is average of the highest 36 consecutive months (or shorter period of total service) of compensation paid to member.</li> <li><b>Hired on or after July 1, 2011:</b> HAC is average of the highest 60 consecutive months (or shorter period of total service) of compensation paid to member.</li> <li><b>Hired on or after July 1, 2013:</b> 110% annual cap on compensation considered as part of a member's HAC.</li> </ul>
Service retirement eligibility and benefit formula	<ul style="list-style-type: none"> <li>Age 50 with 20 years of membership service</li> <li>2.5% of HAC x years of service credit</li> </ul>
Early retirement eligibility and benefit	<ul style="list-style-type: none"> <li>Age 55 with 5 years of membership service</li> <li>A reduced retirement benefit calculated using the HAC and service credit at early retirement.</li> </ul>
Disability retirement eligibility and benefit formula	<p><b>Duty-related disability:</b></p> <ul style="list-style-type: none"> <li>Vested active member</li> <li>5 years of membership service</li> <li>Less than 20 years of membership service: 50% of HAC, or</li> <li>20 years or more of membership service: 2.5% of HAC x years of service credit</li> </ul> <p><b>Regular disability:</b></p> <ul style="list-style-type: none"> <li>Vested member</li> <li>The actuarial equivalent of the accrued normal retirement benefit at the time of disability.</li> </ul>
Survivor's eligibility and benefit formula	<p><b>Duty-related deaths: (active member),</b> a monthly survivor benefit to the designated beneficiary equal to:</p> <ul style="list-style-type: none"> <li>25 years or less of membership service: 50% of HAC, or</li> <li>More than 25 years of membership service: 2.5% of HAC x years of service credit.</li> </ul>

Survivor's eligibility and benefit formula continued	<p><b>Non-duty-related deaths:</b></p> <ul style="list-style-type: none"> <li>• Active member</li> <li>• Lump-sum refund of the member's accumulated contributions; <b>or</b></li> <li>• Actuarial equivalent of the service benefit.</li> </ul> <ul style="list-style-type: none"> <li>• A beneficiary may elect to receive the present value of the benefit as a single lump sum.</li> </ul>
Retirement benefits - Form of payment	<p>The normal form of payment is a single life annuity with a refund of any remaining accumulated contributions (account balance) to a designated beneficiary. (Option 1).</p> <p>Optional Benefits:</p> <ul style="list-style-type: none"> <li>• Option 2, a life annuity and joint 100% survivor benefit,</li> <li>• Option 3, a life annuity and joint 50 % survivor benefit, and</li> <li>• Option 4, a life annuity with a period certain.</li> </ul> <p>If a retiring member selects Option 2 or 3 and the contingent annuitant predeceases or is divorced from the member, the retiree may, within 18 months of the death or divorce, choose to revert to the higher Option 1 benefit available at retirement or the retiree may select a different contingent annuitant and/or a different option.</p>
Post retirement benefit increases	<p>For retired members who have been retired at least 12 months, a Guaranteed Annual Benefit Adjustment (GABA) will be made each year in January equal to:</p> <ul style="list-style-type: none"> <li>• 3% for members hired before July 1, 2007, and</li> <li>• 1.5% for members hired on or after July 1, 2007</li> </ul>
Changes since last valuation	<ul style="list-style-type: none"> <li>• None</li> </ul>

## ACTUARIAL SECTION

### *Municipal Police Officers' Retirement System*

Type of plan	<ul style="list-style-type: none"> <li>Multiple-employer cost sharing</li> </ul>
Membership eligibility	<ul style="list-style-type: none"> <li>Police officers of first- and second-class cities, and</li> <li>Police officers or other cities with the state that adopt the plan, other than those cities which maintain a separate local police fund</li> </ul>
Member contributions	<p><b>Members not electing GABA:</b></p> <ul style="list-style-type: none"> <li>Hired after June 30, 1975 but on or before June 30, 1979: 7.0% of member's compensation</li> <li>Hired after June 30, 1979 but before July 1, 1997: 8.5% of member's compensation</li> <li>Hired on or after July 1, 1997: 9.0% of member's compensation</li> </ul> <p><b>Members electing GABA:</b></p> <ul style="list-style-type: none"> <li>9.0% of member's compensation</li> </ul>
Employer contributions	<ul style="list-style-type: none"> <li>14.41% of each member's compensation</li> </ul>
State contributions	<ul style="list-style-type: none"> <li>29.37% of each member's compensation</li> </ul>
Compensation period used in benefit calculation	<ul style="list-style-type: none"> <li>FAC = Final Average Compensation</li> <li>FAC is the average over the last 36 months (or shorter period of total service) of compensation paid to the member.</li> <li><b>Hired on or after July 1, 2013:</b> 110% annual cap on compensation considered as part of a member's FAC.</li> </ul>
Service retirement eligibility and benefit formula	<ul style="list-style-type: none"> <li><b>Age 50 with 5 years of membership service, or</b></li> <li><b>Any age with 20 years of membership service</b></li> <li>2.5% of FAC x years of service credit</li> </ul>
Second retirement eligibility and benefit formula	<ul style="list-style-type: none"> <li><b>Re-employed in a MPORS position and at least age 50</b></li> </ul> <p><b>Re-calculated using criteria below:</b></p> <ul style="list-style-type: none"> <li>Less than 20 years of membership service:             <ol style="list-style-type: none"> <li>Initial retirement benefit will cease;</li> <li>The retiree becomes a vested active MPORS member;</li> <li>The member must repay all initial benefits received and interest at the actuarially assumed rate of return;</li> <li>The second retirement will be based on total MPORS service; and</li> <li>The member will be treated as a new retiree who after having been retired at least 12 months, will receive a 3% GABA each year in January. This applies only to members who were GABA members initially.</li> </ol> </li> </ul>

## ACTUARIAL SECTION

<p>Second retirement eligibility and benefit formula continued</p>	<ul style="list-style-type: none"> <li>• More than 20 years of membership service:             <ul style="list-style-type: none"> <li>a. The initial retirement benefit will cease;</li> <li>b. The retiree becomes a vested active MPORS member;</li> <li>c. At second retirement the initial benefit resumes and a new benefit will be calculated on new service credit and FAC after re-employment; and</li> <li>d. The retiree will receive GABA on their first benefit in January immediately following second retirement but waits 12 months for GABA on the second retirement benefit. If not initially retired 12 months, the retiree will wait 12 months for GABA on both parts of benefit. This applies only to members who were GABA members initially.</li> </ul> </li> </ul>
<p>Disability retirement eligibility and benefit formula</p>	<ul style="list-style-type: none"> <li>• Any active member</li> <li>• Before completing 20 years of membership service: 50% of FAC</li> <li>• After completing 20 years or more of membership service: 2.5% of FAC for each year of service credit</li> </ul>
<p>Survivor's eligibility and benefit formula</p>	<ul style="list-style-type: none"> <li>• Any active member</li> <li>• Before completing 20 years of membership service: 50% of member's FAC</li> <li>• After completing 20 years or more of membership service: 2.5% of member's FAC for each year of service credit</li> <li>• Benefits are paid to the surviving spouse (or equally to dependent children if there is no surviving spouse or after a surviving spouse dies, for as long as they remain dependent children).</li> <li>• In the absence of a spouse or child, the accumulated contributions minus any benefits already paid will be paid to the member's designated beneficiary.</li> </ul>
<p>Retirement benefits - Form of payment</p>	<ul style="list-style-type: none"> <li>• The normal form of payment is a life annuity, with 100% continuation after death to a surviving spouse.</li> <li>• If there is no surviving spouse, or after the death of a surviving spouse, benefits are paid to the dependent children, if any, for as long as they remain dependent children.</li> </ul>
<p>Post retirement benefit increases</p>	<ul style="list-style-type: none"> <li>• For retired members who became active members on or after July 1, 1997, or those who elected to be covered under GABA and who have been retired at least 12 months, a GABA will be made each year in January equal to 3%.</li> <li>• For retired members who were hired prior to July 1, 1997 and who did not elect GABA, the minimum benefit adjustment provided is equal to 50% of the current base compensation of a newly confirmed police officer of the employer that last employed the member as a police officer.</li> </ul>

## ACTUARIAL SECTION

### *Municipal Police Officers' Retirement System (continued)*

Changes since last valuation	<ul style="list-style-type: none"> <li>• None</li> </ul>
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### *MPORS Deferred Retirement Option Plan (DROP)*

Eligibility	<ul style="list-style-type: none"> <li>• 20 years of membership service</li> </ul>
DROP period	<ul style="list-style-type: none"> <li>• Maximum of five years.</li> <li>• Member may not receive membership service or service credit during the DROP Period.</li> </ul>
Contributions	<ul style="list-style-type: none"> <li>• State, employer and member contributions continue during the DROP Period and are made to the retirement system.</li> </ul>
Disability	<ul style="list-style-type: none"> <li>• If a member becomes disabled during the DROP Period, the member will not be eligible for MPORS disability benefits.</li> <li>• If the member must terminate service, the member's service retirement benefit will be paid to the member rather than to the member's monthly DROP Account. The member will also be eligible to receive the DROP Account.</li> </ul>
Survivor benefit	<ul style="list-style-type: none"> <li>• If a member dies before the end of the DROP Period, the surviving spouse or dependent children are entitled to receive a lump-sum payment equal to the member's DROP Benefit and a survivorship benefit equal to the benefit the member would have received had the member retired rather than elected to participate in the DROP.</li> <li>• If the member does not have a surviving spouse or dependent children, then the member's designated beneficiary receives the balance of the member's retirement account and a lump-sum payment of the member's DROP Benefit.</li> <li>• The DROP Benefit paid must include interest credited to the participant's account as follows:             <ul style="list-style-type: none"> <li>(a) through June 30, 2009, interest must be credited every fiscal year end at a rate reflecting the retirement system's annual investment earnings for the applicable fiscal year.</li> <li>(b) after June 30, 2009, interest must be credited every fiscal year end at the actuarially assumed rate of return. Proportionate interest must be credited for distributions taking place at other than a fiscal year end.</li> </ul> </li> </ul>

## ACTUARIAL SECTION

DROP benefit	<ul style="list-style-type: none"><li>• Member receives DROP accruals equal to the retirement benefit calculated at DROP commencement and added each month during the DROP Period plus interest reflecting the retirement system's annual investment earnings.</li><li>• Effective July 1, 2009, the interest rate credited to DROP Accounts was changed to the actuarial assumed rate of 8%.</li><li>• As a result of the experience study performed during fiscal year 2010, the interest rate credited to DROP Accounts was changed to the actuarial assumed rate of 7.75%.</li></ul>
Changes in DROP since last valuation	<ul style="list-style-type: none"><li>• None</li></ul>

## ACTUARIAL SECTION

### *Firefighters' Unified Retirement System*

Type of plan	<ul style="list-style-type: none"> <li>Multiple-employer cost sharing</li> </ul>
Membership eligibility	<ul style="list-style-type: none"> <li>Firefighters of first- and second-class cities</li> <li>Firefighters of other cities that adopt the plan</li> <li>Firefighters of rural fire district departments that adopt the plan</li> <li>Firefighters hired by the Montana Air National Guard (MANG) on or after October 1, 2001</li> </ul>
Member contributions	<ul style="list-style-type: none"> <li><b>Members hired before 7/1/1997 and not electing GABA:</b> 9.5% of member's compensation</li> <li><b>Members hired on or after 7/1/1997 or electing GABA:</b> 10.7% of member's compensation</li> </ul>
Employer contributions	<ul style="list-style-type: none"> <li>14.36% of each member's compensation</li> <li>14.36% of each working retiree's compensation</li> </ul>
State contributions	<ul style="list-style-type: none"> <li>32.61% of each member's compensation</li> <li>32.61% of each working retiree's compensation</li> </ul>
Compensation period used in benefit calculation	<ul style="list-style-type: none"> <li>HAC = Highest Average Compensation</li> <li>HAC is average of the highest 36 consecutive months (or shorter period of total service) of compensation paid to member.</li> <li><b>Part-time firefighter:</b> 15% of regular compensation of a newly confirmed full-time firefighter.</li> <li><b>Hired on or after July 1, 2013:</b> 110% annual cap on compensation considered as part of a member's HAC</li> </ul>
Service retirement eligibility and benefit formula	<p><b>Member hired on or after July 1, 1981, or a member who has elected to be covered by GABA:</b></p> <ul style="list-style-type: none"> <li>20 years of membership service</li> <li>2.5% of HAC x years of service credit</li> </ul> <p><b>Member hired prior to July 1, 1981, and who had not elected to be covered by GABA, the greater of above, or:</b></p> <ol style="list-style-type: none"> <li>If membership service is less than 20 years: 2% of highest monthly compensation (HMC) x years of membership service and</li> <li>If membership service is greater or equal to 20 years: 50% of HMC + 2% of HMC x years of membership service in excess of 20</li> </ol>
Early retirement eligibility and benefit	<ul style="list-style-type: none"> <li>Age 50 with 5 years of membership service</li> <li>Normal retirement benefit calculated using HAC and service credit at early retirement.</li> </ul>

## ACTUARIAL SECTION

Disability retirement eligibility and benefit formula	<ul style="list-style-type: none"> <li>• Any active member</li> <li>• <b>The greater of:</b> <ul style="list-style-type: none"> <li>a. 50% of HAC, or</li> <li>b. 2.5% of HAC x years of service credit</li> </ul> </li> </ul>
Survivor's eligibility and benefit formula	<ul style="list-style-type: none"> <li>• Any active or inactive member</li> <li>• For deaths of active members with less than 20 years of membership service, a monthly survivor benefit to the surviving spouse (or equally to dependent children if there is no surviving spouse or after a surviving spouse dies, for as long as they remain dependent children) equal to 50% of HAC.</li> <li>• For active or inactive members with more than 20 years of membership service, a benefit equal to the accrued retirement benefit at the date of death.</li> </ul>
Retirement benefits - Form of payment	<ul style="list-style-type: none"> <li>• The retirement benefit is paid for the retired member's life.</li> <li>• Upon the death of the retired member, the benefit is paid to the surviving spouse.</li> <li>• If there is no surviving spouse, or after the death of a surviving spouse, benefits are paid to the dependent children, if any, for as long as they remain dependent children.</li> </ul>
Post retirement benefit increases	<ul style="list-style-type: none"> <li>• For retired members who became active members on and after July 1, 1997 and those who elected to be covered under GABA and who have been retired at least 12 months, a GABA will be paid each year in January equal to 3%.</li> <li>• For retired members who were hired prior to July 1, 1997 and who did not elect GABA, the minimum benefit adjustment is equal to 50% of the current base compensation of a newly confirmed active firefighter of the employer that last employed the member as a firefighter.</li> </ul>
Changes since last valuation	<ul style="list-style-type: none"> <li>• None</li> </ul>

## ACTUARIAL SECTION

### *Volunteer Firefighters' Compensation Act*

Type of plan	<ul style="list-style-type: none"> <li>State-wide retirement and disability plan</li> </ul>
Membership eligibility	<ul style="list-style-type: none"> <li>Unpaid volunteer firefighters serving with qualified volunteer fire companies in unincorporated areas throughout the state.</li> </ul>
Member contributions	<ul style="list-style-type: none"> <li>No member contributions</li> </ul>
State contributions	<ul style="list-style-type: none"> <li>5% of certain fire insurance premium taxes collected and passed through the general fund</li> </ul>
Credit for service	<p><b>To receive a year of credit for service, a volunteer firefighter must:</b></p> <ul style="list-style-type: none"> <li>serve with a single fire company for an entire fiscal year, and</li> <li>receive a minimum of 30 hours of training.</li> <li>Fractional years are not credited.</li> </ul>
Normal retirement eligibility and benefit formula	<ul style="list-style-type: none"> <li>Age 55 with 20 years of credit for service, or</li> <li>Age 60 with 10 years of credit for service</li> <li>\$8.75 per month x year of credit for service up to 20 years</li> <li>\$7.50 per month x year of credit for service after 20 years</li> <li><b>For VFCA members retiring prior to July 1, 2011</b>, maximum credited service is 30 years</li> <li><b>VFCA members retiring on or after July 1, 2011</b>, will receive \$7.50 per month for each additional year of credited service after 30 years in each year that the trust is actuarially sound and the amortization period is 20 years or less; otherwise benefits for the year will only be paid on credited service up to 30 years.</li> </ul>
Duty-related disability retirement eligibility and benefit formula	<ul style="list-style-type: none"> <li>Any current member on a fire company's roster</li> <li><b>The greater of:</b> <ol style="list-style-type: none"> <li>\$87.50 per month, or</li> <li>(\$8.75 per month x year of credit for service up to 20 years) + (\$7.50 per month x year of credit for service after 20 years up to 30 years of credit for service)</li> </ol> </li> </ul>
Survivor's eligibility and benefit formula	<ul style="list-style-type: none"> <li>10 years of credit for service or a retired member</li> <li>A monthly survivor benefit to the surviving spouse (or equally to dependent children if there is no surviving spouse or after a surviving spouse dies, for as long as they remain dependent children) equal to the full benefit otherwise payable to the member.</li> <li>Survivor benefits terminate when benefits have been paid for a total of 40 months, including any benefits paid to the retired member prior to death.</li> </ul>
Changes since last valuation	<ul style="list-style-type: none"> <li>None</li> </ul>



## The Montana Capital

Excavation for the Montana Capitol began in 1896. In 1898, the architectural firm of Bell & Kent was chosen to design the building, which was dedicated on July 4, 1902. There have been several expansions and renovations over the years, including a 1995-2000 interior restoration.

Black and white photo by Edward M. Reinig, 1918. Used with permission of the Montana Historical Society.



### SUMMARY OF STATISTICAL DATA

The pension funds are accounted for under the accrual basis of accounting. Information is provided for the last ten years ending June 30, 2016 for the following five objectives: financial trends, revenue capacity, debt capacity, demographic and economic trends, and operations.

Financial trends are presented on pages 214 to 225. The schedules contain trend information to help the reader understand how the plans' financial performance and well-being have changed over time. Net assets and liabilities are presented on pages 214 to 221. The change in net assets is presented in chart format and includes graphs for the PERS-DBRP that highlight areas of interest. Actuarial liabilities are presented on pages 223 to 225 in graph format for all of the defined benefit retirement plans. The existence of unfunded actuarial liabilities is not necessarily an indication of financial problems but the trends are important and must be monitored and controlled.

Revenue capacity is presented on pages 226 to 237. These schedules contain information to help the reader assess the plans' revenue sources, fair values by investment type, and the contribution rate history since inception.

The schedules showing the History of Membership in the Retirement Plans are presented on pages 238 to 241.

Debt capacity is presented on pages 242 to 253. These schedules present information to help the reader assess the plans' current levels of outstanding debt and the plans' ability to issue additional debt in the future. Debt capacity is represented with benefit expenses and distributions and is followed by schedules

of retired members, based on the type of benefit received.

Demographic and Economic information is presented on pages 254 to 267. These schedules offer demographic and economic indicators to help the reader understand the environment within which the plans' financial activities take place. A map on page 254 depicts the location of benefit recipients. The map shows that the majority (88 percent) of benefit recipients remain in Montana. On pages 258 to 266, the average monthly benefit is provided for each plan.

Operating information is presented on pages 268 to 280. These schedules contain pension plan data to help the reader understand how the information in the financial report relates to the pension plans the PERB administers. This information includes a schedule of employers participating in each of the plans.

# STATISTICAL SECTION

## Public Employees' Retirement Board

*A Component Unit of the State of Montana*

### Changes in Fiduciary Net Position, Last Ten Fiscal Years

(In thousands)

Fiscal Year	2016	2015	2014	2013	2012	2011
<b>PERS-DBRP</b>						
Additions						
Member Contributions <sup>1</sup>	\$ 97,343	\$ 95,424	\$ 92,160	\$ 80,889	\$ 79,332	\$ 77,875
Employer Contributions <sup>2</sup>	102,810	100,625	129,921	81,836	80,049	79,173
State Contributions	957	919	886	532	536	546
Investment Income <sup>3</sup>	101,213	225,111	732,483	505,052	91,355	715,398
Other <sup>4</sup>	29,843	33,547				
Total Additions to Net Position	332,166	455,626	955,450	668,309	251,272	872,992
Deductions						
Benefits	344,104	319,502	296,183	274,021	252,762	231,223
Refunds	10,379	11,688	10,070	11,254	11,991	11,539
Administrative Expenses <sup>5</sup>	4,261	3,980	3,781	3,843	3,386	3,327
Other <sup>4</sup>	1,501	2,211	1,488	1,594	1,028	794
Total Deductions to Net Position	360,245	337,381	311,522	290,712	269,167	246,883
Change in Net Position	\$ (28,079)	\$ 118,245	\$ 643,928	\$ 377,597	\$ (17,895)	\$ 626,109
<b>PERS-DCRP DISABILITY OPEB<sup>6</sup></b>						
Additions						
Employer Contributions	368	343	311	288	273	262
Investment Income <sup>3</sup>	11	4	3	5	5	5
Total Additions to Net Position	379	347	314	293	278	267
Deductions						
Benefits	42	34	29	29	27	19
Administrative Expenses		1				
Total Deductions to Net Position	42	35	29	29	27	19
Change in Net Position	\$ 337	\$ 312	\$ 285	\$ 264	\$ 251	\$ 248
<b>JRS</b>						
Additions						
Member Contributions <sup>1</sup>	\$ 729	\$ 534	\$ 481	\$ 742	\$ 447	\$ 504
Employer Contributions	1,807	1,684	1,652	1,621	1,598	1,477
Investment Income <sup>3</sup>	1,779	3,842	12,425	8,409	1,517	11,392
Total Additions to Net Position	4,315	6,060	14,558	10,772	3,562	13,373
Deductions						
Benefits	3,416	3,041	3,023	2,553	2,344	2,240
Refunds						
Administrative Expenses <sup>5</sup>	200	138	100	185	118	39
Other <sup>4</sup>						
Total Deductions to Net Position	3,616	3,179	3,123	2,738	2,462	2,279
Change in Net Position	\$ 699	\$ 2,881	\$ 11,435	\$ 8,034	\$ 1,100	\$ 11,094

Contributions were made in accordance with statutory requirements.

<sup>1</sup>Includes Interest Reserve Buybacks.

<sup>2</sup>Includes Membership Fees, Retirement Incentive, Miscellaneous Revenue, and Education Contributions.

<sup>3</sup>Includes Common Stock Dividends.

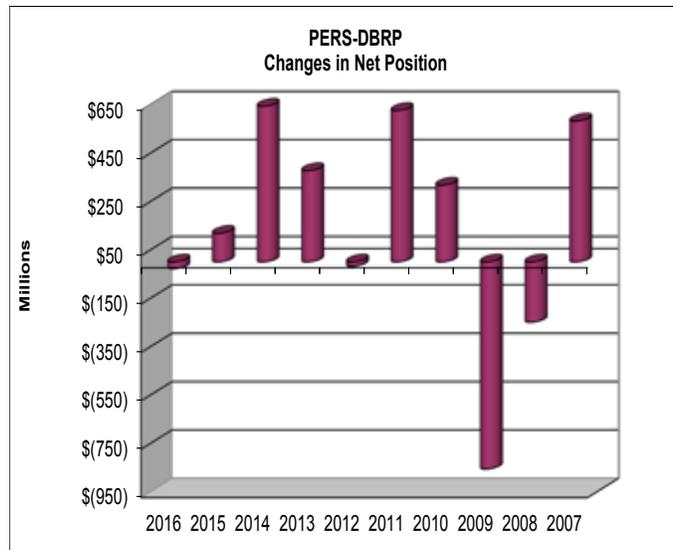
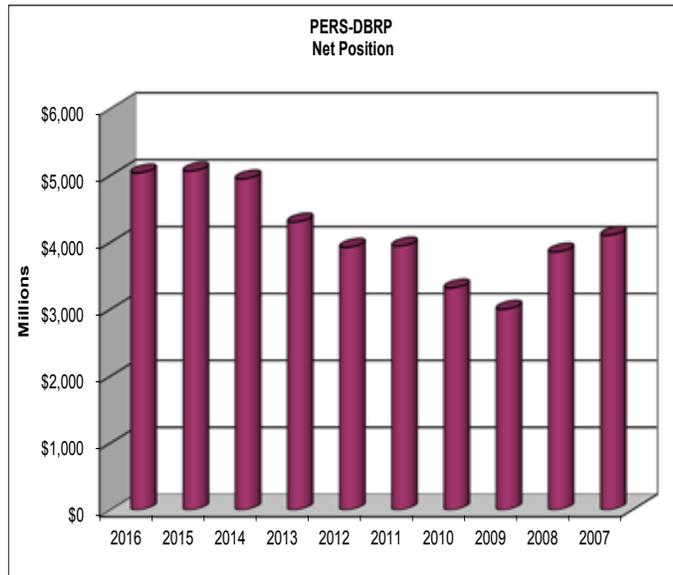
<sup>4</sup>Includes Transfers to the DC, MUS-RP, Prior Year Adjustments, Refunds to Other Plans, and Coal Tax Transfers.

<sup>5</sup>Includes OPEB Expenses.

<sup>6</sup>Effective FY2014, the DCRP-Disability, included in the PERS-DBRP, was changed to PERS-DCRP Disability OPEB and reported as a Defined Benefit Plan.

# STATISTICAL SECTION

2010	2009	2008	2007
\$ 78,671	\$ 76,003	\$ 72,874	\$ 69,150
80,326	75,949	72,270	67,195
537	357	378	446
387,861	(796,242)	(197,030)	629,559
547,395	(643,933)	(51,508)	766,350
212,186	196,402	180,815	166,188
10,967	10,821	12,123	12,868
3,257	2,948	2,832	2,681
3,438	1,713	1,987	2,108
229,848	211,884	197,757	183,845
\$ 317,547	\$ (855,817)	\$ (249,265)	\$ 582,505
265	245	212	185
4	16	32	30
269	261	244	215
14	7		
14	7		
\$ 255	\$ 254	\$ 244	\$ 215
\$ 595	\$ 584	\$ 385	\$ 339
1,468	1,347	1,315	1,249
6,013	(12,103)	(2,991)	9,435
8,076	(10,172)	(1,291)	11,023
2,118	1,972	1,829	1,772
10	17	9	8
24			
2,152	1,989	1,838	1,780
\$ 5,924	\$ (12,161)	\$ (3,129)	\$ 9,243



# STATISTICAL SECTION

## Public Employees' Retirement Board

*A Component Unit of the State of Montana*

### Changes in Fiduciary Net Position, Last Ten Fiscal Years

(In thousands)

Fiscal Year	2016	2015	2014	2013	2012	2011
<b>HPORS</b>						
Additions						
Member Contributions <sup>1</sup>	\$ 1,917	\$ 1,624	\$ 1,458	\$ 1,337	\$ 1,299	\$ 1,270
Employer Contributions <sup>2</sup>	5,916	5,578	5,474	4,903	4,966	4,543
State Contributions <sup>3</sup>	243	262	262	274	269	278
Investment Income <sup>4</sup>	2,605	5,738	18,684	12,826	2,321	17,912
Total Additions to Net Position	10,681	13,202	25,878	19,340	8,855	24,003
Deductions						
Benefits	10,482	9,932	9,344	8,709	8,223	7,866
Refunds	94	69	84	51	65	121
Administrative Expenses <sup>5</sup>	199	146	109	181	122	56
Other <sup>6</sup>			15		3	
Total Deductions to Net Position	10,775	10,147	9,552	8,941	8,413	8,043
Change in Net Position	\$ (94)	\$ 3,055	\$ 16,326	\$ 10,399	\$ 442	\$ 15,960
<b>SRS</b>						
Additions						
Member Contributions <sup>1</sup>	\$ 6,982	\$ 6,623	\$ 6,447	\$ 5,838	\$ 5,694	\$ 5,831
Employer Contributions <sup>2</sup>	7,317	6,902	6,690	6,273	6,028	6,014
Investment Income <sup>4</sup>	6,064	13,042	41,802	28,154	5,109	37,539
Total Additions to Net Position	20,363	26,567	54,939	40,265	16,831	49,384
Deductions						
Benefits	15,476	14,019	12,732	11,583	10,379	9,237
Refunds	1,029	1,217	1,185	1,159	1,248	968
Administrative Expenses <sup>5</sup>	326	250	203	287	207	121
Other <sup>6</sup>	75	44	27	25	23	
Total Deductions to Net Position	16,906	15,530	14,147	13,054	11,857	10,326
Change in Net Position	\$ 3,457	\$ 11,037	\$ 40,792	\$ 27,211	\$ 4,974	\$ 39,058
<b>GWPORS</b>						
Additions						
Member Contributions <sup>1</sup>	\$ 5,036	\$ 4,924	\$ 4,462	\$ 4,210	\$ 4,148	\$ 4,198
Employer Contributions	4,278	4,088	3,762	3,576	3,470	3,523
Investment Income <sup>4</sup>	3,167	6,435	20,075	13,106	2,388	16,335
Total Additions to Net Position	12,481	15,447	28,299	20,892	10,006	24,056
Deductions						
Benefits	5,068	4,550	3,979	3,575	3,203	2,863
Refunds	1,066	802	1,187	841	1,227	993
Administrative Expenses <sup>5</sup>	272	203	161	247	173	88
Other <sup>6</sup>	28		63	23	15	
Total Deductions to Net Position	6,434	5,555	5,390	4,686	4,618	3,944
Change in Net Position	\$ 6,047	\$ 9,892	\$ 22,909	\$ 16,206	\$ 5,388	\$ 20,112

Contributions were made in accordance with statutory requirements.

<sup>1</sup> Includes Interest Reserve Buybacks.

<sup>2</sup> Includes Retirement Incentive and Miscellaneous Revenue.

<sup>3</sup> Includes Percent of Salary.

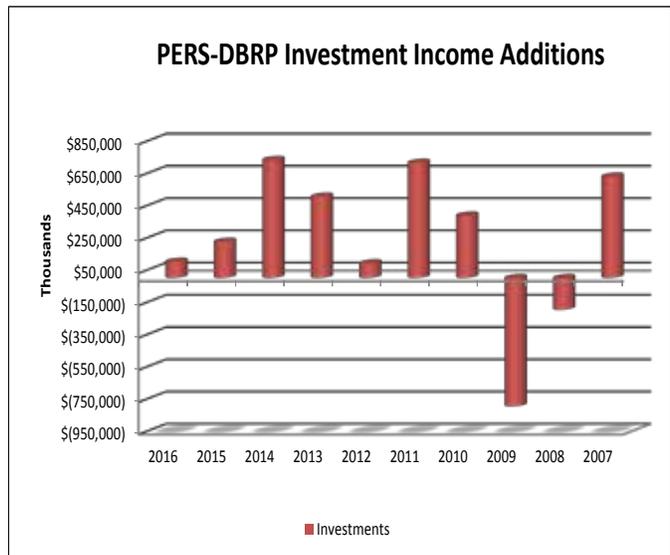
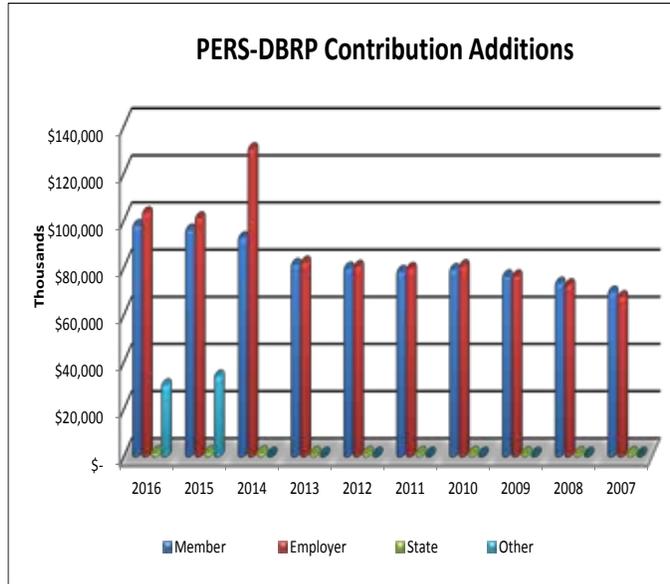
<sup>4</sup> Includes Common Stock Dividends.

<sup>5</sup> Includes OPEB Expenses.

<sup>6</sup> Includes Refunds to Other Plans and Prior Year Adjustments.

# STATISTICAL SECTION

	2010	2009	2008	2007
\$	1,262	\$ 1,035	\$ 1,082	\$ 1,005
	4,763	4,151	3,949	3,634
	287	285	290	285
	9,714	(19,978)	(4,929)	15,875
	16,026	(14,507)	392	20,799
	7,557	7,127	6,814	6,460
	56	26	61	139
	35	49	27	28
	37	17	14	139
	7,685	7,219	6,916	6,766
\$	8,341	\$ (21,726)	\$ (6,524)	\$ 14,033
\$	5,336	\$ 5,207	\$ 4,815	\$ 4,921
	5,637	5,193	4,834	4,386
	19,470	(38,824)	(9,598)	29,732
	30,443	(28,424)	51	39,039
	8,277	7,858	7,243	6,769
	766	968	722	934
	97	115	80	77
	116	29	11	82
	9,256	8,970	8,056	7,862
\$	21,187	\$ (37,394)	\$ (8,005)	\$ 31,177
\$	4,340	\$ 3,912	\$ 3,613	\$ 3,199
	3,612	3,292	2,979	2,638
	7,924	(15,133)	(3,653)	10,838
	15,876	(7,929)	2,939	16,675
	2,622	2,521	2,271	2,085
	879	840	643	702
	61	79	52	47
	59		30	
	3,621	3,440	2,996	2,834
\$	12,255	\$ (11,369)	\$ (57)	\$ 13,841



# STATISTICAL SECTION

## Public Employees' Retirement Board

*A Component Unit of the State of Montana*

### Changes in Fiduciary Net Position, Last Ten Fiscal Years

(In thousands)

Fiscal Year	2016	2015	2014	2013	2012	2011
<b>MPORS</b>						
Additions						
Member Contributions <sup>1</sup>	\$ 4,384	\$ 4,292	\$ 4,133	\$ 4,029	\$ 6,055	\$ 3,580
Employer Contributions	6,928	6,630	6,459	6,280	3,791	5,670
State Contributions <sup>2</sup>	13,751	13,433	13,049	12,573	12,274	11,594
Investment Income <sup>3</sup>	7,113	14,471	45,244	30,037	5,717	39,175
Total Additions to Net Position	32,176	38,826	68,885	52,919	27,837	60,019
Deductions						
Benefits	21,961	20,560	19,450	18,463	17,355	17,013
Refunds	1,240	2,179	1,018	1,833	707	1,000
Administrative Expenses <sup>4</sup>	276	214	166	245	178	106
Other <sup>5</sup>	129	5	60	5	3	
Total Deductions to Net Position	23,606	22,958	20,694	20,546	18,243	18,119
Change in Net Position	\$ 8,570	\$ 15,868	\$ 48,191	\$ 32,373	\$ 9,594	\$ 41,900
<b>FURS</b>						
Additions						
Member Contributions <sup>1</sup>	\$ 4,752	\$ 4,710	\$ 4,698	\$ 4,253	\$ 4,123	\$ 3,748
Employer Contributions	6,163	6,100	5,767	5,499	5,281	5,009
State Contributions <sup>2</sup>	13,970	13,573	13,007	12,358	11,797	11,365
Investment Income <sup>3</sup>	7,312	14,640	45,478	30,035	5,726	38,751
Total Additions to Net Position	32,197	39,023	68,950	52,145	26,927	58,873
Deductions						
Benefits	20,896	19,745	18,872	17,670	16,519	15,605
Refunds	46	2	166	73	119	128
Administrative Expenses <sup>4</sup>	262	192	153	229	163	92
Other <sup>5</sup>			14			
Total Deductions to Net Position	21,204	19,939	19,205	17,972	16,801	15,825
Change in Net Position	\$ 10,993	\$ 19,084	\$ 49,745	\$ 34,173	\$ 10,126	\$ 43,048
<b>VFCA</b>						
Additions						
State Contributions	\$ 2,036	\$ 1,914	\$ 1,818	\$ 1,711	\$ 1,635	\$ 1,596
Investment Income <sup>3</sup>	622	1,480	4,817	3,383	592	4,793
Total Additions to Net Position	2,658	3,394	6,635	5,094	2,227	6,389
Deductions						
Benefits	2,623	2,369	2,281	2,819	2,046	1,938
Insurance Payments	12	11	14	15	13	15
Administrative Expenses <sup>4</sup>	244	182	135	206	144	81
Other <sup>5</sup>						
Total Deductions to Net Position	2,879	2,562	2,430	3,040	2,203	2,034
Change in Net Position	\$ (221)	\$ 832	\$ 4,205	\$ 2,054	\$ 24	\$ 4,355

Contributions were made in accordance with statutory requirements.

<sup>1</sup> Includes Interest Reserve Buybacks.

<sup>2</sup> Includes Percent of Salary.

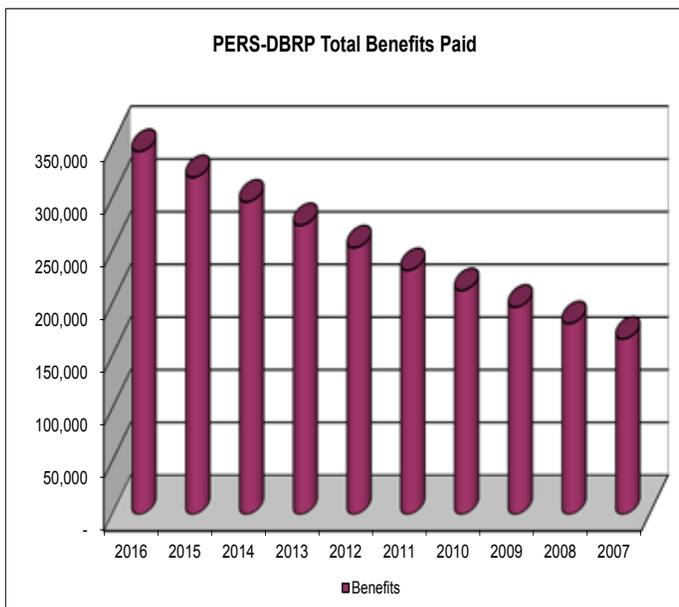
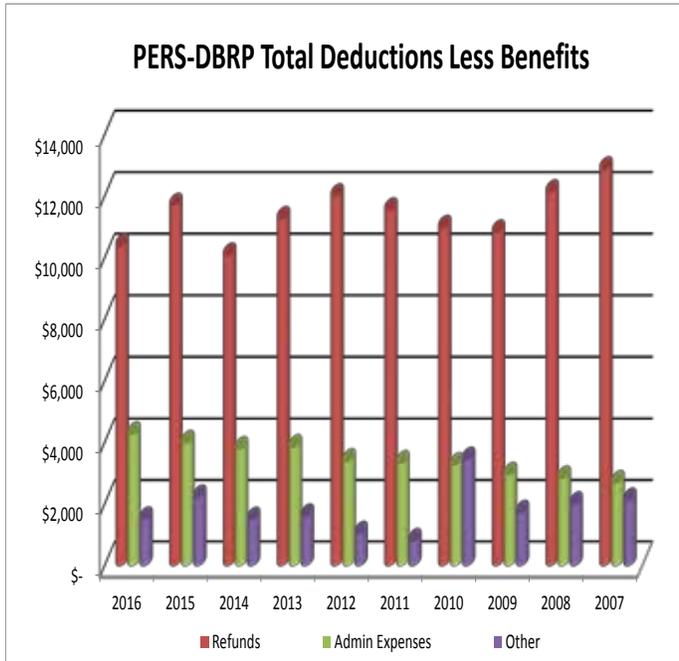
<sup>3</sup> Includes Common Stock Dividends.

<sup>4</sup> Includes OPEB Expenses.

<sup>5</sup> Includes Refunds to Other Plans and Prior Year Adjustments.

# STATISTICAL SECTION

	2010	2009	2008	2007
\$	4,141	\$ 3,186	\$ 2,974	\$ 2,709
	6,860	5,056	5,156	4,283
	10,932	10,186	9,452	8,677
	19,972	(40,908)	(10,262)	31,080
	41,905	(22,480)	7,320	46,749
	15,728	15,008	13,707	12,691
	849	794	4,290	688
	80	98	78	70
	149	62	4	29
	16,806	15,962	18,079	13,478
\$	25,099	\$ (38,442)	\$ (10,759)	\$ 33,271
\$	4,419	\$ 3,701	\$ 3,152	\$ 2,619
	5,129	4,531	4,467	3,520
	10,872	9,832	9,568	7,957
	19,606	(39,421)	(9,733)	29,577
	40,026	(21,357)	7,454	43,673
	14,598	13,987	13,353	11,851
	86	69	116	241
	72	98	57	56
	85			
	14,841	14,154	13,526	12,148
\$	25,185	\$ (35,511)	\$ (6,072)	\$ 31,525
\$	1,575	\$ 1,580	\$ 1,562	\$ 1,661
	2,566	(5,304)	(1,275)	4,103
	4,141	(3,724)	287	5,764
	1,857	1,780	1,717	1,637
	17	17	14	13
	58	59	46	50
	9			
	1,941	1,856	1,777	1,700
\$	2,200	\$ (5,580)	\$ (1,490)	\$ 4,064



## STATISTICAL SECTION

### Public Employees' Retirement Board

*A Component Unit of the State of Montana*

#### Changes in Fiduciary Net Position, Last Ten Fiscal Years

(In thousands)

Fiscal Year	2016	2015	2014	2013	2012	2011
<b>PERS-DCRP</b>						
Additions						
Member Contributions	\$ 9,970	\$ 9,369	\$ 8,534	\$ 6,943	\$ 6,318	\$ 6,100
Employer Contributions	6,494	4,887	4,410	4,374	4,137	3,965
Investment Income <sup>1</sup>	1,428	6,316	18,367	11,684	2,352	12,698
Other <sup>2</sup>	1,035	422	292	451	616	698
Total Additions to Net Position	18,927	20,994	31,603	23,452	13,423	23,461
Deductions						
Refunds	5,299	6,103	4,738	4,379	4,000	3,637
Administrative Expenses <sup>3</sup>	671	586	558	585	493	426
Other <sup>4</sup>	164	198	174	162	313	299
Total Deductions to Net Position	6,134	6,887	5,470	5,126	4,806	4,362
Change in Net Position	\$ 12,793	\$ 14,107	\$ 26,133	\$ 18,326	\$ 8,617	\$ 19,099
<b>DEFERRED COMPENSATION PLAN</b>						
Additions						
Member Contributions	\$ 21,916	\$ 20,379	\$ 24,255	\$ 20,297	\$ 19,381	\$ 19,072
Employer Contributions	63	103	81	79	65	64
Investment Income <sup>5</sup>	7,308	11,243	35,165	21,219	13,913	36,906
Other <sup>6</sup>	195	263	191	257	628	424
Total Additions to Net Position	29,482	31,988	59,692	41,852	33,987	56,466
Deductions						
Refunds	20,193	24,219	24,250	19,644	15,637	15,416
Administrative Expenses <sup>3</sup>	521	451	406	445	357	288
Other <sup>7</sup>	427	457	458	581	1,186	1,007
Total Deductions to Net Position	21,141	25,127	25,114	20,670	17,180	16,711
Change in Net Position	\$ 8,341	\$ 6,861	\$ 34,578	\$ 21,182	\$ 16,807	\$ 39,755

<sup>1</sup> Fees paid to Great-West, Transamerica and State Street are included in the net investment sum for fiscal years after 2012.

<sup>2</sup> Includes Miscellaneous Revenues and Forfeitures remitted to MPERA to pay administrative costs.

<sup>3</sup> Includes OPEB Expenses.

<sup>4</sup> Fees paid to Great-West and Transamerica for services provided prior to fiscal year 2013, and prior period adjustments.

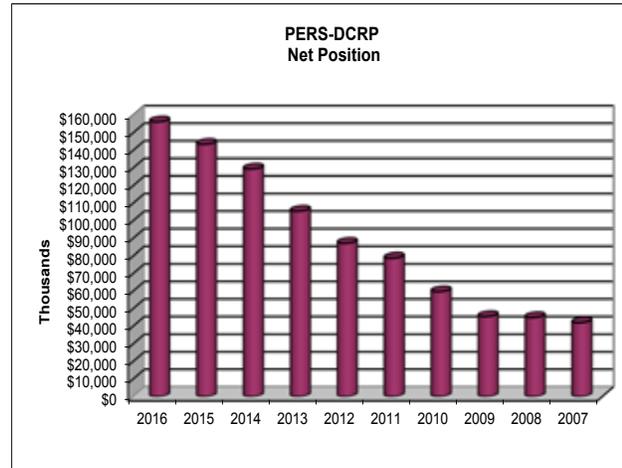
<sup>5</sup> Fees paid to Great-West, Transamerica and State Street are included in the net investment sum for fiscal years after 2012.

<sup>6</sup> Miscellaneous Revenue remitted to MPERA to pay administrative costs.

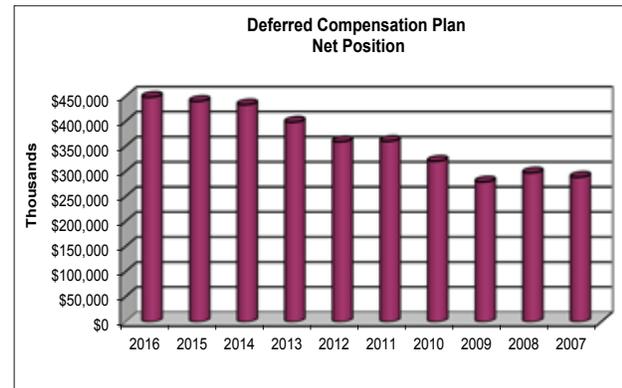
<sup>7</sup> Fees paid to Great-West, Transamerica and Allianz for services provided prior to fiscal year 2013, and prior period adjustments.

# STATISTICAL SECTION

	2010	2009	2008	2007
\$	6,140	\$ 5,723	\$ 5,118	\$ 4,394
	4,029	3,730	3,255	2,857
	6,122	(6,801)	(2,987)	5,415
	487	468	554	1,893
	<u>16,778</u>	<u>3,120</u>	<u>5,940</u>	<u>14,559</u>
	1,947	1,903	2,519	2,632
	416	411	246	253
	250	222	223	282
	<u>2,613</u>	<u>2,536</u>	<u>2,988</u>	<u>3,167</u>
\$	<u>\$ 14,165</u>	<u>\$ 584</u>	<u>\$ 2,952</u>	<u>\$ 11,392</u>



\$	18,607	\$ 19,661	\$ 19,107	\$ 17,712
	61	65	70	74
	37,203	(26,444)	3,287	37,102
	330	335	416	277
	<u>56,201</u>	<u>(6,383)</u>	<u>22,880</u>	<u>55,165</u>
	13,398	11,024	13,302	14,693
	277	318	241	225
	991	865	817	781
	<u>14,666</u>	<u>12,207</u>	<u>14,360</u>	<u>15,699</u>
\$	<u>\$ 41,535</u>	<u>\$ (18,590)</u>	<u>\$ 8,520</u>	<u>\$ 39,466</u>



## STATISTICAL SECTION

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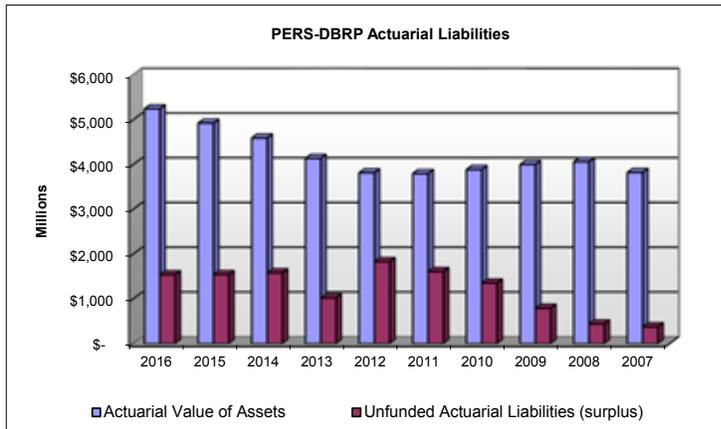
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# Public Employees' Retirement Board

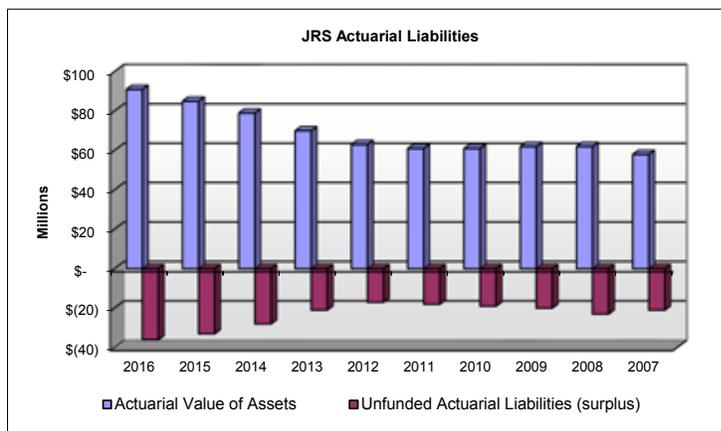
*A Component Unit of the State of Montana*

## History of Actuarial Liabilities

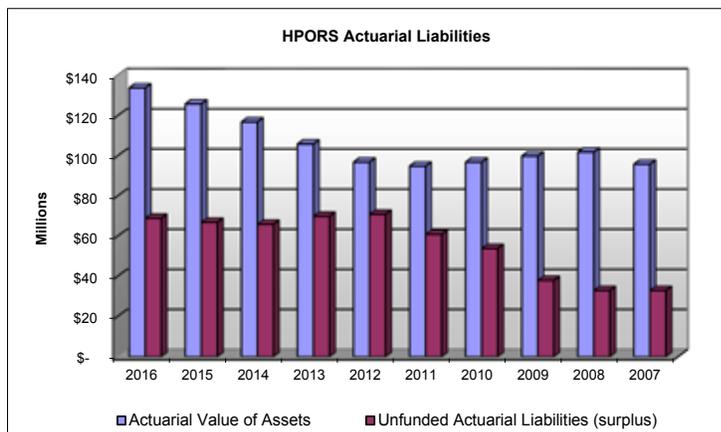
(in millions)



Fiscal Year	Actuarial Value of Assets	Unfunded Actuarial Liabilities (surplus)
2016	\$ 5,248	\$ 1,540
2015	4,927	1,544
2014	4,596	1,582
2013	4,140	1,021
2012	3,817	1,833
2011	3,801	1,610
2010	3,890	1,352
2009	4,002	791
2008	4,065	439
2007	3,825	376



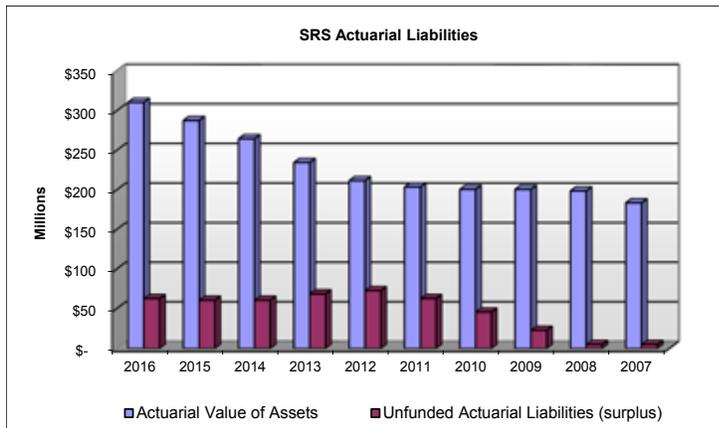
Fiscal Year	Actuarial Value of Assets	Unfunded Actuarial Liabilities (surplus)
2016	\$ 91	\$ (36)
2015	85	(33)
2014	79	(28)
2013	70	(21)
2012	63	(17)
2011	61	(18)
2010	61	(19)
2009	62	(20)
2008	62	(23)
2007	58	(21)



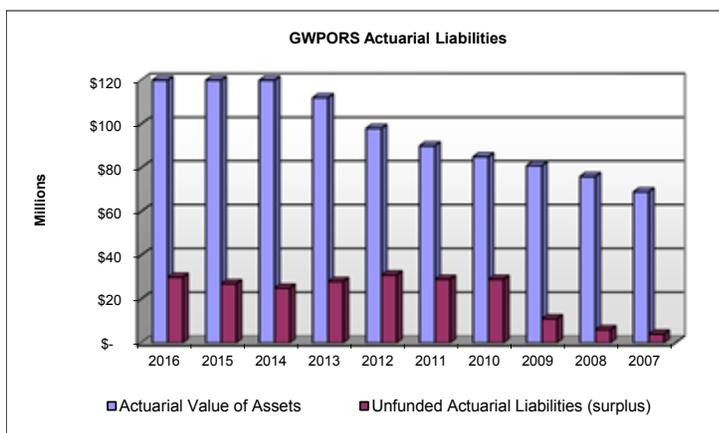
Fiscal Year	Actuarial Value of Assets	Unfunded Actuarial Liabilities (surplus)
2016	\$ 134	\$ 69
2015	126	67
2014	117	66
2013	106	70
2012	97	71
2011	95	61
2010	97	54
2009	100	38
2008	102	33
2007	96	33

# STATISTICAL SECTION

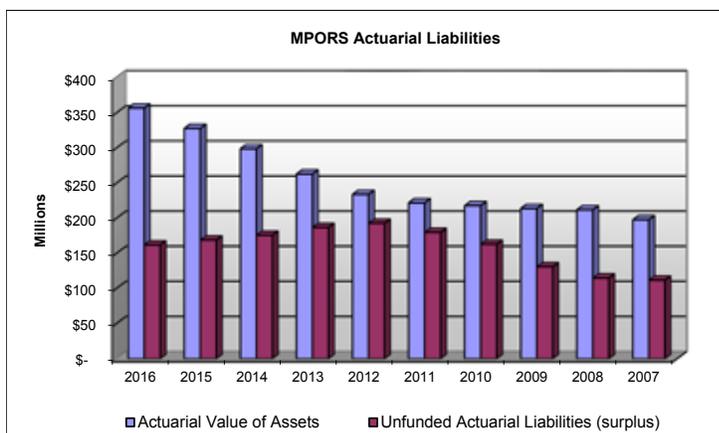
## Public Employees' Retirement Board A Component Unit of the State of Montana History of Actuarial Liabilities (cont.) (in millions)



Fiscal Year	Actuarial Value of Assets	Unfunded Actuarial Liabilities (surplus)
2016	\$ 311	\$ 63
2015	288	61
2014	265	61
2013	235	69
2012	212	73
2011	204	63
2010	201	46
2009	201	23
2008	199	5
2007	184	5



Fiscal Year	Actuarial Value of Assets	Unfunded Actuarial Liabilities (surplus)
2016	\$ 161	\$ 30
2015	145	27
2014	129	25
2013	112	28
2012	98	31
2011	90	29
2010	85	29
2009	81	11
2008	76	6
2007	69	4



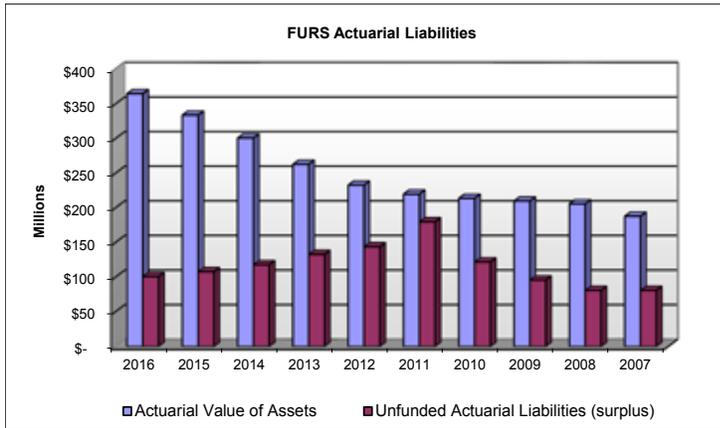
Fiscal Year	Actuarial Value of Assets	Unfunded Actuarial Liabilities (surplus)
2016	\$ 357	\$ 162
2015	328	169
2014	299	176
2013	263	187
2012	234	193
2011	222	180
2010	218	163
2009	214	131
2008	212	115
2007	198	112

## Public Employees' Retirement Board

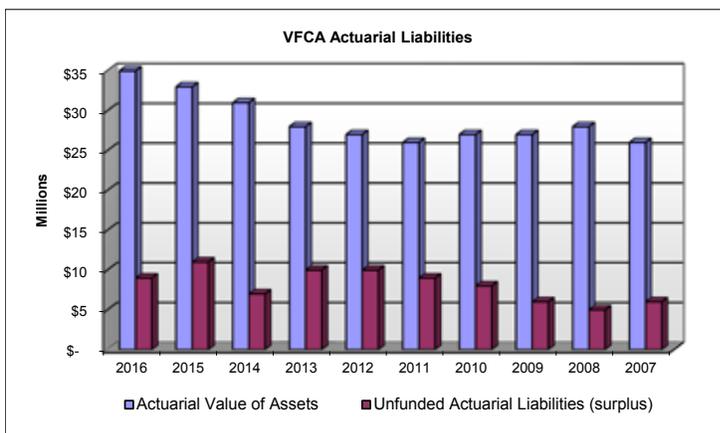
*A Component Unit of the State of Montana*

### History of Actuarial Liabilities (cont.)

(in millions)



Fiscal Year	Actuarial Value of Assets	Unfunded Actuarial Liabilities (surplus)
2016	\$ 365	\$ 101
2015	334	108
2014	301	118
2013	263	133
2012	233	144
2011	220	180
2010	214	122
2009	210	96
2008	206	81
2007	188	81



Fiscal Year	Actuarial Value of Assets	Unfunded Actuarial Liabilities (surplus)
2016	\$ 35	\$ 9
2015	33	11
2014	31	7
2013	28	10
2012	27	10
2011	26	9
2010	27	8
2009	27	6
2008	28	5
2007	26	6

# STATISTICAL SECTION

## Public Employees' Retirement Board

*A Component Unit of the State of Montana*

### Schedule of Fair Values by Type of Investment, Last Ten Fiscal Years

(in thousands)

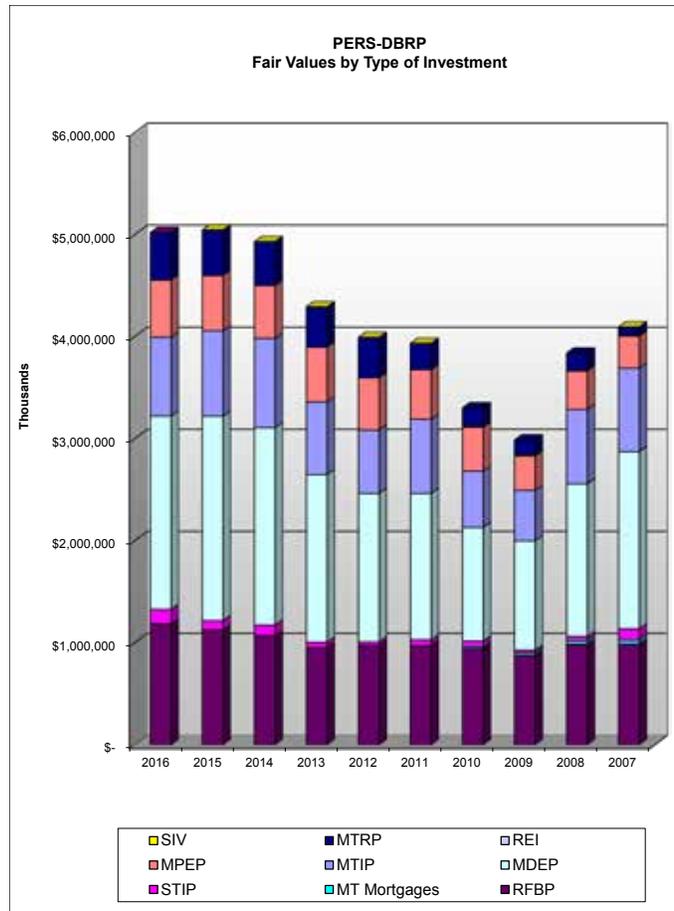
System	2016	2015	2014	2013	2012	2011
<b>PERS-DBRP <sup>1</sup></b>						
<i>Fixed Income:</i>						
Retirement Funds Bond Pool (RFBP)	\$ 1,184,758	\$ 1,127,097	\$ 1,069,517	\$ 950,298	\$ 974,139	\$ 969,119
Montana Mortgages						
Short Term Investment Pool (STIP)	142,167	89,180	103,602	54,005	33,708	59,256
<i>Equities:</i>						
Montana Domestic Equity Pool (MDEP)	1,893,160	2,004,038	1,933,145	1,643,009	1,455,188	1,434,773
Montana International Equity Pool (MTIP)	774,561	837,968	877,318	712,587	621,887	727,765
Montana Private Equity Pool (MPEP)	559,719	539,912	517,873	536,542	512,315	484,324
<i>Alternative Investments:</i>						
Real Estate Investments (REI)						
Montana Real Estate Pool (MTRP)	463,582	445,360	426,528	393,155	315,093	256,368
Structured Investment Vehicles (SIV)		766	1,179	710	547	1,023
<b>Total</b>	<b>\$ 5,017,947</b>	<b>\$ 5,044,321</b>	<b>\$ 4,929,162</b>	<b>\$ 4,290,306</b>	<b>\$ 3,912,877</b>	<b>\$ 3,932,628</b>
<b>PERS-DCRP DISABILITY OPEB <sup>2</sup></b>						
<i>Fixed Income:</i>						
Short Term Investment Pool (STIP)	\$ 265	\$ 2,738	\$ 2,427			
<i>Alternative Investments:</i>						
Structured Investment Vehicles (SIV)		24	27			
Pooled Investments at Cost	2,834					
<b>Total</b>	<b>\$ 3,099</b>	<b>\$ 2,762</b>	<b>\$ 2,454</b>			
<b>JRS</b>						
<i>Fixed Income:</i>						
Retirement Funds Bond Pool (RFBP)	\$ 20,613	\$ 19,324	\$ 18,164	\$ 16,034	\$ 16,031	\$ 15,497
Short Term Investment Pool (STIP)	2,502	1,770	1,940	1,085	848	1,312
<i>Equities:</i>						
Montana Domestic Equity Pool (MDEP)	32,938	34,351	32,822	27,759	23,933	23,098
Montana International Equity Pool (MTIP)	13,477	14,358	14,901	12,036	10,224	11,733
Montana Private Equity Pool (MPEP)	9,738	9,255	8,796	9,064	8,428	7,788
<i>Alternative Investments:</i>						
Montana Real Estate Pool (MTRP)	8,066	7,640	7,251	6,641	5,168	4,046
Structured Investment Vehicles (SIV)		15	22	14	14	23
<b>Total</b>	<b>\$ 87,334</b>	<b>\$ 86,713</b>	<b>\$ 83,896</b>	<b>\$ 72,633</b>	<b>\$ 64,646</b>	<b>\$ 63,497</b>

<sup>1</sup>Does not include the Defined Benefit Education.

<sup>2</sup> Effective FY2014, the DCRP-Disability, included in the PERS-DCRP, was changed to PERS-DCRP Disability OPEB and reported as a separate Defined Benefit Plan.

# STATISTICAL SECTION

2010	2009	2008	2007
\$ 939,430	\$ 876,390	\$ 988,124	\$ 987,821
19,185	24,055	31,837	36,861
56,727	27,140	41,820	111,318
1,114,072	1,070,435	1,494,306	1,735,718
552,712	494,790	730,360	818,362
430,729	338,517	376,615	315,059
8,963	8,937	8,931	8,816
178,787	145,478	164,667	79,459
3,640	2,619	4,306	
<b>\$ 3,304,245</b>	<b>\$ 2,988,361</b>	<b>\$ 3,840,966</b>	<b>\$ 4,093,414</b>



\$ 15,034	\$ 14,019	\$ 15,581	\$ 15,576
1,392	913	967	1,770
17,608	16,507	22,790	26,348
8,732	7,551	10,973	12,162
6,725	5,224	5,733	4,744
2,820	2,247	2,515	1,206
89	83	99	
<b>\$ 52,400</b>	<b>\$ 46,544</b>	<b>\$ 58,658</b>	<b>\$ 61,806</b>

# STATISTICAL SECTION

## Public Employees' Retirement Board

*A Component Unit of the State of Montana*

### Schedule of Fair Values by Type of Investment, Last Ten Fiscal Years (cont.)

(in thousands)

System	2016	2015	2014	2013	2012	2011
<b>HPORS</b>						
<i>Fixed Income:</i>						
Retirement Funds Bond Pool (RFBP)	\$ 30,235	\$ 28,714	\$ 27,240	\$ 24,239	\$ 24,653	\$ 24,318
Short Term Investment Pool (STIP)	3,972	2,012	2,585	1,355	847	1,521
<i>Equities:</i>						
Montana Domestic Equity Pool (MDEP)	48,312	51,060	49,217	41,883	36,840	35,969
Montana International Equity Pool (MTIP)	19,766	21,346	22,336	18,165	15,732	18,258
Montana Private Equity Pool (MPEP)	14,284	13,757	13,184	13,673	12,958	12,136
<i>Alternative Investments:</i>						
Montana Real Estate Pool (MTRP)	11,830	11,349	10,862	10,031	7,963	6,313
Structured Investment Vehicles (SIV)		17	29	18	14	26
<b>Total</b>	<b>\$ 128,399</b>	<b>\$ 128,255</b>	<b>\$ 125,453</b>	<b>\$ 109,364</b>	<b>\$ 99,007</b>	<b>\$ 98,541</b>
<b>SRS</b>						
<i>Fixed Income:</i>						
Retirement Funds Bond Pool (RFBP)	\$ 70,501	\$ 65,674	\$ 61,417	\$ 53,724	\$ 53,636	\$ 51,323
Short Term Investment Pool (STIP)	8,097	6,236	6,984	3,986	2,715	4,719
<i>Equities:</i>						
Montana Domestic Equity Pool (MDEP)	112,653	116,812	110,982	92,868	80,065	76,580
Montana International Equity Pool (MTIP)	46,091	48,818	50,346	40,321	34,234	38,871
Montana Private Equity Pool (MPEP)	33,307	31,447	29,720	30,325	28,179	25,806
<i>Alternative Investments:</i>						
Montana Real Estate Pool (MTRP)	27,586	25,966	24,475	22,245	17,308	13,434
Structured Investment Vehicles (SIV)		54	77	52	44	82
<b>Total</b>	<b>\$ 298,235</b>	<b>\$ 295,007</b>	<b>\$ 284,001</b>	<b>\$ 243,521</b>	<b>\$ 216,181</b>	<b>\$ 210,815</b>
<b>GWPORS</b>						
<i>Fixed Income:</i>						
Retirement Funds Bond Pool (RFBP)	\$ 36,325	\$ 32,954	\$ 29,848	\$ 25,466	\$ 24,510	\$ 22,834
Short Term Investment Pool (STIP)	4,716	3,132	3,546	1,896	1,476	2,257
<i>Equities:</i>						
Montana Domestic Equity Pool (MDEP)	58,041	58,608	53,925	44,058	36,685	34,017
Montana International Equity Pool (MTIP)	23,748	24,481	24,482	19,106	15,697	17,252
Montana Private Equity Pool (MPEP)	17,161	15,792	14,481	14,411	12,940	11,524
<i>Alternative Investments:</i>						
Montana Real Estate Pool (MTRP)	14,213	13,014	11,906	10,600	8,036	6,003
Structured Investment Vehicles (SIV)		27	39	25	24	39
<b>Total</b>	<b>\$ 154,204</b>	<b>\$ 148,008</b>	<b>\$ 138,227</b>	<b>\$ 115,562</b>	<b>\$ 99,368</b>	<b>\$ 93,926</b>

## STATISTICAL SECTION

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2010	2009	2008	2007
\$ 24,091	\$ 22,471	\$ 25,614	\$ 25,897
1,461	774	1,014	2,785
27,848	26,680	37,406	43,439
13,815	12,387	18,307	20,513
10,751	8,419	9,429	7,979
4,466	3,613	4,127	2,004
94	70	104	
\$ 82,526	\$ 74,414	\$ 96,001	\$ 102,617
\$ 49,172	\$ 45,693	\$ 50,063	\$ 49,551
4,473	2,370	3,300	5,526
58,159	53,630	73,074	84,481
28,703	24,673	35,060	38,004
22,037	17,060	18,271	14,859
9,259	7,311	8,054	3,796
287	215	340	
\$ 172,090	\$ 150,952	\$ 188,162	\$ 196,217
\$ 20,691	\$ 18,518	\$ 19,243	\$ 18,332
2,548	1,514	1,761	2,536
24,643	21,722	28,272	31,082
12,513	10,000	13,545	14,344
9,262	6,949	7,008	5,497
3,954	2,981	3,115	1,404
164	137	181	
\$ 73,775	\$ 61,821	\$ 73,125	\$ 73,195

# STATISTICAL SECTION

## Public Employees' Retirement Board

A Component Unit of the State of Montana

### Schedule of Fair Values by Type of Investment, Last Ten Fiscal Years (cont.)

(in thousands)

System	2016	2015	2014	2013	2012	2011
<b>MPORS</b>						
<i>Fixed Income:</i>						
Retirement Funds Bond Pool (RFBP)	\$ 77,621	\$ 71,807	\$ 66,377	\$ 57,237	\$ 56,431	\$ 53,729
Short Term Investment Pool (STIP)	9,642	5,189	6,007	2,819	1,472	2,593
<i>Equities:</i>						
Montana Domestic Equity Pool (MDEP)	124,032	127,640	119,961	98,916	84,109	79,542
Montana International Equity Pool (MTIP)	50,746	53,385	54,440	42,936	35,975	40,334
Montana Private Equity Pool (MPEP)	36,671	34,373	32,111	32,305	29,657	26,844
<i>Alternative Investments:</i>						
Montana Real Estate Pool (MTRP)	30,372	28,401	26,516	23,681	18,220	13,981
Structured Investment Vehicles (SIV)		45	67	37	24	45
<b>Total</b>	<b>\$ 329,084</b>	<b>\$ 320,840</b>	<b>\$ 305,479</b>	<b>\$ 257,931</b>	<b>\$ 225,888</b>	<b>\$ 217,068</b>
<b>FURS</b>						
<i>Fixed Income:</i>						
Retirement Funds Bond Pool (RFBP)	\$ 79,532	\$ 72,899	\$ 66,856	\$ 57,369	\$ 56,219	\$ 53,467
Short Term Investment Pool (STIP)	9,563	5,972	6,327	3,077	1,632	2,766
<i>Equities:</i>						
Montana Domestic Equity Pool (MDEP)	127,086	129,543	120,837	99,213	83,940	78,947
Montana International Equity Pool (MTIP)	51,996	54,178	54,855	43,017	35,869	40,044
Montana Private Equity Pool (MPEP)	37,573	34,900	32,332	32,423	29,561	26,635
<i>Alternative Investments:</i>						
Montana Real Estate Pool (MTRP)	31,120	28,829	26,667	23,771	18,175	13,869
Structured Investment Vehicles (SIV)		51	70	40	26	48
<b>Total</b>	<b>\$ 336,870</b>	<b>\$ 326,372</b>	<b>\$ 307,944</b>	<b>\$ 258,910</b>	<b>\$ 225,422</b>	<b>\$ 215,776</b>
<b>VFCA</b>						
<i>Fixed Income:</i>						
Retirement Funds Bond Pool (RFBP)	\$ 7,520	\$ 7,181	\$ 6,834	\$ 6,092	\$ 6,373	\$ 6,415
Short Term Investment Pool (STIP)	2,679	2,350	2,322	1,949	1,704	1,655
<i>Equities:</i>						
Montana Domestic Equity Pool (MDEP)	12,017	12,759	12,354	10,544	9,516	9,376
Montana International Equity Pool (MTIP)	4,917	5,339	5,603	4,559	4,066	4,753
Montana Private Equity Pool (MPEP)	3,553	3,439	3,297	3,436	3,348	3,145
<i>Alternative Investments:</i>						
Montana Real Estate Pool (MTRP)	2,943	2,840	2,726	2,491	2,057	1,637
Structured Investment Vehicles (SIV)		20	26	26	28	29
<b>Total</b>	<b>\$ 33,629</b>	<b>\$ 33,928</b>	<b>\$ 33,162</b>	<b>\$ 29,097</b>	<b>\$ 27,092</b>	<b>\$ 27,010</b>

## STATISTICAL SECTION

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2010	2009	2008	2007
\$ 51,742	\$ 45,995	\$ 51,238	\$ 51,176
2,305	920	85	4,404
59,532	54,681	75,279	87,099
29,350	25,207	36,707	39,784
23,192	17,242	18,999	15,547
9,547	7,437	8,274	4,102
148	83	9	
\$ 175,816	\$ 151,565	\$ 190,591	\$ 202,112

\$ 50,657	\$ 45,160	\$ 49,419	\$ 48,813
2,649	1,268	1,573	4,488
58,543	53,532	72,476	82,766
29,067	24,862	34,970	37,848
22,703	16,890	18,175	14,850
9,403	7,260	7,962	3,744
170	115	162	
\$ 173,192	\$ 149,087	\$ 184,737	\$ 192,509

\$ 6,379	\$ 5,742	\$ 6,609	\$ 6,542
1,385	1,571	1,404	2,194
7,245	6,836	9,645	11,043
3,567	3,140	4,731	5,258
2,806	2,115	2,411	1,951
1,124	898	1,047	504
89	142	145	
\$ 22,595	\$ 20,444	\$ 25,992	\$ 27,492

# STATISTICAL SECTION

## Public Employees' Retirement Board

A Component Unit of the State of Montana

### Schedule of Fair Values by Type of Investment, Last Ten Fiscal Years (cont.)

(in thousands)

System	2016	2015	2014	2013	2012	2011
<b>PERS-DCRP<sup>1</sup></b>						
<i>Fixed Income:</i>						
Short Term Investment Pool (STIP) <sup>2</sup>	\$ 697	\$ 1,064	\$ 1,206	\$ 3,742	\$ 3,512	\$ 3,308
<i>Alternative Investments:</i>						
Defined Contributions Fixed Annuity	12,750	10,197	10,015	10,573	9,500	7,971
Defined Contributions Variable Annuity	141,300	131,649	117,713	90,794	73,769	67,271
Structured Investment Vehicles (SIV)		9	13	49	57	56
<b>Total</b>	<b>\$ 154,747</b>	<b>\$ 142,919</b>	<b>\$ 128,947</b>	<b>\$ 105,158</b>	<b>\$ 86,838</b>	<b>\$ 78,606</b>
<b>DEFERRED COMPENSATION PLAN</b>						
<i>Fixed Income:</i>						
Short Term Investment Pool (STIP) <sup>2</sup>	\$ 189	\$ 659	\$ 944	\$ 1,301	\$ 1,405	\$ 953
<i>Alternative Investments:</i>						
Deferred Comp Fixed Annuity	238,995	232,527	235,981	246,331	246,315	224,800
Deferred Comp Variable Annuity	209,135	206,925	196,453	151,259	129,922	135,180
Deferred Comp Life Insurance	12	12	12	12	12	12
Structured Investment Vehicles (SIV)		6	11	17	23	16
<b>Total</b>	<b>\$ 448,331</b>	<b>\$ 440,129</b>	<b>\$ 433,401</b>	<b>\$ 398,920</b>	<b>\$ 377,677</b>	<b>\$ 360,961</b>

<sup>1</sup> Effective FY2014, the DCRP-Disability, included in the PERS-DCRP, was changed to PERS-DCRP Disability OPEB and reported as a separate Defined Benefit Plan.

<sup>2</sup> Effective FY2014, STIP was included as an investment option for the DCRP and Deferred Compensation plans.

## STATISTICAL SECTION

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2010	2009	2008	2007
\$ 2,774	\$ 2,464	\$ 2,015	\$ 1,381
6,725	4,820	3,128	1,805
49,946	38,198	39,622	38,634
167	205	188	
<u>\$ 59,612</u>	<u>\$ 45,687</u>	<u>\$ 44,953</u>	<u>\$ 41,820</u>
\$ 808	\$ 763	\$ 697	\$ 447
213,414	189,421	181,740	159,669
106,893	89,388	115,151	128,873
12	12	12	12
49	63	65	
<u>\$ 321,176</u>	<u>\$ 279,648</u>	<u>\$ 297,665</u>	<u>\$ 289,001</u>

## STATISTICAL SECTION

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**Public Employees' Retirement Board**

*A Component Unit of the State of Montana*

**Schedule of Contribution Rate History**

**PERS-DBRP**

Fiscal Year	State & Universities		Local Government		School Districts		
	Member	Employer	Employer	State	Employer	State	
Hired <07/01/11    Hired >07/01/11							
2016	7.900%	7.900%	8.370%	8.270%	0.100%	8.000%	0.370%
2015	7.900%	7.900%	8.270%	8.170%	0.100%	7.900%	0.370%
2014	7.900%	7.900%	8.170%	8.070%	0.100%	7.800%	0.370%
2012-2013	6.900%	7.900%	7.170%	7.070%	0.100%	6.800%	0.370%
2010-2011	6.900%		7.170%	7.070%	0.100%	6.800%	0.370%
2008-2009	6.900%		7.035%	6.935%	0.100%	6.800%	0.235%
2000-2007	6.900%		6.900%	6.800%	0.100%	6.800%	0.100%
1998-1999	6.800%		6.800%	6.700%	0.100%	6.700%	0.100%
1994-1997	6.700%		6.700%	6.700%		6.700%	
1993	6.550%		6.550%	6.550%		6.550%	
1992	6.417%		6.417%	6.417%		6.417%	
1991	6.300%		6.417%	6.417%		6.417%	
1990	6.150%		6.417%	6.417%		6.417%	
1984-1989	6.000%		6.417%	6.417%		6.417%	
1982-1983	6.000%		6.320%	6.320%		6.320%	
1979-1981	6.000%		6.200%	6.200%		6.200%	
1978	6.000%		5.950%	5.950%		5.950%	
1977	6.000%		5.550%	5.550%		5.550%	
1976	6.000%		5.200%	5.200%		5.200%	
1974-1975	5.750%		4.900%	4.900%		4.900%	
1972-1973	5.750%		4.600%	4.600%		4.600%	
1970-1971	5.750%		4.300%	4.300%		4.300%	
1968-1969	5.750%		3.800%	3.800%		3.800%	
1947-1967 *	2.5%-9.6%		3.300%	3.300%		3.300%	
1945-1947 *	2.5%-9.6%		3.000%	3.000%		3.000%	

\*1945 - 1967 Member Contributions were based on age and gender.

**JRS**

Fiscal Year	Member	Employer
1998-2016	7.000%	25.810%
1993-1997	7.000%	6.000%
1968-1992	6.000%	6.000%

Prior to 1998 the employer contributed 6% and additional contributions were received based on a portion of the District Court filing fees. In 1998 the filing fees were eliminated and the employer rate was increased to 25.81%.

## STATISTICAL SECTION

### Public Employees' Retirement Board

*A Component Unit of the State of Montana*

#### Schedule of Contribution Rate History (cont.)

#### HPORS

Fiscal Year	Member			
	Non-GABA	GABA	Employer	State
2016	12.000%	12.050%	28.150%	10.180%
2015	11.000%	11.050%	28.150%	10.180%
2014	10.000%	10.050%	28.150%	10.180%
1998-2013	9.000%	9.050%	26.150%	10.180%
1992-1997	9.000%		26.100%	10.180%
1991	7.590%		26.100%	10.180%
1986-1990	7.590%		16.570%	10.180%
1982-1985	6.500%		16.570%	
1976-1981	6.500%		16.000%	
1975	6.500%		15.000%	
1971-1974	5.000%		8.000%	

#### SRS

Fiscal Year	Member	Employer
2010-2016	9.245%	10.115%
2008-2009	9.245%	9.825%
1998-2007	9.245%	9.535%
1997	7.865%	8.535%
1996	7.865%	8.535%
1986-1995	7.000%	7.670%
1982-1985	7.000%	7.620%
1975-1981	7.000%	7.550%

#### GWPORS

Fiscal Year	Member	Employer
2003-2016	10.560%	9.000%
1998-2002	8.500%	9.000%
1996-1997	7.900%	8.150%
1986-1995	7.900%	7.150%
1982-1985	7.000%	7.150%
1964-1981	7.000%	7.000%

**Public Employees' Retirement Board**

*A Component Unit of the State of Montana*

**Schedule of Contribution Rate History (cont.)**

**MPORS**

Fiscal Year	Member				Employer	State
	Hired <7/1/75	Hired >6/30/75	Hired >6/30/79	Hired >6/30/97 GABA		
2000-2016	5.800%	7.000%	8.500%	9.000%	14.410%	29.370%
1998-1999	7.800%	9.000%	10.500%	11.000%	14.410%	29.370%
1997	7.800%	9.000%	10.500%		14.360%	29.370%
1994-1996	7.800%	9.000%	10.500%		14.360%	15.660%
1993	7.800%	9.000%	10.500%		13.920%	15.660%
1992	6.000%	7.200%	8.700%		13.920%	15.660%
1986-1991	6.000%	6.000%	7.500%		13.020%	15.060%
1982-1985	6.000%	6.000%	7.500%		14.040%	14.040%
1980-1981	6.000%	6.000%	7.500%		14.000%	14.000%
1978-1979	6.000%	6.000%			12.000%	12.000%
1976-1977	6.000%	6.000%			11.000%	12.000%
1974-1975	6.000%				11.000%	12.000%

**FURS**

Fiscal Year	Member			State
	Non-GABA	GABA	Employer	
1998-2016	9.500%	10.700%	14.360%	32.610%
1997	7.800%		14.360%	32.610%
1996	7.800%		14.360%	24.210%
1995	6.000%		13.020%	24.210%
1992-1994	6.000%		13.020%	23.270%
1986-1991	6.000%		13.020%	22.980%
1984-1985	6.000%		18.000%	18.000%
1983	6.000%		15.000%	15.000%
1981-1982	6.000%		12.000%	12.000%

**PERS-DCRP**

Fiscal Year	State & University			Local Government		School Districts	
	Member		Employer	Employer	State	Employer	State
	Hired <07/01/11	Hired >07/01/11					
2016	7.900%	7.900%	8.370%	8.270%	0.100%	8.00%	0.370%
2015	7.900%	7.900%	8.270%	8.170%	0.100%	7.900%	0.370%
2014	7.900%	7.900%	8.170%	8.070%	0.100%	7.800%	0.370%
2012-2013	6.900%	7.900%	7.170%	7.070%	0.100%	6.800%	0.370%
2010-2011	6.900%		7.170%	7.070%	0.100%	6.800%	0.370%
2008-2009	6.900%		7.035%	6.935%	0.100%	6.800%	0.235%
2003-2007	6.900%		6.900%	6.800%	0.100%	6.800%	0.100%

# STATISTICAL SECTION

## Public Employees' Retirement Board

*A Component Unit of the State of Montana*

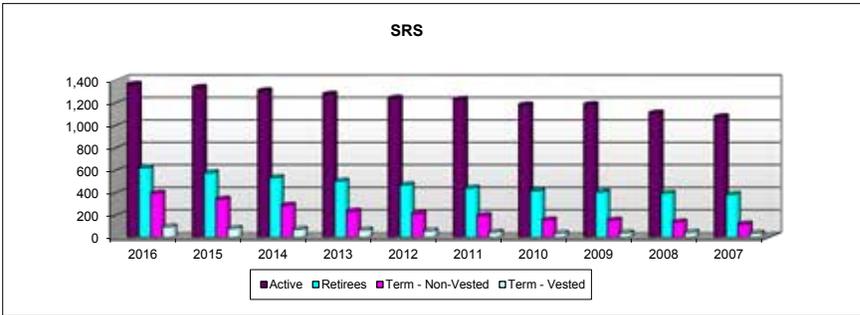
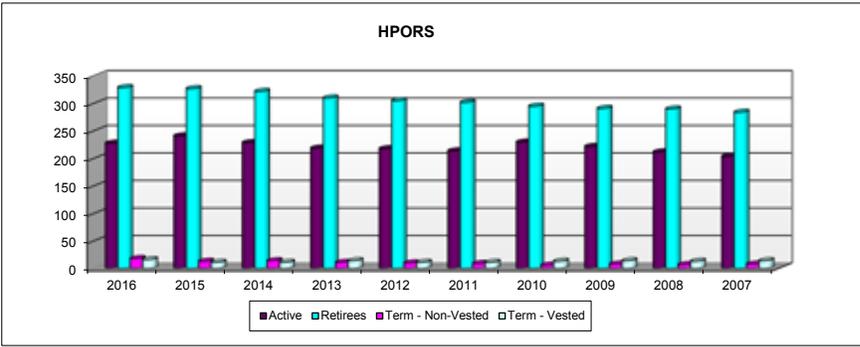
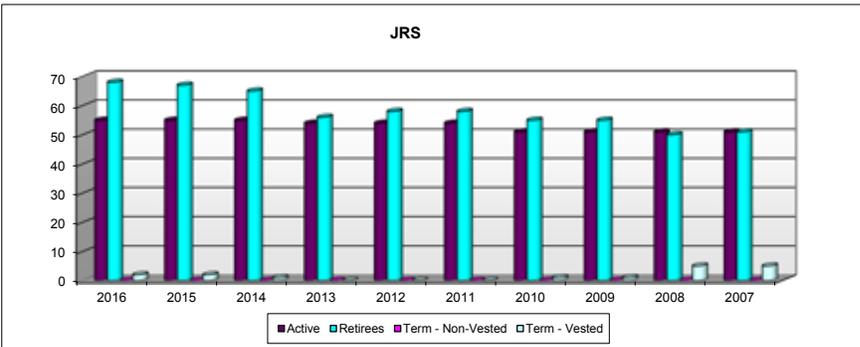
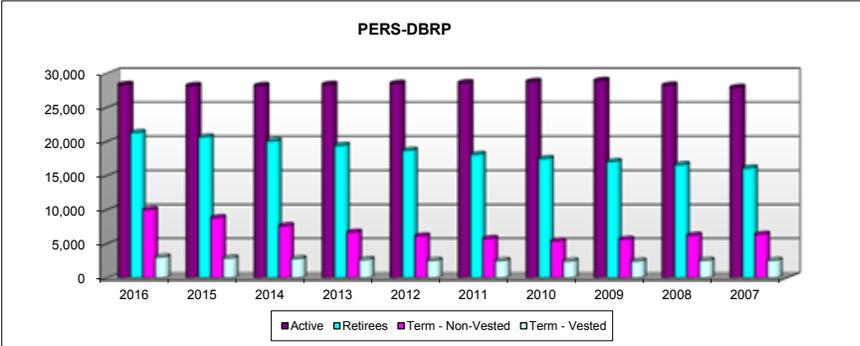
### History of Membership in Retirement Plans, Last Ten Fiscal Years

System	2016	2015	2014	2013	2012	2011	2010	2009	2008	2007
<b>PERS-DBRP</b>										
Active	28,390	28,237	28,229	28,401	28,548	28,659	28,834	28,983	28,293	27,977
Retirees/Beneficiaries	21,333	20,681	20,081	19,451	18,738	18,123	17,512	17,075	16,627	16,137
Term-Non-Vested	10,031	8,839	7,666	6,712	6,164	5,787	5,402	5,670	6,268	6,401
Term-Vested	3,062	2,925	2,825	2,686	2,560	2,535	2,471	2,476	2,579	2,576
<b>Total</b>	<b>62,816</b>	<b>60,682</b>	<b>58,801</b>	<b>57,250</b>	<b>56,010</b>	<b>55,104</b>	<b>54,219</b>	<b>54,204</b>	<b>53,767</b>	<b>53,091</b>
<b>JRS</b>										
Active	55	55	55	54	54	54	51	51	51	51
Retirees/Beneficiaries	68	67	67	65	56	58	55	55	50	51
Term-Non-Vested										
Term-Vested	2	2	1				1	1	5	5
<b>Total</b>	<b>125</b>	<b>124</b>	<b>123</b>	<b>119</b>	<b>110</b>	<b>112</b>	<b>107</b>	<b>107</b>	<b>106</b>	<b>107</b>
<b>HPORS</b>										
Active	228	241	229	219	218	214	230	222	212	204
Retirees/Beneficiaries	329	327	322	310	305	302	295	291	290	284
Term-Non-Vested	18	13	14	11	10	9	6	8	7	8
Term-Vested	16	11	11	14	11	11	13	14	13	14
<b>Total</b>	<b>591</b>	<b>592</b>	<b>576</b>	<b>554</b>	<b>544</b>	<b>536</b>	<b>544</b>	<b>535</b>	<b>522</b>	<b>510</b>
<b>SRS</b>										
Active	1,364	1,336	1,307	1,276	1,241	1,230	1,181	1,185	1,109	1,076
Retirees/Beneficiaries	620	577	533	503	469	441	415	406	394	384
Term-Non-Vested	394	342	288	235	212	196	157	155	139	120
Term-Vested	95	81	73	67	60	48	36	41	46	38
<b>Total</b>	<b>2,473</b>	<b>2,336</b>	<b>2,201</b>	<b>2,081</b>	<b>1,982</b>	<b>1,915</b>	<b>1,789</b>	<b>1,787</b>	<b>1,688</b>	<b>1,618</b>

**Public Employees' Retirement Board**

*A Component Unit of the State of Montana*

**History of Membership in Retirement Plans, Last Ten Fiscal Years**



# STATISTICAL SECTION

## Public Employees' Retirement Board

*A Component Unit of the State of Montana*

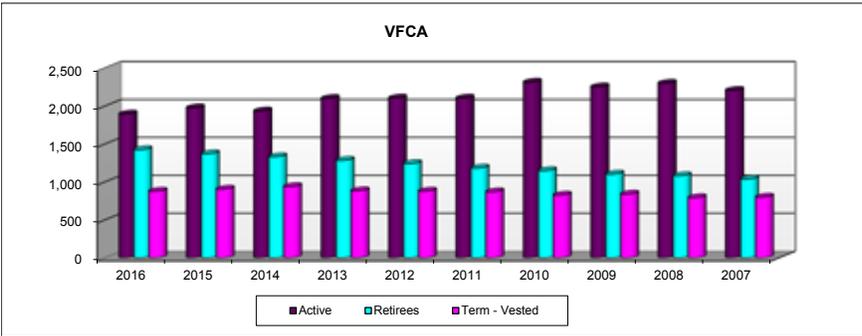
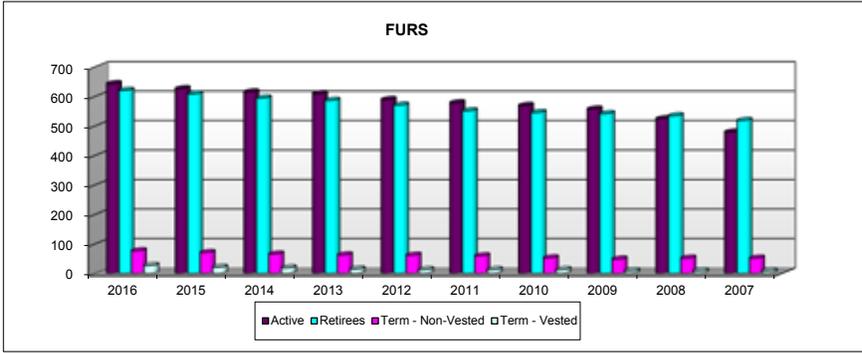
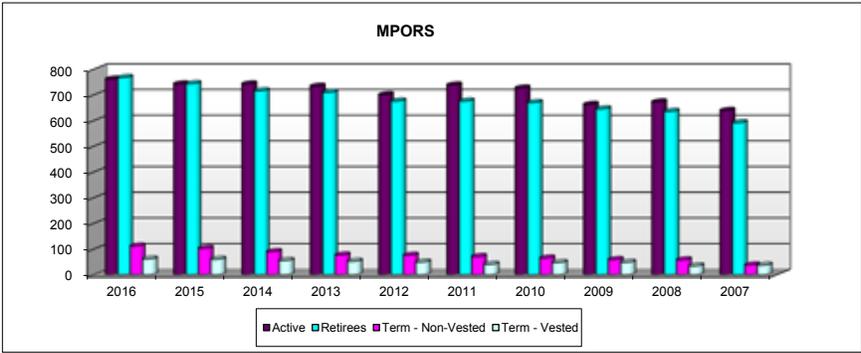
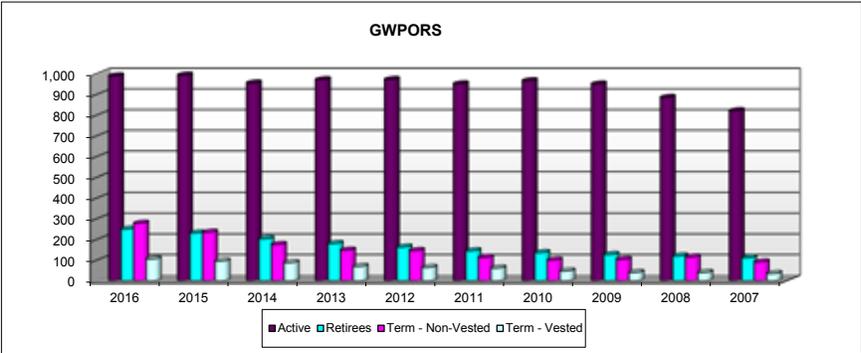
### History of Membership in Retirement Plans, Last Ten Fiscal Years (cont.)

System	2016	2015	2014	2013	2012	2011	2010	2009	2008	2007
<b>GWPORS</b>										
Active	989	993	955	971	972	951	966	950	885	821
Retirees/Beneficiaries	250	231	203	180	163	145	136	127	120	111
Term-Non-Vested	278	235	175	148	146	113	100	103	115	91
Term-Vested	105	95	87	69	64	61	47	40	40	35
<b>Total</b>	<b>1,622</b>	<b>1,554</b>	<b>1,420</b>	<b>1,368</b>	<b>1,345</b>	<b>1,270</b>	<b>1,249</b>	<b>1,220</b>	<b>1,160</b>	<b>1,058</b>
<b>MPORS</b>										
Active	762	743	743	734	701	739	727	663	673	640
Retirees/Beneficiaries	768	744	716	710	676	676	670	646	636	592
Term-Non-Vested	112	103	90	77	76	71	65	59	58	38
Term-Vested	61	60	55	52	49	40	47	48	34	37
<b>Total</b>	<b>1,703</b>	<b>1,650</b>	<b>1,604</b>	<b>1,573</b>	<b>1,502</b>	<b>1,526</b>	<b>1,509</b>	<b>1,416</b>	<b>1,401</b>	<b>1,307</b>
<b>FURS</b>										
Active	644	627	616	610	590	579	570	558	525	480
Retirees/Beneficiaries	621	609	595	587	571	552	546	542	535	519
Term-Non-Vested	77	71	66	63	62	60	53	49	52	52
Term-Vested	27	21	19	15	13	13	13	9	9	9
<b>Total</b>	<b>1,369</b>	<b>1,328</b>	<b>1,296</b>	<b>1,275</b>	<b>1,236</b>	<b>1,204</b>	<b>1,182</b>	<b>1,158</b>	<b>1,121</b>	<b>1,060</b>
<b>VFCA</b>										
Active	1,895	1,977	1,935	2,101	2,106	2,105	2,315	2,253	2,301	2,207
Retirees/Beneficiaries	1,425	1,371	1,332	1,285	1,242	1,183	1,149	1,103	1,082	1,038
Term-Vested	878	905	939	884	879	870	827	840	793	800
<b>Total</b>	<b>4,198</b>	<b>4,253</b>	<b>4,206</b>	<b>4,270</b>	<b>4,227</b>	<b>4,158</b>	<b>4,291</b>	<b>4,196</b>	<b>4,176</b>	<b>4,045</b>

**Public Employees' Retirement Board**

*A Component Unit of the State of Montana*

**History of Membership in Retirement Plans, Last Ten Fiscal Years**



# STATISTICAL SECTION

## Public Employees' Retirement Board

*A Component Unit of the State of Montana*

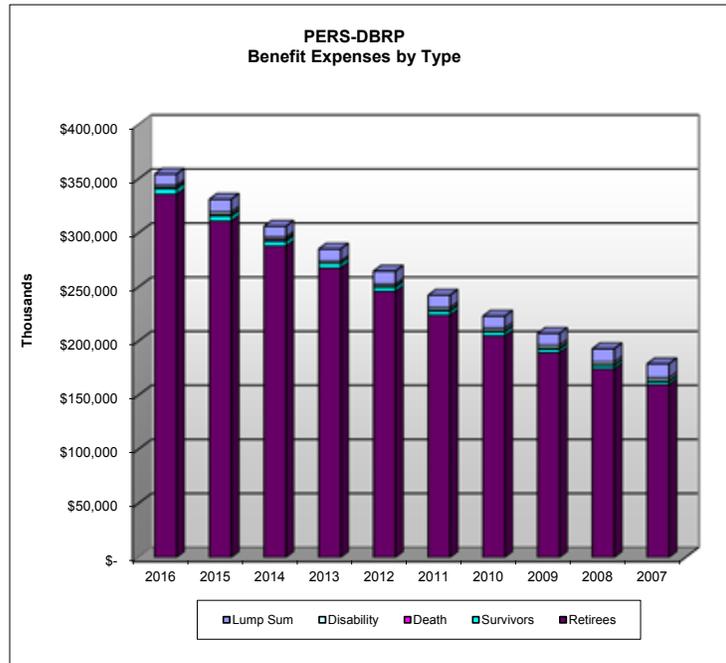
### Schedule of Benefit Expenses and Refunds by Type, Last Ten Fiscal Years

(in thousands)

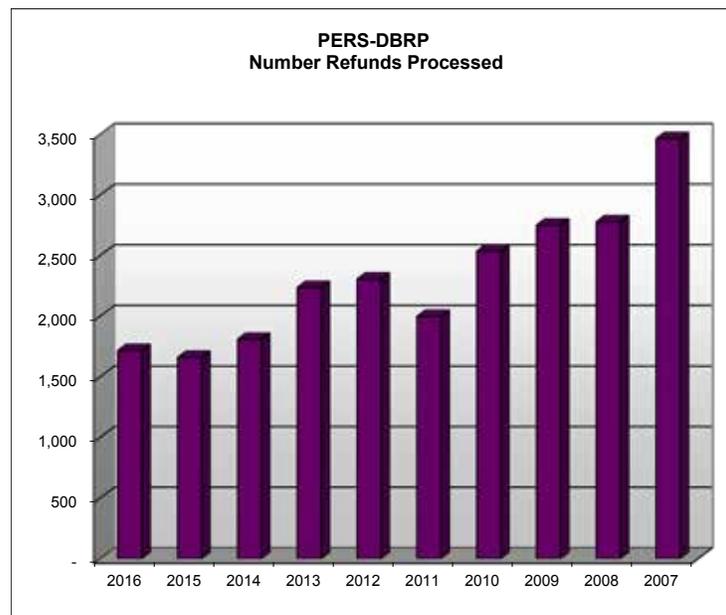
System	2016	2015	2014	2013	2012	2011	2010
<b>PERS-DBRP</b>							
<i>Benefit Expenses</i>							
Retirees	\$ 335,806	\$ 311,019	\$ 287,895	\$ 267,690	\$ 245,959	\$ 224,108	\$ 204,885
Survivors	5,119	4,717	4,512	4,240	3,968	3,748	3,692
Disability	2,045	2,301	2,048	1,922	2,065	2,253	2,481
<i>Refunds</i>							
Death	1,134	1,465	1,728	169	770	1,114	1,128
Lump Sum	10,379	11,688	10,070	11,254	11,991	11,302	10,967
<b>Total</b>	<b>\$ 354,483</b>	<b>\$ 331,190</b>	<b>\$ 306,253</b>	<b>\$ 285,275</b>	<b>\$ 264,753</b>	<b>\$ 242,525</b>	<b>\$ 223,153</b>
<b>Number of Lump Sum</b>	<b>1,717</b>	<b>1,661</b>	<b>1,809</b>	<b>2,237</b>	<b>2,307</b>	<b>1,998</b>	<b>2,537</b>
<b>JRS</b>							
<i>Benefit Expenses</i>							
Retirees	\$ 3,278	\$ 2,928	\$ 2,911	\$ 2,478	\$ 2,291	\$ 2,190	\$ 2,069
Survivors	26	113	112	75	53	50	49
Disability	109						
<i>Refunds</i>							
Death	3						
Lump Sum							
<b>Total</b>	<b>\$ 3,416</b>	<b>\$ 3,041</b>	<b>\$ 3,023</b>	<b>\$ 2,553</b>	<b>\$ 2,344</b>	<b>\$ 2,240</b>	<b>\$ 2,118</b>
<b>Number of Lump Sum</b>							
<b>HPORS</b>							
<i>Benefit Expenses</i>							
Retirees	\$ 10,053	\$ 9,498	\$ 8,894	\$ 8,270	\$ 7,794	\$ 7,462	\$ 7,198
Survivors	245	238	238	248	239	233	216
Disability	181	196	212	191	188	162	143
<i>Refunds</i>							
Death	3				2	9	
Lump Sum	94	69	84	51	65	121	58
<b>Total</b>	<b>\$ 10,576</b>	<b>\$ 10,001</b>	<b>\$ 9,428</b>	<b>\$ 8,760</b>	<b>\$ 8,288</b>	<b>\$ 7,987</b>	<b>\$ 7,615</b>
<b>Number of Lump Sum</b>	<b>4</b>	<b>4</b>	<b>5</b>	<b>5</b>	<b>8</b>	<b>5</b>	<b>4</b>
<b>SRS</b>							
<i>Benefit Expenses</i>							
Retirees	\$ 14,123	\$ 12,560	\$ 11,482	\$ 10,430	\$ 9,356	\$ 8,273	\$ 7,291
Survivors	532	471	403	392	347	292	293
Disability	792	988	802	761	676	665	693
<i>Refunds</i>							
Death	29	1	45			7	
Lump Sum	1,029	1,217	1,185	1,159	1,248	938	766
<b>Total</b>	<b>\$ 16,505</b>	<b>\$ 15,237</b>	<b>\$ 13,917</b>	<b>\$ 12,742</b>	<b>\$ 11,627</b>	<b>\$ 10,175</b>	<b>\$ 9,043</b>
<b>Number of Lump Sum</b>	<b>110</b>	<b>115</b>	<b>107</b>	<b>137</b>	<b>144</b>	<b>102</b>	<b>125</b>

# STATISTICAL SECTION

2009	2008	2007
\$ 189,360	\$ 174,357	\$ 159,790
3,244	3,043	2,815
2,521	2,583	2,717
1,277	832	866
10,821	12,124	12,868
<b>\$ 207,223</b>	<b>\$ 192,939</b>	<b>\$ 179,056</b>
<b>2,751</b>	<b>2,779</b>	<b>3,465</b>
\$ 1,926	\$ 1,486	\$ 1,728
46	335	44
	8	
<b>\$ 1,972</b>	<b>\$ 1,829</b>	<b>\$ 1,772</b>



\$ 6,821	\$ 6,505	\$ 6,181
191	176	155
115	132	124
26	61	139
<b>\$ 7,153</b>	<b>\$ 6,874</b>	<b>\$ 6,599</b>
<b>1</b>	<b>5</b>	<b>3</b>
\$ 6,878	\$ 6,435	\$ 5,997
272	215	187
670	593	585
38		1
968	722	934
<b>\$ 8,826</b>	<b>\$ 7,965</b>	<b>\$ 7,704</b>
<b>141</b>	<b>146</b>	<b>153</b>



# STATISTICAL SECTION

## Public Employees' Retirement Board

*A Component Unit of the State of Montana*

### Schedule of Benefit Expenses and Refunds by Type, Last Ten Fiscal Years (cont.)

(in thousands)

System	2016	2015	2014	2013	2012	2011	2010
<b>GWPORS</b>							
<i>Benefit Expenses</i>							
Retirees	\$ 4,910	\$ 4,412	\$ 3,789	\$ 3,497	\$ 3,106	\$ 2,801	\$ 2,566
Survivors	86	88	61	59	80	54	49
Disability	71	50	60	19	7	2	3
<i>Refunds</i>							
Death	1		69		10	6	4
Lump Sum	1,066	801	1,187	841	1,227	991	879
<b>Total</b>	<b>\$ 6,134</b>	<b>\$ 5,351</b>	<b>\$ 5,166</b>	<b>\$ 4,416</b>	<b>\$ 4,430</b>	<b>\$ 3,854</b>	<b>\$ 3,501</b>
<b>Number of Lump Sum</b>	<b>97</b>	<b>103</b>	<b>110</b>	<b>122</b>	<b>130</b>	<b>114</b>	<b>143</b>
<b>MPORS</b>							
<i>Benefit Expenses</i>							
Retirees	\$ 20,548	\$ 19,294	\$ 18,245	\$ 17,269	\$ 16,195	\$ 15,835	\$ 14,652
Survivors	747	696	675	656	654	629	613
Disability	663	568	530	538	504	546	462
<i>Refunds</i>							
Death	3	2			1	3	
DROP	819	1,446	469	1,177	352	449	407
Lump Sum	421	733	549	656	355	498	442
<b>Total</b>	<b>\$ 23,201</b>	<b>\$ 22,739</b>	<b>\$ 20,468</b>	<b>\$ 20,296</b>	<b>\$ 18,061</b>	<b>\$ 17,960</b>	<b>\$ 16,576</b>
<b>Number of Lump Sum</b>	<b>29</b>	<b>37</b>	<b>36</b>	<b>44</b>	<b>37</b>	<b>36</b>	<b>39</b>
<b>Number of DROP</b>	<b>5</b>	<b>10</b>	<b>5</b>	<b>7</b>	<b>4</b>	<b>5</b>	<b>5</b>
<b>FURS</b>							
<i>Benefit Expenses</i>							
Retirees	\$ 20,189	\$ 18,986	\$ 18,106	\$ 16,965	\$ 15,884	\$ 12,554	\$ 14,031
Survivors	478	484	490	478	466	479	427
Disability	224	271	252	227	169	2,560	140
<i>Refunds</i>							
Death	5	4	24			12	
Lump Sum	46	2	166	73	119	128	86
<b>Total</b>	<b>\$ 20,942</b>	<b>\$ 19,747</b>	<b>\$ 19,038</b>	<b>\$ 17,743</b>	<b>\$ 16,638</b>	<b>\$ 15,733</b>	<b>\$ 14,684</b>
<b>Number of Lump Sum</b>	<b>8</b>	<b>8</b>	<b>9</b>	<b>6</b>	<b>13</b>	<b>6</b>	<b>8</b>
<b>VFCA</b>							
<i>Benefit Expenses</i>							
Retirees	\$ 2,623	\$ 2,369	\$ 2,281	\$ 2,819	\$ 2,046	\$ 1,938	\$ 1,848
Survivors							9
Disability							
<b>Total</b>	<b>\$ 2,623</b>	<b>\$ 2,369</b>	<b>\$ 2,281</b>	<b>\$ 2,819</b>	<b>\$ 2,046</b>	<b>\$ 1,938</b>	<b>\$ 1,857</b>

## STATISTICAL SECTION

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2009	2008	2007
\$ 2,427	\$ 2,208	\$ 2,022
41	33	29
	9	18
53	21	16
840	643	702
<b>\$ 3,361</b>	<b>\$ 2,914</b>	<b>\$ 2,787</b>
<b>110</b>	<b>113</b>	<b>125</b>

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\$ 13,960	\$ 12,827	\$ 11,861
560	547	517
340	333	314
148	3,777	502
794	513	186
<b>\$ 15,802</b>	<b>\$ 17,997</b>	<b>\$ 13,380</b>
<b>42</b>	<b>34</b>	<b>23</b>
<b>5</b>	<b>20</b>	<b>5</b>

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\$ 13,428	\$ 12,788	\$ 11,307
433	442	412
126	124	131
		1
70	116	241
<b>\$ 14,057</b>	<b>\$ 13,470</b>	<b>\$ 12,092</b>
<b>13</b>	<b>16</b>	<b>21</b>

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\$ 1,779	\$ 1,710	\$ 1,635
1	7	2
<b>\$ 1,780</b>	<b>\$ 1,717</b>	<b>\$ 1,637</b>

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## STATISTICAL SECTION

### Public Employees' Retirement Board

*A Component Unit of the State of Montana*

#### Schedule of Distributions Processed, Last Ten Fiscal Years

(in thousands)

System	2016	2015	2014	2013	2012	2011	2010
<b>PERS-DCRP</b>							
Number of Retirements	27	20	26	35	4	8	35
Number of Deaths	11	5	8	5	1		2
Number of Full Refunds	246	164	147	179	158	182	116
Amount Refunded	\$ 4,368	\$ 5,215	\$ 3,616	\$ 3,759	\$ 3,077	\$ 3,226	\$ 1,438
Number of Partial Refunds	52	46	57	60	35	75	13
Amount Refunded	\$ 931	\$ 698	\$ 967	\$ 436	\$ 323	\$ 393	\$ 198
Number of Forfeitures	115	91	72	75	98	124	94
Amount of Contributions Forfeited <sup>1</sup>	\$ 383	\$ 333	\$ 252	\$ 398	\$ 415	\$ 417	\$ 318

<sup>1</sup>Members terminating with less than 5 years of membership service forfeit their employer contributions.

**STATISTICAL SECTION**

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<b>2009</b>	<b>2008</b>	<b>2007</b>
3	6	3
1	1	3
145	106	145
\$ 1,744	\$ 2,254	\$ 2,457
3	10	10
\$ 128	\$ 243	\$ 153
121	134	118
\$ 266	\$ 215	\$ 315

# STATISTICAL SECTION

## Public Employees' Retirement Board

A Component Unit of the State of Montana

### Retired Members by Type of Benefit

As of June 30, 2016

	Amount of Monthly Benefit	Number of Retired Members	Type of Retirement		
			Regular	Disability	Survivor <sup>2</sup>
<b>PERS-DBRP</b>					
	\$ 1 - 250	1,904	1,669	2	233
	251 - 500	3,462	3,016	36	410
	501 - 750	2,945	2,552	36	357
	751 - 1,000	2,324	2,009	32	283
	1,001 - 1,250	1,895	1,662	22	211
	1,251 - 1,500	1,392	1,236	13	143
	1,501 - 1,750	1,266	1,138	15	113
	1,751 - 2,000	1,032	943	4	85
	Over 2,000	5,113	4,868	9	236
	Total	21,333	19,093	169	2,071
<b>PERS-DCRP</b>					
<b>Disability OPEB</b>					
	\$ 1 - 250				
	251 - 500	2		2	
	501 - 750	2		2	
	751 - 1,000	1		1	
	1,001 - 1,250	1		1	
	1,251 - 1,500				
	1,501 - 1,750				
	1,751 - 2,000				
	Over 2,000				
	Total	6	0	6	0
<b>JRS</b>					
	\$ 1 - 250				
	251 - 500				
	501 - 750	1	1		
	751 - 1,000				
	1,001 - 1,250	1			1
	1,251 - 1,500	6	3		3
	1,501 - 1,750	2	2		
	1,751 - 2,000				
	Over 2,000	58	43	1	14
	Total	68	49	1	18

<sup>1</sup> Option Selected:

- 1 - Beneficiary receives lump sum of member's unused contributions
- 2 - Beneficiary receives 100 percent of member's reduced monthly benefit
- 3 - Beneficiary receives 50 percent of member's reduced monthly benefit
- 4A - Guaranteed for the life of member or a minimum of 10 years after member's retirement
- 4B - Guaranteed for the life of member or a minimum of 20 years after member's retirement
- 5A - Survivorship benefit - guaranteed for life of beneficiary with GABA increases
- 5B - Survivorship benefit - guaranteed for life of beneficiary without GABA increases

<sup>2</sup> For the purposes of this schedule Survivor is anyone receiving a monthly benefit that is not the original member.

**Public Employees' Retirement Board**

*A Component Unit of the State of Montana*

**Retired Members by Type of Benefit**

As of June 30, 2016

	Option Selected <sup>1</sup>						GABA	NON-GABA	
	1	2	3	4A	4B	5A			5B
<b>PERS-DBRP</b>									
	1,346	338	70	25	82	22	21	1,881	23
	2,362	729	137	48	141	37	8	3,447	15
	1,910	667	147	52	121	46	2	2,939	6
	1,484	522	165	35	85	33		2,321	3
	1,178	428	166	44	57	22		1,894	1
	835	352	127	28	34	16		1,387	5
	758	341	107	25	26	9		1,266	0
	573	294	113	18	22	12		1,032	0
	2,815	1,308	680	121	158	31		5,112	1
	13,261	4,979	1,712	396	726	228	31	21,279	54

	Option Selected <sup>1</sup>						GABA <sup>3</sup>	NON-GABA	
	1	2	3	4A	4B	5A			5B
<b>DCRP-Disability</b>									
<b>PERS OPEB</b>									
	2								2
	2								2
	1								1
	1								1
	6	0	0		0	0	0	0	6

	Option Selected <sup>1</sup>						GABA	NON-GABA	
	1	2	3	4A	4B	5A			5B
<b>JRS</b>									
		1							1
						1			1
	2	3	1					2	4
		2						1	1
	15	31	7		3	2		29	29
	17	37	8		3	3	0	32	36

<sup>3</sup> GABA is not an option for PERS DCRP-Disability OPEB retired members

GABA - Members covered under the Guaranteed Annual Benefit Adjustment

NON-GABA - Members not covered under the Guaranteed Annual Benefit Adjustment

# STATISTICAL SECTION

## Public Employees' Retirement Board

A Component Unit of the State of Montana

### Retired Members by Type of Benefit (cont.)

As of June 30, 2016

	Amount of Monthly Benefit	Number of Retired Members	Type of Retirement		
			Regular	Disability	Survivor <sup>2</sup>
<b>HPORS</b>					
	\$ 1 - 250	1			1
	251 - 500	8	3		5
	501 - 750	6	2		4
	751 - 1,000	6	4		2
	1,001 - 1,250	4	2		2
	1,251 - 1,500	11	9		2
	1,501 - 1,750	15	11		4
	1,751 - 2,000	25	20		5
	Over 2,000	253	206	6	41
	Total	329	257	6	66
<b>SRS</b>					
	\$ 1 - 250	21	16		5
	251 - 500	39	33	1	5
	501 - 750	50	42	1	7
	751 - 1,000	27	22		5
	1,001 - 1,250	44	36		8
	1,251 - 1,500	33	26	1	6
	1,501 - 1,750	42	32	2	8
	1,751 - 2,000	39	32	5	2
	Over 2,000	325	295	19	11
	Total	620	534	29	57
<b>GWPORS</b>					
	\$ 1 - 250	2	2		
	251 - 500	22	19	1	2
	501 - 750	29	27		2
	751 - 1,000	27	21		6
	1,001 - 1,250	26	22		4
	1,251 - 1,500	27	23	1	3
	1,501 - 1,750	18	15		3
	1,751 - 2,000	19	17	1	1
	Over 2,000	80	77		3
	Total	250	223	3	24

<sup>1</sup> Option Selected:

- 1 - Beneficiary receives lump sum of member's unused contributions
- 2 - Beneficiary receives 100 percent of member's reduced monthly benefit
- 3 - Beneficiary receives 50 percent of member's reduced monthly benefit
- 4A - Guaranteed for the life of member or a minimum of 10 years after member's retirement
- 4B - Guaranteed for the life of member or a minimum of 20 years after member's retirement
- 5A - Survivorship benefit - guaranteed for life of beneficiary with GABA increases
- 5B - Survivorship benefit - guaranteed for life of beneficiary without GABA increases

<sup>2</sup>For the purposes of this schedule Survivor is anyone receiving a monthly benefit that is not the original member.

# STATISTICAL SECTION

## Public Employees' Retirement Board

*A Component Unit of the State of Montana*

### Retired Members by Type of Benefit

As of June 30, 2016

	Option Selected <sup>1</sup>						GABA	NON-GABA
	1	2	3	4A	4B	5A		
<b>HPORS</b>								
						1	1	
	1	7				0	3	5
	1	2				3	4	2
	1	5					4	2
		2				2	2	2
		11					8	3
	3	12					6	9
	2	23					13	12
	31	217				5	200	53
	39	279				11	241	88

	Option Selected <sup>1</sup>						GABA	NON-GABA
	1	2	3	4A	4B	5A		
<b>SRS</b>								
	9	5	3			4	21	
	13	19	4		3		39	
	26	17	3		2	2	50	
	12	12	2		1		27	
	19	18	3	1	1	2	44	
	12	16	2	2	1		33	
	14	21	2		2	3	42	
	17	13	3	2	2	2	39	
	166	94	34	13	13	5	325	
	288	215	56	18	25	18	620	

	Option Selected <sup>1</sup>						GABA	NON-GABA
	1	2	3	4A	4B	5A		
<b>GWPORS</b>								
	2						2	
	8	8	2	1	2	1	22	
	14	8	2		3	2	29	
	15	4	4		1	3	27	
	12	4	8	1	1		26	
	13	7	5			2	27	
	10	6	2				18	
	8	9	2				19	
	34	31	8	1	6		80	
	116	77	33	3	13	8	250	

GABA - Members covered under the Guaranteed Annual Benefit Adjustment

NON-GABA - Members not covered under the Guaranteed Annual Benefit Adjustment

# STATISTICAL SECTION

## Public Employees' Retirement Board

*A Component Unit of the State of Montana*

### Retired Members by Type of Benefit (cont.)

As of June 30, 2016

	Amount of Monthly Benefit	Number of Retired Members	Type of Retirement		
			Regular	Disability	Survivor <sup>4</sup>
<b>MPORS<sup>2</sup></b>					
	\$ 1 - 250	19	19		
	251 - 500	16	15		1
	501 - 750	16	16		
	751 - 1,000	13	13		
	1,001 - 1,250	11	10		1
	1,251 - 1,500	16	11		5
	1,501 - 1,750	50	33	1	16
	1,751 - 2,000	114	68	1	45
	Over 2,000	513	409	21	83
	<b>Total</b>	<b>768</b>	<b>594</b>	<b>23</b>	<b>151</b>
<b>FURS</b>					
	\$ 1 - 250	8	6		2
	251 - 500	42	32		10
	501 - 750	5	5		0
	751 - 1,000	6	5		1
	1,001 - 1,250	10	10		
	1,251 - 1,500	9	8		1
	1,501 - 1,750	37	25		12
	1,751 - 2,000	57	25	2	30
	Over 2,000	447	364	5	78
	<b>Total</b>	<b>621</b>	<b>480</b>	<b>7</b>	<b>134</b>
<b>VFCA</b>					
	\$ 1 - 250	1,407	1,401	1	5
	251 - 500	18	18		
	501 - 750				
	751 - 1,000				
	1,001 - 1,250				
	1,251 - 1,500				
	1,501 - 1,750				
	1,751 - 2,000				
	Over 2,000				
	<b>Total</b>	<b>1,425</b>	<b>1,419</b>	<b>1</b>	<b>5</b>

<sup>1</sup> Option Selected (excluding the VFCA):

- 1 - Beneficiary receives lump sum of member's unused contributions
- 2 - Beneficiary receives 100 percent of member's reduced monthly benefit
- 3 - Beneficiary receives 50 percent of member's reduced monthly benefit
- 4A - Guaranteed for the life of member or a minimum of 10 years after member's retirement
- 4B - Guaranteed for the life of member or a minimum of 20 years after member's retirement
- 5A - Survivorship benefit - guaranteed for life of beneficiary with GABA increases
- 5B - Survivorship benefit - guaranteed for life of beneficiary without GABA increases

<sup>2</sup> MPORS does not include DROP members.

<sup>3</sup> Option Selected VFCA:

- 1 - Member receiving monthly benefit
- 2 and 5B - Benefit paid to survivor equal to member's full or partial benefit. Benefit is limited to 40 months including any pension paid to member before death.

<sup>4</sup> For the purposes of this schedule Survivor is anyone receiving a monthly benefit that is not the original member.

**Public Employees' Retirement Board**

*A Component Unit of the State of Montana*

**Retired Members by Type of Benefit**

As of June 30, 2016

	Option Selected1						GABA	NON-GABA
	1	2	3	4A	4B	5A		
MPORS								
	2	17					16	3
	8	8					16	
	6	10					14	2
	3	10					13	
	5	6					10	1
	1	14				1	15	1
	3	44				3	45	5
	12	90				12	110	4
	67	435				11	468	45
	107	634				27	707	61

	Option Selected1						GABA	NON-GABA
	1	2	3	4A	4B	5A		
FURS								
	1	7					4	4
	5	36				1	35	7
	1	4					4	1
	1	5					6	
	2	8					8	2
	4	5					7	2
	3	31				3	37	
	2	52				3	55	2
	51	384				12	422	25
	70	532				19	578	43

	Option Selected3						GABA	NON-GABA
	1	2	3	4A	4B	5A		
VFCA								
	1,401	4				2	N/A	1,407
	18							18
	1,419	4				2		1,425

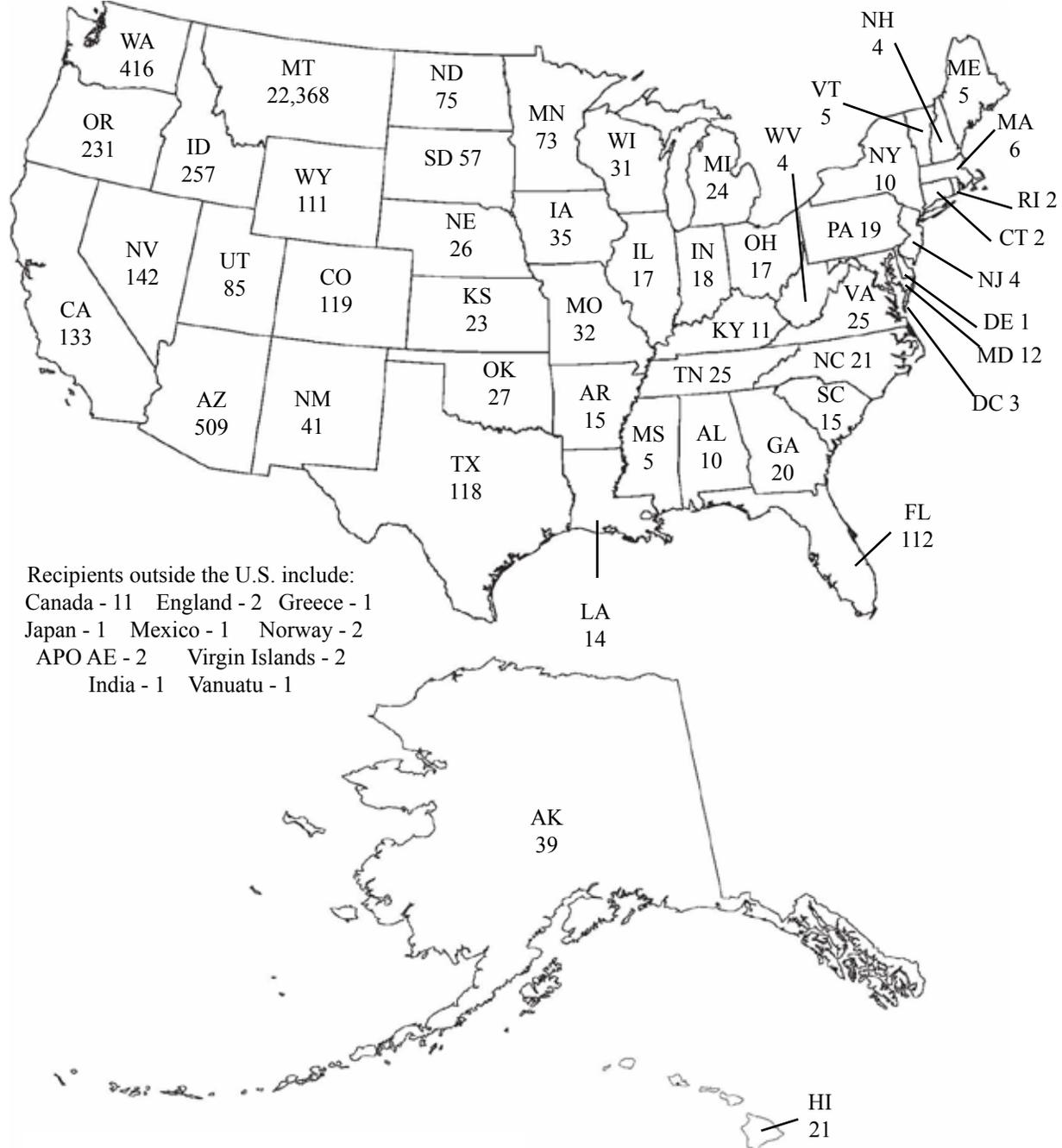
GABA - Members covered under the Guaranteed Annual Benefit Adjustment  
 NON-GABA - Members not covered under the Guaranteed Annual Benefit Adjustment

# STATISTICAL SECTION

## Public Employees' Retirement Board

*A Component Unit of the State of Montana*

### Distribution of Defined Benefit Recipients by Location as of June 30, 2016



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# STATISTICAL SECTION

## Public Employees' Retirement Board

*A Component Unit of the State of Montana*

### Schedule of Active Members by Age and Gender

As of June 30, 2016

System	Ages	Male	Female	Total	System	Ages	Male	Female	Total
<b>PERS-DBRP</b>	Under 20	29	40	69	<b>GWPORS</b>	Under 20	3	1	4
	20 - 29	1,040	1,326	2,366		20 - 29	120	29	149
	30 - 39	2,087	2,725	4,812		30 - 39	181	60	241
	40 - 49	2,494	3,374	5,868		40 - 49	207	53	260
	50 - 59	3,912	5,167	9,079		50 - 59	168	43	211
	60 - 69	2,164	2,668	4,832		60 - 69	40	15	55
	70 & Older	204	196	400		70 & Older	2	1	3
	<sup>1</sup> Unknown			964		<sup>1</sup> Unknown			66
Total	11,930	15,496	28,390	Total	721	202	989		
<b>JRS</b>	Under 20				<b>MPORS</b> <sup>2</sup>	Under 20	1		1
	20 - 29					20 - 29	117	14	131
	30 - 39			-		30 - 39	251	19	270
	40 - 49	4	1	5		40 - 49	200	17	217
	50 - 59	9	12	21		50 - 59	55	3	58
	60 - 69	20	2	22		60 - 69	9		9
	70 & Older	3	1	4		70 & Older			
	<sup>1</sup> Unknown			3		<sup>1</sup> Unknown			16
Total	36	16	55	Total	633	53	702		
<b>HPORS</b> <sup>3</sup>	Under 20				<b>FURS</b>	Under 20			
	20 - 29	28	3	31		20 - 29	81	4	85
	30 - 39	69	6	75		30 - 39	236	12	248
	40 - 49	75	1	76		40 - 49	206	3	209
	50 - 59	27	3	30		50 - 59	81	1	82
	60 - 69	2		2		60 - 69	11		11
	70 & Older					70 & Older	1		1
	<sup>1</sup> Unknown			8		<sup>1</sup> Unknown			8
Total	201	13	222	Total	616	20	644		
<b>SRS</b>	Under 20	3	1	4	<b>PERS-DCRP</b>	Under 20	1		1
	20 - 29	229	43	272		20 - 29	66	103	169
	30 - 39	328	66	394		30 - 39	264	368	632
	40 - 49	312	42	354		40 - 49	304	333	637
	50 - 59	190	43	233		50 - 59	302	353	655
	60 - 69	57	4	61		60 - 69	126	147	273
	70 & Older	2	1	3		70 & Older	11	7	18
	<sup>1</sup> Unknown			43		<sup>1</sup> Unknown			24
Total	1,121	200	1,364	Total	1,074	1,311	2,409		

<sup>1</sup> Membership data not received as of June 30, 2016.

<sup>2</sup> MPORS does not include DROP.

<sup>3</sup> HPORS does not include DROP.

VFCA not included because membership data not required on members until retirement.

**Public Employees' Retirement Board**

*A Component Unit of the State of Montana*

**Schedule of Retired Members by Age and Gender**

As of June 30, 2016

System	Ages	Male	Female	Total	System	Ages	Male	Female	Total
<b>PERS-DBRP</b>	Under 20				<b>GWPORS</b>	Under 20			
	20 - 29					20 - 29			
	30 - 39	2	1	3		30 - 39			-
	40 - 49	14	13	27		40 - 49	2	1	3
	50 - 59	578	583	1,161		50 - 59	49	7	56
	60 - 69	4,187	4,520	8,707		60 - 69	97	23	120
	70 & Older	5,741	5,694	11,435		70 & Older	70	1	71
	Total	10,522	10,811	21,333		Total	218	32	250
<b>JRS</b>	Under 20				<b>MPORS<sup>1</sup></b>	Under 20			
	20 - 29					20 - 29			
	30 - 39					30 - 39	5		5
	40 - 49					40 - 49	41	8	49
	50 - 59		1	1		50 - 59	164	10	174
	60 - 69	15	4	19		60 - 69	271	6	277
	70 & Older	48		48		70 & Older	260	3	263
	Total	63	5	68		Total	741	27	768
<b>HPORS</b>	Under 20				<b>FURS</b>	Under 20			
	20 - 29					20 - 29			
	30 - 39	2	1	3		30 - 39	3		3
	40 - 49	18	1	19		40 - 49	22		22
	50 - 59	55	7	62		50 - 59	119	1	120
	60 - 69	75	6	81		60 - 69	202		202
	70 & Older	164		164		70 & Older	272	2	274
	Total	314	15	329		Total	618	3	621
<b>SRS</b>	Under 20				<b>VFCA</b>	Under 20			
	20 - 29					20 - 29			
	30 - 39	1		1		30 - 39			
	40 - 49	37		37		40 - 49			
	50 - 59	140	10	150		50 - 59	97		97
	60 - 69	273	11	284		60 - 69	583	44	627
	70 & Older	143	5	148		70 & Older	663	38	701
	Total	594	26	620		Total	1,343	82	1,425

<sup>1</sup> MPORS does not include DROP.

# STATISTICAL SECTION

## Public Employees' Retirement Board

*A Component Unit of the State of Montana*

### Average Benefit Payments, Last Ten Fiscal Years

#### PERS - Defined Benefit Retirement Plan

Retirement Effective Dates	Years of Credited Service						
	0-5	5-10	10-15	15-20	20-25	25-30	30+
<b>Period 7/1/2015 - 6/30/2016</b>							
Average monthly benefit	\$ 4,478	\$ 1,110	\$ 1,935	\$ 1,243	\$ 1,467	\$ 2,257	\$ 3,392
Average HAC <sup>1</sup>	2,365	2,689	3,168	2,954	3,561	4,018	4,761
Number of retired members	28	180	172	192	151	188	268
<b>Period 7/1/2014 - 6/30/2015</b>							
Average monthly benefit	2,315	1,403	1,354	2,199	1,888	2,446	3,150
Average HAC <sup>1</sup>	1,952	2,821	3,194	3,314	3,600	3,971	4,748
Number of retired members	45	198	212	171	187	203	265
<b>Period 7/1/2013 - 6/30/2014</b>							
Average monthly benefit	3,254	1,271	1,933	2,026	2,419	2,594	3,088
Average HAC <sup>1</sup>	2,058	2,827	2,977	3,340	3,548	4,092	4,831
Number of retired members	46	219	206	187	188	192	200
<b>Period 7/1/2012 - 6/30/2013</b>							
Average monthly benefit	2,511	1,306	1,827	1,980	1,665	2,362	3,412
Average HAC <sup>1</sup>	2,225	2,861	3,140	3,418	3,537	3,962	4,731
Number of retired members	48	186	222	169	185	174	263
<b>Period 7/1/2011 - 6/30/2012</b>							
Average monthly benefit	1,994	2,497	824	1,742	2,218	3,679	3,607
Average HAC <sup>1</sup>	1,603	2,733	2,851	3,232	3,300	4,160	4,544
Number of retired members	52	209	212	170	172	183	240
<b>Period 7/1/2010 - 6/30/2011</b>							
Average monthly benefit	2,532	1,331	1,257	1,263	2,525	2,892	3,212
Average HAC <sup>1</sup>	2,055	2,790	2,943	3,075	3,358	3,862	4,473
Number of retired members	43	170	185	162	149	178	293
<b>Period 7/1/2009 - 6/30/2010</b>							
Average monthly benefit	1,906	1,700	2,478	3,343	2,463	2,372	3,724
Average HAC <sup>1</sup>	2,103	2,461	2,656	4,360	3,373	4,005	4,528
Number of retired members	50	164	153	148	114	138	163
<b>Period 7/1/2008 - 6/30/2009</b>							
Average monthly benefit	4,805	1,090	1,651	2,347	2,165	2,368	3,283
Average HAC <sup>1</sup>	2,164	2,614	2,921	3,057	3,312	3,860	4,377
Number of retired members	23	138	160	146	101	168	210
<b>Period 7/1/2007 - 6/30/2008</b>							
Average monthly benefit	509	487	937	1,051	2,190	2,367	3,131
Average HAC <sup>1</sup>	1,942	2,166	2,510	2,948	2,901	3,425	4,017
Number of retired members	23	162	170	161	126	180	196
<b>Period 7/1/2006 - 6/30/2007</b>							
Average monthly benefit	1,411	388	625	1,103	1,320	2,058	3,326
Average HAC <sup>1</sup>	2,211	2,370	2,298	2,644	2,878	3,226	3,850
Number of retired members	23	148	154	174	129	145	187

<sup>1</sup>HAC = Highest Average Compensation during any consecutive 36 months or 60 months dependent upon date member was hired.

The Average monthly benefit could be skewed in this schedule due to retroactive retirement dates.

The Average HAC may be blank due to system not requiring this information to be updated when a member retires.

**Public Employees' Retirement Board**

*A Component Unit of the State of Montana*

**Average Benefit Payments, Last Ten Fiscal Years (cont.)**

Retirement Effective Dates	DC Disability OPEB						
	Years of Credited Service						
	0-5	5-10	10-15	15-20	20-25	25-30	30+
Period 7/1/2015 - 6/30/2016							
Average monthly benefit			\$ 1,243				
Average HAC <sup>1</sup>			5,581				
Number of retired members			1				
Period 7/1/2014 - 6/30/2015							
Average monthly benefit		\$ 577					
Average HAC <sup>1</sup>		4,019					
Number of retired members		2					
Period 7/1/2013 - 6/30/2014							
Average monthly benefit							
Average HAC <sup>1</sup>							
Number of retired members							
Period 7/1/2012 - 6/30/2013							
Average monthly benefit							
Average HAC <sup>1</sup>							
Number of retired members							
Period 7/1/2011 - 6/30/2012							
Average monthly benefit		356	553				
Average HAC <sup>1</sup>		3,564	2,714				
Number of retired members		1	1				
Period 7/1/2010 - 6/30/2011							
Average monthly benefit							
Average HAC <sup>1</sup>							
Number of retired members							
Period 7/1/2009 - 6/30/2010							
Average monthly benefit			746				
Average HAC <sup>1</sup>			3,455				
Number of retired members			1				
Period 7/1/2008 - 6/30/2009							
Average monthly benefit				\$ 800			
Average HAC <sup>1</sup>				2,506			
Number of retired members				1			
Period 7/1/2007 - 6/30/2008							
Average monthly benefit							
Average HAC <sup>1</sup>							
Number of retired members							
Period 7/1/2006 - 6/30/2007							
Average monthly benefit							
Average HAC <sup>1</sup>							
Number of retired members							

<sup>1</sup>HAC = Highest Average Compensation during any consecutive 36 months or 60 months dependent upon date member was hired.

The Average monthly benefit could be skewed in this schedule due to retroactive retirement dates.

The Average HAC may be blank due to system not requiring this information to be updated when a member retires.

# STATISTICAL SECTION

## Public Employees' Retirement Board

*A Component Unit of the State of Montana*

### Average Benefit Payments, Last Ten Fiscal Years (cont.)

#### Judges' Retirement System

Retirement Effective Dates	Years of Credited Service						
	0-5	5-10	10-15	15-20	20-25	25-30	30+
Period 7/1/2015 - 6/30/2016							
Average monthly benefit		\$ 1,587		\$ 4,958		\$ 5,319	\$ 6,417
Average HAC <sup>1</sup>		9,870		10,250		10,511	10,511
Number of retired members		1		2		1	1
Period 7/1/2014 - 6/30/2015							
Average monthly benefit						5,888	
Average HAC <sup>1</sup>						9,800	
Number of retired members						2	
Period 7/1/2013 - 6/30/2014							
Average monthly benefit				2,792	\$ 5,255	5,457	
Average HAC <sup>1</sup>					9,800	9,800	
Number of retired members				1	1	1	
Period 7/1/2012 - 6/30/2013							
Average monthly benefit		\$ 2,980	5,094	6,944	6,371		
Average HAC <sup>1</sup>		9,427	9,703	9,494	9,494		
Number of retired members			3	3	1	3	
Period 7/1/2011 - 6/30/2012							
Average monthly benefit							
Average HAC <sup>1</sup>							
Number of retired members							
Period 7/1/2010 - 6/30/2011							
Average monthly benefit		2,401	3,161	5,449		6,683	
Average HAC <sup>1</sup>		8,906	7,842	9,201		8,906	
Number of retired members		1	1	2		1	
Period 7/1/2009 - 6/30/2010							
Average monthly benefit					5,769		
Average HAC <sup>1</sup>					9,797		
Number of retired members					1		
Period 7/1/2008 - 6/30/2009							
Average monthly benefit		1,554	3,651	5,227	5,132		
Average HAC <sup>1</sup>		8,270	8,270	8,296	8,158		
Number of retired members		1	1	2	1		
Period 7/1/2007 - 6/30/2008							
Average monthly benefit			5,437				
Average HAC <sup>1</sup>			8,849				
Number of retired members			1				
Period 7/1/2006 - 6/30/2007							
Average monthly benefit			4,204				
Average HAC <sup>1</sup>			7,841				
Number of retired members			1				

<sup>1</sup>HAC = Highest Average Compensation during any consecutive 36 months.

The Average monthly benefit could be skewed in this schedule due to retroactive retirement dates.

The Average HAC may be blank due to system not requiring this information to be updated when a member retires.

**Public Employees' Retirement Board**

*A Component Unit of the State of Montana*

**Average Benefit Payments, Last Ten Fiscal Years (cont.)**

**Highway Patrol Officers' Retirement System**

Retirement Effective Dates	Years of Credited Service						
	0-5	5-10	10-15	15-20	20-25	25-30	30+
Period 7/1/2015 - 6/30/2016							
Average monthly benefit				\$ 2,825	\$ 2,756	\$ 4,310	
Average HAC <sup>1</sup>				5,434	5,704	6,079	
Number of retired members				1	7	2	
Period 7/1/2014 - 6/30/2015							
Average monthly benefit	\$ 1,628			1,984	3,607	4,444	
Average HAC <sup>1</sup>		5,049		5,384	6,393	6,227	
Number of retired members		2		2	4	2	
Period 7/1/2013 - 6/30/2014							
Average monthly benefit			\$ 494	2,433	3,430	5,197	
Average HAC <sup>1</sup>			3,557	4,559	5,859	6,641	
Number of retired members			1	1	9	2	
Period 7/1/2012 - 6/30/2013							
Average monthly benefit	\$ 2,082				3,338	3,452	
Average HAC <sup>1</sup>		3,925			5,702	7,273	
Number of retired members		1			7	3	
Period 7/1/2011 - 6/30/2012							
Average monthly benefit		732			3,201	4,243	
Average HAC <sup>1</sup>		4,714			5,440	5,383	
Number of retired members		1			1	2	
Period 7/1/2010 - 6/30/2011							
Average monthly benefit			1,853	2,756	3,317		
Average HAC <sup>1</sup>			4,354	4,815	5,355		
Number of retired members			2	3	3		
Period 7/1/2009 - 6/30/2010							
Average monthly benefit	505	415		2,769	2,693	3,882	
Average HAC <sup>1</sup>	3,731	3,594		4,638	4,494	4,952	
Number of retired members	1	2		2	3	1	
Period 7/1/2008 - 6/30/2009							
Average monthly benefit	2,116			2,537		3,008	
Average HAC <sup>1</sup>	3,511			4,263		6,231	
Number of retired members	3			1		3	
Period 7/1/2007 - 6/30/2008							
Average monthly benefit	2,190	783		12,802	2,354	3,834	
Average HAC <sup>1</sup>	3,415	3,450		3,974	4,451	4,517	
Number of retired members	1	1		1	5	1	
Period 7/1/2006 - 6/30/2007							
Average monthly benefit					1,996		
Average HAC <sup>1</sup>					3,976		
Number of retired members					7		

<sup>1</sup>HAC = Highest Average Compensation during any consecutive 36 months.

The Average monthly benefit could be skewed in this schedule due to retroactive retirement dates.

The Average HAC may be blank due to system not requiring this information to be updated when a member retires.

# STATISTICAL SECTION

## Public Employees' Retirement Board

*A Component Unit of the State of Montana*

### Average Benefit Payments, Last Ten Fiscal Years (cont.)

#### Sheriffs' Retirement System

Retirement Effective Dates	Years of Credited Service						
	0-5	5-10	10-15	15-20	20-25	25-30	30+
Period 7/1/2015 - 6/30/2016							
Average monthly benefit	\$ 238	\$ 1,146	\$ 1,155	\$ 2,547	\$ 2,842	\$ 3,116	\$ 4,146
Average HAC <sup>1</sup>		3,160	3,103	4,908	5,961	5,095	5,596
Number of retired members	1	5	7	11	12	4	2
Period 7/1/2014 - 6/30/2015							
Average monthly benefit	1,392	1,899	892	2,261	3,242	3,176	2,998
Average HAC <sup>1</sup>	2,994	3,472	4,090	5,554	6,048	5,626	3,913
Number of retired members	2	12	7	10	9	7	3
Period 7/1/2013 - 6/30/2014							
Average monthly benefit	685	521	1,153	2,329	2,932	2,498	3,899
Average HAC <sup>1</sup>	1,712	3,339	3,697	5,393	5,673	5,549	6,893
Number of retired members	3	8	5	5	6	4	3
Period 7/1/2012 - 6/30/2013							
Average monthly benefit	1,710	636	1,565	1,883	3,033	3,651	5,854
Average HAC <sup>1</sup>	3,559	4,147	4,944	4,423	5,466	4,932	6,428
Number of retired members	1	5	13	5	12	2	1
Period 7/1/2011 - 6/30/2012							
Average monthly benefit	3,765	6,844	1,536	2,845	2,706	3,759	4,522
Average HAC <sup>1</sup>	3,367	3,121	4,665	5,493	4,680	4,873	6,286
Number of retired members	3	6	5	2	9	2	7
Period 7/1/2010 - 6/30/2011							
Average monthly benefit	604	701	1,656	2,975	2,667	4,230	5,989
Average HAC <sup>1</sup>	6,500	4,199	3,890	5,466	4,778	5,912	6,842
Number of retired members	1	4	3	5	12	4	6
Period 7/1/2009 - 6/30/2010							
Average monthly benefit	2,068	1,493	921	1,864	2,771	3,851	4,259
Average HAC <sup>1</sup>	3,464	4,282	3,652	4,674	5,404	4,946	5,878
Number of retired members	1	2	4	2	5	3	1
Period 7/1/2008 - 6/30/2009							
Average monthly benefit	744	578		1,939	2,933	4,468	5,738
Average HAC <sup>1</sup>	1,534	3,405		3,745	4,718	6,003	6,204
Number of retired members	2	3		2	2	2	1
Period 7/1/2007 - 6/30/2008							
Average monthly benefit	1,039	1,497	1,228	3,311	2,509	2,825	6,283
Average HAC <sup>1</sup>	2,121	3,403	2,650	5,228	4,265	4,061	5,503
Number of retired members	2	4	2	1	5	3	1
Period 7/1/2006 - 6/30/2007							
Average monthly benefit	6,714	1,060	1,704	1,985	2,139	3,915	3,915
Average HAC <sup>1</sup>	1,130	3,676	4,385	3,734	3,848	5,276	4,412
Number of retired members	1	4	3	7	12	2	3

<sup>1</sup>HAC = Highest Average Compensation during any consecutive 36 months or 60 months dependent upon date member was hired.

The Average monthly benefit could be skewed in this schedule due to retroactive retirement dates.

The Average HAC may be blank due to system not requiring this information to be updated when a member retires.

**Public Employees' Retirement Board**

*A Component Unit of the State of Montana*

**Average Benefit Payments, Last Ten Fiscal Years (cont.)**

**Game Wardens' and Peace Officers' Retirement System**

Retirement Effective Dates	Years of Credited Service						
	0-5	5-10	10-15	15-20	20-25	25-30	30+
Period 7/1/2015 - 6/30/2016							
Average monthly benefit	\$ 208	\$ 836	\$ 1,143	\$ 1,764	\$ 2,316	\$ 4,129	\$ 6,179
Average HAC <sup>1</sup>	1,684	3,446		3,999	4,839	6,493	8,269
Number of retired members	1	7	2	7	3	1	1
Period 7/1/2014 - 6/30/2015							
Average monthly benefit		623	1,244	1,962	2,160	2,707	3,598
Average HAC <sup>1</sup>		3,812	3,990	4,380	4,962	4,205	4,848
Number of retired members		7	10	5	5	1	2
Period 7/1/2013 - 6/30/2014							
Average monthly benefit		844	1,185	1,691	2,641	2,171	
Average HAC <sup>1</sup>		3,404	3,809	4,266	4,490	3,695	
Number of retired members		7	6	10	4	1	
Period 7/1/2012 - 6/30/2013							
Average monthly benefit	2,513	6,144	1,152	1,295	3,739	\$4,127	
Average HAC <sup>1</sup>	2,695	3,114	3,316	3,820	6,679	5,795	
Number of retired members	4	5	4	7	1	1	
Period 7/1/2011 - 6/30/2012							
Average monthly benefit		662	1,270	2,059			4,123
Average HAC <sup>1</sup>		3,164	3,938	4,027			4,693
Number of retired members		6	6	1			3
Period 7/1/2010 - 6/30/2011							
Average monthly benefit	4,914	644	943	1,377		3,531	3,945
Average HAC <sup>1</sup>	3,063	3,257	3,904	3,368		4,427	4,205
Number of retired members	1	4	6	1		1	1
Period 7/1/2009 - 6/30/2010							
Average monthly benefit	5,706	613	1,320				4,264
Average HAC <sup>1</sup>	2,507	3,039	3,888				4,192
Number of retired members	1	3	6				1
Period 7/1/2008 - 6/30/2009							
Average monthly benefit	1,704	651		1,764			3,786
Average HAC <sup>1</sup>	2,925	3,091		3,670			3,904
Number of retired members	3	3		1			3
Period 7/1/2007 - 6/30/2008							
Average monthly benefit		608	987		2,078	3,330	3,953
Average HAC <sup>1</sup>		3,234	3,044		3,537	3,768	4,300
Number of retired members		6	2		1	1	1
Period 7/1/2006 - 6/30/2007							
Average monthly benefit		520			2,593		4,548
Average HAC <sup>1</sup>		2,134			4,676		3,964
Number of retired members		2			1		3

<sup>1</sup>HAC = Highest Average Compensation during any consecutive 36 months or 60 months dependent upon when member was hired.

The Average monthly benefit could be skewed in this schedule due to retroactive retirement dates.

The Average HAC may be blank due to system not requiring this information to be updated when a member retires.

# STATISTICAL SECTION

## Public Employees' Retirement Board

*A Component Unit of the State of Montana*

### Average Benefit Payments, Last Ten Fiscal Years (cont.)

#### Municipal Police Officers' Retirement System

Retirement Effective Dates	Years of Credited Service						
	0-5	5-10	10-15	15-20	20-25	25-30	30+
Period 7/1/2015 - 6/30/2016							
Average monthly benefit	\$ 1,675	\$ 1,583	\$ 2,092	\$ 3,039	\$ 2,570	\$ 3,943	
Average FAC <sup>1</sup>	3,350	4,499	4,020	3,908	5,272	5,346	
Number of retired members	1	5	4	5	14	2	
Period 7/1/2014 - 6/30/2015							
Average monthly benefit	390	1,343	1,125	2,712	2,980	4,223	\$ 5,165
Average FAC <sup>1</sup>	6,224	4,646	3,707	5,519	5,180	5,486	6,452
Number of retired members	4	4	5	5	13	3	3
Period 7/1/2013 - 6/30/2014							
Average monthly benefit		752	1,855	2,935	3,380	4,392	
Average FAC <sup>1</sup>		3,028	4,826	5,699	5,839	6,655	
Number of retired members		1	3	1	8	1	
Period 7/1/2012 - 6/30/2013							
Average monthly benefit	557	1,238	571	2,379	3,149	\$3,486	
Average FAC <sup>1</sup>	6,801	4,075	2,093	4,664	5,261	5,516	
Number of retired members	5	3	1	6	17	6	
Period 7/1/2011 - 6/30/2012							
Average monthly benefit	128	920	1,285	2,540	3,137		5,872
Average FAC <sup>1</sup>	5,411	4,120	4,289	4,648	5,117		6,411
Number of retired members	2	4	1	1	7		2
Period 7/1/2010 - 6/30/2011							
Average monthly benefit	281	2,384	1,864	2,679	3,030	4,633	
Average FAC <sup>1</sup>	5,617	4,113	4,862	4,884	4,831	5,893	
Number of retired members	3	1	1	4	8	1	
Period 7/1/2009 - 6/30/2010							
Average monthly benefit	1,045	1,374	2,436	2,618	2,298	3,170	6,304
Average FAC <sup>1</sup>	3,905	3,325	4,618	4,541	4,224		6,594
Number of retired members	4	5	4	4	9	1	1
Period 7/1/2008 - 6/30/2009							
Average monthly benefit		2,507		2,174	2,010	4,486	5,492
Average FAC <sup>1</sup>		4,199		4,574	4,030	5,120	5,383
Number of retired members		1		5	8	1	2
Period 7/1/2007 - 6/30/2008							
Average monthly benefit	112	1,798	1,379	2,967	2,723	3,587	5,135
Average FAC <sup>1</sup>	5,911	3,341	3,736	4,816	4,235	4,589	4,507
Number of retired members	10	3	2	3	13	14	2
Period 7/1/2006 - 6/30/2007							
Average monthly benefit	1,110		1,919	2,570	2,544	4,485	
Average FAC <sup>1</sup>	2,452		3,209	3,907	4,111	4,759	
Number of retired members	2		6	4	12	2	

<sup>1</sup>FAC = Final Average Compensation during any consecutive 36 months.

The Average monthly benefit could be skewed in this schedule due to retroactive retirement dates.

The Average FAC may be blank due to system not requiring this information to be updated when a member retires.

**Public Employees' Retirement Board**

*A Component Unit of the State of Montana*

**Average Benefit Payments, Last Ten Fiscal Years (cont.)**

**Firefighters' Unified Retirement System**

Retirement Effective Dates	Years of Credited Service						
	0-5	5-10	10-15	15-20	20-25	25-30	30+
Period 7/1/2015 - 6/30/2016							
Average monthly benefit	\$ 1,985			\$ 2,242	\$ 3,280	\$ 4,741	\$ 4,690
Average HAC <sup>1</sup>	4,156			3,471	5,217	6,881	7,171
Number of retired members	1			4	8	4	5
Period 7/1/2014 - 6/30/2015							
Average monthly benefit		\$ 1,382	\$ 1,634	1,242	1,970	4,758	5,780
Average HAC <sup>1</sup>		5,292	4,444	2,713	5,475	6,994	7,077
Number of retired members		2	1	2	8	4	4
Period 7/1/2013 - 6/30/2014							
Average monthly benefit		1,408	1,874	2,567	3,410	4,301	5,887
Average HAC <sup>1</sup>		5,161	5,865	6,698	5,902	5,931	6,580
Number of retired members		2	1	5	4	2	3
Period 7/1/2012 - 6/30/2013							
Average monthly benefit	1,516	667	1,484		1,255	4,890	6,352
Average HAC <sup>1</sup>	2,859	3,637	4,549		2,175	6,656	6,686
Number of retired members	1	2	2		5	6	5
Period 7/1/2011 - 6/30/2012							
Average monthly benefit		1,344	3,215		3,030	4,199	4,947
Average HAC <sup>1</sup>		5,946	5,885		5,616	6,638	6,837
Number of retired members		2	1		7	6	5
Period 7/1/2010 - 6/30/2011							
Average monthly benefit		288		2,404	4,250	3,509	4,229
Average HAC <sup>1</sup>		1,506		4,814	5,945	4,938	4,481
Number of retired members		1		1	1	10	5
Period 7/1/2009 - 6/30/2010							
Average monthly benefit	2,136		2,978	267	2,955	4,035	4,410
Average HAC <sup>1</sup>	3,686		4,987	448	4,496	5,146	5,433
Number of retired members	2		1	2	3	4	5
Period 7/1/2008 - 6/30/2009							
Average monthly benefit		1,192		2,145	4,201	3,378	5,139
Average HAC <sup>1</sup>		3,989		3,593	5,928	3,897	4,876
Number of retired members		5		1	5	2	2
Period 7/1/2007 - 6/30/2008							
Average monthly benefit			2,525	1,838	2,605	4,043	5,225
Average HAC <sup>1</sup>			3,453	2,902	4,248	4,736	4,945
Number of retired members			1	1	8	4	9
Period 7/1/2006 - 6/30/2007							
Average monthly benefit		2,341	1,692	3,543	3,020	4,249	6,101
Average HAC <sup>1</sup>		3,643	3,254	5,431	3,665	4,588	5,694
Number of retired members		2	2	1	5	3	8

<sup>1</sup>HAC = Highest Average Compensation during any consecutive 36 months.

The Average monthly benefit could be skewed in this schedule due to retroactive retirement dates.

The Average HAC may be blank due to system not requiring this information to be updated when a member retires.

# STATISTICAL SECTION

## Public Employees' Retirement Board

*A Component Unit of the State of Montana*

### Average Benefit Payments, Last Ten Fiscal Years (cont.)

#### Volunteer Firefighters' Compensation Act

Retirement Effective Dates	Years of Credited Service						
	0-5	5-10	10-15	15-20	20-25	25-30	30+
Period 7/1/2015 - 6/30/2016							
Average monthly benefit	\$ 88	\$ 110	\$ 160	\$ 189	\$ 240	\$ 269	
Average HAC <sup>1</sup>							
Number of retired members		9	25	15	26	10	2
Period 7/1/2014 - 6/30/2015							
Average monthly benefit		88	109	877	197	245	274
Average HAC <sup>1</sup>							
Number of retired members		10	19	23	18	6	4
Period 7/1/2013 - 6/30/2014							
Average monthly benefit		88	110	163	194	232	263
Average HAC <sup>1</sup>							
Number of retired members		10	19	20	15	9	4
Period 7/1/2012 - 6/30/2013							
Average monthly benefit	\$ 88	88	113	166	198	232	278
Average HAC <sup>1</sup>							
Number of retired members	1	9	22	21	10	10	3
Period 7/1/2011 - 6/30/2012							
Average monthly benefit		84	123	159	193	236	264
Average HAC <sup>1</sup>							
Number of retired members		4	11	28	30	7	5
Period 7/1/2010 - 6/30/2011							
Average monthly benefit		88	108	161	195	226	
Average HAC <sup>1</sup>							
Number of retired members		5	14	22	14	21	
Period 7/1/2009 - 6/30/2010							
Average monthly benefit		88	113	458	192	914	
Average HAC <sup>1</sup>							
Number of retired members		7	21	18	25	13	
Period 7/1/2008 - 6/30/2009							
Average monthly benefit		88	117	165	191	240	
Average HAC <sup>1</sup>							
Number of retired members		1	13	22	16	9	
Period 7/1/2007 - 6/30/2008							
Average monthly benefit		88	108	425	192	238	250
Average HAC <sup>1</sup>							
Number of retired members		3	14	23	23	6	3
Period 7/1/2006 - 6/30/2007							
Average monthly benefit		88	102	167	192	226	250
Average HAC <sup>1</sup>							
Number of retired members		5	16	22	17	6	6

<sup>1</sup>HAC = Highest Average Compensation is not applicable to the VFCA. Members are unpaid volunteers and do not contribute to the fund.

The Average monthly benefit could be skewed in this schedule due to retroactive retirement dates.

The Average HAC may be blank due to system not requiring this information to be updated when a member retires.

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## STATISTICAL SECTION

### Public Employees' Retirement Board

*A Component Unit of the State of Montana*

#### Schedule of Average Monthly Benefit Payments, All Retirees

For the Fiscal Year Ended 2016

System	Years of Service	Recipient's Age									Average
		< 45	45-49	50-54	55-59	60-64	65-69	70-74	75-79	Over 80	
<b>PERS-DBRP</b>	0-4	\$ 203	\$ 87	\$ 187	\$ 133	\$ 240	\$ 253	\$ 246	\$ 222	\$ 275	\$ 245
	5-9	342	378	334	422	356	370	367	350	312	352
	10-14	604	750	558	522	687	709	699	593	520	632
	15-19	898	755	616	788	939	983	959	907	788	903
	20-24		883	1,277	1,223	1,490	1,399	1,312	194	1,085	1,283
	25-29		1,485	2,340	2,229	2,243	2,153	1,973	1,746	1,498	1,990
	30-34		1,899	3,115	3,164	3,176	2,947	2,787	2,349	1,939	2,767
	35-39			2,933	3,797	3,844	3,712	3,315	2,849	2,387	3,321
	40-UP				2,380	3,857	4,176	4,129	4,166	2,823	3,792
	Average	\$ 517	\$ 863	\$ 1,698	\$ 1,876	\$ 1,740	\$ 1,558	\$ 1,376	\$ 1,192	\$ 968	\$ 1,388
<b>JRS</b>	0-4										
	5-9						\$ 1,296	\$ 2,401	\$ 3,057	\$ 2,512	\$ 2,053
	10-14						3,280	3,473		3,540	3,472
	15-19				\$ 4,995	\$ 5,330	5,286	4,874	4,970	3,272	4,214
	20-24						6,099	5,132			5,777
	25-29						6,654	5,734	5,513	6,242	5,953
	30-34						6,417	6,683		7,218	6,884
	35-39										
	40-UP										
	Average				\$ 4,995	\$ 5,330	\$ 4,369	\$ 4,742	\$ 4,805	\$ 3,807	\$ 4,248
<b>HPORS</b>	0-4	\$ 2,116	\$ 2,136	\$ 1,418		\$ 1,900	\$ 1,021				\$ 1,686
	5-9		1,164	1,508	\$ 1,240	2,151	1,431	\$ 1,707		\$ 1,671	1,498
	10-14		2,454	1,284	572	1,771	739		\$ 304	709	1,156
	15-19		2,641	2,655	1,795	2,491			2,185	1,021	1,996
	20-24	2,825	3,219	3,257	2,642	2,715	2,339	1,984	1,995	1,882	2,427
	25-29			3,946	3,993	4,352	3,668	2,963	2,890	2,088	3,056
	30-34						4,482	4,428	4,018	2,722	3,697
	35-39							5,371	5,230	3,283	4,436
	40-UP									4,514	4,514
	Average	\$ 2,294	\$ 2,753	\$ 2,920	\$ 2,647	\$ 2,732	\$ 2,861	\$ 2,901	\$ 2,758	\$ 2,099	\$ 2,648
<b>SRS</b>	0-4	\$ 1,961	\$ 894	\$ 1,690	\$ 1,294	\$ 2,147	\$ 950	\$ 1,213	\$ 57	\$ 326	\$ 1,341
	5-9	1,367	1,662	836	849	690	895	775	716	571	842
	10-14	2,521	1,871	668	1,207	1,308	1,256	1,231	806	1,090	1,224
	15-19	2,843	2,830	2,367	2,025	2,284	1,658	1,419	1,675	1,110	1,862
	20-24		3,092	2,821	2,322	2,529	2,601	2,005	2,276	889	2,441
	25-29		3,170	2,833	3,299	3,777	3,675	3,706	2,691	1,629	3,208
	30-34				2,829	5,739	4,179	3,001	4,149	2,047	4,313
	35-39					4,764	2,999	5,036	3,372	3,700	4,168
	40-UP										
	Average	\$ 2,275	\$ 2,517	\$ 2,044	\$ 2,139	\$ 2,396	\$ 2,294	\$ 2,080	\$ 2,028	\$ 1,218	\$ 2,160

**Public Employees' Retirement Board**

*A Component Unit of the State of Montana*

**Schedule of Average Monthly Benefit Payments, All Retirees**

For the Fiscal Year Ended 2016

System	Years of Service	Recipient's Age									Average
		< 45	45-49	50-54	55-59	60-64	65-69	70-74	75-79	Over 80	
<b>GWPORS</b>	0-4				\$ 353	\$ 208	\$ 393	\$ 455			\$ 352
	5-9	\$ 953	\$ 1,078		550	686	730	587			684
	10-14				1,172	1,267	1,195	1,204	\$ 1,723		1,225
	15-19		1,833	2,212	1,533	1,904	1,516		1,309	\$ 933	1,625
	20-24			1,986	2,432	2,661	1,624	1,500	1,879	1,623	2,022
	25-29			3,003	3,662	2,105	2,457	2,818	2,276	1,611	2,442
	30-34				3,848	3,921	5,036	3,520	3,259	2,272	3,320
	35-39				4,726	4,729	3,356		3,524	2,857	3,733
	40-UP						4,711				4,711
	Average		\$ 1,246	\$ 2,098	\$ 1,903	\$ 1,776	\$ 1,322	\$ 1,812	\$ 2,348	\$ 1,986	\$ 1,762
<b>MPORS</b>	0-4	\$ 1,961	\$ 1,901	\$ 1,341	\$ 811	\$ 378	\$ 796	\$ 1,029	\$ 1,747	\$ 1,786	\$ 986
	5-9	2,574	2,356	1,166	1,154	1,229	1,220	1,981	1,955	1,877	1,574
	10-14	2,409	2,662	1,409	1,637	1,902	1,637	1,707	1,953	1,889	1,807
	15-19	3,070	2,747	2,563	2,091	2,311	2,277	2,095	1,835	2,184	2,314
	20-24	3,253	2,986	2,654	2,818	2,500	2,665	2,395	2,156	2,080	2,482
	25-29		4,392	2,882	3,692	4,402	4,229	3,712	2,997	2,728	3,760
	30-34				5,119	5,658	5,612	5,332		2,996	5,122
	35-39						4,981			2,949	3,965
	40-UP										
	Average	\$ 2,671	\$ 2,764	\$ 2,249	\$ 2,434	\$ 2,494	\$ 2,674	\$ 2,588	\$ 2,161	\$ 2,151	\$ 2,438
<b>FURS</b>	0-4	\$ 2,146		\$ 1,758	\$ 1,801	\$ 2,021	\$ 2,115				\$ 1,976
	5-9	2,181		1,505	695	1,060	1,350		\$ 2,256		1,357
	10-14		\$ 2,978	2,284	1,615	2,003	877	\$ 854	1,885	\$ 1,960	1,857
	15-19		2,919	2,048	1,926	2,232	1,764	1,717	1,249	1,980	1,940
	20-24	3,255	2,393	2,708	2,861	2,501	2,222	2,057	1,894	1,848	2,254
	25-29			4,373	3,531	4,197	3,891	3,283	2,622	1,913	3,174
	30-34			5,834	4,847	5,244	5,028	5,193	3,861	2,406	4,772
	35-39					6,392	4,621	5,685	5,806	3,263	5,031
	40-UP										
	Average	\$ 2,437	\$ 2,520	\$ 2,921	\$ 2,849	\$ 3,646	\$ 3,366	\$ 3,224	\$ 2,617	\$ 2,002	\$ 2,898
<b>VFCA</b>	0-4					\$ 88					\$ 88
	5-9										
	10-14					103	\$ 100	\$ 102	\$ 98	\$ 100	101
	15-19				\$ 149	144	145	146	148	143	145
	20-24				184	184	183	183	180	182	183
	25-29				224	226	222	229	223	223	224
	30-34				258	243	251	250	250	250	249
	35-39				288	306	250		250		271
	40-UP										
	Average				\$ 206	\$ 175	\$ 164	\$ 159	\$ 158	\$ 156	\$ 166

# STATISTICAL SECTION

## Public Employees' Retirement Board

*A Component Unit of the State of Montana*

### Principal Participating Employers

Current Year and Nine Years Ago

Participating Government	As of June 30, 2016			As of June 30, 2007		
	Covered Employees <sup>1</sup>	Rank	Percentage of Total System	Covered Employees <sup>1</sup>	Rank	Percentage of Total System
<b><u>PERS-DBRP</u></b>						
STATE OF MONTANA <sup>2</sup>	10,663	1	37.21	10,665	1	38.27
UNIVERSITY OF MONTANA	1,281	2	4.47	1,185	2	4.25
MONTANA STATE UNIVERSITY - BOZEMAN	1,049	3	3.66	1,016	3	3.65
MISSOULA COUNTY	670	4	2.34	547	4	1.96
CITY OF BILLINGS	588	5	2.05	539	5	1.93
FLATHEAD COUNTY	420	6	1.47	375	7	1.35
SCHOOL DISTRICT 2 - BILLINGS	363	7	1.27	359	8	1.29
CITY OF GREAT FALLS	356	8	1.24	339	10	1.22
CASCADE COUNTY	351	9	1.23	352	9	1.26
BUTTE SILVER BOW	351	10	1.23	312	13	1.12
SCHOOL DISTRICT 1 - GREAT FALLS	342	11	1.19	415	6	1.49
"All other" *	12,219		42.64	11,762		42.21
TOTAL (493 EMPLOYERS)	28,653		100.00	27,866		100.00

\* In 2016, "all other" consisted of:

Type	Number	Employees
Cities & Towns	94	2,231
Counties	52	4,062
Other Agencies	102	1,163
School Districts	231	4,433
Universities	3	330
Total	482	12,219

<sup>1</sup> Employee counts are based on June payrolls. Differences in employee counts in this schedule as compared to other CAFR schedules are due to members with multiple employers, June 30th refunded members, and members with dual retirement system elections.

<sup>2</sup> For the purposes of this schedule the "State of Montana" is considered one employer. There are a total of 34 State of Montana agencies reporting to PERS-DBRP.

A ten year analysis may not be available for all employers, due to the employer not being a participating employer at the time.

**Public Employees' Retirement Board**

*A Component Unit of the State of Montana*

**Principal Participating Employers (cont.)**

Current Year and Nine Years Ago

<u>Participating Government</u>	<u>As of June 30, 2016</u>			<u>As of June 30, 2007</u>		
	<u>Covered Employees <sup>1</sup></u>	<u>Rank</u>	<u>Percentage of Total System</u>	<u>Covered Employees <sup>1</sup></u>	<u>Rank</u>	<u>Percentage of Total System</u>
<b>JRS</b>						
STATE OF MONTANA <sup>2</sup>	55	1	100.00	51	1	100.00
TOTAL (1 EMPLOYER)	55		100.00	51		100.00
<b>HPORS</b>						
STATE OF MONTANA <sup>2</sup>	229	1	100.00	203	1	100.00
TOTAL (1 EMPLOYER)	229		100.00	203		100.00
<b>SRS</b>						
MISSOULA COUNTY	144	1	10.49	113	1	10.42
YELLOWSTONE COUNTY	114	2	8.30	97	2	8.95
GALLATIN COUNTY	105	3	7.65	70	5	6.46
CASCADE COUNTY	104	4	7.57	81	3	7.47
FLATHEAD COUNTY	93	5	6.77	75	4	6.92
LEWIS & CLARK COUNTY	65	6	4.73	54	6	4.98
STATE OF MONTANA <sup>2</sup>	57	7	4.15	43	7	3.97
DAWSON COUNTY	47	8	3.42	40	9	3.69
RAVALLI COUNTY	45	9	3.28	40	8	3.69
LAKE COUNTY	42	10	3.06	33	10	3.04
In 2016 "All other" consists of 47 Counties	557		40.58	438		40.41
TOTAL (57 EMPLOYERS)	1,373		100.00	1,084		100.00
<b>GWPORS</b>						
STATE OF MONTANA <sup>2</sup>	957	1	95.51	790	1	96.46
MONTANA STATE UNIVERSITY - BOZEMAN	23	2	2.30	14	2	1.71
UNIVERSITY OF MONTANA	15	3	1.50	11	3	1.34
MONTANA STATE UNIVERSITY - BILLINGS	7	4	0.69	4	4	0.49
TOTAL (4 EMPLOYERS)	1,002		100.00	819		100.00

<sup>1</sup> Employee counts are based on June payrolls. Differences in employee counts in this schedule as compared to other CAFR schedules are due to members with multiple employers, June 30th refunded members and members with dual retirement system elections.

<sup>2</sup> For the purposes of this schedule the "State of Montana" is considered one employer. For JRS, HPORS and SRS there is only one State of Montana agency. There are four State of Montana agencies reporting under GWPORS.

A ten-year analysis may not be available for all employers, due to the employer not being a participating employer at the time.

## STATISTICAL SECTION

### Public Employees' Retirement Board

*A Component Unit of the State of Montana*

#### Principal Participating Employers (cont.)

Current Year and Nine Years Ago

Participating Government	As of June 30, 2016			As of June 30, 2007		
	Covered Employees <sup>1</sup>	Rank	Percentage of Total System	Covered Employees <sup>1</sup>	Rank	Percentage of Total System
<b>MPORS</b>						
CITY OF BILLINGS	135	1	17.74	130	1	20.34
CITY OF MISSOULA	101	2	13.27	102	2	15.96
CITY OF GREAT FALLS	86	3	11.30	81	3	12.68
CITY OF BOZEMAN	63	4	8.28	44	5	6.89
CITY OF HELENA	50	5	6.57	50	4	7.82
BUTTE-SILVER BOW	48	6	6.31	42	6	6.57
CITY OF KALISPELL	37	7	4.86	35	7	5.48
CITY OF HAVRE	19	8	2.50	18	8	2.82
ANACONDA-DEER LODGE COUNTY	19	9	2.50	18	9	2.82
CITY OF WHITEFISH	17	10	2.23	14	10	2.19
In 2016 "All other" consists of 22 Cities	186		24.44	105		16.43
TOTAL (32 EMPLOYERS)	761		100.00	639		100.00

#### **FURS**

CITY OF BILLINGS	119	1	18.22	115	1	22.33
CITY OF MISSOULA	91	2	13.94	80	2	15.53
CITY OF GREAT FALLS	66	3	10.11	65	3	12.62
CITY OF BOZEMAN	43	4	6.59	30	7	5.83
MISSOULA RURAL FIRE DISTRICT	38	5	5.82			
CITY OF HELENA	36	6	5.51	36	4	6.99
BUTTE-SILVER BOW	34	7	5.21	32	6	6.21
CITY OF KALISPELL	31	8	4.75	35	5	6.80
STATE OF MONTANA <sup>2</sup>	21	9	3.22	9	14	1.75
CITY OF LIVINGSTON	20	10	3.06	17	11	3.30
CITY OF HAVRE	16	13	2.45	17	10	3.30
CITY OF LEWISTOWN	7	20	1.07	24	8	4.66
CITY OF GLENDIVE	5	22	0.77	19	9	3.69
In 2016 "All other" consists of 3 Cities, 1 County, and 9 Rural Fire District	126		19.28	36		6.99
TOTAL (26 EMPLOYERS)	653		100.00	515		100.00

#### **VFCA**

Participating employers is not applicable to VFCA because members are unpaid volunteers. In 2016, there were 220 VFCA qualified volunteer fire departments.

<sup>1</sup> Employee counts are based on June payrolls. Differences in employee counts in this schedule as compared to other CAFR schedules are due to members with multiple employers, June 30th refunded members and members with dual retirement system elections.

<sup>2</sup> For the purposes of this schedule the "State of Montana" is considered one employer. For FURS there is only one State of Montana agency. A ten-year analysis may not be available for all employers, due to the employer not being a participating employer at the time.

**Public Employees' Retirement Board**

*A Component Unit of the State of Montana*

**Principal Participating Employers (cont.)**

Current Year and Nine Years Ago

Participating Government	As of June 30, 2016			As of June 30, 2007		
	Covered Employees <sup>1</sup>	Rank	Percentage of Total System	Covered Employees	Rank	Percentage of Total System
<b>PERS-DCRP</b>						
STATE OF MONTANA <sup>2</sup>	1,184	1	48.66	811	1	44.91
YELLOWSTONE CITY-COUNTY HEALTH DEPT	84	2	3.45	34	5	1.88
MISSOULA COUNTY	68	3	2.79	41	3	2.27
UNIVERSITY OF MONTANA	66	4	2.71	39	4	2.16
CITY OF BILLINGS	64	5	2.63	55	2	3.05
MONTANA STATE UNIVERSITY - BOZEMAN	46	6	1.89	28	8	1.55
CITY OF MISSOULA	31	7	1.27	28	9	1.55
GALLATIN COUNTY	31	8	1.27	27	10	1.50
CITY OF GREAT FALLS	26	9	1.07	16	15	0.89
YELLOWSTONE COUNTY	25	10	1.03	29	7	1.61
FLATHEAD COUNTY	21	12	0.86	30	6	1.66
"All other" *	787		32.37	668		36.97
TOTAL (259 EMPLOYERS)	2,433		100.00	1,806		100.00

\* In 2016, "all other" consisted of:

Type	Number	Employees
Cities & Towns	57	169
Counties	48	238
Other Agencies	46	106
School Dist	136	265
Universities	3	9
Total	290	787

**Deferred Compensation Plan**

STATE OF MONTANA <sup>2</sup>	4,243	1	87.41	4,466	1	91.20
CITY OF HELENA	103	2	2.12			
UNIVERSITY OF MONTANA	95	3	1.96	120	2	2.45
LEWIS AND CLARK COUNTY	89	4	1.83	90	4	1.84
MONTANA STATE UNIVERSITY - BOZEMAN	57	5	1.17	101	3	2.06
FALLON COUNTY	30	6	0.62			
GREAT FALLS TRANSIT	28	7	0.58	39	5	0.80
SANDERS COUNTY	26	8	0.54			
SCHOOL DISTRICT 6 - WIBAUX	17	9	0.35			
MONTANA STATE UNIVERSITY - BILLINGS	15	10	0.31	20	6	0.41
BIG SKY WATER & SEWER DIST #363	8	14	0.16	5	11	0.10
MONTANA STATE UNIVERSITY - NORTHERN	6	21	0.12	15	7	0.31
MSU COLLEGE OF TECHNOLOGY - GREAT FALLS	4	25	0.08	8	8	0.16
CARTER COUNTY	2	32	0.04	7	10	0.14
"All other" *	131		2.71	26		0.53
TOTAL (44 EMPLOYERS)	4,854		100.00	4,897		100.00

\* In 2016, "all other" consisted of:

Type	Number	Employees
Cities & Towns	9	43
Counties	0	0
Other Agencies	11	39
School Dist	10	49
Universities	0	0
Total	30	131

<sup>1</sup> Employee counts are based on June payrolls. Differences in employee counts in this schedule as compared to other CAFR schedules are due to members with multiple employers, June 30th refunded members and members with dual retirement system elections.

<sup>2</sup> For the purposes of this schedule the "State of Montana" is considered one employer. There are a total of 31 State of Montana agencies reporting to PERS-DCRP.

A ten-year analysis may not be available for all employers, due to the employer not being a participating employer at the time.

# STATISTICAL SECTION

## Public Employees' Retirement Board

*A Component Unit of the State of Montana*

### Schedule of Participating Employers

As of June 30, 2016

*P - Defined Benefit PERS	*J - Judges	*G - Game Wardens	*H - Highway Patrol	*S - Sheriffs	*M - Police	*F - Firefighters
				*DC - Defined Contribution PERS	*D - 457	

State Agencies (34)						
Board of Crime Control	P					DC
Board of Public Education	P					DC
Commissioner of Higher Education	P					DC
Commissioner of Political Practices	P					
Consumer Council	P					DC
Dept of Administration	P					DC
Dept of Agriculture	P					DC
Dept of Commerce	P					DC
Dept of Corrections	P	G				DC
Dept of Environmental Quality	P					DC
Dept of Fish, Wildlife & Parks	P	G				DC
Dept of Justice	P		H	S		DC
Dept of Labor & Industry	P					DC
Dept of Livestock	P	G				DC
Dept of Military Affairs	P				F	DC
Dept of Natural Resources & Conservation	P					DC
Dept of Public Health & Human Services	P					DC
Dept of Revenue	P					DC
Dept of Transportation	P			G		DC
Governor's Office	P					DC
Legislative Council	P					DC
Montana Arts Council	P					DC
Montana Historical Society	P					DC
Montana State Fund	P					DC
Montana State Library	P					DC
Office of Public Defender	P					DC
Office of Public Instruction	P					DC
Public Employee Retirement Administration	P					DC
Public Service Commission	P					DC
School for the Deaf & Blind	P					DC
Secretary of State	P					DC
State Auditor's Office	P					DC
Supreme Court	P	J				DC
Teachers' Retirement System	P					DC
*State of Montana						D

Counties (55)						
Anaconda-Deer Lodge	P	S	M	F		DC
Beaverhead	P	S				DC
Big Horn	P	S				DC
Blaine	P	S				DC
Broadwater	P	S				DC
Carbon	P	S				DC
Carter	P	S				DC D
Cascade	P	S				DC
Chouteau	P	S				
Custer	P	S				DC
Daniels	P	S				DC
Dawson	P	S				DC
Fallon	P	S				DC D
Fergus	P	S				DC
Flathead	P	S				DC
Gallatin	P	S				DC
Garfield	P	S				DC
Glacier	P	S				DC
Golden Valley	P	S				
Granite	P	S				DC
Hill	P	S				DC
Jefferson	P	S				DC
Judith Basin	P	S				
Lake	P	S				DC
Lewis & Clark	P	S				DC D
Liberty	P	S				DC
Lincoln	P	S				DC
Madison	P	S				DC
McCone	P	S				DC
Meagher	P	S				
Mineral	P	S				DC
Missoula	P	S				DC
Musselshell	P	S				DC
Park	P	S				DC
Petroleum	P	S				DC
Phillips	P	S				DC
Pondera	P	S				DC
Powder River	P	S				DC
Powell	P	S				DC
Prairie	P	S				DC
Ravalli	P	S				DC
Richland	P	S				DC
Roosevelt	P	S				DC
Rosebud	P	S				DC
Sanders	P	S				DC D
Sheridan	P	S				DC
Stillwater	P	S				DC
Sweet Grass	P	S				DC
Teton	P	S				DC
Toole	P	S				DC
Treasure	P	S				DC
Valley	P	S				DC
Wheatland	P	S				DC
Wibaux	P	S				
Yellowstone	P	S				DC

# STATISTICAL SECTION

## Schedule of Participating Employers (continued)

*P - Defined Benefit PERS	*J - Judges	*G - Game Wardens	*H - Highway Patrol	*S - Sheriffs	*M - Police	*F - Firefighters
			*DC - Defined Contribution PERS	*D - 457		

### Cities & Towns (99)

Alberton	P					DC	
Baker	P		M			DC	
Belgrade	P		M			DC	
Belt	P						
Big Sandy	P						
Big Timber	P					DC	
Billings	P		M	F		DC	
Boulder	P						
Bozeman	P		M	F		DC	
Bridger	P						
Broadus	P						
Butte-Silver Bow	P	S	M	F		DC	
Cascade	P						
Chester	P					DC	
Chinook	P					DC	
Choteau	P					DC	
Circle	P					DC	
Colstrip	P					DC	D
Columbia Falls	P		M	F		DC	
Columbus	P		M			DC	
Conrad	P					DC	
Culbertson	P						
Cut Bank	P		M			DC	
Deer Lodge	P					DC	
Denton	P						
Dillon	P		M			DC	
Drummond	P						
East Helena	P		M			DC	
Ekalaka	P						
Ennis	P					DC	
Eureka	P					DC	
Fairfield	P					DC	
Fairview	P					DC	
Forsyth	P						
Fort Benton	P						
Fort Peck	P						
Froid	P					DC	
Geraldine	P						
Glasgow	P		M			DC	
Glendive	P		M	F		DC	
Grass Range	P						
Great Falls	P		M	F		DC	
Hamilton	P		M			DC	
Hardin	P					DC	D
Harlem	P						
Harlowton	P					DC	
Havre	P		M	F		DC	
Helena	P		M	F		DC	D
Hot Springs	P					DC	
Hysham	P						
Kalispell	P		M	F		DC	
Laurel	P		M			DC	
Lewistown	P		M	F		DC	
Libby	P		M			DC	
Lima	P						
Livingston	P		M	F		DC	
Malta	P						
Manhattan	P						
Medicine Lake	P						
Melstone	P						
Miles City	P		M	F		DC	
Missoula	P		M	F		DC	
Moore	P						
Nashua	P						
Phillipsburg	P						
Plains	P	M					
Plentywood	P						
Polson	P	M				DC	D
Poplar	P					DC	D
Red Lodge	P	M				DC	
Richey	P						
Ronan	P					DC	
Roundup	P						
Ryegate	P						
Saco	P						
Scobey	P					DC	
Shelby	P					DC	
Sheridan	P					DC	D
Sidney	P					DC	D
St Ignatius	P						
Stanford	P						
Stevensville	P					DC	
Sunburst	P						
Superior	P						
Terry	P						
Thompson Falls	P	M				DC	D
Three Forks	P						
Townsend	P						
Troy	P	M					D
Twin Bridges	P						
Valier	P						
Westby	P						
West Yellowstone	P	M				DC	
White Sulphur Springs	P						
Whitefish	P	M	F			DC	
Whitehall							D
Wibaux	P						
Winnett	P						
Wolf Point	P	M				DC	

# STATISTICAL SECTION

## Schedule of Participating Employers (continued)

*P - Defined Benefit PERS	*J - Judges	*G - Game Wardens	*H - Highway Patrol	*S - Sheriffs	*M - Police	*F - Firefighters
			*DC - Defined Contribution PERS	*D - 457		

Colleges & Universities (5)						
Montana State University - Billings	P	G	DC	D		
Montana State University - Bozeman	P	G	DC	D		
Montana State University College of Technology - Great Falls	P		DC	D		
Montana State University - Northern	P		DC	D		
University of Montana - Missoula	P	G	DC	D		
High Schools (5)						
Beaverhead County	P					
Jefferson County	P					
Powder River County	P		DC			
Powell County	P		DC			
Sweet Grass County	P		DC			
School Districts (230)						
SD 1, Big Timber	P		DC			
SD 1, Butte	P		DC			
SD 1, Choteau	P					
SD 1, Circle	P					
SD 1, Clancy	P		DC			
SD 1, Corvallis	P		DC			
SD 1, Deer Lodge	P					
SD 1, Fort Benton	P					
SD 1, Glasgow	P		DC			
SD 1, Glendive	P		DC			
SD 1, Heart Butte	P		DC			
SD 1, Helena	P		DC			
SD 1, Kalispell	P					
SD 1, Lewistown	P		DC			
SD 1, Miles City	P					
SD 1, Missoula	P		DC			
SD 1, Phillipsburg	P					
SD 1, Plains	P		DC			
SD 1, Red Lodge	P		DC			
SD 1, Scobey	P		DC			
SD 1, Troy	P					
SD 1 & 7 Hysham	P					
SD 1 & 7, Townsend	P		DC			
SD 2, Alberton	P					
SD 2, Alder	P					
SD 2, Billings	P		DC	D		
SD 2, Bridger	P					
SD 2, Deer Park	P		DC			
SD 2, Dodson	P					
SD 2, Dupuyer	P					
SD 2, Frazer	P					
SD 2, Lavina K-12	P					
SD 2, Stevensville	P		DC			
SD 2, Sunburst	P		DC			
SD 2, Thompson Falls	P					
SD 2 & 3, Pryor	P					
SD 2 & 11, Big Sandy	P		DC			
SD 2 & 27, Lodge Grass	P					
SD 3, Belfry	P		DC			
SD 3, Billings	P		DC			
SD 3, Cascade	P		DC			
SD 3, Fairmont Egan	P					
SD 3, Geraldine	P		DC			
SD 3, Hamilton	P		DC			
SD 3, Manhattan	P					
SD 3, Ramsey	P					
SD 3, Superior	P		DC			
SD 3, Westby	P		DC			
SD 3, Wolf Point	P		DC	D		
SD 3 & 13, Fairview	P		DC			
SD 4, Canyon Creek	P					
SD 4, Divide	P					
SD 4, Forsyth	P					D
SD 4, Hellgate	P		DC			
SD 4, Libby	P					
SD 4, Livingston	P		DC			
SD 4, Swan River	P					
SD 4 & 28, Highwood	P					
SD 4 & 47, Whitehall	P					
SD 5, Basin	P					
SD 5, Kalispell	P		DC			
SD 5, Melrose	P					
SD 5, Park City	P					
SD 5, Sand Coulee	P		DC			
SD 5, Sheridan	P		DC			
SD 5, Sidney	P					
SD 5, Terry	P		DC			
SD 6, Columbia Falls	P		DC			
SD 6, Columbus	P		DC			
SD 6, Lame Deer	P		DC			
SD 6, Ryegate	P		DC	D		
SD 6, Trout Creek	P					
SD 6, Wibaux	P					D
SD 6 & 1, St Regis	P		DC			
SD 7, Boulder	P		DC			
SD 7, Bozeman	P		DC			
SD 7, Charlo	P					
SD 7, Gardiner	P					
SD 7, Grant	P					
SD 7, Hinsdale	P		DC			
SD 7, Joliet	P					
SD 7, Lolo	P		DC			
SD 7, Medicine Lake	P					D
SD 7, Twin Bridges	P					
SD 7, Victor	P					
SD 7 & 2, Savage	P		DC			
SD 7 & 70, Laurel	P		DC			
SD 8, Arlee	P		DC			
SD 8, Elder Grove	P		DC			
SD 8, West Glacier	P					
SD 8, White Sulphur Springs	P					
SD 9, Browning	P		DC			
SD 9, Darby	P					
SD 9, Dixon	P					
SD 9, East Helena	P		DC	D		
SD 9, Opheim	P		DC			
SD 9, Poplar	P		DC	D		
SD 9 & 9, Reed Point	P					
SD 10, Anaconda	P					
SD 10, Cayuse	P					
SD 10, Chinook	P					
SD 10, Conrad	P					
SD 10, Dillon	P					
SD 10, Noxon	P		DC			
SD 11, Brorson	P					
SD 11, Ovando	P					
SD 11, Potomac	P		DC			
SD 11, Wise River	P					
SD 11 & 2, Drummond	P					
SD 12, Baker	P					D
SD 12, Harlem	P					
SD 12, Havre	P					
SD 12, Lima	P		DC			
SD 12, Rosebud	P					
SD 12, Saco	P		DC			
SD 12, Stanford	P					
SD 12 & 12, Molt	P					

# STATISTICAL SECTION

## Schedule of Participating Employers (continued)

*P - Defined Benefit PERS	*J - Judges	*G - Game Wardens	*H - Highway Patrol	*S - Sheriffs	*M - Police	*F - Firefighters
*DC - Defined Contribution PERS			*D - 457			

School Districts (continued)						
SD J12-5, Shields Valley	P					
SD 13, Box Elder	P					
SD 13, Eureka	P		DC			
SD 13, Lone Rock	P		DC			
SD 13, Nashua	P					
SD 14, Bonner	P		DC			
SD 14, Fortine	P					
SD 14, Hot Springs	P					
SD 14, Malta	P					
SD 14, Shelby	P					
SD 15, Custer	P		DC			
SD 15, Cut Bank	P		DC			
SD 15, Ekalaka	P		DC			
SD 15, Kalispell	P		DC			
SD 15 & 6, Florence-Carlton	P					
SD 15 & 17, Willow Creek	P					
SD 16, Harlowton	P					
SD 17, Culbertson	P		DC			
SD 17, Morin	P					
SD 17H, Hardin	P		DC			
SD 18, Valier	P					
SD 19, Colstrip	P		DC			
SD 20, Garrison	P					
SD 20, Kila	P					
SD 20, Plentywood	P		DC			
SD 20, Whitewater	P					
SD 21, Broadview	P					
SD 21, Fairfield	P					
SD 21, Galata	P		DC			
SD 23, Billings	P					
SD 23, Harrison	P					
SD 23, Lustre	P					
SD 23, Missoula	P		DC			
SD 23, Polson	P		DC			
SD 23, Roberts	P		DC			
SD 24, Three Forks	P		DC			
SD 24, Worden	P					
SD 25, Hobson	P		DC			
SD 26, Lockwood	P		DC			
SD 26, Reichle	P					
SD 27, Elliston	P		DC			
SD 27, Grass Range	P					
SD 27, Monforton	P					
SD 27, Montana City	P					
SD 28, St. Ignatius	P					
SD 28C, Dutton	P					
SD 29, Belt	P					
SD 29, Somers	P					
SD 29, Wyola	P					
SD 30, Power	P					
SD 30, Ronan	P		DC			
SD 30 & 6, Fromberg	P		DC			
SD 32, Clinton	P		DC			
SD 32, Rapelje	P					
SD 32J, Ashland	P					
SD 33, Gold Creek	P					
SD 33, Swan Valley Elem	P					
SD 34, Seeley Lake	P					
SD 35, Gallatin Gateway	P					
SD 37, Shepherd	P		DC			
SD 38, Big Fork	P		DC			
SD 38, Lincoln	P		DC			
SD 40, Frenchtown	P		DC			
SD 41, Anderson	P		DC			
SD 43, Lamotte				P		DC
SD 43, Turner				P		
SD 44, Belgrade				P		DC
SD 44, Geraldine						D
SD 44, Moore				P		
SD 44, Whitefish				P		
SD 45, Augusta				P		
SD 45, Golden Ridge				P		DC
SD 45, Wolf Point				P		DC
SD 48-1J & 48-2J, Chester				P		DC
SD 50, East Glacier				P		
SD 50, Evergreen				P		DC
SD 50, Hays				P		DC
SD 52, Absarokee				P		DC
SD 52, Ennis				P		DC
SD 52, Independent				P		DC
SD 55, Brockton				P		
SD 55, Plevna				P		DC
SD 55, Roundup				P		DC
SD 55F, Sun River Valley				P		
SD 57, Havre				P		DC
SD 58, Geysler				P		DC
SD 58, Whitefish				P		
SD 58, Yellowstone				P		
SD 64, Bainville				P		DC
SD 64J, Melstone				P		
SD 65, Froid				P		
SD 69, West Yellowstone				P		
SD 72, Big Sky				P		
SD 73, Swan Lake				P		
SD 74, Roy				P		
SD 74, Vaughn				P		DC
SD 75, Amsterdam				P		DC
SD 75, Arrowhead				P		
SD 75, Greenfield				P		
SD 78J & 2, Richey				P		
SD 84, Denton				P		
SD 85, Ulm				P		DC
SD 86 & 4, Lambert				P		
SD 87, Box Elder				P		
SD 89, Smith Valley				P		DC
SD 99M, Rudyard				P		
SD 104, Spring Creek				P		
SD 115, Winifred				P		
SD 159, Winnett				P		
Great Falls Public Schools				P		DC
Jordan Public Schools				P		DC
Judith Gap Schools				P		DC
Havre Public Schools				P		DC D

# STATISTICAL SECTION

## Schedule of Participating Employers (continued)

*P - Defined Benefit PERS   *J - Judges   *G - Game Wardens   *H - Highway Patrol   *S - Sheriffs   *M - Police   *F - Firefighters *DC - Defined Contribution PERS   *D - 457																				
<b>Other Agencies (116)</b>																				
Anaconda Housing Authority	P									Lakeview Cemetery District	P									
Arlee-Lake County Water & Sewer	P									Larchmont Golf Course	P									
Bear Paw Cooperative	P									Lewis & Clark Conservation District	P									
Bert Mooney Airport Authority	P		DC							Lewis & Clark Library	P						DC			
Big Country Educational Cooperative	P									Liberty County Conservation District	P									
Big Fork County Water & Sewer	P		DC							Lincoln Conservation District	P									
Big Horn Cemetery District #1	P									Lincoln County Rural Fire District	P									
Big Sky County Water & Sewer District #363	P		DC		D					Lockwood Rural Fire District #8	P									
Big Sky Resort Area District								D		Lockwood Water & Sewer District	P						DC			
Big Sky Economic Development Authority	P		DC							Madison Conservation District	P									
Big Sky Special Education Cooperative	P									Malta Cemetery District	P									
Billings Housing Authority	P		DC		D					Malta Irrigation District	P									
Bitterroot Conservation District	P									Miles Community College	P						DC			
Bitterroot Valley Special Education Cooperative	P		DC		D					Milk River Joint Board Control	P									
Buffalo Rapids Irrigation District #1	P									Missoula Area Special Education Cooperative	P									
Buffalo Rapids Irrigation District #2	P									Missoula County Airport	P						DC			
Butte Housing Authority	P									Missoula Rural Fire District	P						DC			
Cascade County Conservation District	P									North Central Learning Special Education Cooperative	P									
Center for Mental Health	P									North Lake County Public Library	P									
Center Montana Learning Resource Ctr	P		DC							North Valley Public Library	P								D	
Chouteau County Conservation District	P									Northern Montana Joint Refuse Disposal District	P						DC		D	
Central Valley Fire District	P									Northwest Montana Education Cooperative	P									
Colstrip Park & Recreation Districts								D		Pablo-Lake County Water District	P									
Corvallis County Sewer District	P									Park County Rural Fire District #1	P									
Crown Hill Cemetery District	P									Park County Special Education Cooperative	P									
Daly Ditches Irrigation District	P		DC							Petroleum County Conservation District	P									
Dawson County Urban Transportation District	P									Phillips Conservation District								DC		
Dawson Community College	P		DC		D					Pondera County Canal & Reservoir	P									
Deer Lodge County Head Start Program	P									Pondera County Cemetery District 2	P									
Dry Prairie Rural Water District	P									Port of Montana — Port Authority	P									
Eastern Yellowstone County Special Education Cooperative	P									Prairie County Hospital District	P							DC		
Fallon Medical Complex	P									Prairie View Special Services Coop								DC		
Fergus County Conservation District	P									Prickley Pear Special Services Cooperative	P							DC		
Flathead County Special Education Cooperative	P		DC							Rae Water & Sewer District	P									
Flathead Conservation District	P		DC		D					Red Lodge Rural Fire District 7	P									
Flathead Emergency Communications Center	P		DC							Richland County Housing Authority	P							DC		
Flathead Joint Board of Control	P									Ronan Library District	P									
Flathead Municipal Airport Authority	P		DC							Roundup Community Library	P									
Flathead Valley Community College	P		DC							Sanders Special Education Cooperative	P									
Fort Shaw Irrigation District	P									Seeley Lake Missoula County Water District	P							DC		
Frenchtown Rural Fire District	P									Seeley Lake Rural Fire District	P									
Gallatin Airport Authority	P		DC		D					Sheridan-Daniels Special Education Cooperative									DC	
Gallatin Canyon Consolidated Rural Fire District	P		DC							Sidney-Richland Airport Authority	P									
Gallatin Conservation District	P		DC							Sourdough Rural Fire									DC	
Gallatin-Madison Special Education Cooperative	P									Teton County Conservation District	P									
Gardiner-Park County Water District	P									Thompson Falls Public Library	P							DC		
Glasgow Housing Authority	P									Upper Musselshell Conservation District	P									
Glasgow Irrigation District	P									Valley County Conservation District	P									
Granite County Hospital & Nursing Home	P		DC							Victor Water & Sewer	P									
Granite Conservation District	P									Whitefish Housing Authority	P									
Great Divide Education Services	P									Yellowstone City-County Health Dept	P							DC		
Great Falls International Airport	P		DC							Yellowstone-West Carbon Special Education Cooperative	P									
Great Falls Transit								D		<b>Rural Fire Districts (10)</b>										
Greenfields Irrigation District	P		DC							Central Valley Fire District								F		
Hebgen Basin Rural Fire	P									Columbus Rural Fire District #3								F		
Helena Housing Authority	P		DC		D					Frenchtown Rural Fire District								F		
Helena Regional Airport Authority	P		DC							Gallatin Canyon Consolidated Rural Fire								F		
Helena Valley Irrigation District	P									Hebgen Basin Rural Fire District								F		
Hill County Public Cemetery District	P									Lockwood Rural Fire District #8								F		
Hinsdale Water and Sewer District	P									Missoula Rural Fire District								F		
Human Resources Council District XI	P		DC							Red Lodge Rural Fire District 7								F		
Human Resources Council District XII	P		DC							Seeley Lake Rural Fire District								F		
Judith Basin Conservation District	P									Sourdough Rural Fire								F		
Lakeside County Water & Sewer	P							D												

# STATISTICAL SECTION

<b>Volunteer Fire Departments (220)</b>		
Absarokee Volunteer Fire Dept	Fisher River Valley Volunteer Fire Dept	Plentywood Rural Volunteer Fire Dept
Absarokee-Nye Volunteer Fire Dept	Floral Park Volunteer Fire Dept	Plevna Volunteer Fire Dept
Alder Volunteer Fire Dept	Florence Volunteer Fire Dept	Polson Rural Fire Company
Amsterdam Rural Volunteer Fire Dept	Fort Benton Rural Volunteer Fire Dept	Power Rural Volunteer Fire Dept
Arlee Volunteer Fire Dept	Fort Ellis Rural Volunteer Fire Company	Racetrack Volunteer Fire Dept
Ashland Volunteer Fire Dept	Fort Shaw Rural Volunteer Fire Dept	Racetrack Valley Fire District
Augusta Volunteer Fire Dept	Frenchtown Rural Volunteer Fire Dept, Station 1	Rae Volunteer Fire Company
Bad Rock Volunteer Fire Dept	Frenchtown Rural Volunteer Fire Dept, Station 2	Red Lodge Rural Volunteer Fire Dept, Company 1
Baker Rural Volunteer Fire Dept	Frenchtown Rural Volunteer Fire Dept, Station 3	Red Lodge Luther Company 2
Basin Volunteer Fire Dept	Frenchtown Rural Volunteer Fire Dept, Station 4	Roberts Rural Fire District #6
Baxendale Volunteer Fire Dept	Frenchtown Rural Volunteer Fire Dept, Station 5	Rocker Volunteer Fire Dept
Bear Paw Volunteer Fire Dept	Gallatin Gateway Rural Volunteer Fire Dept	Rollins Volunteer Fire Dept
Belfry Volunteer Fire Dept	Gallatin River Ranch Rural Fire District	Ronan Volunteer Fire Dept, Station 1
Belt Rural Volunteer Fire Dept	Garrison Volunteer Fire Dept	Ronan Volunteer Fire Dept, Station 2 (Pablo)
Big Arm Volunteer Fire Company	Gateway Hose Volunteer Fire Company	Rudyard Volunteer Fire Dept
Big Butte Volunteer Fire Dept	Geraldine Volunteer Fire Dept	St Ignatius Rural Volunteer Fire Dept
Bigfork Volunteer Fire Dept, Company A	Georgetown Lake Fire Service Area	St Labre Volunteer Fire Dept
Bigfork Volunteer Fire Dept, Company B	Gore Hill Volunteer Fire Dept	St Marie Rural Volunteer Fire Dept
Big Sandy Volunteer Fire Dept	Grant Volunteer Fire Company	St Regis Volunteer Fire Dept
Birdseye Volunteer Fire Dept	Grasshopper Valley Volunteer Fire Company	Sand Coulee Volunteer Fire Dept
Black Eagle Volunteer Fire Dept	Greenough/Potomac Volunteer Fire Dept	Seeley Lake Volunteer Fire Dept
Blaine County Rural Fire District, Chinook	Harrison Volunteer Fire Dept	Shepherd Volunteer Fire Dept
Blaine County Rural Fire District, Harlem	Hawk Creek Rural Volunteer Fire Dept	Sheridan Volunteer Fire Dept
Blaine County Rural Fire District, Hogeland	Heath Rural Fire District	Simms Volunteer Fire Dept
Blankenship Rural Volunteer Fire Dept	Helmsville Volunteer Fire Dept	Smith Valley Volunteer Fire Dept
Blue Creek Volunteer Fire Dept	Heron Rural Fire District	Somers Volunteer Fire Dept
Boulevard Volunteer Fire Dept	Highwood Volunteer Fire Dept	Somers Volunteer Fire Dept, Lakeside Company
Brady Volunteer Fire Dept	Hilger Rural Fire District	Sourdough Rural Volunteer Fire Company
Bridger Canyon Volunteer Fire Dept	Hobson Rural Volunteer Fire Dept	South Kalispell Volunteer Fire Dept
Broadwater County Rural Fire District, Duck Creek	Home Atherton Volunteer Fire Dept	South Toole County Volunteer Fire Dept
Broadwater County Rural Fire District, Radersburg	Hot Springs Rural Fire District	Stevensville, Burnt Fork Company
Broadwater County Rural Fire District, Toston	Irvine Flats Fire Company	Stevensville, Etna Company
Broadwater County Rural Fire District, Townsend	Jefferson City-Community Volunteer Fire Dept	Stevensville, Sunset Company
Broadwater County Rural Fire District, Winston	Jefferson Valley Volunteer Fire Dept	Stevensville, Westside Company
Bull Lake Volunteer Fire Dept	Knees Volunteer Fire Dept	Superior Volunteer Fire Dept
Canyon Creek Fire District	Lewis & Clark County Rural Volunteer Fire Dept	Swan Lake Volunteer Fire Dept
Cascade Rural Volunteer Fire Dept	Libby Rural Volunteer Fire Dept	Swan Valley Volunteer Fire Company
Carter Volunteer Fire Dept	Libby Rural Volunteer Fire Dept, Company 2	Sweet Grass Volunteer Fire Dept, Company A
Centerville Volunteer Fire Dept	Lima Rural Volunteer Fire Dept	Sweet Grass, Volunteer Fire Dept, Company B
Central Valley Fire Dept, Company A	Little Basin Creek Volunteer Fire Dept	Terra Verde Heights Volunteer Fire Dept
Central Valley Fire Dept, Company B	Lockwood Rural Fire District #8	Trego-Fortine-Stryker (TFS) Volunteer Fire Dept
Central Valley Fire Dept, Company C	Lost Creek/Antelope Gulch Volunteer Fire Dept	Thompson Falls Rural Volunteer Fire Dept
Charlo-Moiese Volunteer Fire Dept	Manhattan Rural Volunteer Fire Dept	Three Forks Rural Volunteer Fire Dept
Chouteau Rural Volunteer Fire Dept	Marion Volunteer Fire Dept	Three Mile Volunteer Fire Dept - Stevensville
Clancy Volunteer Fire Dept	Martin City Volunteer Fire Dept	Tri-Lakes Volunteer Fire Dept, Company A
Clarks Fork Rural Volunteer Fire Dept	Marysville Volunteer Fire Dept	Tri-Lakes Volunteer Fire Dept, Company B
Clinton Volunteer Fire Dept	McCormick Rural Volunteer Fire Dept	Trout Creek Rural Volunteer Fire Dept
Columbia Falls Rural Volunteer Fire Dept	Medicine Lake Volunteer Fire Dept	Troy Rural Volunteer Fire Dept
Columbus Rural Volunteer Fire Dept	Melrose Volunteer Fire Dept	Turner Volunteer Fire Dept
Conrad Rural Volunteer Fire Dept	Missoula Volunteer Fire Dept, Pumper Company 1	Twin Bridges Volunteer Fire Company
Cooke City-Silver Gate Volunteer Fire Dept	Missoula Volunteer Fire Dept, Pumper Company 2	Ulm Volunteer Fire Dept
Coram-West Glacier Volunteer Fire Dept	Missoula Volunteer Fire Dept, Pumper Company 3	Upper Yak Fire Service
Corvallis Rural Fire District	Missoula Volunteer Fire Dept, Tanker Company 1	Valier Volunteer Fire Dept
Craig Volunteer Fire Dept	Missoula Volunteer Fire Dept, Tanker Company 2	Valley County Long Run Volunteer Fire Dept
Creston Volunteer Fire Dept, Company #1	Missoula Volunteer Fire Dept, Tanker Company 3	Vaughn Rural Volunteer Fire Dept
Creston Volunteer Fire Dept, Company #2 Lake Blaine	Molt Volunteer Fire Dept	Victor Rural Volunteer Fire Dept
Culbertson Volunteer Fire Dept	Monarch Volunteer Fire Dept	West Fork Rural Fire District
Darby Volunteer Fire Dept	Montana City Volunteer Fire Dept, Company 1	West Glendive Volunteer Fire Dept
Dean Creek Volunteer Fire Dept	Montana City Volunteer Fire Dept, Company 2	West Helena Valley Volunteer Fire Dept
Dearborn Volunteer Fire Dept	Montecarto Volunteer Fire District	West Valley Anaconda Volunteer Fire Dept
Denton Volunteer Fire Dept	Musselshell County Rural Volunteer Fire Dept	West Valley Kalispell Volunteer Fire Dept
Dillon Rural Volunteer Fire Dept, Company A	North Toole County Volunteer Fire Dept	Wheatland County Volunteer Fire Dept
Dillon Rural Volunteer Fire Dept, Company B	Noxon Rural Fire District	Wibaux Volunteer Fire Dept
Dixon Rural Volunteer Fire Dept	Olney Rural Volunteer Fire Dept	Willow Creek Rural Volunteer Fire Dept
Dutton Rural Volunteer Fire Dept	Opportunity Volunteer Fire Dept	Wilsall Fire Department
East Missoula Rural Volunteer Fire Dept	Ovando Volunteer Fire Dept	Winifred Rural Volunteer Fire Dept
East Valley Volunteer Fire Dept	Painted Rocks Fire & Rescue Volunteer Fire Company	Wisdom Rural Volunteer Fire Dept
Eastgate Volunteer Fire Dept	Paradise Valley Fire Service	Wise River Volunteer Fire Company
Elk Park Volunteer Fire Dept	Park City Rural Volunteer Fire Dept #2	Wolf Creek Volunteer Fire Dept
Elliston Volunteer Fire Dept	Park County Fire Volunteer Dept	Wolf Point Rural Volunteer Fire Dept
Eureka Rural Volunteer Fire Dept	Park County Rural Volunteer Fire Dept #1	Worden Fire Dept - Company 1
Evergreen Volunteer Fire Dept	Pendroy Rural Volunteer Fire Dept	York Fire Service Area
Fairfield Rural Volunteer Fire Dept	Phillips County Volunteer Fire Dept	
Ferndale Volunteer Fire Dept	Plains/Paradise Rural Volunteer Fire Dept	

## STATISTICAL SECTION

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This is a publication of the  
MONTANA PUBLIC EMPLOYEE  
RETIREMENT ADMINISTRATION

100 North Park Avenue, Suite 200  
PO Box 200131  
Helena, MT 59620-0131  
Website: <http://mpera.mt.gov>  
email: [mpera@mt.gov](mailto:mpera@mt.gov)

125 copies of this public document were published at an estimated cost of \$17.38 per copy, for a total cost of \$2,172.04 which includes \$2,172.04 for printing and \$0.00 for distribution.