PERSI

PUBLIC EMPLOYEE RETIREMENT SYSTEM OF IDAHO

A Component Unit of the State of Idaho

2019 COMPREHENSIVE ANNUAL FINANCIAL REPORT

AS OF AND FOR

FISCAL YEAR 2019

Ended June 30, 2019

Helping Idaho Public Employees Build a Secure Retirement

Public Employee Retirement System of Idaho
A Component Unit of the State of Idaho

PERSI

Public Employee Retirement of Idaho

Comprehensive Annual Financial Report
As of and for Fiscal Year Ended June 30, 2019

This Comprehensive Annual Financial Report was prepared by:

Financial:	Alex Simpson, Financial Executive Officer Kelly Rowlands, Financial Specialist, Senior Mike Anderson, Portfolio Accounting Manager Eric Carpenter, Financial Specialist, Principal Adel Stacy, Financial Specialist, Senior Chris Wester, Financial Specialist
Investments:	Robert M. Maynard, Chief Investment Officer Richelle Sugiyama, Investment Officer
Administration:	Jenny Flint, Public Information Officer

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PERSI MISSION STATEMENT

To provide a sound retirement system and high quality service and education to help Idaho public employees build a secure retirement.

CORE VALUES

VISION

To be the premier public retirement system, respected by customers, peers, and the community, and known for professional service, technological advancement, and fund stability.

FIDUCIARY DUTY OF LOYALTY

The primary duty of the Retirement Board and PERSI staff, as fiduciaries, is that of loyalty, or acting with an “eye single” to the interests of the beneficiaries. PERSI is required by law to make all its decisions solely in the interest of the beneficiaries and to avoid, at all costs, serving the interests of any other party not a beneficiary of the system.

Brad Little, Governor, State of Idaho

RETIREMENT BOARD

Jeff Cilek, Chairman
Term expires July 1, 2020

Celia Gould
Term expires July 1, 2023

Joy Fisher
Term expires July 1, 2019

Park Price
Term expires July 1, 2022

Darin DeAngeli
Term expires July 1, 2021

PERSI EXECUTIVE ADMINISTRATIVE STAFF

Donald D. Drum, Executive Director
Michael L. Hampton, Deputy Director
Cheryl George, Deputy Attorney General
Robert M. Maynard, Chief Investment Officer
Alex Simpson, Financial Executive Officer
Casey Hartwig, Member Services Manager
Lisa Conn, Quality Assurance Manager
Larry Sweat, IT Info SVCS Manager
Kelly Cross, Program Manager
Diane Kaiser, Defined Contribution Plan Prg SP

PROFESSIONAL CONSULTANTS

Actuary:	Milliman, Inc., Seattle, WA	
Auditor:	Eide Bailly, LLP, Boise, ID	
Medical:	Managed Medical Review Organization, Novi, MI	
Investment:	AEW Capital Management, L.P. Boston, MA Alban Row Investments, LLC, Mt. Pleasant, SC Berkadia Commercial Mortgage LLC, Irvine, CA Callan Associates, LLC, San Francisco, CA Chartwell Consulting, LLC, Sunapee, NH	Garrett A. Walls, New York, NY Hamilton Lane Advisors, LLC, Philadelphia, PA John R. Jenks, Sebastopol, CA Robert Storer, Juneau, AK Thomas Lee, Loundonville, NY
Legal:	Foster Pepper, PLLC, Seattle, WA Ice Miller, LLP, Indianapolis, IN Whiteford, Taylor & Preston, LLP, Baltimore, MD	
Other:	BCA Publications, Montreal Bloomberg, New York, New York Capital Economics LTD, London CT Corporation, Carol Stream, IL Empower Retirement, Denver, CO Yardeni Research Inc, Glen Head, NY	
Investment:	Bank of New York Mellon Asset Servicing, Pittsburgh, PA	
Custodians:	Wells Fargo Bank of Idaho, Boise, ID	

Investment Managers:

Adelante Capital Management LLC, Oakland, CA
Advent International Corp, Boston, MA
Alliance Bernstein, LP New York, NY
Ascribe Capital, LLC, New York, NY
Apollo Management, LP, New York, NY
Blackstone Group, LP, New York, NY
BLS Capital, Copenhagen
Brandes Investment Partners, LP, San Diego, CA
Bridgepoint Capital LTD, London
Cerberus Capital Management, LP, New York, NY
Clearwater Advisors LLC, Boise, ID
CVC Capital Partners Advisory Co. LTD, Luxembourg
D.B. Fitzpatrick & Co., Inc., Boise, ID
Donald Smith & Co., Inc., New York, NY
Endeavour Capital Partners, LP, Portland, OR
Enhanced Equity Partners, LLC, New York, NY
Epic Ventures, LLC, Salt Lake City, UT
Fiera Capital, Montreal
First Reserve Corporation, Greenwich, CT
Frazier Technology Ventures, LP, Seattle, WA
Galen Management, LLC, Stamford, CT
Genesis Asset Managers, LTD, Channel Islands
Goense Bounds & Partners, LP, Highland Park, IL
Hamilton Lane Advisors, LLC, Santa Clara, CA
Hamilton Lane, GP, Baja Cynwyd, PA
Highway 12 Capital Partners, LLC, Boise, ID
Ida-West Operating Services, Inc., Boise, ID
Income Research Management, Boston, MA
Kohlberg Kravis Roberts & Co., LP, New York, NY
Kohlberg & Co., Mt Kisco, NY
Leonard Green & Partners, LP, Los Angeles, CA
Lindsay Goldberg, LLC, New York, NY
Longview Partners, LP, Channel Islands
Mellon Investments Corp., San Francisco, CA
Mondrian Investment Partners, LTD, London
Mountain Pacific Investment Advisers, Inc., Boise, ID
Nautic Partners, LLC, Providence, RI
Olympic Investors, LLC, Seattle, WA
Peregrine Capital Management, Inc., Minneapolis, MN
Providence Equity Partners LLC, Providence, RI
Prudential Investment Management LLC, New York, NY
Silver Lake Partners V., Menlo Park, CA
State Street Global Advisors, Boston, MA
TPG Capital, LP, San Francisco, CA
The Gores Group, LLC, Beverly Hills, CA
Veritas Capital, LP New York, NY
Walter Scott & Partners LTD, Edinburgh
W.Capital Partners, LLC, New York, NY
Western Asset Management Co., Pasadena, CA

Additional information on the above-mentioned investment professionals can be found on pages 81-83 in the Investment Section of this report. Fees and commissions are found on page 88-89.

Government Finance Officers Association

Certificate of Achievement for Excellence in Financial Reporting

Presented to

Public Employee Retirement System of Idaho

For its Comprehensive Annual Financial Report for the Fiscal Year Ended

June 30, 2018

Christopher P. Morrill

Executive Director/CEO

Public Pension Coordinating Council

Public Pension Standards Award For Funding and Administration 2019

Presented to

Public Employee Retirement System of Idaho

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)

Alan H. Winkle
Program Administrator

ORGANIZATIONAL CHART (As of June 30, 2019)

Retirement Board

Donald D. Drum
Executive Director

- **Michael L. Hampton** – Deputy Director
- **Cheryl George** – Deputy Attorney General
- **Jon Wald** – Purchasing Agent
- **Lena Rupp** – Management Assistant

Robert M. Maynard
Chief Investment Officer

- **Richelle Sugiyama** – Investment Officer
- **Rose Marie Sawicki** – Administrative Assistant
- **Investment Managers** – See Investment Section for a list (**pages 81-82**)

Kelly Cross
Program Manager

- **Diane Kaiser** – Defined Contribution Plan Prg SP
- **Kelsey White** – Training Specialist
- **Maria Quitugua** – Training Specialist
- **Brian Hattingh** – Training Specialist
- **Kody Krigbaum** – Training Specialist
- **Kathy Adams** – Administrative Assistant
- **Jenny Flint** – Public Information Officer

Alex Simpson
Financial Executive Officer

- **Eric Carpenter** – Financial Specialist PR
- **Michael Anderson** – Financial Specialist PR
- **Kelly Rowlands** – Financial Specialist SR
- **Adel Stacy** – Financial Specialist SR
- **Chris Wester** – Financial Specialist
- **Barbara Sargent** – Financial Technician
- **Ellise Fowler** – Financial Technician
- **Timothy Davis** – Financial Technician
- **Bev Ross** – Financial Technician
- **Sharon Simon** – Financial Support Tech.
- **Teresa Froehlke** – Financial Technician
- **Tess Myers** – Administrative Assistant

Lisa Conn
Quality Assurance Manager

- **Catherine Atchison** – Business Analyst
- **Brett Harper** – Retirement Specialist
- **Wayne Millar** – Retirement Specialist
- **Alicia Harper** – Retirement Specialist

Larry Sweat
IT Manager III

- **Branden Kennah** – IT Manager I
- **Stacy Parr** – IT Software Engineer III
- **Andrea Fonnesbeck** – Project Manager
- **Darren Trumbull** – IT Sys Integr. Analyst, SR
- **Kurtis Leatham** – IT Software Engineer II
- **Jason Smith** – IT Software Engineer I
- **Kris Colt** – IT Ops & Support SR Tech
- **Timothy Wolfrum** – IT Software Engineer I
- **Tess Wertyschyn** – Bus Process Analyst(Contract)
- **Vacant** – IT Infrastructure Engineer II

Casey Hartwig
Member Services Manager

- **Shasta Wardle** – Office Services Supervisor
- **Jess Simonds** – Office Services Supervisor
- **Sheila Wageman** – Retirement Specialist
- **Linda Parker** – Retirement Specialist
- **Ashly Eppley** – Customer Service Rep.
- **Bonnie Chaffin** – Technical Records Specialist I
- **Andrew Millar** – Customer Service Rep.
- **Cathy Miles** – Retirement Specialist
- **Alan Hedquist** – Customer Service Rep
- **April Bias-Fourstar** – Retirement Specialist
- **Stephen Mytrysak** – Technical Records Specialist I
- **Sheena Olszewski** – Technical Records Specialist I
- **Sandra Salcido** – Customer Service Rep.
- **Ray Mikus** – Customer Service Rep.
- **Mary Holleron** – Technical Records Specialist II
- **Eliza Storms** – Technical Records Specialist II
- **Karen Randolph** – Technical Records Specialist I
- **Tina Duran** – Technical Records Specialist I
- **Cathy Andrews** – Technical Records Specialist I
- **Ginger Bradburn** – Technical Records Specialist I
- **Maria Madrid** – Customer Service Rep.
- **Patty Martinez** – Technical Records Specialist II
- **Janet Cole** – Office Specialist
- **Vacant** – Technical Records Specialist II

THE SYSTEM

The Public Employee Retirement System of Idaho (the System) is the administrator of seven fiduciary funds. This includes three defined benefit retirement plans, the Public Employee Retirement Fund Base Plan (PERSI Base Plan) the Firefighters' Retirement Fund (FRF) and the Judges' Retirement Plan (JRF); two defined contribution plans, the Public Employee Retirement Fund Choice Plan 401(k) and 414(k) (PERSI Choice Plans); and two Sick Leave Insurance Reserve Trust Funds – one for state employers and one for school district employers.

The Retirement Board consists of five members, each appointed by the Governor to fulfill a 5-year term. The Board meets monthly to conduct System business, usually on the third Tuesday of each month at 8:30 a.m. at PERSI's headquarters office in downtown Boise.

Administrative expenditures, consisting of the personnel costs, operating expenditures, and capital outlay necessary to operate the System, are limited to those approved and appropriated by the Legislature for that purpose. In Fiscal Year 2019 (FY 2019), these costs totaled $11,487,469 including $1,594,184 depreciation and amortization, which are not cash expenditures and, therefore, not appropriated.

The majority of the System's 68 staff works in the headquarters office located at 607 North 8th Street, Boise, Idaho. There are two staff members in the Coeur d'Alene office, and two in the Pocatello office. The Executive Director and Investment Officers are exempt positions appointed by the Retirement Board to serve at its pleasure. The Deputy Director and Public Information Officer are exempt positions serving under the Executive Director. The Deputy Attorney General is assigned to PERSI by the Office of the Attorney General. All other staff members serve under statutes and personnel rules governing classified state service.

The System staff oversees the investment of the trust corpus and new contributions with professional investment managers and funding agents. The Retirement Board maintains fiduciary responsibility for investment policy, asset allocation, and the selection of individual investment managers as discussed in the Investment Section.

SUMMARY OF PLAN PROVISIONS

DEFINED BENEFIT "BASE PLAN" PROVISIONS

Note: The items in parentheses are the provisions applicable to members designated as either PERSI firefighters or as PERSI police officer members for retirement purposes.

MEMBER CONTRIBUTION RATE

The employee contribution rate is set by statute at 60% (72%) of the employer rate. As of June 30, 2019, it was 6.79% (8.36%).

EMPLOYER CONTRIBUTION RATE

The employer contribution rate set by the Retirement Board was 11.32% (11.66%) as of June 30, 2019.

SERVICE RETIREMENT

ELIGIBILITY

Five years of service and age 65 (age 60 or between 60 and 65, depending on the ratio of police officer/firefighter service to total credited service).

AMOUNT OF ALLOWANCE

For each year of credited service, the monthly service retirement allowance as of June 30, 2019, was 2% (2.3% for police/firefighters) of the monthly average salary of the member's highest 42 consecutive months.

MINIMUM MONTHLY BENEFIT ALLOWANCE

Until February 28, 2019: for each year of service, the monthly minimum benefit allowance was $26.39 ($31.68) to a maximum of the member's accrued benefit. Effective March 1, 2019 the monthly minimum benefit allowance was $26.66 ($31.99).

DISABILITY TO SERVICE RETIREMENT

The regular retirement allowance for disability changes to service retirement allowance when the member reaches service retirement age. The disabled member completes the normal retirement application, offering the ability to select other retirement options.

OPTIONAL FORMS

Retirees may also choose 50% or 100% contingent annuitant options as well as Social Security “bridge” options. These are actuarial equivalents of the normal form based on the mortality and interest assumptions adopted by the Retirement Board. The allowance is payable for the life of the retiree and designated contingent annuitant.

EARLY RETIREMENT

ELIGIBILITY

Five years of service and age 55 (age 50 or between 50 and 55, depending on the ratio of police officer/firefighter service to total credited service).

AMOUNT OF ALLOWANCE

Unreduced accrued service retirement allowance if age plus service, upon separation from employment, total 90 (80, or between 80 and 90, depending on the ratio of police officer/firefighter service to total credited service); otherwise, the accrued service retirement allowance is reduced 3% for each of the first 5 years by which the early retirement date precedes the date the member would be eligible to receive the unreduced benefit, and by 5.75% for each additional year to a maximum of a second 5 years. The unreduced benefit entitlement may be either at the service retirement eligibility date or the date eligible for the rule of 90(80).

FORMS

Regular retirement allowance; contingent annuitant allowances for the life of the retiree and a designated contingent annuitant; Social Security level income option for the life of the retiree only or for the life of the retiree and designated survivor.

DISABILITY RETIREMENT

ELIGIBILITY

Active members must have 5 years of service, be unable to perform work of any kind, and be expected to remain disabled for life. They are eligible from first day on the job if the disability is due to occupational causes.

AMOUNT OF ALLOWANCE

Projected service retirement allowance based on the highest 42-consecutive month average salary at the time of disability. The benefit is calculated using the accrued service at the time of disability plus the service which would have accrued through service retirement age had the disability not occurred. If a member has less than 360 months of service as of the date he is eligible for disability retirement, he will be given credit for the months of service he would have earned from the date of disability to the date he would have reached Service Retirement Age (65 for general members/62 for police and firefighters) had he not become disabled (360 months of credited service maximum). In other words, PERSI will give members up to 30 years of credit or to Service Retirement Age, whichever comes first. Monthly allowance is payable after all temporary compensation ceases and is offset by the amount payable as income benefit under worker’s compensation law, except when offset by Social Security. Effective July 1, 2009, public safety officers who are injured in the line of duty and determined to be permanently disabled under Idaho Code 59-1302(12), may be eligible to receive a one-time, lump-sum payment of $100,000.

DISABILITY TO SERVICE RETIREMENT

The regular retirement allowance for disability changes to service retirement allowance when the member reaches service retirement age. The disabled member completes the normal retirement application offering them the ability to select other retirement options.

DEATH BENEFITS

AFTER RETIREMENT

Under the normal form of the retirement allowance, a Social Security adjustment option, or a disability retirement, the balance, if any, of the member's accumulated contributions and interest at retirement over all payments received is paid to the beneficiary in a lump sum. In the case of a disability retirement, the beneficiary may waive the lump sum if the retiree is married so that the spouse will receive a lifetime monthly allowance, or the beneficiary may take a lump-sum payment of two times the amount in the member's account at the time of disability retirement minus any amount paid. Under the contingent annuitant options, the designated annuitant receives a lifetime monthly benefit following the member's death. If the survivor dies before the balance of the member's accumulated contributions and interest has been paid, the balance will be paid to the beneficiary in a lump sum. If the member's designated contingent annuitant predeceases him/her, the member's allowance will be recalculated to a single life payment.

BEFORE RETIREMENT

1. Non-vested Members:
    a. Beneficiary receives a lump sum payment of the member's accumulated contributions plus interest.

2. Vested Members:
    a. Beneficiary receives a lump sum payment of two times the member's accumulated contributions plus interest.
    b. If the member is married, and the spouse is the sole beneficiary, the spouse may select a lump sum payment or a lifetime monthly benefit.
    c. If the member is married, but the spouse is not the sole beneficiary, the beneficiary may waive the lump sum, in which case, a lifetime monthly benefit is available to the surviving spouse.

3. A $100,000 death benefit for duty-related deaths for police officers/firefighters became effective July 1, 2003.

SEPARATION BENEFIT

Accumulated member contributions with regular interest is payable upon becoming an inactive member separated from eligible employment. The Regular Interest Rate in effect for FY19 was 7.57% from January 1 through June 30, 2019 (11.03% from July 1 through December 31, 2018) compounded monthly per annum.

POSTRETIREMENT ADJUSTMENTS

An annual postretirement adjustment based on and limited by a cost-of-living factor reflecting the changes in the Consumer Price Index-Urban (CPI-U) is effective in March each year. If the CPI-U change from August of the previous year to August of the second previous year is 1% or more, a 1% mandatory adjustment is made. The Board may authorize additional discretionary adjustments based on the CPI-U increase (up to a total maximum annual COLA of 6% or the CPI-U rate, whichever is lower) if it determines that the System can do so and still maintain an appropriately funded position as required by Idaho Code Section 59-1355(1). When discretionary COLA adjustments in excess of the 1% are authorized by the Board, they are reported to the Legislature. If the Legislature has not acted on the Board adjustment by the 45th day of the legislative session, the discretionary COLA, if any, becomes effective on March 1 of that year.

The Board is also authorized to award postretirement adjustments for prior years in which the actual amount of adjustment was less than the CPI-U for those years. If the CPI-U change is downward, in no event will any benefit be reduced below its initial amount.

The net COLA authorized and implemented March 1, 2019 was up to 1.0%.

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PERSI
Public Employee Retirement System of Idaho
HELPING YOU BUILD A SECURE RETIREMENT

November 12, 2019

PHONES
Answer Center 208-334-3365
FAX 208-334-3805

Toll Free
Answer Center 1-800-451-8228
Employer Line 1-866-887-9525

MAILING ADDRESS
P.O. Box 83720
Boise ID 83720-0078

BOISE
Office Location Address
607 North 8th Street
Boise ID 83702-5518

POCATELLO
Office Location Address
1246 Yellowstone Ave – Ste.A5
Pocatello ID 83201

COEUR D'ALENE
Office Location Address
2005 Ironwood Pkwy #226
Coeur d' Alene ID 83814-2680

Choice Plan Recordkeeper
1-866-437-3774

www.persi.idaho.gov

Equal Opportunity Employer

Dear Governor Little, Legislators, and Members of the Retirement System:

We are pleased to present to you the Public Employee Retirement System of Idaho (the System) comprehensive annual financial report, for the fiscal year ended June 30, 2019 (FY 2019). This financial report is a historical perspective of benefits, services, and fiscal activities of the System. Included is a summary of our actuarial valuations, an independent auditors' report, an investment summary, and a statistical section.

Generally accepted accounting principles require management to provide a narrative introduction, overview, and analysis to accompany the basic financial statements in the form of Management's Discussion and Analysis (MD&A). This letter of transmittal is designed to complement the MD&A and should be read in conjunction with it. The System's MD&A can be found immediately following the independent auditors' report.

The Government Finance Officers Association of the United States and Canada (GFOA) awarded a Certificate of Achievement for Excellence in Financial Reporting to PERSI for its comprehensive annual financial report for the fiscal year ended June 30, 2018. This was the 28th consecutive year PERSI has achieved this prestigious award. To be awarded a Certificate of Achievement, a government 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 GFOA to determine its eligibility for another certificate.

For the 17th consecutive year, PERSI has been awarded the Public Pension Coordinating Council Standards Award. This award signifies that PERSI complies with the standard benchmarks for public defined benefit systems in the United States. The standards require a high level for the following: comprehensive benefit program, funding adequacy, accepted actuarial and audit practices, investment policy and evaluation, and member communications. This award is given to 50 to 60 public retirement systems each year.

This Letter of Transmittal is intended to serve as an overview of the System and to convey information on the topics that follow.

PLAN HISTORY

The Public Employment Retirement System of Idaho (PERSI) was created by the thirty-seventh Legislature, Regular Session of 1963 with funding effective July 1, 1965. It is a tax qualified, defined benefit system to which both the member and the employer contribute. Participation in the System is mandatory for eligible state and school district employees and available to other publFreturnic employers and their employees on a contractual basis.

When the Teachers Retirement System of Idaho was abolished, members of that system were integrated into PERSI, and all other eligible school district employees became PERSI members effective July 1, 1967.

Legislative amendments since 1965 have made it possible for municipal police officer retirement funds to merge with the System, and two of the five police officer systems have since merged. The other three are being phased out, and police officers hired since 1969 have become PERSI members.

Legislation in 1979 mandated the Firefighters' Retirement Fund be administered by PERSI effective October 1,1980. Paid firefighters who were members of the original system retained their original benefit entitlement, while paid firefighters hired after October 1,1980, were entitled to PERSI benefits. An actuarial valuation of the firefighter member benefit entitlement is conducted at least every other year, separate from the annual PERSI valuation.

In January 2001, PERSI implemented a "Gain Sharing" program as a way to distribute $155 million in excess investment earnings back to our active members, retirees, and employer members. Retirees received their gain sharing as a "13th check". Employers received their share as a contribution "holiday". Some 53,000 eligible active members received their portion as deposits into newly created defined contribution (DC) accounts. This new plan, named the "PERSI Choice 401(k) Plan", supplemented PERSI's traditional Defined Benefit (DB) "Base" Plan. It allowed employees for the first time to actively participate in saving for their retirement.

At the time of inception, the PERSI Choice 401(k) Plan was somewhat unique in the public sector. PERSI obtained permission from the Internal Revenue Service to expand a grandfathered State 401(k) to our members statewide. While some public employees were familiar with 457 or 403(b) plans, a 401(k) was something new to them. Many of our members had never had the opportunity to make such pre-tax voluntary contributions.

PERSI assumed the administration for the Judges' Retirement Fund (JRF) starting July 1, 2014.

SERVICES PROVIDED

The ability of the System to serve both employee and employer members at the local level through the Boise, Pocatello, and Coeur d' Alene offices remains a key factor for efficient administration. The merging of other retirement systems with PERSI, plus statutory amendments over the years, have produced both multiple and diverse member benefit entitlements and administrative requirements. These can best be analyzed and explained to the members through personal contact with knowledgeable System staff members.

In its 53rd year of operation, the System continued a wide range of services to both employee and employer members. Members may visit the PERSI Web site, call, email, or visit one of the three offices for personal information and assistance regarding credited service, account balances, eligibility, benefit options and amounts, and other retirement matters.

Members receive advance notice of service retirement qualification and are provided with estimates of monthly allowances. They also receive information regarding the availability of alternate forms of retirement payments. Retirement applications are processed in a timely fashion, and monthly payments are made promptly. Direct deposit of benefit payments is available to retired members as is withholding for income tax, medical insurance, or other purposes.

System retirees are provided notices whenever their net benefit amount changes. This notice gives retirees a list of their itemized deductions from their gross benefit. Retirees may also access additional account information through the online web portal.

Separation and death benefits are paid in an orderly manner and as rapidly as possible. Employee contributions and earned interest are posted to individual member accounts each month, and an annual statement is provided to each member confirming their average monthly salary, credited service, contributions, and earned interest. In addition, a report of benefits accrued to date is provided along with an estimate of benefits projected ahead to various retirement ages.

PERSI's employer units are responsible for reporting and handling retirement transactions and activities. They are provided regular training and assistance through monthly newsletters, employer training sessions throughout the State, and personal contacts with PERSI staff, as needed.

Upon request, public employers interested in affiliation with the System are counseled and provided with information regarding employee benefits, cost, and procedures associated with joining. Conversely, employers considering withdrawal are provided information and employee benefit projections to enable them to make an informed decision.

Pre-retirement and financial planning workshops, offered on a regular basis throughout the State, cover financial planning, budgeting, investment basics, and Social Security, Medicare, and System benefits.

EMPLOYEE AND EMPLOYER MEMBERSHIP

During FY 2019, the number of active PERSI members increased from 71,112 to 72,502. The number of retired members or annuitants receiving monthly allowances increased from 46,907 to 48,120. The number of inactive members who have not been paid a separation benefit increased from 37,588 to 39,867. Of these inactive members, 13,536 have achieved vested eligibility. Total membership in PERSI increased from 155,607 to 160,489 during the fiscal year. There are currently 808 public employers in Idaho who are PERSI members. Participating employers are listed in the Statistical Section of this report.

MANAGEMENT RESPONSIBILITY

The System's management is responsible for the complete and fair presentation of the data and the accompanying disclosures in this report. The financial statements and supplemental schedules included in this report have been prepared in accordance with generally accepted accounting principles for governmental accounting and reporting as pronounced or adopted by the Governmental Accounting Standards Board.

INDEPENDENT AUDIT

The System is audited annually, and for the fiscal year ended June 30, 2019, the audit was conducted by Eide Bailly, LLP, an independent firm of Certified Public Accountants. Refer to the Independent Auditors' Report for their audit opinion.

INTERNAL ACCOUNTING CONTROL

As an agency of the State of Idaho, the System's administrative expenses are subject to the State's budget controls. Management is responsible for maintaining a system of internal accounting control designed to provide reasonable assurance transactions are executed in accordance with management's general or specific authorization and are recorded as needed to maintain accountability for assets to permit preparation of financial statements. Internal controls have inherent limitations and their costs should not outweigh their benefits. Internal control procedures have been established, and a budget report is prepared for the Board. We believe the internal controls in effect during FY 2019 adequately safeguard the assets and provide reasonable assurance regarding the proper recording of financial transactions.

FINANCIAL HIGHLIGHTS

Collection of employer and employee contributions, as well as income and gains from investments, provides the reserves necessary to finance retirement benefits. These income sources totaled $2,221,975,057 for all pension funds during the fiscal year ended June 30, 2019.

ADDITIONS:	
Contributions	$ 750,735,569
Transfers/Rollovers In	13,948,722
INVESTMENT INCOME:	
Net Appreciation (Depreciation) in Fair of Investments	1,139,316,426
Interest,Dividends and Other Investment Income	370,815,363
Less: Investment Income	(53,188,434)
Net Investment Income	1,456,943,356
OTHER INCOME	347,412
Total Additions	$ 2,221,975,057

The payment of benefits is the primary expense of a retirement system. The payments, together with the expenses to administer the Plan, constitute the total expenses of the System. Expenses for FY 2019 are as follows:

DEDUCTIONS:	
Benefits and Refunds	1,065,030,906
Administrative Expenses	11,487,469
Total Deductions	$ 1,076,518,375

ACTUARIAL PRESENT VALUE OF FUTURE BENEFITS

Future benefits include all benefits estimated to be payable to plan members (retirees and beneficiaries, terminated employees entitled to benefits but not yet receiving them, and current active members) as a result of their service through the valuation date and their expected future salary. The actuarial present value of future benefits as of the valuation date is the present value of the cost to finance benefits payable in the future, discounted to reflect the expected effects of the time value (present value) of money and the probabilities of payment. Simply put, it is the amount that would have to be invested on the valuation date so the amount invested plus investment earnings will provide sufficient assets to pay total future benefits when due.

The actuarial present value was calculated as part of an actuarial valuation at July 1, 2019. Significant actuarial assumptions used include: a gross investment return rate of present and future assets of 7.05% compounded annually, (7.0% plus 0.05% for expenses); projected salary increases of 3.75% per year compounded annually, attributable to general wage increases; additional projected salary increases attributable to seniority/merit, up to 6.25% per year, depending on service and employee classification, and; 1.00% per year attributable to postretirement benefit increases.

At June 30, 2019, the unfunded actuarial liability (UAAL) for the PERSI Base Plan, on a current contribution basis, was $1.4 billion with an amortization period of 10.6 years, which is less than the 25 year maximum allowed by statute. The UAAL differs from the Net Pension Liability (NPL) in that the long-term expected rate of return for the UAAL was 7.0%, 7.05% net of 0.05% for expected administrative expenses. This is in contrast to the discount rate used to determine the Total Pension Liability (TPL) and NPL for purposes of GASB reporting. According to GASB Statement 67, the discount rate used to calculate TPL and NPL must be net of investment expenses but not administrative expenses. Therefore, TPL and NPL have been determined using a discount rate of 7.05%.

	PERSI Base Plan 2019	FRF 2019	JRF 2019
Total pension liability	$ 18,380,933,618	$ 272,572,198	$ 112,895,161
Plan fiduciary net position	17,239,461,492	416,325,823	93,199,434
Employers' net pension liability (asset)	$ 1,141,472,126	$ (143,753,625)	$ 19,695,727
Plan fiduciary net position as a percentage of total pension liability	93.79%	152.74%	82.55%

ECONOMIC CONSIDERATIONS

The System operates within a dynamic economic environment, as do all investment funds. The objective of the Retirement Board is to minimize the effect of these external influences, where possible, by diversifying among a broad range of asset classes and investment management styles, both domestically and internationally. Such diversification, combined with prudent management by experienced investment professionals, increases the probability the earnings objective will be achieved. The investment return for Fiscal Year 2019 was 8.40% gross, 8.09% net of investment expenses, and 8.02% net of all expenses.

Defined benefit pension systems plan for and make decisions based on the long term (20 to 25 year) nature of pension funding and benefits. PERSI is funded on a sound actuarial basis, which protects future benefits for participants. Over the long-term, the Plan's investment assets have exceeded their expected returns. Short-term fluctuations in investment performance make good headline news, but are much less important when viewed in the long range context of pension plans. Sound investment strategies that are, in the words of CIO Bob Maynard, "Simple, Transparent, Focused, and Patient" along with reasonable actuarial assumptions are the key ingredients to a successful, well funded pension plan.

INVESTMENT STRATEGY AND POLICIES

The Retirement Board utilizes and directs agents to provide whatever investment management and custodial functions best achieve the System's investment objectives. The Board establishes asset allocation policy, diversification guidelines, custodial functions including safe-guarding of investments, and investment guidelines and restrictions. Each money manager is generally granted full discretion in making investment decisions within their guidelines. The Board, staff, and consultants monitor and evaluate investment results. The Board, in its administration of this System and management of the investment program, is guided by the fiduciary standards in Section 59-1301 of the Idaho Code and the Idaho Uniform Prudent Investor Act, in Sections 68-501 through 68-514 of the Idaho Code and is empowered in its sole discretion to limit, control, and designate the types, kinds, and amounts of investments.

PERSI's total fund return was 8.02% net of all expenses for Fiscal Year 2019. The policy benchmark return is 7.0% net of all expenses. PERSI continues to rank in the top quartile over the long term when compared to our peer universe of other state-wide public pension funds across the country.

The investment mix at fair value as of the end of Fiscal Year 2019 was 56% domestic and global equity, 17% international equity, and 27% percent fixed income. The System's investment outlook is long term, allowing the portfolio to take advantage of the favorable risk-return characteristics of equities by placing more emphasis on this category. The portfolio is broadly diversified with additional diversification achieved through domestic and international investing. See the Management's Discussion and Analysis and Investment Section of this report for more detailed analysis and information.

FUNDING STATUS

The funding objective of PERSI is to accumulate sufficient assets to ensure funds will be available to meet current and future benefit obligations to participants on a timely basis. If the level of funding is high, the ratio of assets to the actuarial accrued liability is also greater, which means better investment income potential. Each year an independent actuary engaged by PERSI calculates the amount of the annual contribution the plans must make to fully meet their obligations to their members. As of July 1, 2019, the PERSI Base Plan had an amortization period of 10.6 years and a funding ratio of 92.5% of the present value of the projected benefits earned by employees. The closed Firefighters' Retirement Fund is fully funded as of the July 1, 2019 valuation. The Judges' Retirement Fund had a funding ratio of 82.17% and amortization period of 11.40% years. When the amortization period exceeds the statutory limit of 25 years, the Board reviews contribution rates. The actuarial method for calculating accrued liability for all three plans is Entry Age Normal with the objective of maintaining employer contributions approximately level as a percent of member payroll. For a more in-depth discussion of PERSI's funding, see Management's Discussion and Analysis and the Actuarial Section of this report.

MAJOR INITIATIVES

Our attention to customer service has always been one of our cornerstones, and PERSI leadership continues to believe personalized customer service is key to all generations of members. We cannot afford to have any generation ignore and/or be uninformed about the benefits of PERSI.

PERSI's educational outreach remains focused on making sure members, employers and lawmakers understand and appreciate the value of the PERSI benefit. Our training staff continues to work directly with employers, engaging members earlier in their careers, and providing expanded workshops explaining the value of the PERSI benefit.

We are committed to providing on-location workshops for members in every county of Idaho in 2019, and meeting that goal. Technology has enhanced our outreach, but will not replace our in-person efforts that have proven to be very successful. We continue to evaluate our methods but only utilize automation if we believe it provides increased value.

We are sincerely grateful to the Idaho Legislature for their wisdom during times of modest market returns. Idaho statute has measures in place that keep required contributions to the fund set at a rate that will sustain the fund during less than stellar market years. Due to this statute, in October 2018, PERSI's Board, while giving consideration to postponing a previously postponed contribution rate increase, determined that it would be in the best interest of the fund to allow the rate increase to go into effect July 1, 2019. This decision will provide continued stability and strengthen the fund.

ACKNOWLEDGMENTS

This financial report of the Public Employee Retirement System of Idaho was prepared by staff under the leadership of the Retirement Board. It is intended to provide complete and reliable information as a basis for making management decisions, as a means of determining compliance with legal provisions, and as a method of determining responsible stewardship for the assets contributed by the members and their employers.

This report is being sent to the Governor, State Legislators, and other interested parties. Respectfully submitted,

Jeff Cilek, Chairman

Donald D. Drum, Executive Director

Alex Simpson, Financial Executive Officer

FINANCIAL
SECTION

EideBailly
CPAs & BUSINESS ADVISORS

INDEPENDENT AUDITOR'S REPORT

To the Retirement Board
Public Employee Retirement System of Idaho
Boise, Idaho

Report on the Financial Statements

We have audited the accompanying financial statements of the pension and other trust funds of the Public Employee Retirement System of Idaho (the System), which comprise the statements of fiduciary net position as of June 30, 2019, and the related statements of changes in fiduciary net position, for the 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 includes the design, implementation, and maintenance of internal control 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 control relevant to the entity'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 entity's internal control. 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 evaluating the overall presentation of the financial statements.

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

Opinions

In our opinion, the financial statements referred to above present fairly, in all material respects, the fiduciary net position of the System as of June 30, 2019, and the changes in fiduciary net position of the Plan for the year then ended in accordance with accounting principles generally accepted in the United States of America.

Report on Summarized Comparative Information

We have previously audited the Public Employee Retirement System of Idaho's June 30, 2018 financial statements, and we expressed an unmodified audit opinion on those audited financial statements in our report dated October 10, 2018. In our opinion, the summarized comparative information presented herein as of and for the year ended June 30, 2018 is consistent, in all material respects, with the audited financial statements from which it has been derived.

Other Matters

Required Supplementary Information

Accounting principles generally accepted in the United States of America require that the management's discussion and analysis and required supplementary information on pages 59-71 and 72-76 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.

Other Information

Our audit was conducted for the purpose of forming an opinion on the financial statements that collectively comprise the System's basic financial statements as a whole. The introductory, investment, actuarial and statistical sections are presented for purposes of additional analysis and are not a required part of the financial statements.

The additional supplementary information accompanying financial information listed as additional supplementary schedules in the table of contents are the responsibility of management and were derived from and relate directly to the underlying accounting and other records used to prepare the basic financial statements. Such information has been subjected to the auditing procedures applied in the audit of the basic financial statements and certain additional procedures, including comparing and reconciling such information directly to the underlying accounting and other records used to prepare the basic financial statements or to the basic financial statements themselves, and other additional procedures in accordance with auditing standards generally accepted in the United States of America. In our opinion, the accompanying financial information listed as supplemental schedules are fairly stated, in all material respects, in relation to the basic financial statements as a whole.

The introductory, investment, actuarial and statistical sections have 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 them.

Other Reporting Required by *Government Auditing Standards*

In accordance with *Government Auditing Standards*, we have also issued our report dated October 16, 2019, on our consideration of the System'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 solely 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 the effectiveness of the System's 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 System's internal control over financial reporting and compliance.

Eide Bailly LLP

Boise, Idaho
October 16, 2019

PUBLIC EMPLOYEE RETIREMENT SYSTEM OF IDAHO

MANAGEMENT'S DISCUSSION AND ANALYSIS
YEAR ENDED JUNE 30, 2019

Management is pleased to provide Management's Discussion and Analysis ("MD&A") of the financial activities of the Public Employee Retirement System of Idaho (the "System" or "PERSI") as of and for the year ended June 30,2019. The June 30, 2018 amounts are combined and are provided for comparative purposes. This overview and analysis is designed to focus on current known facts and activities and resulting changes.

The System administers seven fiduciary funds. These consist of three defined benefit pension trust funds – the PERSI Base Plan, the Firefighters' Retirement Fund (FRF) and the Judges' Retirement Fund (JRF), two defined contribution pension trust funds – the PERSI Choice Plan 401(k) and 414(k), and two Sick Leave Insurance Reserve trust funds – State and Schools.

Financial Highlights

- The change in net position for all pension and other funds administered by the System increased $1.1 billion and $1.2 billion in Fiscal Year 2019 and Fiscal Year 2018, respectively. The change in the defined benefit plans reflects the total of contributions received and an investment return less than benefits paid and administrative expenses. Changes in net position for the years ended June 30, 2019 and 2018 were as follows:

	2019	2018
PERSI Base Plan	$ 965,532,534	$ 979,954,603
FRF	21,277,270	19,870,669
JRF	5,127,941	5,135,464
PERSI Choice Plan 414(k)	242,992	499,423
PERSI Choice Plan 401(k)	105,231,189	102,303,623
Sick leave - state	18,925,404	19,762,637
Sick leave - schools	29,119,354	29,890,864
Total increase (decrease) in plan net position	$ 1,145,456,683	$ 1,157,417,283

Assets for the three defined benefit plans, the PERSI Base Plan, FRF and JRF, are pooled for investment purposes. For the Fiscal Years ended June 30, 2019 and 2018, the rate of return net of investment expenses on the investment assets are detailed below (these are plan-level returns). For the defined contribution plans, the PERSI Choice Plan 401(k) and 414(k), individual participant returns will vary depending on their specific investment choices. Returns for Choice Plan options can be found on the PERSI website under Investments/Choice Plan.

	2019	2018
PERSI Defined Benefit Plans	8.1%	8.5%
Sick Leave Insurance Reserve Fund	7.8%	9.4%

- All of the plans experienced investment gains in Fiscal Year 2019 as a result of positive market performance. Net investment income for all of the funds administered by the System for the Fiscal Years ended June 30, 2019 and 2018, was $1.5 billion and $1.4 billion, respectively.

	2019	2018
PERSI Base Plan	$ 1,302,570,927	$ 1,285,462,023
FRF	32,009,454	31,124,311
JRF	6,936,823	6,930,224
PERSI Choice Plan 414(k)	4,425,898	3,720,701
PERSI Choice Plan 401(k)	70,228,713	68,824,086
Sick leave - state	16,084,184	17,315,690
Sick leave - schools	24,687,356	26,544,159
Total increase in net investment income	$ 1,456,943,356	$ 1,439,921,194

- As of June 30, 2019 and 2018, the net pension liability (asset) was as follows:

	PERSI Base Plan 2019	FRF 2019	JRF 2019
Total pension liability	$ 18,380,933,618	$ 272,572,198	$ 112,895,161
Plan fiduciary net position	17,239,461,492	416,325,823	93,199,434
Employers' net pension liability (asset)	$ 1,141,472,126	$ (143,753,625)	$ 19,695,727
Plan fiduciary net position as a percentage of total pension liability	93.79%	152.74%	82.55%

	PERSI Base Plan 2018	FRF 2018	JRF 2018
Total pension liability	$ 17,749,847,910	$ 281,878,396	$ 106,756,695
Plan fiduciary net position	16,274,830,459	395,048,552	88,071,493
Employers' net pension liability (asset)	$ 1,475,017,451	$ (113,170,156)	$ 18,685,202
Plan fiduciary net position as a percentage of total pension liability	91.69%	140.15%	82.50%

The System's funding objective is to meet long-term benefit obligations through contributions and investment income and provide a reserve against market fluctuations. The ratio listed above gives an indication of how well this objective has been met at a specific point in time. The higher the ratio, the better the Plan is funded.

SICK LEAVE INSURANCE RESERVE FUND

State Members

	2019	2018
Total OPEB liability	$ 99,213,537	$ 91,490,186
Plan fiduciary net position	225,185,651	206,260,247
Employers' net OPEB liability (asset)	$ (125,972,114)	$ (114,770,061)
Plan fiduciary net position as a percentage of total OPEB liability (asset)	227.0%	225.4%

School Members

	2019	2018
Total OPEB liability	$ 248,702,273	$ 232,418,359
Plan fiduciary net position	344,482,664	315,363,310
Employers' net OPEB liability (asset)	$ (95,780,391)	$ (82,944,951)
Plan fiduciary net position as a percentage of total OPEB liability (asset)	138.5%	135.7%

Using the Annual Financial Report

This discussion and analysis is intended to serve as an introduction to the System's financial statements. The financial section is comprised of four additional components: (1) fund financial statements, (2) notes to financial statements, (3) required supplementary information, and (4) additional supplementary schedules.

Fund Financial Statements — There are two financial statements presented for the fiduciary funds. The statements of fiduciary net position as of June 30, 2019 and 2018 indicates the fiduciary net position available to pay future benefits and gives a snapshot at a particular point in time. The statements of changes in fiduciary net position for the years ended June 30, 2019 and 2018 provides a view of the current year's activity. It details the additions and deductions to the individual funds and supports the change to the prior year's ending net position on the statements of fiduciary net position. All pension fund statements are presented on a full accrual basis and reflect all trust activities, as incurred.

Notes to Financial Statements — The notes provide additional information essential for a full understanding of the data provided in the fund financial statements. The notes to the financial statements can be found on pages 32-58 of this report.

Required Supplementary Information — The required supplementary information consists of the Schedule of Net Pension Liability (Asset), Schedule of Changes in Net Pension Liability (Asset), Schedule of Contributions, Schedule of Investment Returns and related notes concerning the methods and assumptions used in calculations of actuarially determined contributions. In addition, required supplementary information includes Schedule of Changes in Net Other Post Employment Benefit (OPEB) Liability (Asset), Schedule of Net OPEB Liability (Asset), Schedule of Contributions – OPEB, Schedule of Investment Returns – Sick Leave Insurance Reserve Fund as well as related notes concerning the methods and assumptions used in the calculation of the OPEB Liability (Asset).

Additional Supplementary Schedules — The additional schedules (Schedule of Investment Expenses and Schedule of Administrative Expenses) are presented for additional analysis.

Comparative Financial Statements

Defined Benefit Pension Trust Funds — The PERSI Base Plan, the Firefighters' Retirement Fund, and the Judges' Retirement Fund are qualified plans under the Internal Revenue Code and provide retirement, disability and death benefits to the employees of affiliated employers. Benefits are funded by member and employer contributions and by earnings on investments. Assets for these plans are pooled only for investment purposes.

Defined Benefit Pension Trust Funds Net Position

	As of June 30, 2019	As of June 30, 2018	$ Change	% Change
Assets:				
Cash and cash equivalents	$ 10,605,185	$ 8,777,194	$ 1,827,991	20.8%
Investments sold receivable	107,873,496	73,538,992	34,334,504	46.7%
Other receivables	72,085,259	59,737,983	12,347,276	20.7%
Investments - at fair value	17,717,507,082	16,763,789,221	953,717,861	5.7%
Prepaid retiree benefits	75,996,230	72,871,636	3,124,594	4.3%
Capital assets - net of accumulative depreciation	10,017,553	11,493,186	(1,475,633)	-12.8%
Due from other plans	10,616	16,264	(5,648)	-34.7%
Total assets	17,994,095,421	16,990,224,476	1,003,870,945	5.9%
Liabilities:				
Investment purchased payable	187,720,214	176,757,520	10,962,694	6.2%
Benefits and refunds payable	448,183	528,872	(80,689)	-15.3%
Other liabilities	14,968,768	13,917,573	1,051,195	7.6%
Total liabilities	203,137,165	191,203,965	11,933,200	6.2%
Net Position:				
Assets used in plan operation (net)	10,017,553	11,493,186	(1,475,633)	-12.8%
Amounts held in trust	17,780,940,703	16,787,527,325	993,413,378	5.9%
Net Position	$17,790,958,256	$16,799,020,511	$ 991,937,745	5.9%

The fair value of investments increased due to the combination of contributions received exceeding benefits and administrative expenses and an investment return of 8.09% (net of investment expenses). Liabilities for benefits and refunds payable vary at Fiscal Year-End depending on member request and timing. Change in asset values and timing of payments can affect the balance of liabilities at the statements of fiduciary net position date.

The percent change in investments sold receivable and investments purchased payable fluctuates as the volume of trading activity by the System's professional investment managers' changes. The cash balance change was due to normal fluctuations in operating cash requirements and the timing of transfers to investment managers.

Defined Benefit Pension Trust Funds Changes in Net Position

Investment income for the Fiscal Year 2019 was $1.3 billion as a result of the gross investment return of 8.40%. Contributions and other additions totaled $661 million. Total additions including investment income and contributions totaled $2.0 billion. Additions were more than benefits and administrative expenses paid of $1.0 billion by $992 million for 2019. Investment income for the Fiscal Year 2018 was $1.3 billion; the gross investment return was 8.79%. Contributions and other additions totaled $626 million resulting in total additions of $1.9 billion. The benefits and administrative expenses paid of $944 million were more than additions by $1 billion for 2018.

For Fiscal Year 2019, the increase in benefits and refunds paid was a result of an increase in the number of retirees and the annual Cost of Living Adjustment (COLA) increase for benefits paid to retirees.The COLA adjustment for 2019 was 1.0% based on date of retirement compared to 2018 which was 1.9% based on date of retirement.

	As of June 30, 2019	As of June 30, 2018	$ Change	% Change
Additions:				
Member contributions	$ 257,843,915	$ 244,669,826	$ 13,174,089	5.4%
Employer contributions	403,017,491	381,124,335	21,893,156	5.7%
Investment income	1,341,517,204	1,323,516,558	18,000,646	1.4%
Other additions	342,910	46,327	296,583	640.2%
Total additions	2,002,721,520	1,949,357,046	53,364,474	2.7%
Deductions:				
Benefits and refunds paid	1,001,330,797	935,339,193	65,991,604	7.1%
Administrative expenses	9,452,978	9,057,117	395,861	4.4%
Total deductions	1,010,783,775	944,396,310	66,387,465	7.0%
Changes in net position	$ 991,937,745	$ 1,004,960,736	$ (13,022,991)	-1.3%

Defined Contribution Pension Trust Funds

During Fiscal Year 2019, the System administered two defined contribution plans. The PERSI Choice Plans, qualified plans under Internal Revenue Code, consist of a 401(k) plan and a 414(k) plan and provide another retirement benefit option to members of the Defined Benefit Pension Plans.

The 401(k) Plan consists of employee voluntary contributions, rollover contributions, and some employer matching contributions. The 414(k) Plan represents the gain sharing allocation made to eligible PERSI members during Fiscal Year 2001. The assets of these plans are pooled for investment purposes, but the 414(k) Plan cannot be used to pay the benefits of the 401(k) Plan and vice versa.

Defined Contribution Pension Trust Funds Net Position

	As of June 30, 2019	As of June 30, 2018	$ Change	% Change
Assets:				
Cash	$ 922,566	$ 834,387	$ 88,179	10.6%
Short-term investments	1,761,564	1,752,508	9,056	0.5%
Investments-at fair value	1,036,852,779	932,511,016	104,341,763	11.2%
Receivables	4,583,584	3,485,546	1,098,038	31.5%
Total assets	1,044,120,492	938,583,457	105,537,036	11.2%
Liabilities				
Other liabilities	294,795	231,941	62,854	27.1%
Net Position	$ 1,043,825,697	$ 938,351,516	$ 105,474,181	11.2%

Net position increased from Fiscal Year 2018 to Fiscal Year 2019. The change reflects a positive return in the investment market and excess contributions compared to benefits paid out. The change in cash is due to the timing of a transfer of funds at the end of the month. Receivables include contributions that are not yet recorded by the record keeper at year end plus accrued interest and dividends. The change in other liabilities consists of amount due to the base plan, administrative expenses payable and stale dated checks payable.

Defined Contribution Pension Trust Funds Changes in Net Position

	As of June 30, 2019	As of June 30, 2018	$ Change	% Change
Additions:				
Member contributions	$ 59,426,695	$ 52,141,131	$ 7,285,564	14.0%
Employer contributions	6,517,244	5,993,209	524,035	8.7%
Transfers and rollovers in	13,948,722	14,179,305	(230,583)	-1.6%
Investment income	74,654,611	72,544,787	2,109,824	2.9%
Total additions	154,547,271	144,858,432	9,688,839	6.7%
Deductions:				
Benefits and refunds paid	47,158,236	41,919,856	5,238,380	12.5%
Administrative expenses	1,914,854	135,530	1,779,324	1,312.9%
Total deductions	49,073,090	42,055,386	7,017,704	16.7%
Change in net position	$ 105,474,181	$ 102,803,046	$ 2,671,135	2.6%

The change in net position was impacted for the year by a positive investment return for the fiscal year. Member contributions increased due to an increase in salary deferrals as well as an increase in the number of members actively contributing. Transfers and rollovers in represent rollovers from other plans. Changes in employer contributions vary up or down according to individual employers' desire to match employee contributions. The increase in benefits and refunds paid is a result of an increase in the number of retirees receiving benefits. The change seen in administrative expenses in fiscal year 2019 is due to a re-coding of fees from net appreciation/ depreciation to administrative expenses.

Other Trust Funds

During Fiscal Year 2019, the System administered two Sick Leave Insurance Reserve Fund trusts. The PERSI Sick Leave Insurance Retirement Fund provides payment of eligible postretirement insurance premiums on behalf of retired state and public school district employees, based on accumulated unused sick leave at the time of retirement. The Fund's contributions are financed by state agency and school district employers of the System which make up the two separate trusts which are commingled for investment purposes.

Sick Leave Insurance Reserve Funds Net Position

	As of June 30, 2019	As of June 30, 2018	$ Change	% Change
Assets:				
Cash	$ 74,673	$ 75,468	$ (795)	-1.1%
Investments-at fair value	566,280,802	518,178,512	48,102,290	9.3%
Prepaid insurance premium	1,261,434	1,244,321	17,113	1.4%
Due from other funds	2,102,030	2,173,560	(71,530)	-3.3%
Total assets	569,718,940	521,671,861	48,047,078	9.2%
Liabilities:				
Other liabilities	50,624	48,305	2,319	4.8%
Net Position	$ 569,668,315	$ 521,623,556	$ 48,044,758	9.2%

The net position increased in Fiscal Year 2019 from Fiscal Year 2018 because of positive investment returns and contributions exceeding benefits paid.

Sick Leave Insurance Reserve Funds Changes in Net Position

	As of June 30, 2019	As of June 30, 2018	$ Change	% Change
Additions:				
Employer contributions	$ 23,930,224	$ 22,760,477	$ 1,169,747	5.1%
Investment income	40,771,540	43,859,849	(3,088,309)	-7.0%
Other additions	4,502	3,218	1,284	39.9%
Total additions	64,706,266	66,623,544	(1,917,278)	-2.9%
Deductions:				
Benefits and refunds paid	16,541,873	16,858,055	(316,182)	-1.9%
Administrative expenses	119,636	111,988	7,648	6.8%
Total deductions	16,661,509	16,970,043	(308,534)	-1.8%
Change in net position	$ 48,044,758	$ 49,653,501	$ (1,608,744)	-3.2%

The changes in net position reflect a net investment return of 7.8% resulting in $41 million in investment income, compared to $44 million for Fiscal Year 2018. The increase in other additions was due to an increase in interest earnings on the cash balance held at the Idaho State Treasurer's Office.

Plan Membership

This table reflects PERSI Base Plan and PERSI Choice Plans membership as of June 30, 2019 and 2018.

Base Plan	2019	2018
Active participants	72,502	71,112
Vested - Base Plan	43,264	42,537
Non-vested - Base Plan	29,238	28,575
Retirees and beneficiaries	48,120	46,907
Terminated and vested	13,536	13,133

Choice Plan	2019	2018
Participants	39,041	39,554
Actively contributing	16,382	15,359
Periodic installment payments	2,704	2,319

Retirees and Beneficiaries (Base Plan)

While the above table reflects changes in active participants, the following table demonstrates the changes in Base Plan retirees and beneficiaries for the Fiscal Year 2019 and 2018.

	2019	2018
Beginning - July 1	46,907	45,468
New Retirements	2,269	2,634
Death of Beneficiary	(1,056)	(1,195)
Ending - June 30	48,120	46,907

Investment Activities

Long-term (20-25 year) asset growth is vital to the Defined Benefit Plans' current and continued financial stability. Therefore, trustees have a fiduciary responsibility to act with prudence and discretion when making plan investment decisions. To assist the Board in this area, a comprehensive formal investment policy is updated periodically. As managers are added, specific detailed investment guidelines are developed, adopted, and become part of that manager's agreement.

Portfolio performance is reviewed monthly by the Board and its consultants. Performance is evaluated individually, by money manager style, and collectively by investment type and for the aggregate portfolio. Investment types include both domestic and international equities, domestic and international fixed income, private equity and real estate.

Economic Factors

At July 1, 2019, PERSI's Base Plan had a net pension liability of $1.1 billion, a decrease compared to the July 1, 2018 liability of $1.5 billion. The investment return net of all expenses for 2019 was 8.02% compared to the assumed return of 7.0%. The change in net pension liability is due in large part to an improvement in the investment market. These results and decisions enable PERSI to meet the mandate set by the legislature when it created PERSI to "Provide a secure retirement for public employees in Idaho". The amortization period of the unfunded liability for Fiscal Year 2019 is 10.6 years which is less than the 25-year maximum allowed by statute.

Since inception, the cumulative funding of the Plan is 60% investment income, 25% employer contributions and 15% member contributions. PERSI is viewed as a well-run and conservatively managed pension plan compared to plans nationally. This reputation stems from sound decisions made by the legislature and the Board.

The Board has and will continue to make appropriate choices regarding investments, contributions, and actuarial assumptions with the goal of maintaining the long-term sustainability of the Plan.

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PUBLIC EMPLOYEE RETIREMENT SYSTEM OF IDAHO

STATEMENTS OF FIDUCIARY NET POSITION
JUNE 30, 2019 WITH COMPARATIVE FINANCIAL INFORMATION FOR JUNE 30, 2018

	Pension Trust Funds				
	PERSI Base Plan	Firefighters' Retirement Fund	Judges' Retirement Fund	PERSI Choice Plan 414(k)	PERSI Choice Plan 401(k)
ASSETS					
Cash and cash equivalents	$ 9,821,180	$ 237,837	$ 546,168	$ 62,041	$ 860,525
Investments—at fair value					
Fixed income investments					
Domestic	3,888,189,618	94,159,471	20,969,484	—	—
International	14,071,480	340,766	75,889	—	—
Idaho commercial mortgages	764,606,671	18,516,319	4,123,618	—	—
Short-term investments	308,643,742	7,474,361	1,664,554	—	1,761,564
Real estate equities	787,876,454	19,079,839	4,249,114	—	—
Equity securities					
Domestic	7,503,868,807	181,719,615	40,469,286	—	—
International	2,934,922,281	71,074,397	15,828,396	—	—
Private equity	1,005,801,233	24,357,277	5,424,410	—	—
Mutual, collective, unitized funds	—	—	—	58,248,753	978,604,026
Total investments	17,207,980,286	416,722,045	92,804,751	58,248,753	980,365,589
Receivables					
Investments sold	104,740,596	2,567,856	565,044	—	—
Administrative Fee	—	—	—	11,374	156,111
Contributions	8,721,678	61,599	—	—	1,489,182
Interest and dividends	61,463,544	1,506,861	331,577	147,241	2,779,676
Total receivables	174,925,818	4,136,316	896,621	158,615	4,424,969
Assets used in plan operations	10,017,553	—	—	—	—
Due from other plans	10,616	—	—	—	—
Prepaid retiree benefits	75,996,230	—	—	—	—
Total assets	17,478,751,683	421,096,198	94,247,540	58,469,409	985,651,083
LIABILITIES					
Accrued liabilities	12,507,084	294,831	64,823	9,034	275,144
Benefits and refunds payable	437,586	10,597	—	—	—
Due to other plans	2,052,329	49,701	—	721	9,896
Investments purchased	182,321,685	4,415,246	983,283	—	—
Total liabilities	197,318,684	4,770,375	1,048,106	9,755	285,040
NET POSITION					
Net position restricted for OPEB	—	—	—	—	—
Net position restricted for pensions	17,281,432,999	416,325,823	93,199,434	58,459,654	985,366,043
Total net position	$ 17,281,432,999	$ 416,325,823	$ 93,199,434	$ 58,459,654	$ 985,366,043

Continued

See Notes to Financial Statement

Other Trust Funds			
Sick Leave Insurance Reserve Fund		Totals	
State	Schools	2019	2018
$ 29,308	$ 45,365	$ 11,602,423	$ 9,687,049
73,397,636	99,607,487	4,176,323,696	3,902,225,754
—	—	14,488,135	10,511,077
—	—	787,246,608	678,811,218
—	—	319,544,221	260,457,706
—	—	811,205,407	666,569,487
121,660,682	196,082,753	8,043,801,143	7,221,851,749
29,123,774	46,408,470	3,097,357,318	3,524,767,476
—	—	1,035,582,920	1,018,525,774
		1,036,852,779	932,511,016
224,182,092	342,098,710	19,322,402,226	18,216,231,257
—	—	107,873,496	73,538,992
—	—	167,485	158,892
—	—	10,272,459	4,165,669
—	—	66,228,898	58,898,968
—	—	184,542,338	136,762,521
—	—	10,017,553	11,493,186
615,300	1,486,730	2,112,646	2,189,824
378,929	882,505	77,257,664	74,115,957
225,205,630	344,513,310	19,607,934,851	18,450,479,795
19,978	30,646	13,201,541	12,007,994
—	—	448,183	528,872
—	—	2,112,646	2,189,825
—	—	187,720,214	176,757,520
19,978	30,646	203,482,584	191,484,211
225,185,651	344,482,664	569,668,315	521,623,557
—	—	18,834,783,953	17,737,372,027
$ 225,185,651	$ 344,482,664	$ 19,404,452,267	$ 18,258,995,584

PUBLIC EMPLOYEE RETIREMENT SYSTEM OF IDAHO

STATEMENTS OF CHANGES IN FIDUCIARY NET POSITION
YEAR ENDED JUNE 30, 2019 WITH COMPARATIVE FINANCIAL INFORMATION FOR JUNE 30, 2018

	Pension Trust Funds				
	PERSI Base Plan	Firefighters' Retirement Fund	Judges' Retirement Fund	PERSI Choice Plan 414(k)	PERSI Choice Plan 401(k)
ADDITIONS					
Contributions					
Members	$ 257,060,511	$ 4,540	$ 778,864	$ —	$ 59,426,695
Employers	390,080,902	8,247,827	4,688,762	—	6,517,244
Transfers and rollovers in	—	—	—	—	13,948,722
Total contributions	647,141,413	8,252,367	5,467,626	—	79,892,660
Investment income					
Net appreciation in fair value of investments	1,009,441,400	24,806,072	5,357,121	4,308,210	54,408,333
Interest, dividends and other investment income	342,388,258	8,413,869	1,845,717	128,833	18,038,686
Less investment expenses	(49,258,731)	(1,210,487)	(266,015)	(11,145)	(2,218,306)
Total investment income - net	1,302,570,927	32,009,454	6,936,823	4,425,898	70,228,713
Other- net	329,710	—	13,200	—	—
Total additions	1,950,042,050	40,261,821	12,417,649	4,425,898	150,121,373
DEDUCTIONS					
Benefits and refunds paid to members and beneficiaries	975,232,875	18,929,519	7,168,403	3,838,437	43,319,799
Administrative expenses	9,276,642	55,031	121,305	344,469	1,570,385
Total deductions	984,509,516	18,984,550	7,289,708	4,182,906	44,890,184
INCREASE/(DECREASE) IN NET POSITION	965,532,534	21,277,270	5,127,941	242,992	105,231,189
NET POSITION					
Beginning of year	16,315,900,466	395,048,552	88,071,493	58,216,662	880,134,854
End of year	$ 17,281,432,999	$ 416,325,823	$ 93,199,434	$ 58,459,654	$ 985,366,043

Continued

See Notes to Financial Statement

Other Trust Funds			
Sick Leave Insurance Reserve Fund		Totals	
State	Schools	2019	2018
$ —	$ —	$ 317,270,610	$ 296,810,957
7,497,670	16,432,554	433,464,959	409,878,021
—	—	13,948,722	14,179,305
7,497,670	16,432,554	764,684,290	720,868,283
16,172,485	24,822,805	1,139,316,426	1,106,003,154
—	—	370,815,363	383,654,597
(88,300)	(135,449)	(53,188,434)	(49,736,557)
16,084,184	24,687,356	1,456,943,356	1,439,921,194
1,777	2,725	347,412	49,545
23,583,631	41,122,635	2,221,975,057	2,160,839,022
4,611,044	11,930,829	1,065,030,906	994,117,104
47,183	72,453	11,487,469	9,304,635
4,658,227	12,003,282	1,076,518,375	1,003,421,739
18,925,404	29,119,354	1,145,456,683	1,157,417,283
206,260,247	315,363,310	18,258,995,584	17,101,578,301
$ 225,185,651	$ 344,482,664	$ 19,404,452,267	$ 18,258,995,584

PUBLIC EMPLOYEE RETIREMENT SYSTEM OF IDAHO

NOTES TO FINANCIAL STATEMENTS
YEAR ENDED JUNE 30, 2019

NOTE 1. GENERAL DESCRIPTION OF THE FUNDS

General — The Public Employee Retirement System of Idaho (the "System" or "PERSI") is the administrator of seven plans including three defined benefit retirement plans, the Public Employee Retirement Fund Base Plan ("PERSI Base Plan"), the Firefighters' Retirement Fund (FRF); and the Judges' Retirement Fund (JRF); and two defined contribution plans, the Public Employee Retirement Fund Choice Plans 401(k) and 414(k) ("PERSI Choice Plan"). PERSI also administers two Sick Leave Insurance Reserve Trust Funds, which qualify as other postemployment benefits plans (OPEB), one for state employers and one for school district employers.

Reporting Entity — The System is a fiduciary fund of the State of Idaho (the "State") and is included in the State of Idaho Comprehensive Annual Financial Report. The basic financial statements of the System include the financial activities of all of the above funds. A five member retirement board (the "Board"), appointed by the Governor and confirmed by the Idaho Senate, manages the System. State law requires that two members of the Board be active PERSI members with at least ten years of service and three members who are Idaho citizens not members of the System except by reason of having served on the Board. Responsibilities of the Board include selecting the funding agents, establishing funding policy, and setting contribution rates.

Defined Benefit Retirement Plans Administration — The PERSI Base Plan and FRF are both cost-sharing, multiple-employer defined benefit retirement plans that provide benefits based on members' years of service, age, and highest average salary. In addition, benefits are provided for disability, death, and survivors of eligible members or beneficiaries.

Statutes governing the PERSI Base Plan are Title 59, Chapter 13 of the Idaho Code. Statutes governing FRF are Title 72, Chapter 14 of the Idaho Code.

Members become fully vested in their retirement benefits with five years of credited service (5 months for elected or appointed officials). Members are eligible for retirement benefits upon attainment of the ages specified for their employment classification. The annual service retirement allowance for each month of credited service is 2.0% (2.3% for police/firefighters) of the average monthly salary for the highest consecutive 42 months.

Effective July 1, 2014, by statute, PERSI assumed administration of the Judges' Retirement Fund (JRF). The JRF is a single employer defined benefit plan that provides benefits based on members' years of service, age and annual compensation. Statutes governing the Judges' Retirement Fund are Title 1, Chapter 20 of the Idaho Code.

JRF members, having left office or retired, are eligible for retirement benefits based on age and years of service (a minimum of four years) as specified in statute.

Plans Membership - State agencies, school districts, cities, counties, highway districts, water and sewer districts, and other political subdivisions contribute to the System.

As of June 30, 2019 and 2018, and the number of participating employer units in the PERSI Base Plan was:

	2019	2018
Cities	158	155
School districts	172	168
Highway and water districts	135	133
State subdivisions	99	100
Countries	44	44
Other	200	197
Total	808	797

As of June 30, 2019 and 2018, the number of benefit recipients and members in the PERSI Base Plan consisted of the following:

	2019	2018
Members:		
Active	72,502	71,112
Terminated and vested	13,536	13,133
Retirees and beneficiaries	48,120	46,907
Total	134,158	131,152

FRF has 22 participating employer units all consisting of fire departments that also participate in PERSI. As of June 30, 2019, there was 1 active member and 486 retired members or beneficiaries, collecting benefits from FRF. The FRF covers a closed group of firefighters who were hired before October 1, 1980, and who receive benefits in addition to those provided under the Base Plan. The cost of these additional benefits is paid by FRF member and employer contributions and receipts from a fire insurance premium tax.

JRF as of June 30, 2019 had 53 active members and 107 retired members or beneficiaries collecting benefits from JRF.

Benefits Provided - The benefit payments for the PERSI Base Plan, FRF and JRF are calculated using a benefit formula adopted by the Idaho Legislature. The Base Plan is required to provide a 1% minimum cost of living increase per year provided the Consumer Price Index increases 1% or more. The Retirement Board has the authority to provide higher PERSI Base Plan cost of living increases to a maximum of the Consumer Price Index movement or 6%, whichever is less; however, any amount above the 1% minimum is subject to review by the Idaho Legislature.

The cost of living increase for the FRF retirees is based on the increase in the statewide average firefighter's wage for employer units who belong to the FRF plan.

Adjustments to JRF benefits are made by either the PERSI COLA as described above or by a statutory adjustment which is based on active judge's salaries. Whether the PERSI COLA or the statutory adjustment applies depend on the date the judge first assumed office, on or before July 1, 2012 and/or by whether the judge (if it was an option available) made an irrevocable election to use the PERSI COLA.

Contributions - The PERSI Base Plan, FRF and JRF benefits are funded by contributions from members and employers and earnings from investments. Additional FRF funding is obtained from receipts from a state fire insurance premium tax. Member and employer contributions are paid as a percentage of member compensation. PERSI Base Plan, FRF and JRF member contribution rates are determined by the Board within limitations, as defined by state law. The Board may make periodic changes to employer and employee contribution rates (expressed as percentages of annual covered payroll) that are adequate to accumulate sufficient assets to pay benefits when due. Contributions are based on actuarial assumptions, the benefit formulas, and employee groups of the System. Costs of administering the fund are financed through the contributions and investment earnings of the System.

Level percentages of payroll normal costs are determined using the Entry Age Normal Cost Method for the PERSI Base Plan, FRF and JRF. Under the Entry Age Normal Cost Method, the actuarial present value of the projected benefits of each individual included in the actuarial valuation is allocated as a level percentage of each year's earnings of the individual between entry age and assumed exit age.

The PERSI Base Plan and the JRF Plan amortizes any net pension liability based on a level percentage of payroll. The payroll for employees covered by the PERSI Base Plan and JRF Plan was $3,382,051,785 and $6,731,755, respectively for the year ended June 30, 2019.

Net pension liability (asset) for FRF is the difference between the pension liability of the FRF benefits not provided by the Base Plan and the FRF assets. The payroll for active employees covered by the FRF Plans was $163,393.

The Base Plan contribution rates for employees are set by statute at 60% of the employer rate for general employees and 72% for police and firefighters. As of June 30, 2019, the employee rate was 6.79% for general employees and 8.36% for police and firefighters. The employer contribution rate is set by the Retirement Board and was 11.32% for general employees and 11.66% for police and firefighters.

The total FRF employer contribution rate as of June 30, 2019, was 25.31% which includes the employer excess rate of 13.65% plus the PERSI class 2 firefighter's rate of 11.66%. The FRF member rate for the year for class B is 11.45% which is 3.09% above the class 2 rate of 8.36%.

Idaho Statute 59-1394(1)(a) requires 50% of the gross receipts by the State of the tax on fire insurance premiums, as provided by Idaho Statute 41-402 is perpetually appropriated for the purpose of partially funding the benefit requirements of Chapter 14, Title 72 of the Idaho Code (Fireman's Retirement Fund).

The JRF employee contribution rate is 18.50% of the employer contribution rate as set by the Board. As of June 30, 2019, the employee contribution rate was 11.57% and the employer contribution rate was 62.53%. Active employees who have 20 or more years of service are exempt from employee contributions.

Upon termination of employment, PERSI Base Plan participants are entitled to accumulated member contributions plus interest, accrued at 7.57% from January 1, 2019 through June 30, 2019 (11.03% from July 1, 2018 through December 31, 2018) compounded monthly per annum, and are refundable. Withdrawal of such accumulated contributions results in forfeiture of the member's accrued benefit; however, state law does include provisions for reinstatement of forfeited service upon repayment of the accumulated contributions plus interest.

JRF employees with less than four years of service are entitled to a refund of accumulated member contributions plus interest, accrued at 6.50% per annum.

Defined Contribution Retirement Plans — The PERSI Choice Plans are defined contribution retirement plans. The statute governing the PERSI Choice Plans is Idaho Code Title 59, Chapter 13.

The PERSI Choice Plans made up of a qualified 401(k) plan and a 414(k) plan. The assets of the two plans within the PERSI Choice Plans are commingled for investment purposes. Participants can direct their investment mix with some trading frequency restrictions. Participants have fifteen investment options: two balanced funds, four fixed income funds and eight equity funds and one specialty fund. Participants investing in the Total Return Balanced Fund and the PERSI Short-Term Investment Portfolio pay investment management fees of .27% and .11%, respectively. Since inception of the plans, participants have paid investment management fees for all other options.

The 401(k) portion of the PERSI Choice Plans is open to all active PERSI members. Employees can make tax-deferred contributions up to 100% of their gross salary less deductions and subject to the Internal Revenue Service (IRS) annual contribution applicable limit for the age of the employee. The 414(k) portion of the PERSI Choice Plans was established for gain sharing allocations from the PERSI Base Plan. The gain sharing amount (if any) is based on funding levels in the Base Plan and is subject to Board approval. Eligibility for gain sharing requires twelve months of active PERSI Base Plan membership as defined in Idaho statutes and PERSI rules.

Participants may allocate their assets in 1% increments among the investment options; however, if no allocation preference is indicated, a default investment election to the PERSI Total Return Fund (TRF) is made. The TRF is a unitized fund comprised of investment accounts of the PERSI Base Plan.

As of June 30, 2019, there were 40,467 participants with balances in the PERSI Choice Plans. Some of these participants are in both the 401(k) Plan and the 414(k) Plan. As of June 30, 2019, there were 10,873 participants with both Choice Plan 401(k) and 414(k) plans. There were 20,120 participants with only Choice Plan 401(k), and 9,474 participants with only Choice Plan 414(k).

Optional Retirement Plan – Certain community colleges and university employees participate in an optional retirement plan (ORP) in accordance with the provisions of Idaho Code 33-107(A) and (B). For university employees who opted out of PERSI in 1993, the employer by statute pays 1.49% of ORP payroll in lieu of a withdrawal liability payment to PERSI with a payoff date of July 1, 2025. The community colleges were paid in full as of June 30, 2011.

***Sick Leave Insurance Reserve Trust Funds (OPEB*) -** PERSI administers the Sick Leave Insurance Reserve Fund cost sharing, multiple-employer defined benefit OPEB plans that provides payment of eligible postretirement insurance premiums on behalf of retired state and public school district employees, based on accumulated unused sick leave at the time of retirement. The Sick Leave Insurance Retirement Fund is classified as a trust fund. For state and school employers, unused sick leave benefits are subject to the guidance of Governmental Accounting Standard Board (GASB) Statement 74, Financial Reporting for Postemployment Benefit Plans Other Than Pension Plans.

The Sick Leave Insurance Retirement Fund is made up of two trust funds administered by PERSI - a trust for payment of school district employee benefits and a trust for payment of state employee benefits. The statutes governing the Sick Leave Insurance Retirement Fund are Idaho Code, Sections 67-5333, 33-1216, 59-1365, and 33-1228.

The Sick Leave Insurance Retirement Fund is a fund that exists for the payment of unused sick leave benefits in the form of insurance premiums for state and school district employees who separate from service by reason of retirement. The assets of the two trusts are commingled for investment purposes.

The System administers these trusts on behalf of the participating employers. Employers' contributions are a percentage of payroll collected each pay cycle and are held in trust for future benefits. The school districts and the State are responsible for any unfunded OPEB liability, respectively, through contribution rate adjustments.

Membership in the Sick Leave Insurance Fund as of June 30, 2019 valuation.

	State	School
Members:		
Active	16,932	33,114
Retirees and beneficiaries	5,232	6,229
Total	22,164	39,343

School District Employees — For school district employees, the unused sick leave amount available for benefit is limited to one-half of their eligible sick leave balance and rate of compensation at retirement.

State Employees — State employees are limited to the number of allowable hours of sick leave they may use as part of the unused sick leave program as follows:

Credited Hours of State Services	Maximum Allowable Sick Leave Hours
0-10,400 (0-5 years)	420
10,401-20,800 (5-10 years)	480
20,801-31,200 (10-15 years)	540
31,201+ (15 years or more)	600

Members may use one-half of sick leave hours accrued up to the allowable maximum multiplied by their rate of compensation at retirement.

The rate for state agency contributions was 0.65% of covered salary at June 30, 2019.

Contribution percentages are based on the number of days of paid sick leave earned during the contract year. The sick leave contribution rates for schools are as follows:

Days Earned	Beginning - June 30, 2006
9-10 days	1.16%
11-14 days	1.26%
More than 14 days	Individual rate to be set by the Retirement Board based on current cost and actuarial data and reviewed biennially

NOTE 2. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES

Basis of Accounting — The System's basic financial statements are prepared utilizing the accrual basis of accounting. Employee and employer contributions are recognized as additions to net position when due and receivable, pursuant to formal commitments and statutory or contractual requirements, investment income is recognized when earned, and benefit payments and refunds and other expenses are recorded when the benefits are due and payable in accordance with the plans' terms. The pension funds are accounted for on a flow of economic resources measurement focus.

The significant GASB standards affecting the System are:

- GASB Statement No. 34, *Financial Statements – and Management's Discussion and Analysis for State and Local Governments,*
- GASB Statement No. 37, *Basic Financial Statements – and Management's Discussion and Analysis – for State and Local Governments: Omnibus,*
- GASB Statement No. 38, *Certain Financial Statement Note Disclosures,*
- GASB Statement No. 40, *Deposit and Investment Risk Disclosures,*
- GASB Statement No. 44, *Economic Condition Reporting: The Statistical Section,*
- GASB Statement No. 51, *Accounting and Financial Reporting for Intangible Assets,*
- GASB Statement No. 53, *Accounting and Financial Reporting for Derivative Instruments*,
- GASB Statement No. 67, *Financial Reporting for Pension Plans,*
- GASB Statement No. 68, *Financial Reporting for Pensions as amendment of GASB Statement No. 27,*
- GASB Statement No. 71, *Pension Transition for Contributions Made Subsequent to the Measurement Date – an amendment of GASB Statement No. 68,*
- GASB Statement No. 72, *Fair Value Measurement and Application,*
- GASB Statement No. 74, *Financial Reporting for Postemployment Benefit Plans Other Than Pension Plans,*
- GASB Statement No. 75*, Accounting and Financial Reporting for Postemployment Benefit Other Than Pension Plans,*
- GASB Statement No. 76, *The Hierarchy of Generally Accepted Accounting Principles for State and Local Government,*
- GASB Statement No. 82, *Pension Issues,*
- GASB Statement No. 85, *Omnibus 2017*

Investments — The System's investments are presented at fair value. Purchases and sales are recorded at the trade date. At month end, there may be certain pending trades that were initiated by managers but not confirmed and, therefore, are not included in the fair value of investments. Investments of the PERSI Base Plan, FRF, JRF and the PERSI TRF (an option of the PERSI Choice Plan) are pooled for investment purposes as is disclosed in Note 3.

The Board utilizes and directs individual fund managers to provide whatever investment management and custodial functions the Board has determined best achieves the System's investment objectives. Each fund manager is generally granted full discretion in making investment decisions, within asset allocation policy, portfolio investment policy, specific investment guidelines and other special restrictions set by contract with the Board. The Board monitors overall investment performance and periodically evaluates the performance of each fund manager. The Board in its administration of the System and management of the investment program is guided by the Idaho Uniform Prudent Investor Act, Sections 68-501 through 68-514 of the Idaho Code and of fiduciary responsibilities in the Idaho Code, Section 59-1301, and is empowered in its sole discretion to limit, control, and designate the types and amounts of investments. The Board has adopted an investment policy including policy related to deposit and investment risks identified in GASB Statement No. 40, *Deposit and Investment Risk Disclosures.*

The fair value of investments is based on published market prices and quotations from major investment brokers, when available. Mortgages have been valued on the basis of their future principal and interest payments discounted at prevailing interest rates for similar instruments of matching duration. The fair value of real estate investments is based on industry practice. For recent acquisitions, cost closely approximates fair value. The fair value of longer term real estate holdings is estimated based on the System's consultant assessments and/or independent appraisals. Short-term investments are reported at fair value, when published market prices and quotations are available, or at cost plus accrued interest, which approximate fair value. The fair values of private equity limited partnership investments by their nature have no readily ascertainable market prices. Similar to real estate, cost closely approximates fair value for recent acquisitions. Thereafter, the fair values of limited partnership funds are based on the valuations as presented by the general partner, approved by the funds' advisory committee, and reviewed by consultants. Generally, the companies within a fund are valued by the general partner, taking into account many factors such as the purchase price, estimated liquidation value, significant events like initial public offerings, bankruptcies, and additional rounds of financing, and other relevant factors. Because of the lack of published market prices for these investments, the estimated fair values may differ significantly from the values that would have been used had a ready market for the investments existed. Although these differences could be material to the individual company values, private equity represents 5.8% of total investments. PERSI's real estate and commercial mortgage investments are 4.6% and 4.4%, respectively of total investments.

Investment expenses presented within the statements of changes in plan fiduciary net position do not include fees and costs for private equity investments nor does it include fees and commissions related to public equity transactions. These fees and costs are presented, for information purposes, within the Investment Section of PERSI's Comprehensive Annual Financial Report in the Schedule of Costs for Private Equity Partnerships and the Schedule of Broker Fees and Commissions. These costs are captured within the net asset value for investments as reported in the Statements of Plan Net Position and the Statements of Changes in Plan Fiduciary Net Position.

The System purchases forward currency contracts for certain international investments and United States of America agency-guaranteed collateralized mortgage obligations for the purpose of enhancing liquidity, reducing transaction or other costs, or partially hedging an existing exposure. The System may incur minor recording costs for forward contracts until the settlement date. Potential future obligations for the forward contracts are not recognized until the contract expiration date.

The following is the Board's adopted asset allocation policy (adopted February 2017) as of June 30, 2019:

Asset Class	
Fixed Income	30%
US/Global Equity	55%
International Equity	15%
Cash	0%
Total	100%

Use of Estimates **-** The preparation of the financial statements in conformity with accounting principles generally accepted in the United States of America requires management to make estimates and assumptions that affect the reported amounts of net assets and liabilities, disclosure of contingent liabilities, and the actuarial present value of accumulated plan benefits at the date of the financial statements. Actual results could differ from those estimates. The System utilizes various investment instruments. Investment securities, in general, are exposed to various risks, such as interest rate, credit, and overall market volatility. Due to the level of risk associated with certain investment securities, it is reasonably possible that changes in the values of investment securities will occur in the near term and that such change could materially affect the amounts reported in the financial statements.

Assets Used in Plan Operations **-** These assets represent buildings, equipment, and computer software development costs used by the System and are recorded at cost. Depreciation and amortization are calculated on the straight-line method over the estimated useful lives of the assets. The estimated useful life for buildings is 30-50 years. The estimated useful life of computer software development costs is 10-15 years. Computer and technology equipment has a 3-5 year useful life.

Totals **-** The basic financial statements include certain prior-year summarized comparative information in total. Such information does not include sufficient detail to constitute a presentation in conformity with accounting principles generally accepted in the United States of America. Accordingly, such information should be read in conjunction with the System's basic financial statements for the year ended June 30, 2018, from which the summarized information was derived.

NOTE 3. DEPOSITS AND INVESTMENTS

A. Deposits

Cash and cash equivalents are deposited with various financial institutions and are carried at cost plus accrued interest. Cash balances represent operating cash accounts held by various banks and on deposit with the State Treasurer. In accordance with Idaho Code Sections 67-1210 and 67- 1210A, the State Treasurer invests cash not needed to meet immediate obligations in the pooled Idle Short-Term Fund. Deposits are held by its agent in the State Treasurer's name. Pooled balances are available on demand. Cash deposits in other bank accounts are covered by federal depository insurance up to $250,000. The System does not have a policy for custodial credit risk related to cash on deposit at local financial institutions.

Cash and cash equivalents	
Held by the State Treasurer	$ 9,254,762
FDIC insured/collateralized	2,066,671
Uninsured and uncollateralized	280,991
Total	$ 11,602,423

B. Investments

Investments of the pension trust funds are reported at fair value. See Note 2 for more details. The Board maintains a formal Statement of Investment Policy, which addresses governing provisions and additional guidelines for the investment process. This includes policies pertaining to asset allocation and risk described in subsequent sections. Refer to Note 2 for additional asset allocation information. In fulfilling its responsibilities, the Board has contracted with investment managers, a master global custodian, other custodians, and a cash manager. Manager contracts include specific guidelines regarding the PERSI investments under management.

The following investments, risks disclosures and rate of return do not include assets from the Sick Leave Insurance Retirement Fund or other non-TRF Choice Plan options. Based on the assets that are being excluded, they do not apply to these disclosures thus is appropriate to exclude.

Derivatives
Mortgage-Backed Securities
TIPS
Custodial Credit Risk
Concentration of Credit Risk

Investments at fair value as of June 30, 2019, are as follows:

Domestic fixed income	$ 4,003,318,573
Co-mingled domestic fixed income (Sick Leave Insurance Reserve Fund)	173,005,123
International fixed income	14,488,135
Idaho commercial mortgages	787,246,608
Short-term investments	319,544,221
Real estate	811,205,407
Domestic equities	7,726,057,708
Co-mingled domestic equity (Sick Leave Insurance Reserve Fund)	317,743,435
International equities	3,021,825,074
Co-mingled international equity (Sick Leave Insurance Reserve Fund)	75,532,244
Private equity	1,035,582,920
Mutual, collective, and unitized funds	1,036,852,778
Total Investments	$19,322,402,226

Concentrations **-** In line with policy, the System does not have any investments from a single issuer (excluding explicitly guaranteed governments) that represent more than 5% of the System's net position.

Derivatives — Derivatives are financial obligations whose value is derived from underlying debt or equity securities, commodities, or currencies. Any derivative instruments held by PERSI are for investment purposes only and all information is disclosed within the investment footnotes. The derivatives held by PERSI are reported in the US dollar denomination. They are designed, among other things, to help investors protect themselves against the risk of price changes. In accordance with its investment policy, the System, through its external investment managers, holds investments in futures, options, and forward foreign currency contracts. Only a few selected managers are permitted to use derivatives. In every case, the types of derivatives used and limits on their use are defined in manager contracts and are monitored on an ongoing basis.

Futures contracts are contracts for delayed delivery or receipt of securities in which the seller agrees to make delivery and the buyer agrees to take delivery at a specified future date, of a specified instrument, at a specified price. Market risk arises due to market price and interest rate fluctuations that may result in a decrease in the fair value of futures contracts. Futures contracts are traded on organized exchanges and require initial margin in the form of cash or marketable securities. Each day the net change in the futures contract value is settled in cash with the exchanges. Holders of futures contracts look to the exchange for performance under the contract. Accordingly, the credit risk due to the nonperformance of counterparties to futures contracts is minimal. At June 30, 2019 the System had futures contracts with a fair value of $562,280 which is included in fixed income investments. Cash equivalents and short-term investments in amounts necessary to settle the futures contracts were held in the portfolio so that no leverage was employed, in accordance with the System's Statement of Investment Policy.

At June 30, 2019, the System had the following net futures contracts exposure:

		Exposure covered by contract
FUTURES		
Cash and Cash Equivalents		
90 Day Eurodollar	$	101,774,925
Euro Foreign Currency		9,586,443
Canadian Dollar Foreign Currency		4,440,190
Mexican Peso Foreign Currency		3,550,740
Japanese Yen Foreign Currency		2,099,475
Australian Dollar Foreign Currency		1,759,000
British Pound Foreign Currency		1,195,219
Russian Rubble Foreign Currency		861,300
Fed Fund 30d		(53,913,354)
Total Cash and Cash Equivalents		71,353,938
Fixed Income		
US 5yr Treasury Note		242,692,938
US 2yr Treasury Note		105,438,047
US Ultra Bond		60,548,813
US Long Bond		43,099,469
Euro-BTP		11,776,445
Euro BOBL		459,301
Australian 10yr Bond		(201,613)
Euro-Oat		(375,508)
Euro-BUXL 30yr Bond		(1,386,375)
UK Long Gilt		(2,487,492)
Japan 10yr Bond		(7,139,874)
US 10yr Ultra		(13,121,875)
Euro-Bund		(35,212,220)
US 10yr Treasury Note		(370,213,594)
Total Fixed Income		33,876,462
Net Futures Exposure	$	105,230,400

Option contracts are contractual agreements giving the purchaser the right, but not the obligation, to purchase or sell a financial instrument at a specified price within a specified time. The option's price is usually a small percentage of the underlying asset's value. Options strategies used by the System are designed to provide exposures to positive market moves and limit exposures to interest rate and currency fluctuations. At June 30, 2019, the Base Plan, TRF, JRF, and FRF had option contracts payable with a fair value of $1,713,749, which is included in Domestic Fixed Income and $(777,932) which is included in Investments Purchased.

At June 30, 2019, the System had the following net options exposure:

OPTIONS		Exposure covered by contract
Fixed Income		
Cash/Cash Equivalents-Purchased Call Options	$	1,235,925
Cash/Cash Equivalents-Purchased Put Options		394,658
Fixed Income-Purchased Call Options		58,587
Fixed Income-Purchased Put Options		24,579
Total Fixed Income		1,713,749
Investments Purchased		
Cash/Cash Equivalents-Written Call Options		(187,057)
Cash/Cash Equivalents-Written Put Options		(279,193)
Fixed Income-Written Call Options		(164,146)
Fixed Income-Written Put Options		(147,536)
Total Investments Purchased		(777,932)
Net Option Exposure	$	935,817

Forward Foreign Currency Exchange Contracts are carried at fair value by the System. The System has entered into foreign exchange contracts to purchase or sell currency at various dates in the future at a specific price. Some of the System's international and real estate investment managers use forward contracts to hedge the exposure of investments to fluctuations in foreign currency. Forward foreign exchange contracts are negotiated between two counterparties. The System could sell the forward contract at a loss, or if it were to continue to hold the contract, the System may make a termination payment to the counterparty to cancel its obligation under the contract and then buy the currency on the open market. The System could also incur a loss if its counterparties failed to perform pursuant to the terms of their contractual obligations. Controls are established by the System and the investment managers to monitor the creditworthiness of the counterparties. The System's investment managers seek to control this risk through counterparty credit evaluations and approvals, counterparty credit limits, and exposure monitoring procedures. As of June 30, 2019, the System had entered into forward currency contracts to sell foreign currencies with a fair value of $87,170,298 and had entered into forward currency contracts to buy foreign currencies with a fair value of $87,530,853. Forward currency contracts are receivables or payables reported as investments sold or investments purchased. A net unrealized loss of $274,580 at June 30, 2019 was recorded, which represent the loss which would occur from executing these forward foreign currency contracts.

Mortgage-Backed Securities — These investments are valued based on the cash flows from interest and principal payments on the underlying mortgages. As a result, they are sensitive to prepayments, which are likely to occur in declining interest rate environments, thereby reducing the value of the securities. Details regarding interest rate risk for these investments are included in the Interest Rate Risk section on page 45.

TIPS — Treasury Inflation Protected Securities (TIPS) are fixed income securities issued by the U.S. Treasury that pay a fixed coupon rate plus an adjustment for subsequent inflation. At June 30, 2019, the System had invested in TIPS with a fair value of $1,625,556,556.

C. Credit Risk

Credit risk is the risk that an issuer or other counterparty to an investment will not fulfill its obligations to the System. The System's investment policies requires each portfolio manager to maintain a reasonable credit risk level relative to its benchmark and provided expected credit risk exposures in their portfolio guidelines. If the actual credit risk exposure falls outside of these expectations, managers will be required to report these occurrences to Staff and these disclosures are to be made available to the Board.

As of June 30, 2019, the System's fixed income assets that are not government guaranteed represented 48.38% of the fixed income portfolio. The System's fixed income assets are shown with current credit ratings in the table on the next page.

Credit Quality	PERSI/FRF Base Plans		JRF		Total Return Fund		
S&P Rating Level	Domestic	International	Domestic	International	Domestic	International	Total
Short Term							
A-1+	$ 22,870,807	$ —	$ 120,429	$ —	$ 1,063,054	$ —	$ 24,054,290
A-1	67,800,044	—	357,008	—	3,151,402	—	71,308,454
A-2	25,476,575	—	134,150	—	1,184,172	—	26,794,897
Long Term							
AAA	87,358,227	—	459,994	—	4,060,482	—	91,878,703
AA*	324,237,253	—	1,707,306	—	15,070,815	—	341,015,374
A	394,703,456	3,379,231	2,078,353	17,794	18,346,142	157,069	418,682,045
BBB	519,835,234	2,864,280	2,737,248	15,082	24,162,370	133,134	549,747,348
BB	16,387,593	2,739,703	86,291	14,426	761,709	127,345	20,117,067
B	4,589,939	—	24,170	—	213,343	—	4,827,452
CCC	2,598,652	—	13,683	—	120,788	—	2,733,123
CC	983,462	—	5,179	—	45,712	—	1,034,353
D	484,266	—	2,550	—	22,509	—	509,325
Not rated	158,380,925	5,307,744	833,971	27,948	7,361,676	246,708	172,158,972
Total Credit Risk fixed income securities	1,625,706,433	14,290,958	8,560,332	75,250	75,564,174	664,256	1,724,861,403
U.S. Government	2,634,998,082	—	13,874,862	—	122,476,883	—	2,771,349,827
Pooled Investments-(unrated)	46,966,221	—	247,305	—	2,183,029	—	49,396,555
Pooled Investments-SLIRF (unrated)	—	—	—	—	—	—	173,005,123
Idaho Mortgages	783,122,990	—	4,123,618	—	36,400,202	—	823,646,810
Total	$ 5,090,793,726	$14,290,958	$ 26,806,117	$ 75,250	$ 236,624,288	$ 664,256	$ 5,542,259,718

*Includes US Government Agencies implicitly guaranteed by US Government:
FHLB $28,560,119.13; FHLMC $80,253,829.23; FNMA $65,326,770.80

Each portfolio is managed in accordance with operational guidelines that are specific as to expected portfolio characteristics that usually, but not always, include credit quality and exposure levels. The System's investment policy requires managers to provide PERSI with expected credit risk exposures in their portfolio guidelines. If the actual credit risk exposure falls outside of these expectations, managers will be required to report these occurrences to staff and these disclosures are to be made available to the Board.

D. Custodial Credit Risk

Custodial credit risk is the risk that in the event of a financial institution or bank failure, the System would not be able to recover the value of their deposits and investments that are in the possession of an outside party. The System mitigates custodial credit risk by requiring in policy, to the extent possible, that investments be clearly marked as to PERSI ownership and be registered in the System's name. All securities are required to be delivered to a third-party institution mutually agreed upon by the bank and the System.

The System's cash and deposits are swept daily by the System's custodian and cash manager into short-term investment funds. Clearwater Advisors, LLC is the System's cash manager and invests the bulk of the System's cash, approximately 82.2%, in short-term instruments held at the custodian bank. Of the remaining cash and deposits at June 30, 2019 approximately 2.9% or, $9,337,040, was held by various counterparties not in the System's name. The remainder, approximately 14.9%, is invested in custodial bank-maintained collective investment funds.

E. Concentration of Credit Risk

Concentration of credit risk is the risk of loss that may be attributed to the magnitude of a government's investment in a single issuer. The System's operational guidelines for investments in any corporate entity are stated in each individual manager's specific portfolio guideline.

Per the Systems Investment policy, managers will provide expected concentration of credit risk exposures in their portfolio guidelines. If the concentration of credit risk exceeds expectations, managers are required to report these occurrences to Staff and these disclosures are to be made available to the Board. For the portfolio as a whole, Staff will report to the Board at a regular Board Meeting if the exposure to a non-US government guaranteed credit exceeds 5% of the System's invested assets.

F. Interest Rate Risk

Market or interest rate risk is the greatest risk faced by an investor in the debt securities market. The price of a debt security typically moves in the opposite direction of the change in interest rates. Interest rate risk is the risk that changes in interest rates will adversely affect the fair value of an investment. This risk is managed within the portfolio using the effective duration methodology. The methodology takes into account optionality on bonds and scales the risk of price changes on bonds depending upon the degree of change in rates and the slope of the yield curve. All of the System's fixed income portfolios are managed in accordance with operational guidelines which include an expected range of interest rate risk in the portfolio. Per the System's investment policy, managers will provide PERSI with the expected portfolio duration in their portfolio guidelines. If the duration of the portfolio differs from expectations, managers are to be required to report these occurrences to Staff and these disclosures are to be made available to the Board. The reporting of effective duration found in the tables that follow quantifies the interest rate risk of the System's fixed income assets. Some of the large durations are due to the use of options and forward foreign currency contracts. For line items below reported as "N/A," the duration calculation is not available. A negative duration can occur when floating rate securities trade at a discount.

Effective duration of domestic fixed income assets by security type:

Investment	Effective Duration in Years	Fair Value allocations: PERSI/FRF DB Plans	Judges' Plan	Total Return Fund	Total
Domestic					
Asset-backed Securities	2.71	$ 40,115,798	$ 211,234	$ 1,864,615	$ 42,191,647
Asset-backed Securities	N/A	3,699,187	19,478	171,941	3,890,606
Mortgages	3.07	27,893,053	146,874	1,296,492	29,336,419
Mortgages	N/A	1,104,377	5,815	51,332	1,161,524
Commercial Paper	0.13	136,347,311	717,951	6,337,535	143,402,797
Commercial Paper	N/A	13,016,445	68,539	605,015	13,689,999
Corporate Bonds	7.48	1,010,966,263	5,323,349	46,990,545	1,063,280,157
Fixed Income Derivatives	(205.58)	1,262,083	6,646	58,663	1,327,392
Fixed Income Derivatives	N/A	279,784	1,473	13,005	294,262
Government Agencies	8.95	65,152,164	343,066	3,028,326	68,523,556
Government Bonds	7.30	1,083,030,480	5,702,813	50,340,149	1,139,073,442
Government Mortgage-backed Securities	2.54	201,730,539	1,062,234	9,376,602	212,169,375
Government Mortgage-backed Securities	N/A	17,101	90	795	17,986
Pooled Investments	0.00	47,031,191	247,648	2,186,049	49,464,888
Pooled Investments-SLIRF Domestic Fixed Income	N/A	—	—	—	173,005,123
Private Placements	4.92	123,536,874	650,497	5,742,096	129,929,467
Private Placements	N/A	6,909,696	36,384	321,168	7,267,248
TIPS	9.24	1,545,578,390	8,138,408	71,839,758	1,625,556,556
Idaho Mortgages	0.00	783,122,990	4,123,618	36,400,202	823,646,810
Total		$ 5,090,793,726	$ 26,806,117	$ 236,624,288	$ 5,527,229,254

Effective duration of international fixed income assets by security type:

	Effective Duration in Years	Fair Value allocations: PERSI/FRF DB Plans	Judges' Plan	Total Return Fund	Total
International					
Fixed Income Derivatives	1,670.86	$ 3,811	$ 20	$ 177	$ 4,008
Government Bonds	6.17	14,071,729	74,096	654,066	14,799,891
Government Bonds	N/A	215,418	1,134	10,013	226,565
Total		$ 14,290,958	$ 75,250	$ 664,256	$ 15,030,464

G. Foreign Currency Risk

Foreign currency risk is the risk that changes in currency exchange rates will adversely impact the fair value of an investment. The System's currency risk exposures, or exchange rate risk, primarily reside within the international equity investment holdings. The System expects the managers of these holdings to maintain adequately diversified portfolios to limit foreign currency risk. Per the System's investment policy, the individual manager guidelines will outline the expected current exposures (either specifically or through ranges of security exposures to particular currency areas) of the underlying portfolio and if the actual currency exposure differs from the expected, managers are to be required to report these occurrences to Staff and these disclosures are to be made available to the Board. Currency gains and losses will result from exchange rate fluctuations. The System's exposure to foreign currency risk expressed in U.S. dollars as of June 30, 2019, is highlighted in the table that follows. Negative fair values related to variable-rate debt instruments that are highly sensitive to changes in interest rates.

CURRENCY	Short-term Investments	Equity	Fixed Income	Total USD Equivalent Fair Value
ARGENTINA PESO	$ 229,627	$ —	$ 149,438	$ 379,065
AUSTRALIAN DOLLAR	(835,234)	71,991,089	(1,421)	71,154,434
BRAZIL REAL	7,666,450	75,282,963	2,867,589	85,817,002
CANADIAN DOLLAR	4,849,858	16,841,881	—	21,691,739
CHINESE R YUAN HK	(550,116)	—	—	(550,116)
CHINESE YUAN RENMINBI	(2,047,346)	—	557,238	(1,490,108)
COLOMBIAN PESO	(28,783)	—	—	(28,783)
CZECH KORUNA	6	—	—	6
DANISH KRONE	2,187,437	120,210,946	—	122,398,383
EGYPTIAN POUND	—	4,205,762	—	4,205,762
EURO CURRENCY UNIT	(8,238,745)	807,536,841	(86,903)	799,211,193
HONG KONG DOLLAR	485,140	363,298,124	—	363,783,264
HUNGARIAN FORINT	4,630	4,862,470	—	4,867,100
INDIAN RUPEE	2,752,214	—	—	2,752,214
INDONESIAN RUPIAH	3,792,222	13,818,355	—	17,610,577
ISRAELI SHEKEL	12,915	2,397,968	—	2,410,883
JAPANESE YEN	602,805	395,437,762	1,015,778	397,056,345
KENYAN SHILLING	13	1,544,616	—	1,544,629
MALAYSIAN RINGGIT	(381,223)	8,245,528	—	7,864,305
MEXICAN PESO	1,096,550	30,486,819	5,328,718	36,912,087
MOROCCAN DIRHAM	21,264	2,039,768	—	2,061,032
NEW TAIWAN DOLLAR	41,909	23,547,724	—	23,589,633
NEW ZEALAND DOLLAR	597	1,737,296	—	1,737,893
NORWEGIAN KRONE	111,761	8,775,272	—	8,887,033
PHILIPPINES PESO	(2,052,210)	6,817,166	—	4,764,956
POLISH ZLOTY	32,062	1,785,494	—	1,817,556
POUND STERLING	1,127,650	576,407,956	316,686	577,852,292
ROMANIAN LEU	77	2,441,278	—	2,441,355
RUSSIAN RUBLE (NEW)	(882,846)	—	4,366,695	3,483,849
SINGAPORE DOLLAR	180,355	36,114,163	—	36,294,518
SOUTH AFRICAN RAND	197,059	43,741,843	—	43,938,902
SOUTH KOREAN WON	(109,391)	143,929,243	—	143,819,852
SWEDISH KRONA	7,071	31,385,842	—	31,392,913
SWISS FRANC	7,326,139	277,357,138	—	284,683,277
THAILAND BAHT	130,523	15,004,383	—	15,134,906
TURKISH LIRA	47,079	20,148,473	—	20,195,552
ZIMBABWE DOLLAR (NEW)	28,020	—	—	28,020
Total value of investments to foreign currency risk	$ 17,805,539	$ 3,107,394,163	$ 14,513,818	$ 3,139,713,520

H. Rate of Return

For the years ended June 30, 2019 and 2018, the annual money-weighted rate of return on pension plan investments, net of pension plan investment expense, was 8.02% and 8.51% respectively. The money-weighted rate of return expresses investment performance, net of investment expense, adjusted for the changing amounts actually invested.

NOTE 4. FAIR VALUE

GASB Statement No. 72, *Fair Value Measurement and Application*, (Statement 72) specifies a hierarchy of valuation classifications based on whether the inputs to the valuation techniques used in each valuation classification are observable or unobservable. These classifications are summarized in the three broad levels listed below:

Level 1-Unadjusted quoted prices for identical instruments in active markets, that the reporting entity has the ability to access at the measurement date.

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 and significant value drivers are directly or indirectly observable. Examples would be matrix pricing, market corroborated pricing and inputs such as yield curves and indices.

Level 3-Valuations derived from valuation techniques in which significant inputs or significant value drivers are unobservable and may rely on the reporting entity's own assumptions, but the market participant's assumptions that may be used in pricing the asset or liability.

Inputs used to measure fair value might fall in different levels of the fair value hierarchy, in which case the Plan defaults to the lowest level input that is significant to the fair value measurement in its entirety. These levels are not necessarily an indication of the risk or liquidity associated with the investments. In determining the appropriate levels, the Plan performed a detailed analysis of the assets and liabilities that are subject to Statement 72.

The following table presents fair value measurements as of June 30, 2019:

	Fair Value Measurements Using			
	Instruments by fair value level	Quoted Prices in Active Markets for Identical Assets (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)
Fixed Income Securities:				
U.S. Government	$ 2,770,520,466	$ 2,748,385,646	$ 22,134,820	$ —
Asset backed-Securitized	427,185,171	—	391,766,068	35,419,103
Corporate	865,251,199	—	865,001,944	249,255
Idaho Mortgages	823,646,810	—	823,646,810	—
Non-U.S. Government	131,847,000	—	131,847,000	—
Total Fixed Income Securities	**$ 5,018,450,646**	**$ 2,748,385,646**	**$ 2,234,396,642**	**35,668,358**
Equities:				
Domestic	6,616,012,668	6,616,012,668	—	—
Developed Markets	2,999,687,184	2,998,411,127	—	1,276,057
Emerging Markets	821,329,405	784,023,206	—	37,306,199
Total Equities	**10,437,029,257**	**10,398,447,001**	**—**	**38,582,256**
Preferred Securities	72,683,319	64,720,176	4,023,372	3,939,771
Convertible or Exchangeable Securities	150,880	—	—	150,880
Mutual Funds-Defined Contribution investment options	86,420,722	86,420,722	—	—
Total investments by fair value level*	**$ 15,614,734,824**	**$ 13,297,973,545**	**$ 2,238,420,014**	**$ 78,341,265**

* The Total Return Fund and Short Term Investment Portfolio are unitized Defined Contribution investment options included with the Equity and Fixed Income totals above AND Private Equity Partnerships and Private Real Estate totals below.

Investments measured at the net asset value (NAV)	Fair Value	Unfunded commitments	Redemption Frequency	Redemption Notice
Private Equity Partnerships:				
Growth Equity	$ 17,909,621	$ 38,938,948	N/A	N/A
Corporate Finance/Buyout	889,062,381	678,987,411	N/A	N/A
Distressed Debt	27,842,766	17,083,649	N/A	N/A
Co/Direct Investment	73,686,488	40,808,014	N/A	N/A
Secondaries	36,803,166	35,750,773	N/A	N/A
Venture Capital	38,161,114	10,969,567	N/A	N/A
Private Real Estate:				
Open Ended Co-mingled Insurance Company separate account	69,370,659	N/A	N/A	N/A
Multifamily properties (Olympic)	73,241,168	N/A	N/A	N/A
Value added apartments	198,949,320	N/A	N/A	N/A
Value added offices	28,843,341	N/A	N/A	N/A
Value added retail	46,856,781	N/A	N/A	N/A
Office/Industrial properties	135,663,839	N/A	N/A	N/A
Core Office	177,718,580	N/A	N/A	N/A
Industrial	50,280,296	N/A	N/A	N/A
Development properties	67,789,418	N/A	N/A	N/A
Collective Funds:				
REIT Index Collective Fund	3,808,471	N/A	Daily	4pm EST
TIPS Index Collective Fund	2,050,360	N/A	Daily	4pm EST
US Broad Equity Market Index Collective Fund	13,230,927	N/A	Daily	4pm EST
Emerging Equity Market Index Fund	2,219,734	N/A	Daily	4pm EST
US Large Cap Equity Market Index Collective Fund	34,937,097	N/A	Daily	4pm EST
US Bond Market Index Collective Fund	12,626,448	N/A	Daily	4pm EST
International Equity Index Collective Fund	7,936,363	N/A	Daily	4pm EST
US Small/Midcap Equity Index Collective Fund	20,581,688	N/A	Daily	4pm EST
BNYM DB NSL Emerging Mkt Stock Idx Fund - Non-DC	723,778,344		Daily	Trade date less 2 days by 5PM EST
Unitized Fund				
Short-Term Investment Portfolio account	26,987,304		Daily	4pm EST
Sick Leave Insurance Reserve Trust Fund				
Russell 3000 Index Co-Mingled Fund	317,743,435	N/A	Daily	Trade date less 1 day by 12PM EST
Government Credit Bond Index Co-Mingled Fund	173,005,123	N/A	Daily	Trade date less 1 day by 12PM EST
MSCI ACWI Ex-US Strategy Co-mingled Fund	75,532,244	N/A	Daily	Trade date less 2 days by 7:30 PM EST
Total investments measured at the NAV	3,346,616,476			
Total investments measured at fair value	**$ 18,961,351,300**			

Investment derivative instruments	
Foreign Exchange Contracts-Receivable	$ 87,530,853
Foreign Exchange Contracts-Payable	(87,170,298)
Futures	1,375,506
Swap Collateral	90,000
Total Investment derivative instruments	**$ 1,826,061**

The Plan uses a Fair Value Hierarchy (FVH) report within the custodial reporting system that is based on asset class and utilizing a proprietary matrix. The custodian uses several third party vendors to establish pricing. When possible, secondary vendor pricing is used to check for accuracy against the primary vendor's price. The pricing vendors provide detailed pricing and reference data outlining their inputs, pricing applications, models, and methodologies. FVH reporting is reviewed and researched if inconsistencies are observed.

Short Term Securities: These items were removed from leveling table due to the nature of securities. These are cash equivalents and highly liquid investments that are readily convertible to known amounts of cash and so near their maturity that they present insignificant risk of changes in value.

Equities: Equities at Level 1 are using quoted prices for identical securities in an active market. Level 3 equities have very limited trading volume and use the last quoted price available on the trade data.

Fixed Income: These securities are primarily in Level 1 and 2. Information such as sector groupings, benchmark curves, like security benchmarking, reported trades, broker/dealer quotes and other reference data are all used to assist with pricing of all types securities. Specifically, these categories used the following methodologies. *US Government* Electronic fixed income trade platform and broker feeds are used and reviewed for consistency and outliers. *Asset backed/ Securitized* Uses volatility-driven multi-dimensional spread tables and Option Adjusted Spread and prepayment model. *Corporate and Non US Government* Multi-dimensional relational models are used along with option adjusted spread. *Idaho Mortgages* The fair value of the commercial mortgage portfolio is calculated daily. Expected cash flows for loans are discounted with rates that are based on the U.S. Treasury yield curve. The relevant discount rates include a spread above Treasury yields that accounts for credit and liquidity risk.

Mutual Funds: Valued at the daily closing price as reported by the fund and reported as Level 1. Mutual funds held by the Plan are open-end mutual funds that are registered with the Securities and Exchange Commission. These funds are required to publish their daily NAV and to transact at that price. The mutual funds held by the Plan are deemed to be actively traded.

Private Equity Partnerships: These are reported at the Net Asset Value (NAV) and includes limited partnerships invested in the following strategies: Growth Equity, Corporate Finance/Buyout, Distressed Debt, Co/Direct Investments, Secondaries, and Venture Capital. Fair value is obtained by using a valuation provided by the General Partner, adjusting for interim cash flows and rolling forward to the measurement date of the Plan. A gatekeeper is used to monitor values, cash flows, and provide due diligence for new investments. The fair values presented may differ from actual amounts realized from these investments.

Real Estate: *Real Estate Investment Trusts (REITs)* are publicly traded securities and are included with Equities: Domestic, level 1, as those securities are traded in an active market. *Private Real Estate* These are investments owned directly or with other partnership interests and are in several general categories to include Affordable Housing, Multifamily properties, Value added apartments, Office/ Industrial Properties, and Development Properties and are listed with investments measured at the NAV. Each property in the Portfolio is externally appraised at a minimum every year. Appraisals are completed by third-party MAI certified appraisers. For properties not subject to an external appraisal during a quarter, internal valuations are completed by AEW (the Plan's private real estate consultant) (or Pinnacle and reviewed by AEW), based on updated operational performance at the subject property and any relevant sale comparable. A discounted cash flow analysis is utilized to determine asset value. Prior to finalizing the values, Altus (an independent professional advisory with expertise in appraisals) reviews every valuation quarterly and communicates its questions/findings to AEW before approval. The valuation of the Affordable Housing properties is calculated by a third party valuation and accounting specialist in the affordable housing industry once a year at December 31st. Development properties are initially valued at their accumulated cost amounts until completion, upon which an appraisal is done. *Prudential* This is an open ended co-mingled insurance company separate account comprised primarily of real estate investments either directly owned or through partnership interests and mortgage and other loans on income producing real estate. Fair value is generally determined through an appraisal process that is conducted by independent appraisers within a reasonable amount of time following acquisition and no less frequently than annual thereafter.

Collective Trust Funds: There are eight collective trust funds offered as investment options in the Defined Contribution Plan, reported at the Net Asset Value. The NAV is based on the value of the underlying investments. Collective Trusts are regulated, but not registered investment vehicles.

Co-Mingled Funds: These are the investment vehicles used for the Plan's Sick Leave Insurance Reserve Trust Fund where funds are pooled from numerous plans. They are valued at net asset value of units held at the end of the period based upon the fair value of the underlying investments.

Derivatives: *Foreign Currency Forward Contracts* use a market approach with foreign exchange rates. Futures are standardized legal contracts to buy or sell something at a predetermined price at a specified time in the future. *Futures contracts* are traded on organized exchanges and require initial margin in the form of cash or marketable securities. Each day, the net change in the futures contract value is settled in cash with the exchanges. *Swap Collaterals* are based on a certain value; priced at $1.00. It is collateral at the broker to hold for those derivatives that require collateral.

NOTE 5. NET PENSION LIABILITY (ASSET)

The components of the net pension liability (asset) of the participating employers as of June 30, 2019 and 2018 are as follows:

	PERSI Base Plan 2019	FRF 2019	JRF 2019
Total pension liability	$ 18,380,933,618	$ 272,572,198	$ 112,895,161
Plan fiduciary net position	17,239,461,492	416,325,823	93,199,434
Employers' net pension liability (asset)	$ 1,141,472,126	$ (143,753,625)	$ 19,695,727
Plan fiduciary net position as a percentage of total pension liability	93.79%	152.74%	82.55%

	PERSI Base Plan 2018	FRF 2018	JRF 2018
Total pension liability	$ 17,749,847,910	$ 281,878,396	$ 106,756,695
Plan fiduciary net position	16,274,830,459	395,048,552	88,071,493
Employers' net pension liability (asset)	$ 1,475,017,451	$ (113,170,156)	$ 18,685,202
Plan fiduciary net position as a percentage of total pension liability	91.69%	140.15%	82.50%

The net pension liability is calculated using a discount rate of 7.05%, which is the expected rate of return on investments reduced by investment expenses. The unfunded liability as reported in Management's Discussion and Analysis is calculated using 7.0%, which is the expected rate of return on investments reduced by investment and administrative costs. The net pension liability was determined by an actuarial valuation as of July 1, 2019, applied to all prior periods included in the measurement. Actuarial valuation involves estimates of the reported amounts and assumptions about the probability of occurrence of events far into the future. Amounts determined regarding the net pension liability are subject to continual revision as actual results are compared with past expectations and new estimates are made about the future. Economic assumptions for the Base Plan, FRF, and JRF were studied in an experience study performed for the period 2011 through 2017. Demographic assumptions, including mortality, for the Base Plan and FRF were studied for the period 2011 through

2017. Demographic assumptions, including mortality, for JRF were studied for the period 2013 and 2018.

Actuarial Assumptions – The following are the actuarial assumptions and the entry age normal cost method, applied to all periods included in the measurement:

Actuarial Assumptions	PERSI Base Plan	FRF	JRF
Inflation	3.00 percent	3.00 percent	3.00 percent
Salary increases ***	3.75 percent	3.75 percent	3.75 percent
Salary inflation	3.75 percent	3.75 percent	3.75 percent
Investment rate of return *	7.00 percent	7.00 percent	7.00 percent
Cost of Living (COLA) adjustments	1.00 percent	3.18 percent	**

*net of all expenses

**3.75 percent or 1.00 percent depending on whether the member was hired on or before July 1, 2012 and by whether the judge (if it was an option available) made an irrevocable election to use the PERSI COLA

***there is an additional component of assumed salary grown (on top of the 3.75%) that varies for each individual member based on years of service

Mortality rates were based on the RP – 2000 combined table for healthy males or females as appropriate with the following offsets:

- Set back 3 years for teachers
- No offset for male fire and police
- Forward one year for female fire and police
- Set back one year for all general employees and all beneficiaries

The long-term expected rate of return on pension plan investments was determined using the building block approach and a forward-looking model 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 weighing the expected future real rates of return by the target asset allocation percentage and by adding expected inflation.

Even though history provides a valuable perspective for setting the investment return assumption, the System relies primarily on an approach which builds upon the latest capital market assumptions. The assumptions and the System's formal policy for asset allocation are shown below. The formal asset allocation policy is somewhat more conservative than the current allocation of PERSI's assets. The best-estimate range for the long-term expected rate of return is determined by adding expected inflation to expected long-term real returns and reflecting expected volatility and correlation.

Asset Class	Target Allocation	Long-Term Expected Nominal Rate of Return (Arithmetic)	Long-Term Expected Real Rate of Return (Arithmetic)
Core Fixed Income	30.00%	3.05%	0.80%
Broad US Equities	55.00%	8.30%	6.05%
Developed Foreign Equities	15.00%	8.45%	6.20%
Assumed Inflation - Mean		2.25%	2.25%
Assumed Inflation - Standard Deviation		1.50%	1.50%
Portfolio Arithmetic Mean Return		6.75%	4.50%
Portfolio Standard Deviation		12.54%	12.54%
Portfolio Long-Term (Geometric) Expected Rate of Return		6.13%	3.77%
Assumed Investment Expenses		0.40%	0.40%
Portfolio Long-Term (Geometric) Expected Rate of Return, Net of Investment Expenses		5.73%	3.37%
Portfolio Long-Term Expected Real Rate of Return, Net of Investment Expenses			4.19%
Portfolio Standard Deviation			14.16%
Valuation Assumptions Chosen by PERSI Board			
Long-Term Expected Real Rate of Return, Net of Investment Expenses			4.05%
Assumed Inflation			3.00%
Long-Term Expected Geometric Rate of Return, Net of Investment Expenses			**7.05%**

Discount rate – The discount rate used to measure the total pension liability was 7.05%. The projection of cash flows used to determine the discount rate assumed that contributions from plan members will be made at the current contribution rate. Based on these assumptions, the pension plans' net position was projected to be available to make all projected future benefit payments of 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 total pension liability. The long-term expected rate of return was determined net of pension plan investment expense but without reduction for administrative expense.

Sensitivity of the net pension liability (asset) to changes in the discount rate – The following presents the net pension liability (asset) of PERSI, FRF and JRF employers calculated using the discount rate of 7.05% as well as what the employers' liability (asset) would be if it were calculated using a discount rate that is 1-percentage point lower or 1-percentage point higher than the current rate:

	1% Decrease 6.05%	**Current Discount Rate 7.05%**	**1% Increase 8.05%**
Employers' net pension liability (asset) - PERSI	$ 3,447,685,747	$ 1,141,472,126	$ (765,692,861)
Employers' net pension (asset) - FRF	(116,109,099)	(143,753,625)	(167,354,649)
Employers' net pension liability - JRF	31,172,982	19,695,727	9,892,864

NOTE 6. NET OPEB ASSET

The components of the net OPEB asset associated with the Sick Leave Insurance Reserve Fund of the participating employers as of June 30, 2019 is as follows.

State Members	2019	2018
Total OPEB liability	$ 99,213,537	$ 91,490,186
Plan fiduciary net position	225,185,651	206,260,247
Employers' net OPEB liability (asset)	$ (125,972,114)	$ (114,770,061)
Plan fiduciary net position as a percentage of total OPEB liability (asset)	227.0%	225.4%

School Members	2019	2018
Total OPEB liability	$ 248,702,273	$ 232,418,359
Plan fiduciary net position	344,482,664	315,363,310
Employers' net OPEB liability (asset)	$ (95,780,391)	$ (82,944,951)
Plan fiduciary net position as a percentage of total OPEB liability (asset)	138.5%	135.7%

The OPEB asset is calculated using a discount rate of 7.05% which is the expected rate of return on investments reduced by investment expenses. The net OPEB asset was determined by an actuarial valuation as of July 1, 2019. Actuarial valuation involves estimates of the reported amounts and assumptions about the probability of occurrence of events far into the future. Amounts determined regarding the net OPEB asset are subject to continual revision as actual results are compared with past expectations and new estimates are made about the future.

The Board's adopted asset allocation policy for the Sick Leave Insurance Retirement Fund as of June 30, 2019 was 30% Fixed income, 55% US/Global equity, and 15% International equity.

Actuarial Assumptions	**Sick Leave Insurance Reserve Fund**
Inflation	3.00 percent
Salary increases	3.75 percent
Salary inflation	3.75 percent
Investment rate of return *	7.00 percent

*net of OPEB plan investment and administrative expenses

The long-term expected rate of return on OPEB plan investments was determined using the building block approach and a forward-looking model 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 weighing the expected future real rates of return by the target asset allocation percentage and by adding expected inflation.

Even though history provides a valuable perspective for setting the investment return assumption, we rely primarily on an approach which builds upon the latest capital market assumptions. The assumptions and the System's formal policy for asset allocation are shown below. The formal asset allocation policy is somewhat more conservative than the current allocation of PERSI's assets.

The best-estimate range for the long-term expected rate of return is determined by adding expected inflation to expected long-term real returns and reflecting expected volatility and correlation. Capital market assumptions as defined in Note 5 apply here.

Portfolio Long-Term Expected Real Rate of Return, Net of Investment Expenses	4.19%
Portfolio Standard Deviation	14.16%
Valuation Assumptions Chosen by PERSI Board	
Long-Term Expected Real Rate of Return, Net of Investment Expenses	4.05%
Assumed Inflation	3.00%
Long-Term Expected Geometric Rate of Return, Net of Investment Expenses	**7.05%**

Discount rate – The discount rate used to measure the total OPEB liability was 7.05%. The projection of cash flows used to determine the discount rate assumed that contributions from plan members will be made at the current contribution rate. Based on these assumptions, the pension plans' net position was projected to be available to make all projected future benefit payments of current plan members. Therefore, the long-term expected rate of return on OPEB plan investments was applied to all periods of projected benefit payments to determine the total OPEB liability. The long-term expected rate of return was determined net of OPEB plan investment expense but without reduction for OPEB plan administrative expense.

Sensitivity of the net OPEB liability (asset) to changes in the discount rate – The following presents the net OPEB liability (asset) calculated using the discount rate of 7.05% as well as what the employers' liability (asset) would be if it were calculated using a discount rate that is 1-percentage point lower or 1-percentage point higher than the current rate:

State & School Members	**1% Decrease 6.05%**	**Discount Rate 7.05%**	**1% Increase 8.05%**
State Members-Net OPEB Liability/ (Asset)	$ (121,748,083)	$ (125,972,114)	$ (129,922,305)
School Members-Net OPEB Liability/ (Asset)	$ (84,339,783)	$ (95,780,391)	$ (106,661,310)

NOTE 7. ASSETS USED IN PLAN OPERATIONS

Assets used in plan operations at June 30, 2019 and 2018, consist of the following:

	2019	2018
Buildings and improvements	$ 6,778,474	$ 6,679,911
Less accumulated depreciation	(5,012,575)	(4,664,678)
Total buildings and improvements	1,765,899	2,015,233
Equipment	749,678	729,690
Less accumulated depreciation	(604,760)	(556,065)
Total equipment	144,918	173,625
Computer software development - Arrivos	11,968,297	11,968,297
Less accumulated amortization	(3,861,561)	(2,664,937)
Total computer software development - Arrivos	8,106,736	9,303,360
Equipment - Arrivos	254,114	254,114
Less accumulated depreciation	(254,114)	(253,146)
Total equipment	—	968
Total assets used in plan operations	$ 10,017,553	$ 11,493,186

Depreciation expense is a component of administrative expense. For the year ended June 30, 2019, depreciation expense on the buildings and improvements was $347,897. The equipment had a total depreciation expense of $49,663 for 2019.

NOTE 8. OTHER POST EMPLOYMENT BENEFITS

The State funds, or partially funds, postemployment benefits relating to health, disability, and life insurance. Employees of PERSI participate in the State of Idaho's postemployment benefit programs. The State administers the retiree healthcare plan which allows eligible retirees to purchase healthcare insurance coverage for themselves and eligible dependents. The State provides long-term disability income benefits for active employees who become disabled, generally up to a maximum age of 70. The State provides basic life and dependent life coverage for disabled employees, generally up to a maximum age of 70. For up to 30 months following the date of disability, an employee is entitled to continue healthcare coverage. Benefits costs are paid by PERSI through a rate charged by the State. The primary government (State of Idaho) is reporting the liability for the retiree healthcare and long-term disability benefits. Specific details of these other postemployment benefits are available in the Comprehensive Annual Financial Report of the State of Idaho which may be accessed at www.sco.idaho.gov.

NOTE 9. COMMITMENTS

The System had unfunded private equity commitments as of June 30, 2019 of $676,119,928 and €88,887,873.

PUBLIC EMPLOYEE RETIREMENT SYSTEM OF IDAHO

REQUIRED SUPPLEMENTARY INFORMATION
JUNE 30, 2019

PUBLIC EMPLOYEE RETIREMENT FUND, FIREFIGHTERS' RETIREMENT FUND AND PERSI BASE PLAN

SCHEDULE OF CHANGES IN NET PENSION LIABILITY (ASSET)
FISCAL YEARS ENDING JUNE 30

PERSI Base Plan

	2019	2018	2017	2016	2015	2014
Total pension liability changes for the year						
Service cost	$ 461,646,272	$ 437,257,407	$ 406,910,895	$ 397,283,921	$ 384,419,252	$ 376,800,000
Interest	1,250,119,942	1,202,947,872	1,129,286,928	1,088,670,726	1,045,505,462	992,942,358
Effect of plan changes	—	84,200,000	12,200,000	67,800,000	150,400,000	(1,300,000)
Effect of economic/demographic gains or losses	105,480,176	(38,113,799)	273,580,592	(104,512,779)	(105,531,304)	(111,248,209)
Effect of assumptions changes or inputs	—	104,724,103	—	13,100,000	—	74,600,000
Benefit payments, including refunds of member contributions	975,200,330	(909,678,264)	(864,785,159)	(824,524,533)	(770,593,410)	(729,094,149)
Net change in total pension liabilities	631,085,708	881,337,319	957,193,256	637,817,335	704,200,000	602,700,000
Total pension liability - beginning	17,749,847,910	16,868,510,591	15,911,317,335	15,273,500,000	14,569,300,000	13,966,600,000
Total pension liability - ending	18,380,933,618	17,749,847,910	16,868,510,591	15,911,317,335	15,273,500,000	14,567,300,000
Plan net position						
Contributions - employer	390,080,902	369,139,113	356,367,389	335,610,100	321,240,628	310,986,283
Contributions - employee	257,060,511	243,950,654	237,032,668	220,866,936	211,468,780	203,890,954
Net investment income	1,301,966,592	1,283,658,926	1,692,713,855	202,329,942	367,820,877	2,000,619,926
Other	—	—	—	25,283	16,767	—
Benefit payments, including refunds of member contributions	(975,200,330)	(909,678,264)	(864,785,159)	(824,524,533)	(770,593,410)	(729,094,149)
Administrative expense	(9,276,642)	(8,922,335)	(8,810,136)	(6,806,655)	(6,434,462)	(6,787,811)
Net change in plan net position	964,631,033	978,148,094	1,412,518,617	(72,498,927)	123,519,180	1,779,615,203
Plan net position - beginning	16,274,830,459	15,296,682,365	13,884,163,748	13,956,662,675	13,833,143,496	12,053,528,293
Plan net position - ending	17,239,461,492	16,274,830,459	15,296,682,365	13,884,163,748	13,956,662,675	13,833,143,496
Plan net pension liability - ending	$ 1,141,472,126	$ 1,475,017,451	$ 1,571,828,226	$ 2,027,153,587	$ 1,316,837,325	$ 736,156,504

Schedule is intended to show information for 10 years. Additional years will be displayed as they become available.

PUBLIC EMPLOYEE RETIREMENT FUND, FIREFIGHTERS' RETIREMENT FUND AND FIREFIGHTERS' RETIREMENT FUND

SCHEDULE OF CHANGES IN NET PENSION LIABILITY (ASSET) FISCAL YEARS ENDING JUNE 30

Firefighters' Retirement Fund

	2019	2018	2017	2016	2015	2014
Total pension liability changes for the year						
Service cost	$ —	$ —	$ —	$ —	$ —	$ —
Interest	19,216,525	19,841,800	20,041,184	20,496,009	21,479,861	21,888,712
Effect of plan changes	—	(615,405)	(68,748)	(557,863)	(2,100,000)	—
Effect of economic/demographic gains or losses	(9,593,204)	(9,182,411)	(3,116,488)	(7,446,350)	(15,100,408)	(5,629,912)
Effect of assumptions changes or inputs	—	1,386,562	—	—	—	—
Benefit payments, including refunds of member contributions	(18,929,519)	(18,934,403)	(19,294,441)	(19,476,228)	(19,874,275)	(19,958,800)
Net change in total pension liabilities	(9,306,198)	(7,503,857)	(2,438,493)	(6,984,432)	(15,594,822)	(3,700,000)
Total pension liability - beginning	281,878,396	289,382,253	291,820,746	298,805,178	314,400,000	318,100,000
Total pension liability - ending	272,572,198	281,878,396	289,382,253	291,820,746	298,805,178	314,400,000
Plan net position						
Contributions - employer	3,926,915	7,706,226	7,452,987	7,198,597	11,305,473	14,200,323
Contributions - employee	4,540	4,368	4,385	6,329	6,168	9,095
Net investment income	36,330,366	31,124,311	41,488,825	5,083,454	9,357,909	50,966,862
Benefit payments, including refunds of member contributions	(18,929,519)	(18,934,403)	(19,294,441)	(19,476,228)	(19,874,275)	(19,958,800)
Administrative expense	(55,031)	(29,833)	(43,022)	(58,873)	(153,719)	—
Net change in plan net position	21,277,271	19,870,669	29,608,734	(7,246,721)	641,556	45,217,480
Plan net position - beginning	395,048,552	375,177,883	345,569,149	352,815,870	352,174,314	306,956,837
Plan net position - ending	416,325,823	395,048,552	375,177,883	345,569,149	352,815,870	352,174,314
Plan net pension liability (asset) - ending	$(143,753,625)	$(113,170,156)	$ (85,795,630)	$ (53,748,403)	$ (54,010,692)	$ (37,774,314)

Schedule is intended to show information for 10 years. Additional years will be displayed as they become available.

PUBLIC EMPLOYEE RETIREMENT FUND, FIREFIGHTERS' RETIREMENT FUND AND JUDGES' RETIREMENT FUND

SCHEDULES OF CHANGES IN NET PENSION LIABILITY (ASSET)
FISCAL YEARS ENDING JUNE 30

Judges' Retirement Fund

	2019	2018	2017	2016	2015
Total pension liability changes for the year					
Transfer in from JRF	$ —	$ —	$ —	$ —	$ 92,302,982
Service cost	3,177,846	2,962,939	3,179,411	3,110,818	3,251,679
Interest	7,502,002	7,329,407	7,055,599	6,888,876	6,589,779
Effect of economic/demographic gains or losses	2,627,021	(400,640)	265,945	(1,647,589)	284,788
Benefit payments, including refunds of member contributions	(7,168,403)	(6,691,558)	(6,173,415)	(5,974,937)	(5,577,389)
Net change in total pension liabilities	6,138,466	3,200,148	4,327,540	2,377,168	96,851,839
Total pension liability - beginning	106,756,695	103,556,547	99,229,007	96,851,839	—
Total pension liability - ending	112,895,161	106,756,695	103,556,547	99,229,007	96,851,839
Plan net position					
Contributions - employer	4,688,762	4,278,996	3,946,599	3,370,587	3,595,417
Contributions - employee	778,864	714,804	630,392	623,754	629,077
Net investment income	6,936,823	6,938,171	9,157,849	1,092,130	2,049,895
Transfer in	—	—	—	—	75,864,300
Other	—	—	—	2,571	2,063
Benefit payments, including refunds of member contributions	(7,168,403)	(6,691,558)	(6,173,415)	(5,974,937)	(5,577,389)
Administrative expense	(121,305)	(104,949)	(74,035)	(133,096)	(95,733)
Net change in plan net position	5,114,741	5,135,464	7,487,390	(1,018,991)	76,467,630
Plan net position - beginning	88,071,493	82,936,029	75,448,639	76,467,630	—
Plan net position - ending	93,199,434	88,071,493	82,936,029	75,448,639	76,467,630
Plan net pension liability - ending	$ 19,695,727	$ 18,685,202	$ 20,620,518	$ 23,780,368	$ 20,384,209

Schedule is intended to show information for 10 years. Additional years will be displayed as they become available.

PUBLIC EMPLOYEE RETIREMENT FUND, FIREFIGHTERS' RETIREMENT FUND AND JUDGES' RETIREMENT FUND

SCHEDULE OF NET IN PENSION LIABILITY (ASSET) FISCAL YEARS ENDING JUNE 30

PERSI Base Plan	2019	2018	2017	2016	2015	2014
Total Pension Liability	$18,380,933,618	$17,749,847,910	$16,868,510,591	$15,911,317,335	$15,273,500,000	$14,569,300,000
Plan net position	17,239,461,492	16,274,830,459	15,296,682,365	13,884,163,748	13,956,662,675	13,833,143,496
Net pension liability (asset)	$ 1,141,472,126	$ 1,475,017,451	$ 1,571,828,226	$ 2,027,153,587	$ 1,316,837,325	$ 736,156,504
Plan net position as a percentage of total pension liability	93.79%	91.69%	90.68%	87.26%	91.38%	94.95%
Covered payroll	$ 3,382,051,785	$ 3,200,396,203	$ 3,089,555,264	$ 2,895,430,105	$ 2,791,109,393	$ 2,702,945,314
Net pension liability as a percentage of covered payroll	33.75%	46.09%	50.88%	70.01%	47.18%	27.24%

Firefighters' Retirement Fund	2019	2018	2017	2016	2015	2014
Total Pension Liability	$ 272,572,198	$ 281,878,396	$ 289,382,253	$ 291,820,746	$ 298,805,178	$ 314,400,000
Plan net position	416,325,823	395,048,552	375,177,883	345,569,149	352,815,870	352,174,314
Net pension liability (asset)	$ (143,753,625)	$ (113,170,156)	$ (85,795,630)	$ (53,748,403)	$ (54,010,692)	$ (37,774,314)
Plan net position as a percentage of total pension liability	152.74%	140.15%	129.65%	118.42%	118.08%	112.01%
Covered payroll	$ 78,284,032	$ 74,848,287	$ 70,568,501	$ 68,017,833	$ 63,780,545	$ 63,017,405
Net pension liability (asset) as a percentage of covered payroll	-183.63%	-151.20%	-121.58%	-79.02%	-84.68%	-59.94%

Judges' Retirement Fund	2019	2018	2017	2016	2015	2014
Total Pension Liability	$ 112,895,161	$ 106,756,695	$ 103,556,547	$ 99,229,007	$ 96,851,839	$ —
Plan net position	93,199,434	88,071,493	82,936,029	75,448,639	76,467,630	—
Net pension liability (asset)	$ 19,695,727	$ 18,685,202	$ 20,620,518	$ 23,780,368	$ 20,384,209	$ —
Plan net position as a percentage of total pension liability	82.55%	82.50%	80.09%	76.03%	78.95%	0.00%
Covered payroll	$ 6,731,755	$ 6,178,081	$ 6,162,190	$ 6,097,302	$ 6,149,339	$ —
Net pension liability as a percentage covered of payroll	292.58%	302.44%	334.63%	390.01%	331.49%	0.00%

Schedule is intended to show information for 10 years. Additional years will be displayed as they become available.

See Notes to Required Supplementary Information

PUBLIC EMPLOYEE RETIREMENT FUND, FIREFIGHTERS RETIREMENT FUND AND JUDGES RETIREMENT FUND

SCHEDULE OF CONTRIBUTIONS
FISCAL YEARS 2010-2019

PERSI BASE PLAN

Fiscal Year	Actuarially Determined Contribution	Actual Employer Contribution	Contribution Deficiency (Excess)	Covered Payroll	Contribution as a % of Covered Payroll
2010	$ 260,316,830	$ 284,932,419	$ (24,615,589)	$2,684,360,943	10.61%
2011	326,554,992	279,174,844	47,380,148	2,627,850,654	10.62%
2012	327,832,536	277,143,887	50,688,649	2,619,568,411	10.58%
2013	295,502,818	285,440,860	10,061,958	2,697,575,738	10.58%
2014	325,041,599	310,986,283	14,055,316	2,702,945,352	11.51%
2015	327,101,958	335,610,100	(8,508,142)	2,791,109,393	12.02%
2016	297,262,331	334,034,293	(36,771,962)	2,895,430,105	11.54%
2017	337,212,145	356,367,389	(19,155,244)	3,089,555,264	11.53%
2018	388,341,490	369,139,113	19,202,377	3,200,396,203	11.53%
2019	382,640,388	390,080,902	(7,440,514)	3,382,051,785	11.53%

Firefighters' Retirement Fund

Fiscal Year	Actuarially Determined Contribution	Actual Employer Contribution	Contribution Deficiency (Excess)	Covered Payroll	Contribution as a % of Covered Payroll
2010	$ 7,959,283	$ 13,542,331	$ (5,583,048)	$ 58,360,452	23.20%
2011	7,959,238	13,313,715	(5,354,477)	59,337,447	22.44%
2012	1,666,127	13,486,309	(11,820,182)	59,883,692	22.52%
2013	1,666,127	14,227,314	(12,561,187)	62,969,139	22.59%
2014	1,119,619	14,200,323	(13,080,704)	63,017,405	22.53%
2015		11,305,473	(11,305,473)	63,780,545	17.73%
2016		7,198,597	(7,198,597)	68,017,833	10.58%
2017		7,452,987	(7,452,987)	70,568,501	10.56%
2018		7,706,226	(7,706,226)	74,848,287	10.30%
2019		8,247,827	(8,247,827)	78,284,032	10.54%

See Notes to Required Supplementary Information

PUBLIC EMPLOYEE RETIREMENT FUND, FIREFIGHTERS RETIREMENT FUND AND JUDGES RETIREMENT FUND

SCHEDULE OF CONTRIBUTIONS
FISCAL YEARS 2010-2019

	Judges' Retirement Fund				
Fiscal Year	Actuarially Determined Contribution	Actual Employer Contribution	Contribution Deficiency (Excess)	Covered Payroll	Contribution as a % of Covered Payroll
2015	$ 3,492,825	$ 3,595,417	$ (102,592)	$ 6,149,339	58.47%
2016	3,463,268	3,370,587	92,681	6,097,302	55.28%
2017	3,604,265	3,946,599	(342,334)	6,162,190	64.05%
2018	3,273,147	4,278,996	(1,005,849)	6,178,081	69.26%
2019	3,307,311	4,688,762	(1,381,451)	6,731,755	69.65%

See Notes to Required Supplementary Information

PUBLIC EMPLOYEE RETIREMENT FUND, FIREFIGHTERS' RETIREMENT FUND AND JUDGES' RETIREMENT FUND

SCHEDULE OF INVESTMENT RETURNS
YEAR ENDED JUNE 30, 2019

Investment Returns

	2019	2018	2017	2016	2015	2014
Annual money weighted rate of return, net of investment expenses	8.0%	8.5%	12.4%	1.5%	2.7%	16.9%

Schedule is intended to show information for 10 years. Additional years will be displayed as they become available.

See Notes to Required Supplementary Information

PUBLIC EMPLOYEE RETIREMENT SICK LEAVE INSURANCE RESERVE FUND

SCHEDULE OF CHANGES IN NET OPEB LIABILITY (ASSET)
YEAR ENDED JUNE 30, 2019

Sick Leave Insurance Reserve Fund - State	2019	2018	2017
Total OPEB liability changes for the year			
Service cost	$ 4,326,780	$ 4,170,390	$ 4,043,479
Interest	6,592,557	6,207,620	6,223,171
Effect of plan changes	—	(5,771,416)	—
Effect of economic/demographic gains or losses	1,415,058	—	—
Effect of assumptions changes or inputs	—	186,986	—
Benefit payments, including refunds of member contributions	(4,611,044)	(4,671,380)	(5,010,974)
Net change in total OPEB liabilities	$ 7,723,351	$ 122,200	$ 5,255,676
Net OPEB liability - beginning	$ 91,490,186	$ 91,367,986	$ 86,112,310
Total OPEB liability - ending	$ 99,213,537	$ 91,490,186	$ 91,367,986
Plan net position			
Contributions - employer	$ 7,497,670	$ 7,161,239	$ 7,136,693
Net investment income	16,085,961	17,316,960	12,294,424
Other	—	—	—
Benefit payments, including refunds of member contributions	(4,611,044)	(4,671,380)	(5,010,974)
Administrative expense	(47,183)	(44,182)	(41,148)
Net change in plan net position	$ 18,925,404	$ 19,762,637	$ 14,378,995
Plan net position - beginning	$ 206,260,247	$ 186,497,610	$ 172,118,615
Plan net position - ending	$ 225,185,651	$ 206,260,247	$ 186,497,610

Schedule is intended to show information for 10 years. Additional years will be displayed as they become available.

See Notes to Required Supplementary Information

Sick Leave Insurance Reserve Fund - School	2019	2018	2017
Total OPEB liability changes for the year			
Service cost	$ 9,108,050	$ 8,778,843	$ 7,692,471
Interest	16,607,049	15,779,480	14,272,064
Effect of plan changes	—	—	—
Effect of economic/demographic gains or losses	2,499,644	10,851,176	—
Effect of assumptions changes or inputs	—	486,017	—
Benefit payments, including refunds of member contributions	(11,930,829)	(12,186,675)	(13,155,040)
Net change in total OPEB liabilities	$ 16,283,914	$ 23,708,841	$ 8,809,495
Net OPEB liability - beginning	$ 232,418,359	$ 208,709,518	$ 200
Total OPEB liability - ending	$ 248,702,273	$ 232,418,359	$ 8,809,695
Plan net position			
Contributions - employer	$ 16,432,554	$ 15,599,238	$ 14,763,323
Net investment income	24,690,082	26,546,106	18,873,664
Other	—	—	—
Benefit payments, including refunds of member contributions	(11,930,829)	(12,186,675)	(13,155,040)
Administrative expense	(72,453)	(67,805)	(63,192)
Net change in plan net position	$ 29,119,354	$ 29,890,864	$ 20,418,755
Plan net position - beginning	$ 315,363,310	$ 285,472,446	$ 265,053,691
Plan net position - ending	$ 344,482,664	$ 315,363,310	$ 285,472,446

Schedule is intended to show information for 10 years. Additional years will be displayed as they become available.

See Notes to Required Supplementary Information

PUBLIC EMPLOYEE RETIREMENT SICK LEAVE INSURANCE RESERVE FUND

SCHEDULE OF NET OPEB LIABILITY (ASSET)
YEAR ENDED JUNE 30, 2019

State Members

	2019	2018	2017
Total OPEB liability	$ 99,213,537	$ 91,490,186	$ 91,367,986
Plan fiduciary net position	225,185,651	206,260,247	186,497,610
Employers' net OPEB liability (asset)	$ (125,972,114)	$ (114,770,061)	$ (95,129,624)
Plan fiduciary net position as a percentage of total OPEB liability (asset)	227.0%	225.4%	204.1%

School Members

	2019	2018	2017
Total OPEB liability	$ 248,702,273	$ 232,418,359	$ 208,709,518
Plan fiduciary net position	344,482,664	315,363,310	285,472,446
Employers' net OPEB liability (asset)	$ (95,780,391)	$ (82,944,951)	$ (76,762,928)
Plan fiduciary net position as a percentage of total OPEB liability (asset)	138.5%	135.7%	136.8%

Schedule is intended to show information for 10 years. Additional years will be displayed as they become available.

See Notes to Required Supplementary Information

PUBLIC EMPLOYEE RETIREMENT SICK LEAVE INSURANCE RESERVE FUND

SCHEDULE OF CONTRIBUTIONS - OPEB
YEAR ENDED JUNE 30, 2019

Sick Leave Insurance Reserve Fund - State

Fiscal Year	Actuarially Determined Contribution	Actual Employer Contribution	Contribution Deficiency (Excess)	Covered Payroll	Contribution as a % of Covered Payroll
2017	$ 4,282,016	$ 7,136,693	$ (2,854,677)	$ 1,097,952,769	0.65%
2018	4,186,570	7,161,239	(2,974,669)	1,101,729,077	0.65%
2019	4,383,253	7,497,670	(3,114,417)	1,153,487,692	0.65%

Sick Leave Insurance Reserve Fund - School

Fiscal Year	Actuarially Determined Contribution	Actual Employer Contribution	Contribution Deficiency (Excess)	Covered Payroll	Contribution as a % of Covered Payroll
2017	$ 8,064,000	$ 14,763,323	$ (6,699,323)	$ 1,240,615,378	1.19%
2018	8,913,850	15,599,238	(6,685,388)	1,310,860,336	1.19%
2019	9,390,031	16,432,554	(7,042,523)	1,380,886,891	1.19%

Schedule is intended to show information for 10 years. Additional years will be displayed as they become available.

See Notes to Required Supplementary Information

PUBLIC EMPLOYEE RETIREMENT SICK LEAVE INSURANCE RESERVE FUND

SCHEDULE OF INVESTMENT RETURNS - SICK LEAVE INSURANCE RETIREMENT FUND
YEAR ENDED JUNE 30, 2019

	2019	2018	2017
Annual money weighted rate of return, net of investment expenses	7.8%	9.4%	13.3%

Schedule is intended to show information for 10 years. Additional years will be displayed as they become available.

See Notes to Required Supplementary Information

PUBLIC EMPLOYEE RETIREMENT FUND, FIREFIGHTERS' RETIREMENT FUND, JUDGES' RETIREMENT FUND, AND SICK LEAVE INSURANCE RESERVE FUND

NOTES TO REQUIRED SUPPLEMENTARY INFORMATION
YEAR ENDED JUNE 30, 2019

Methods and assumptions used in calculations of actuarially determined contributions. The actuarially determined contribution rates in the employers' contributions are calculated as of June 30, 2019 for PERSI, as of June 30, 2019 for FRF and as of June 30, 2019 for JRF. The following actuarial methods and assumptions were used to determine contribution rates reported in that schedule.

	PERSI Base Plan	**FRF**	**JRF**
Valuation date	June 30, 2019	June 30, 2019	June 30, 2019
Actuarial cost method	Entry age normal	Entry age normal	Entry age normal
Amortization method	Level percentage of projected payroll open	Level dollar amount - open	Level percentage of projected payroll open
Remaining amortization period	10.6 years	N/A	11.4 years
Asset valuation method	Market Value	3-yr smoothing	Market Value
Actuarial assumptions:			
Investment Rate of Return *	7.00%	7.00%	7.00%
Projected salary increases	3.75%	3.75%	3.75%
Includes salary inflation	3.75%	3.75%	3.75%
Postretirement benefit increase	1.00%	3.75%	1.00% or 3.75%
Implied price inflation rate	3.00%	3.00%	3.00%
Discount Rate - Actuarial Accrued Liability	7.05%	7.05%	7.05%

*net of all expenses

The valuation date for the Sick Leave Insurance Reserve Fund is as of June 30, 2019.

Actuarial Assumptions	***Sick Leave Insurance Reserve Fund***
Inflation	3.00 percent
Salary increases	3.75 percent
Salary inflation	3.75 percent
Investment rate of return *	7.00 percent

*net of pension plan investment and administrative expenses

PUBLIC EMPLOYEE RETIREMENT SYSTEM OF IDAHO

ADDITIONAL SUPPLEMENTARY SCHEDULES
JUNE 30, 2019

PUBLIC EMPLOYEE RETIREMENT SYSTEM OF IDAHO

SCHEDULE OF INVESTMENT EXPENSES YEAR ENDED JUNE 30, 2019

INVESTMENT AND RELATED SERVICES:	
Adelante Capital	$ 2,460,564
AEW Capital Management	8,798,597
BCA Publication, Inc.	8,250
Bernstein, Sanford C.	4,821,284
Bloomberg, LP	67,801
BLS Capital	3,475,847
Mellon Investments Corporation	1,667,582
BNY Mellon Trust	2,985,207
Brandes Investment Partners, LP	1,697,986
Capital Economics (N.A.) Ltd	11,350
Clearwater Advisors, LLC	763,401
Consensus Economics	694
D.B. Fitzpatrick & Co., Inc.	3,060,503
Donald Smith & Company	2,540,997
Fiera Capital	2,706,279
Fund Fire (Money Media, Inc.)	1,930
Genesis Asset Managers, Ltd.	2,493,995
Hamilton Lane	40,000
IR+M (Income Research & Management)	413,541
Longview Partners	2,791,142
Mondrian Investment Partners	1,541,351
Mountain Pacific Investment Advisors, Inc.	1,849,391
Peregrine Capital Management	2,459,740
Prudential Investments	373,605
State Street Global Advisors	909,758
Walter Scott & Partners LTD	2,701,325
Wells Fargo Bank	81,090
Western Asset	548,329
Yardeni Research	7,500
TOTAL INVESTMENT AND RELATED SERVICES	51,279,039

(continued)

CONSULTING AND OTHER SERVICES:	
Alban Row	89,518
Berkadia Commercial Mortgage (formally Capmark)	35,000
Callan Associates	457,792
Chartwell Consulting	39,273
CT Corporation	719
Deloitte & Touche	23,535
Eide Bailly	94,330
Empower Retirement Consulting	164,110
Foster, Pepper, Shefelman PLLC	319,052
Garret A. Walls	12,163
Hamilton Lane Advisors, Inc.	185,000
Ice Miller LLP	2,206
John Jenks	80,664
Thomas Lee	5,551
Milliman, Inc.	397,467
Robert Storer	3,015
TOTAL CONSULTING AND OTHER SERVICES	1,909,395
TOTAL	$ 53,188,434

PUBLIC EMPLOYEE RETIREMENT SYSTEM OF IDAHO

SCHEDULE OF ADMINISTRATIVE EXPENSES YEAR ENDED JUNE 30, 2019

PORTFOLIO-RELATED EXPENSES:	
Personnel expenses	$ 599,699
Operating expenses	277,951
	877,650
OTHER ADMINISTRATIVE EXPENSES:	
Personnel expenses	3,878,122
Operating expenses	2,981,719
Building depreciation expense	347,897
Equipment depreciation expense	49,663
Software amortization expense	1,196,623
	8,454,024
SICK LEAVE FUND EXPENSES — Administrative expenses	119,636
JUDGES' FUND EXPENSES -- Administrative expenses	121,305
DEFINED CONTRIBUTION FUND - Administrative expenses	1,914,854
TOTAL	$ 11,487,469

CPAs & BUSINESS ADVISORS

INDEPENDENT AUDITOR'S REPORT ON INTERNAL CONTROL OVER FINANCIAL REPORTING AND ON COMPLIANCE AND OTHER MATTERS BASED ON AN AUDIT OF FINANCIAL STATEMENTS PERFORMED IN ACCORDANCE WITH *GOVERNMENT AUDITING STANDARDS*

To the Retirement Board
Public Employee Retirement System of Idaho
Boise, Idaho

We have audited, 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, the financial statements of the pension and other trust funds of the Public Employee Retirement System of Idaho (the System or PERSI), as of and for the year ended June 30, 2019, and the related notes to the financial statements, which collectively comprise the Public Employee Retirement System of Idaho's basic financial statements, and have issued our report thereon dated October 16, 2019.

Internal Control over Financial Reporting

In planning and performing our audit of the financial statements, we considered the System's internal control over financial reporting (internal control) to determine the audit procedures that are appropriate in the circumstances for the purpose of expressing our opinions on the financial statements, but not for the purpose of expressing an opinion on the effectiveness of the PERSI's internal control. Accordingly, we do not express an opinion on the effectiveness of the System's internal control.

A *deficiency in internal control* exists when the design or operation of a control does not allow management or employees, in the normal course of performing their assigned functions, to prevent, or detect and correct, misstatements on a timely basis. A *material weakness* is a deficiency, or a combination of deficiencies, in internal control, such that there is a reasonable possibility that a material misstatement of the entity's financial statements will not be prevented, or detected and corrected on a timely basis. A *significant deficiency* is a deficiency, or a combination of deficiencies, in internal control that is less severe than a material weakness, yet important enough to merit attention by those charged with governance.

Our consideration of internal control over financial reporting was for the limited purpose described in the first paragraph of this section and was not designed to identify all deficiencies in internal control over financial reporting that might be material weaknesses or, significant deficiencies. Given these limitations, during our audit we did not identify any deficiencies in internal control that we consider to be material weaknesses. However, material weaknesses may exist that have not been identified.

Compliance and Other Matters

As part of obtaining reasonable assurance about whether the System's financial statements are free from material misstatement, we performed tests of its compliance with certain provisions of laws, regulations, contracts, and grant agreements, noncompliance with which could have a direct and material effect on the determination of financial statement amounts. However, providing an opinion on compliance with those provisions was not an objective of our audit, and accordingly, we do not express such an opinion. The results of our tests disclosed no instances of noncompliance or other matters that are required to be reported under *Government Auditing Standards*.

Purpose of this Report

The purpose of this report is solely to describe the scope of our testing of internal control and compliance and the results of that testing, and not to provide an opinion on the effectiveness of the entity's internal control or on compliance. This report is an integral part of an audit performed in accordance with *Government Auditing Standards* in considering the entity's internal control and compliance. Accordingly, this communication is not suitable for any other purpose.

Eide Bailly LLP

Boise, Idaho
October 16, 2019

INVESTMENT
SECTION

OVERVIEW OF FISCAL YEAR 2019

NOTE: The investment section of the CAFR was compiled using information from the System's custodial bank, Bank of New York Mellon, our consultant, Callan Associates, and internally generated data. Unless otherwise noted, investment returns are based on investment fair market values and made on a time weighted return methodology, gross of investment fees and consistent with Global Investment Performance Standards.

Although PERSI has had higher return years, FY 2019 was one of the most satisfying. With a gross return of +8.4% and a net return of +8.1%, PERSI handily exceeded the actuarial net return assumption of +7.0%, where the median public fund gross return of +6.2% would have been materially below that goal. Hitting all-time highs as the fiscal year drew to a close, PERSI ended the fiscal year at $18.519 billion. The sick leave fund returned +7.8% for the fiscal year at $566 million.

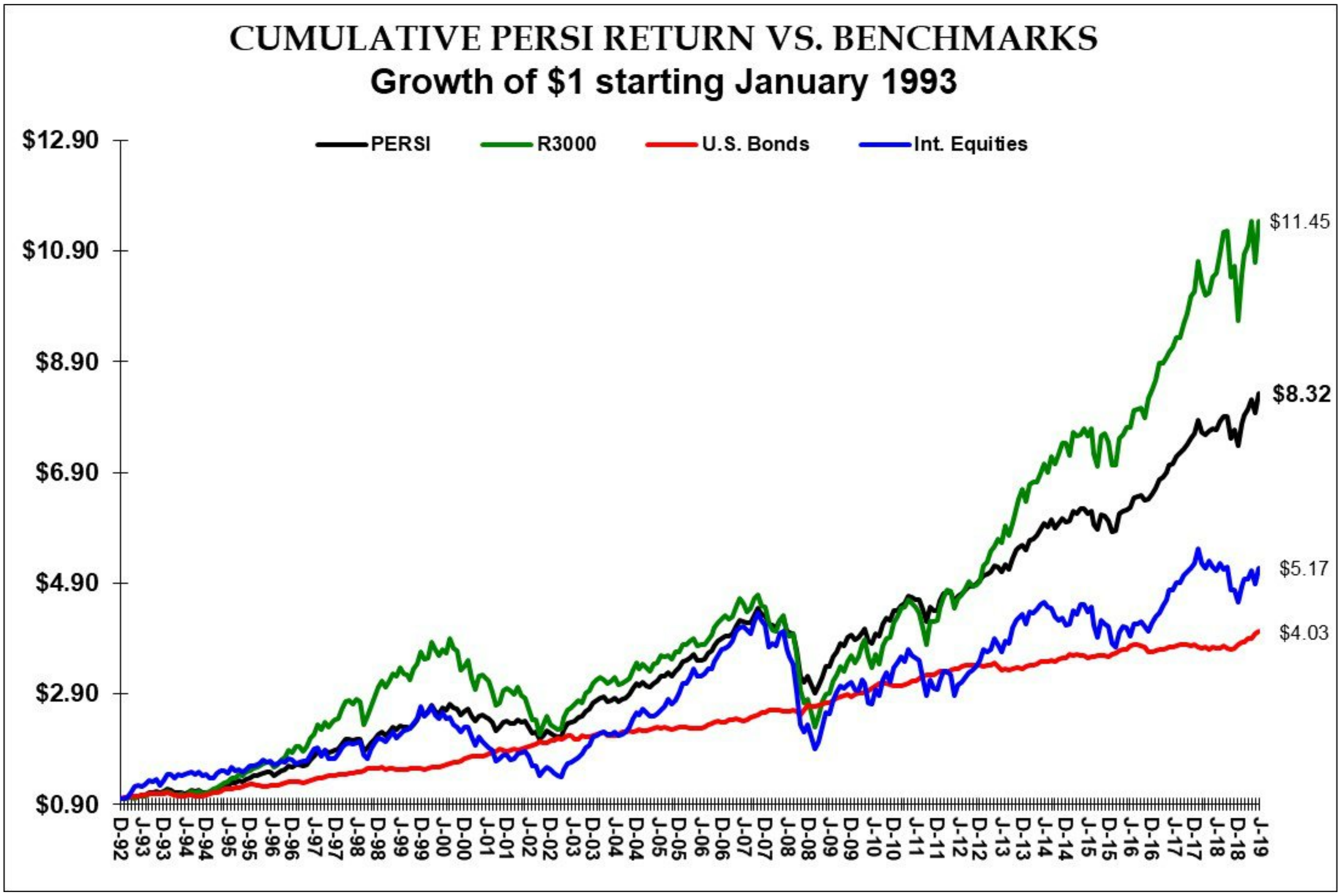
This was quite a rebound from the -6.3% for the then fiscal year to date the fund was experiencing at Christmas of 2018. With the Fed signaling at least the end of rate hikes with the potential for lower rates in the near future, continued slow (and stumbling) growth in the US, a potential ease in the newly escalated trade tensions, a possible bottoming of a slow-down in China and Europe, and worldwide central bank support with inflation well contained, the markets generally continued their advance from late winter into the summer.

The fiscal year outperformance both to benchmark and to peers was due to long-standing PERSI policies and active manager selection. Avoiding "new wave" alternative investments like hedge funds and primarily relying on liquid, public markets - particularly the main US equity markets like the S&P 500 - PERSI avoided many of the underperforming strategies that have become popular with many institutional investors in recent years. Outstanding active manager performance was also a large driver of excess returns for the year.

It was a good, although not great, fiscal year for global and international equities. US equities (Russell 3000) returned +9.0%, world equities (MSCI World) returned +6.3% (with PERSI's global managers handily outperforming at +8.7%), international equities (MSCI EAFE returned only +1.1% and Emerging Markets returned +1.2%). Fixed income was the surprise, with investment grade bonds (Bloomberg Barclay's Aggregate) returning +7.9%. Private equity (+14.1%) and Private Real Estate (+10.9%) had very good years and substantially outperformed their benchmarks. After a couple of poor years, REITs rebounded to return +9.8% (with Adelante once again outperforming with a return of +14.3%).

The individual star of the year, however, was once again Peregrine, with the best absolute return of +19.5%. Fiera had the best relative return by outpacing their World benchmark by +11.3% with a return of +17.6%. Bernstein Global had the poorest relative returns to benchmark with a return of -6.1% being -12.4% behind their benchmark. The fund ended the fiscal year ahead of the 55% US equity, 15% EAFE, and 30% US Bond reference benchmark by +0.5%, due primarily to outperformance of real estate and private equity vs US public equity, and collective substantial outperformance by active managers.

Since 1993, $1 invested in the PERSI fund has returned over eight-fold, surviving the worst market since the great depression in 2008, various crises around the world, and the "tech wreck" at the start of the new millennium:



PERSI's institutional peer returns for the fiscal year were excellent: handily above the median public fund. Long term returns (15 to 20 years) also continue to be significantly above average:

RANKINGS IN CALLAN PUBLIC FUND UNIVERSE
June 30, 2019
Percentile Rankings over Period
(1 is highest, 100 is lowest)

	1Yr	3Yrs	5Yrs	10Y	15Y	20Y	25Y
PERSI Return (%)	**8.4**	**9.9**	**6.9**	**9.4**	**7.5**	**6.6**	**8.4**
Callan Median Public	6.2	8.9	6.0	9.2	6.7	6.1	8.0
PERSI Rank (Percentile)							
Callan Public Funds	**5**	**15**	**16**	**38**	**14**	**19**	**26**

PERSI's simple, transparent, focused, and patient approach following conventional investment principles once again produced strong results, not only in absolute returns, but also in comparison to all other professionally managed institutional investors. It is a path we intend to travel for the foreseeable future.

ROBERT M. MAYNARD
Chief Investment Officer

Investment Summary for the Year Ended June 30, 2019

Types of Investment	Fair Value		Percent of Total Fair Value	
Short-term Investments		$ 319,544,221		1.7%
Fixed Income				
Domestic	$ 4,003,318,573		20.7%	
International	14,488,135		0.1%	
Commercial Mortgages	787,246,608		4.1%	
Total Fixed Income		4,805,053,316		24.9%
Equity				
Domestic	7,726,057,708		40.0%	
International	3,021,825,074		15.6%	
Total Equity		10,747,882,782		55.6%
Private Equity		1,035,582,920		5.4%
Real Estate		811,205,407		4.2%
Total Base Plan Investments		$ 17,719,268,646		91.8%
Other Funds:				
Sick Leave Insurance Reserve Fund		566,280,803		2.9%
Choice Plan 414(k)		58,248,753		0.3%
Choice Plan 401(k)		978,604,026		5.1%
Total Investments in All Funds		$ 19,322,402,228		100.0%

Schedule of Investments by Account (including interest and dividends receivable) as of June 30, 2019

PERSI Base Plan, Firefighters' Retirement Fund, and Judges' Plan	
Adelante Capital Management	$ 584,193,842
Advent International, LP	62,905,901
Apollo Management, LP	44,436,090
Ascribe Capital LLC	20,082,126
Baring Asset Management-Global Equity	126,317
Bernstein-Emerging Markets	350,497,069
Bernstein-Global Equity	401,591,586
Blackstone Capital Partners, LP	133,377,001
BLS Capital	589,069,964
Mellon Investments Corp.-International Stock Index	714,603,753
Mellon Investments Corp.-Mid Cap Completion	271,235,927
Mellon Investments Corp.-R2000 Small Cap	192,538,444
Mellon Investments Corp.-S&P 500 Large Cap	2,320,191,671
Mellon Investments Corp.-REIT Index	255,333,004
Mellon Investments Corp.-Emerging Market Index	701,423,523
Brandes Investment Partners	424,046,309
Bridgepoint Cap LTD	50,816,831
Capital Guardian	384,225
Cerberus Investment Partners	6,530,159
Chisholm Management, LP	821,959
Clearwater Advisors, LLC-TBAs	208,148,092
CVC European Equity	42,576,425
D.B. Fitzpatrick & Co.-Fixed Income	61,582,976
D.B. Fitzpatrick & Co.-Idaho Mortgages	789,956,139
Donald Smith & Co.	435,386,151
Endeavour Capital	40,640,142
Epic Venture Fund	12,924,817
Fiera Capital	543,529,353
First Reserve Fund XI	7,466,878
Galen Associates, LP	22,246,518
Genesis Asset Managers	383,061,196
Gores Capital Partners, LLP	3,717,540
Green Equity Investors IV, LP	21,221,319
Hamilton Lane Co.- Investment Fund, LP	67,299,727
Hamilton Lane Secondary Fund, LP	35,176,689
Highway 12 Ventures, LP	14,871,660
Ida-West	3,130,265
IR + M	209,341,262
KKR 2006 Fund, LP	61,116,914
Kohlberg & Co.	55,039,980

continued on next page

Koll Partners, LLP	699,938,278	
Lindsay Goldberg & Bessemer	29,905,494	
Longview Partners	482,432,927	
Mellon Transition Management Services	307,431	
Mondrian Investment Partners	464,280,974	
Mountain Pacific Investment Advisors	617,946,205	
Newbridge Asia, LP	471,071	
Olympic IDA Fund II, LLC	44,962,234	
Peregrine Capital Management	664,124,491	
PERSI Cash in Short-Term Investment Pool	46,917,967	
Providence Equity Partners, LLP	48,677,752	
Prudential Investments	66,304,895	
Silverlake Partners	17,777,593	
State Street Global Advisors-Fixed Income	1,735,958,536	
State Street Global Advisors-TIPS	1,560,337,011	
T3 Partners, LP	149,045,152	
Veritas Capital Partners, LP	83,261,035	
Walter Scott LTD	540,705,476	
Western Asset Management	288,792,292	
Zesiger Capital Group-Private Equity	16,175,788	
Total Base Plan and Firefighters' Retirement Fund		$ 17,700,962,346
Choice Plan		
Mellon Investment Corp. U.S. Bond Market Index Fund	12,626,448	
Mellon Invest. Corp. U.S. Small/Mid Cap Equity Index Fund	20,581,688	
Mellon Invest. Corp. U.S. Broad Market Equity Index Fund	13,230,927	
Mellon Investment Corp. N.A. Equity Index Fund	7,936,363	
Mellon Investment Corp. U.S. Large Cap Equity Index Fund	34,937,097	
Mellon Investment Corp. Emerging Market Equity Index Fund	2,219,734	
Mellon Investment Corp. U.S. (TIPS*) Index Fund	2,050,360	
Mellon Investment Corp. U.S. REIT Index Fund	3,808,471	
Brandes International Equity Fund	6,646,208	
Calvert SI Balance Fund	2,884,450	
Dodge and Cox Income Fund	14,502,908	
PERSI Choice Plan Contribution Holding Account	1,761,564	
PERSI Choice Plan Loan Fund	10,686,028	
Rowe Price Small Cap Fund	29,549,085	
Total Return Fund	818,445,736	
Vanguard Growth & Income Fund	32,838,070	
PERSI Short Term Investment Portfolio	26,836,123	
Total Choice Plan		1,041,541,260

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Sick Leave Insurance Reserve Fund		
State Street Global Advisors-Domestic Equity	317,743,435	
State Street Global Advisors-International Equity	75,532,244	
State Street Global Advisors-Fixed Income	173,005,123	
Total Sick Leave Insurance Reserve Fund		566,280,802
Total Fair Value, Including Investment Receivables and Payables		$ 19,308,784,408
Add: Investments Purchased Payable		187,720,214
Less: Investments Sold Receivable		(107,873,496)
Less: Interest and Dividends Receivable		(66,228,898)
Total Fair Value, Net of Investment Receivables and Payables		$ 19,322,402,228

(Concluded)

*Treasury Inflation-Protection Securities

Investment Results for the Year Ended June 30, 2019

MANAGERS		TOTAL FAIR VALUE (MILLIONS)	% OF TOTAL FUND	Investment Performance for Periods Ending FISCAL	1 YR	3 YRS *	5 YRS *	10YRS *
U.S. EQUITY								
MELLON INVESTMENTS CORP. - MID CAP	$	283.8	1.5%	7.1	7.1	14.1	8.5	15.2
MELLON INVESTMENTS CORP.- R2000 SM CAP		201.5	1.1%	(3.1)	(3.1)	12.4	7.2	13.6
MELLON INVESTMENTS CORP. - S&P 500 LC		2,427.5	13.2%	10.4	10.4	14.2	10.7	14.7
MOUNTAIN PACIFIC		646.5	3.5%	13.0	13.0	14.0	12.0	16.1
DONALD SMITH & CO.		455.5	2.5%	(1.7)	(1.7)	9.1	3.2	12.2
PEREGRINE		694.8	3.8%	19.6	19.6	25.9	19.9	18.1
TOTAL U.S. PUBLICLY TRADED EQUITY	$	4,709.6	25.6%	9.8	9.8	15.0	10.7	14.9
BENCHMARK - Russell 3000				9.0	9.0	14.0	10.2	14.7
PRIVATE EQUITY								
IDA-WEST	$	3.3	—%	—	—	6.4	3.8	11.5
GALEN III		23.3	0.1%	31.8	31.8	15.0	8.3	5.5
PROVIDENCE EQ PARTNERS		50.9	0.3%	1.7	1.7	13.1	12.1	12.5
CHISOLM PARTNERS		0.9	—%	4.7	4.7	(8.5)	0.2	17.4
HWY 12 FD VENTURE LP		15.6	0.1%	(12.2)	(12.2)	20.9	12.1	11.9
T3 PARTNERS II L.P.		155.9	0.8%	11.9	11.9	10.7	12.8	16.2
APOLLO MGMT LP		46.5	0.3%	(5.9)	(5.9)	5.2	2.7	17.1
GREEN EQUITY IV L.P.		22.2	0.1%	43.5	43.5	29.5	20.5	23.7
GORES CAPITAL AD LLC		3.9	—%	(4.7)	(4.7)	2.8	(1.5)	4.5
W CAPITAL PARTNERS		—	—%	—	—	—	—	—
FRAZIER TECH VENTURES II		—	—%	—	—	—	—	—
KOHLBERG & CO.		57.6	0.3%	16.7	16.7	16.4	17.9	15.0
HAMILTON SECONDARY		36.8	0.2%	8.0	8.0	11.9	10.0	10.8
CVC EUROPEAN EQUITY		44.5	0.2%	32.7	32.7	32.8	21.1	20.1
HAMILTON LANE CO-INVESTMENT FUND		70.4	0.3%	10.5	10.5	11.7	8.6	11.9
BRIDGEPOINT EUROPE III		53.2	0.3%	9.3	9.3	11.6	5.4	6.9
NEWBRIDGE ASIA LP		0.5	—%	55.6	55.6	28.8	10.5	20.4
JH WHITNEY EQUITY PARTNERS IV		—	—%	(95.5)	(95.5)	(68.1)	(51.2)	(27.6)
BLACKSTONE CAPITAL PARTNERS		139.5	0.8%	16.5	16.5	14.5	12.0	14.7
ENHANCED EQUITY FUND LP		—	—%	—	—	—	—	—
LINDSEY, GOLDBERG, BESSEMER		31.3	0.2%	1.4	1.4	14.1	9.4	10.8
KKR 2006 FUND		64.0	0.4%	17.1	17.1	20.0	16.8	18.1
FIRST RESERVE FUND XI		7.8	—%	(18.1)	(18.1)	(12.7)	(25.9)	(11.4)
CERBERUS INST PARTNERS		6.8	—%	12.4	12.4	35.0	24.1	19.9
EPIC VENTURE FUND		13.5	0.1%	20.7	20.7	19.2	14.6	12.9
ADVENT INTERNATIONAL		65.8	0.4%	9.1	9.1	14.3	13.5	17.0
ASCRIBE CAPITAL LLC		21.0	0.1%	(16.5)	(16.5)	7.5	3.9	
VERITAS CAPITAL PARTNERS		87.1	0.5%	40.3	40.3	27.5	20.8	
ENDEAVOUR CAPITAL PARTNERS		42.5	0.2%	14.1	14.1	10.0	11.0	
SILVER LAKE PARTNERS**		18.6	0.1%	(1.4)	(1.4)			
ZESIGER CAPITAL GROUP		16.9	0.1%	—	—	(4.8)	(5.0)	(2.2)
TOTAL PRIVATE EQUITY	$	1,100.3	5.9%	14.1	14.1	14.9	10.3	12.8

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Investment Results for the Year Ended June 30, 2019

MANAGERS	TOTAL FAIR VALUE (MILLIONS)	% OF TOTAL FUND	Investment Performance for Periods Ending FISCAL	1 YR	3 YRS *	5 YRS *	10YRS *
REAL ESTATE							
KOLL PARTNERS	$ 732.3	3.8%	11.9	11.9	11.1	14.4	(1.7)
OLYMPIC IDA FUND II	47.0	0.3%	1.2	1.2	18.6	16.0	9.9
CASCADE	—	—%	—	—	—	—	—
ADELANTE - PUBLIC R/E1	611.2	3.3%	14.3	14.3	7.1	10.2	17.3
MELLON INVESTMENTS CORP. - REIT INDEX	267.1	1.4%	10.0	10.0	3.7	7.5	
PRUDENTIAL	69.4	0.4%	7.6	7.6	7.8	10.3	8.8
TOTAL R/E MANAGERS	$ 1,727.0	9.2%	12.0	12.0	8.1	11.2	7.0
BENCHMARK - NCREIF			6.8	6.8	7.1	9.1	8.5
TOTAL U.S. EQUITY	7,536.9	40.7%	11.0	11.0	13.5	10.7	12.8
BENCHMARK - Russell 3000			9.0	9.0	14.0	10.2	14.7
GLOBAL EQUITY							
BARING ASSET MANAGEMENT[1]	$ 0.1	—%	5.3	5.3	44.0	25.0	18.9
BRANDES INVST PARTNERS	443.7	2.4%	(1.2)	(1.2)	9.2	3.1	9.0
CAPITAL GUARDIAN[1]	0.4	—%	3.6	3.6	28.4	16.0	15.3
BERNSTEIN GLOBAL	420.2	2.3%	(6.1)	(6.1)	7.0	2.9	8.2
LONGVIEW PARTNERS	504.7	2.7%	8.1	8.1	12.7	9.7	
BLS CAPITAL	616.3	3.3%	15.6	15.6			
FIERA CAPITAL	568.7	3.0%	17.6	17.6			
WALTER SCOTT	565.7	3.1%	15.2	15.2			
TOTAL GLOBAL EQUITY	$ 3,119.8	16.8%	8.7	8.7	14.7	8.1	11.1
TOTAL U.S./GLOBAL EQUITY	$ 10,656.7	57.5%	10.3	10.3	13.8	10.0	12.3
BENCHMARK - Russell 3000			9.0	9.0	14.0	10.2	14.7

Investment Results for the Year Ended June 30, 2019

MANAGERS	TOTAL FAIR VALUE (MILLIONS)	% OF TOTAL FUND	Investment Performance for Periods Ending FISCAL	1 YR	3 YRS *	5 YRS *	10YRS *
INTERNATIONAL EQUITY							
GENESIS INVESTMENTS	$ 400.8	2.2%	7.4	7.4	11.7	2.8	8.1
MELLON INVESTMENTS CORP. - INTL STK INDX	747.6	4.0%	1.5	1.5	9.5	2.6	7.3
MONDRIAN	485.7	2.6%	2.2	2.2	7.8	2.0	7.3
BERNSTEIN EMERGING	366.7	2.0%	2.4	2.4	9.5	1.9	4.9
BNY MELLON DB NSL EMERGING STK INDX	733.9	4.0%	1.5	1.5	10.7	2.5	
TOTAL INTERNATIONAL EQUITY	2,734.7	14.8%	2.5	2.5	9.8	2.4	6.9
EAFE INDEX NET			1.1	1.1	9.1	2.3	6.9
TOTAL EQUITY	$ 13,391.4	72.3%	8.7	8.7	12.9	8.5	11.2
BENCHMARK - Russell 3000			9.0	9.0	14.0	10.2	14.7
FIXED INCOME							
DBF & CO FIXED	$ 64.5	0.3%	5.9	5.9	1.8	2.3	3.0
DBF & CO-IDAHO MTGS	826.5	4.5%	10.4	10.4	3.2	4.8	5.1
STATE ST ADV-FX	1,816.2	9.8%	8.7	8.7	2.4	3.2	4.2
SSGA-TIPS	1,632.5	8.8%	4.9	4.9	2.1	1.8	4.7
CLEARWATER-TBA	217.8	1.2%	8.0	8.0	2.7	3.2	3.5
WESTERN ASSET	302.1	1.6%	8.7	8.7	4.3	4.5	7.1
IR+M	219.0	1.2%	8.9	8.9			
TOTAL FIXED INCOME	$ 5,078.6	27.4%	7.6	7.6	2.6	2.9	4.5
BENCHMARK - Bloomberg Barclays Aggregate Bonds			7.9	7.9	2.3	3.0	3.9
OTHER							
UNALLOCATED CASH	$ 49.1	0.3%	2.9	2.9	2.1	3.4	2.9
MTMS TRANSITION [1]	0.3	0.0%	16.8	16.8	(6.3)	5.5	—
TOTAL OTHER	49.4	0.3%					
COMBINED TOTAL	$ 18,519.4	100.0%	8.4	8.4	9.9	6.9	9.4
BENCHMARK - 55% Russell 3000			7.9	7.9	9.9	7.0	10.4
30% BB Aggregate Bonds							
15% MSCI EAFE Index							

Add: Other PERSI DC Choice Plan Investments[2]	$ 223.1
Sick Leave Fixed Income Investments	173.0
Sick Leave Equity Securities	393.3
Investments Purchased	187.7
Less:Interest and Dividends Receivable	(66.2)
Investments Sold	(107.9)
Total Pension Fund Investments Net of Receivables	$ 19,322.4

*Rates of Return are annualized
**Accounts opened less than two years
[1]Large inflows/outflows/dividends receivable in this account results in widely variable results
[2]Total Return Fund/Judges' Retirement Fund included in investment results
Performance is gross of fees

Prepared using a time weighted rate of return per
BNY Mellon Global Risk Solutions, a division of BNY Mellon Asset Servicing

Schedule of Investment Income for the Last Six Years

Year	Interest	Dividends	Gains & Losses*	Total
2014	$ 110,329,885	$ 180,373,163	$ 817,663,490	$ 1,108,366,538
2015	105,237,909	220,530,606	1,907,625,265	2,233,393,780
2016	114,333,491	198,258,329	153,584,037	466,175,857
2017	106,500,811	224,510,654	(65,219,864)	265,791,601
2018	119,967,098	220,630,874	1,538,645,824	1,879,243,796
2019	127,684,540	235,997,226	1,081,844,372	1,445,526,137

*Includes realized and unrealized gains and losses and other investment income.

Largest Stock Holdings (by Fair Value) June 30, 2019

	Shares	Stock	Fair Value
1	72,308	AMAZON.COM INC	$ 136,924,598
2	490,232	MASTERCARD INC	129,681,071
3	914,819	MICROSOFT CORP	122,549,153
4	433,757	APPLE INC	85,849,185
5	425,591	FACEBOOK INC	82,139,063
6	454,214	VISA INC	78,828,840
7	975,491	PROLOGIS INC	78,136,829
8	1,268,254	ORACLE CORP	72,252,430
9	241,295	ADOBE INC	71,097,572
10	444,737	SIMON PROPERTY GROUP INC	71,051,183

A complete list of portfolio holdings is available upon request.

Largest Bond Holdings (by Fair Value) June 30, 2019

	Par	Bonds	Description	Fair Value
1	56,465,763	US TREASURY INFLATION INDEX SECURITY	0.625% 04/15/2023 DD 04/15/18	$ 57,500,074
2	56,981,893	US TREASURY INFLATION INDEX SECURITY	0.125% 04/15/2022 DD 04/15/17	56,503,436
3	55,997,506	US TREASURY INFLATION INDEX SECURITY	0.625% 01/15/2026 DD 01/15/16	55,983,041
4	56,165,034	US TREASURY INFLATION INDEX SECURITY	0.125% 01/15/2022 DD 01/15/12	54,404,881
5	53,582,809	US TREASURY INFLATION INDEX SECURITY	0.625% 01/15/2024 DD 01/15/14	53,662,630
6	54,913,321	US TREASURY INFLATION INDEX SECURITY	0.125% 07/15/2022 DD 07/15/12	53,354,584
7	52,656,083	US TREASURY INFLATION INDEX SECURITY	0.375% 07/15/2023 DD 07/15/13	53,309,074
8	54,018,975	US TREASURY INFLATION INDEX SECURITY	0.125% 01/15/2023 DD 01/15/13	53,015,660
9	51,383,643	US TREASURY INFLATION INDEX SECURITY	0.375% 07/15/2025 DD 07/15/15	52,462,576
10	52,083,093	US TREASURY INFLATION INDEX SECURITY	0.250% 01/15/2025 DD 01/15/15	52,016,591

A complete list of portfolio holdings is available upon request

Schedule of Fees and Commissions for the Year Ended June 30, 2019

Broker Name	Base Commission	Total Shares	Commission per Share
UBS SECURITIES LLC, STAMFORD	$ 196,060	1,165,618	$ 0.16820
ICBC FINCL SVCS, NEW YORK	98,095	2,503,043	0.03919
WEEDEN & CO, NEW YORK	91,315	2,735,693	0.03338
MERRILL LYNCH INTL LONDON EQUITIES	88,770	59,261,712	0.00150
ISI GROUP INC, NEW YORK	81,185	2,402,601	0.03379
GOLDMAN SACHS & CO, NY	64,114	39,174,758	0.00164
J.P MORGAN SECURITIES INC, NEW YORK	61,832	2,059,335	0.03003
MERRILL LYNCH PIERCE FENNER SMITH INC NY	59,261	3,501,109	0.01693
UBS EQUITIES, LONDON	57,007	14,212,578	0.00401
CANTOR FITZGERALD & CO INC, NEW YORK	56,032	2,218,962	0.02525
MORGAN STANLEY & CO INC, NY	53,216	50,249,737	0.00106
J P MORGAN SECS LTD, LONDON	52,507	9,602,186	0.00547
CLSA SINGAPORE PTE LTD (CHV), SINGAPORE	45,265	17,594,076	0.00257
WELLS FARGO SECURITIES, LLC, NEW YORK	42,279	1,056,986	0.04000
ITG AUSTRALIA LTD, MELBOURNE	39,959	50,449,825	0.00079
JONESTRADING INST SVCS LLC, NEW YORK	36,162	941,637	0.03840
RBC CAPITAL MARKETS LLC, NEW YORK	36,043	1,015,043	0.03551
Other Brokers under $35,000	1,214,500	278,971,130	0.00435
TOTAL BROKER COMMISSIONS	**$ 2,373,603**	**539,116,029**	0.00440

A complete list of broker commissions is available from PERSI upon request. PERSI does not require that investment managers use specific brokers

Schedule of Fees and Commissions for the Year Ended June 30, 2019

PRIVATE EQUITY COSTS BY ACCOUNT

*Ascribe Capital LLC	$ 539,331
Advent International GPE, L.P.	404,923
Apollo Investment Fund, L.P.	711,992
Blackstone Capital Partners, L.P.	1,457,045
CVC European Equity Partners, L.P.	1,068,699
Endeavour Capital Fund, L.P.	464,938
Epic Ventures Fund LLC	114,495
Hamilton Lane Co-Investment Fund, L.P.	570,371
Hamilton Lane Secondary Funds, L.P.	443,654
KKR, L.P.	537,108
Kohlberg Investors, L.P.	412,247
Lindsay Goldberg, L.P.	1,356,777
Nautic (Navis) Partners LP	(2,049)
Providence Equity Partners III, L.P.	97,094
Silver Lake Partners V, L.P.	709,509
TPG, L.P.	162,334
Veritas Capital Partners, LLC	149,874
TOTAL	**$ 9,198,343**

* formerly American Securities Opportunities

Schedule of Fees and Commissions for the Year Ended June 30, 2019

Investment Fees	Average Assets Under Management	Fees	Basis Points
Investment Manager Fees			
Equity Managers	$ 9,306,155,867	$ 33,271,016	36
Fixed Income Managers	4,690,552,662	5,471,785	12
Real Estate Managers	845,934,254	9,121,354	108
Total Average Assets	$ 14,842,642,783		
Total Investment Manager Fees		47,864,154	32
Other Investment Service Fees			
Custodian/Record Keeping Fees		3,066,297	
Investment Consultant Fees		1,006,222	
Legal Fees		321,257	
Actuary/Audit Service Fees		491,796	
Total Investment Service Fees		4,885,572	3
Total Defined Benefit Plans/Defined Contribution Plans' Fees		$ 52,749,726	35
Total Other Trust Funds' Fees		489,555	
Total Fees		**$ 53,188,434**	

Note: Broker Fees and Private Equity Costs are included on a separate schedule

STATEMENT OF INVESTMENT POLICY AND GUIDELINES

I. Introduction

The Retirement Board ("Board") of the Public Employee Retirement System of Idaho ("PERSI", "System") hereby establishes its Statement of Investment Policy for the investment of the trust funds ("Trust") in accord with Idaho Code Chapter 13, Title 59.

II. Statutory Requirements

The investment of the Trust will be in accord with all applicable laws of the state of Idaho.

A. Sole Interest of Beneficiaries

Investments will be solely in the interest of the participants and beneficiaries and for the exclusive purpose of providing benefits to the participants and their beneficiaries and defraying reasonable expenses of administration.

B. Prudent Investments

Investments will be made with the judgment and care under the circumstances then prevailing, which people of prudence, discretion and intelligence exercise in the management of their own affairs, not in regard to speculation but in regard to the permanent disposition of their funds, considering the probable outcome as well as the probable safety of their capital. Investments will be diversified so as to minimize the risk of loss and to maximize the rate of return, unless under the circumstances it is clearly prudent not to do so.

C. Fiduciary Duties

The Board and its agents, including staff, consultants, and investment managers, will discharge their duties with respect to the Trust assets solely in the interest of the members and retired employees, and with the care, skill, prudence and diligence under the circumstances then prevailing that a prudent person acting in a like capacity and familiar with such matters would use in the conduct of an enterprise of a like character and with like aims.

III. Investment Goals

A. General Objective

1. Purpose

The purpose of the investment of Trust assets is to provide funds to meet the obligations of the Public Employee Retirement System of Idaho (PERSI) while incurring the appropriate amount of risk consistent with attaining that goal. The Board will invest the assets of the Trust and will reduce risk through diversification of the assets of the Trust.

2. Considerations

In determining the returns needed by the System, the acceptable risk levels, and the allowable investments, the Board will consider:

- the purpose of the plan,
- the projected return of the portfolio as it relates to the funding objectives of the plan,
- the effect of particular investments on the total portfolio,
- the diversification of the portfolio, and
- the liquidity needs and the current return relative to the anticipated cash flow requirements.

B. Specific PERSI return and risk objectives

1. Investment Returns

(a) Actuarial Assumptions

In projecting obligations and the returns needed to meet those obligations, the Board will consider studies performed by actuaries hired by the Board. The actuary uses an investment return assumption of 7.50% before fees and expenses in balancing projected obligations, projected contributions, and projected returns on assets. The return assumption after fees of administering the system and its investments is 7.00%.

Assuming all of the actuarial assumptions are accurate, this 7.0% net return will suffice to: (1) assure the payment of statutorily required benefits, which includes a 1.0% Cost of Living Adjustment (COLA); and (2) maintain the reduction of the level of the unfunded liability (if any) on the scheduled amortization (one year at a time). The assumed 7.0% net return will not be sufficient to fund either discretionary COLAs (2-6%), retroactive COLAs, accelerate the amortization of the unfunded liability, build a stabilization reserve, or allow for gain-sharing distributions.

(b) Inflation and Salary Assumptions

This 7.50% rate before fees and 7.00% rate net of fees assume an inflation rate of 3.25% and an annual general state salary growth rate of 3.75%. To the extent that either inflation or salary growth are higher or lower than these rates, then the investment returns needed will also be higher or lower than the assumed 7.00% net, although not on a 1:1 ratio.

(c) Relation to Funding Policy

As set out in the Board's funding guidelines, to the extent investment markets allow, it is the desire of the Board to provide discretionary COLAs, accelerate the amortization of any unfunded liability, and provide for gain-sharing. It is also the goal of the Board to maintain a reasonable amortization of any unfunded liability, and not to exceed the 25 year amortization period set by statute. Therefore, it is the goal of the Board to set an expected rate of return above the actuarially assumed return so that (1) discretionary COLAs will have a reasonable chance of being consistently funded and (2) the scheduled amortization of any unfunded liability is not unreasonably jeopardized. Returns above that amount will be used to build a stabilization reserve and to distribute to the System participants through gain-sharing.

(d) Periodic Specific Return Goals

Because of the inflation sensitivity of both the returns needed by the System and the size of annual COLAs, an exact target return (either real or nominal) cannot be set in advance. Nonetheless, under most reasonable actuarial assumptions, PERSI has a relatively stable real return goal of between 4.75% - 5.25% if consistent funding of discretionary COLAs and providing for gain sharing is included as an objective. Consequently, specific return goals for upcoming periods will be set out in the strategic asset allocations periodically adopted by the Board.

2. Investment Risk and Asset Allocations

(a) Diversification Among Asset Classes

In controlling the risk level that is appropriate for the Trust, the Board will diversify the assets of the Trust among various asset classes as the Board may from time to time adopt as appropriate asset classes. The specific asset classes to be used will be set in conjunction with the asset allocation adopted from time to time by the Board.

(b) Review of Asset Classes and Asset Allocation

In setting allocations, the Board will focus on assuring that the expected long-term returns of the System will meet expected long-term obligations with the appropriate level of risk sufficient to meet those objectives. Unless circumstances materially change, the Board will at least once every five years determine the appropriate asset classes for the investment of Trust assets and conduct asset allocation studies to help determine the long term strategic allocations among desired asset classes so as to meet long-term return objectives with the appropriate level of risk.

(c) Content of Asset Allocations

The asset allocation will set out:

- the asset classes to be used,
- the long-term "normal" percentage of assets to be invested in each asset class,
- the short to intermediate term ranges that will be considered allowable temporary deviations from the normal allocation,

- the investment risk and return expectations for each asset class,
- the numerical investment return and risk expected to be realized, and
- the relation of the expected investment return to the real and actuarially assumed investment return.

(d) Strategic Policies

In addition to asset allocation, the Board may from time to time authorize or adopt strategic policies. "Strategic policies" are actions by the Board to allow investment in asset types that have not been singled out as "asset classes" in the asset allocation process, to overweight particular sectors within an asset class, or to employ particular strategies in the investment of Trust assets. The purposes of these actions are either to increase the return above the expected return or to reduce risk.

IV. Investment Structure

A. Overall Structure

In making specific investment policy decisions, the Board will have as an overall goal a flexible, simplified structure with clear roles and accountability.

1. Board Ultimately Responsible

The Board is ultimately responsible for all investment activities. In exercising this responsibility, the Board will hire investment personnel and agents and delegate various investment functions to those personnel and agents. Where the Board does not delegate investment powers or duties, the Board will either satisfy itself that it is familiar with such matters, or will retain persons who are familiar with such matters to consult or assist the Board in the exercise of those responsibilities. Where the Board delegates a responsibility, it will be delegated to a person who is familiar with such matters, and the Board will monitor and review the actions of those to whom responsibilities are delegated.

2. General Roles and Responsibilities of Board and Agents

The Board will favor a structure that accommodates a citizen Board and a small staff. The Board and staff will concentrate their activities on:

- making strategic decisions, primarily concerning asset allocation and strategic policies;
- adjusting the mix between passive and active managers depending on, among other considerations, near-term concerns regarding the U.S. and other capital markets;
- delegating and monitoring all other activities, including hiring and monitoring investment managers; and
- maintaining a reporting system that provides a clear picture of the status of the fund on a reasonably concurrent basis to both the Board and PERSI's constituencies.

The Board will rely on outside agents, and primarily investment managers, to be responsible for non-strategic decisions. This responsibility includes those investment decisions with shorter-term consequences such as the best near-term securities, regions, asset types, or asset classes.

B. Direct (Non-Delegated) Responsibilities of the Board

1. Specific Responsibilities

The Board will be directly responsible for

- Setting investment policy,
- Determining the investment structure of the Trust,
- Determining the asset classes to be utilized,
- Setting the asset allocation,
- Determining or authorizing strategic policies;
- Hiring agents to implement the asset allocation;
- Hiring agents to implement strategic policies; and

- Monitoring the compliance of those agents with the investment policies and allocations determined by the Board.

2. Delegation and Monitoring of Specific Investment Activities

The Board will normally delegate investment decisions concerning specific securities or assets, or the tactical allocations of assets among asset types, to outside agents. The Board will retain direct responsibility for the monitoring of the activities of those agents through periodic reports from its staff or consultants. The Board may choose to exercise direct investment responsibility if unusual market conditions or other circumstances so indicate.

C. Employees, Consultants, and Advisors to the Board

1. Investment Staff

(a) Duties of Chief Investment Officer and Other Staff

The Board will hire a Chief Investment Officer and such other staff as it considers appropriate who will be generally responsible for the oversight of the investment of Trust assets, and, as part of that overall responsibility, will: (1) supervise, monitor, and evaluate the performance of the investment managers hired by the Board to assure compliance with investment policy and individual guidelines; (2) assist the Board in developing and adjusting investment policy, including reviewing and modifying the asset allocation as conditions warrant; (3) research current market conditions, evaluate new products, and seek out new approaches to improve portfolio return, reduce risk, and reduce costs and fees; (4) work with the consultants, custodians, investment managers, and other agents in the performance of their assigned duties; and (5) assist the Board with education and other efforts to promote good decision making. Except in special circumstances, PERSI staff will not be responsible for the investment, purchase, or sale of specific assets.

(b) Allocation of New Net Contributions

The Chief Investment Officer shall allocate new net contributions to or withdraw net distributions from the system among investment managers in accordance with the strategic and tactical ranges established by the Board in the asset allocation. The Chief Investment Officer shall report to the Board regularly on the allocation of new net contributions or the withdrawal of net distributions.

(c) Tactical Asset Allocation and Rebalancing

With prior notice to the Board, the Chief Investment Officer may shift assets among managers (including between passive and active managers) as long as the asset allocation is maintained within the strategic ranges. If conditions do not permit giving prior Board notice, the Chief Investment Officer is authorized to move assets among investment managers within the ranges established by the Board. If such action is taken, the Chief Investment Officer shall notify the Chairman of the Board as soon as is practical either that action is contemplated or has been taken, as circumstances warrant.

(d) Minimum Qualifications of Chief Investment Officer

The Chief Investment Officer shall at least: (a) have a graduate degree in finance, law, or business administration or (b) be a Chartered Financial Analyst; or (c) have three or more years of experience in the investment of trust assets.

2. Actuaries

The Board will hire an actuary to provide studies that will: (1) determine the long term obligations faced by the System through annual actuarial valuations, (2) set out return objectives or assumptions that will be sufficient to meet those obligations; and (3) provide reviews at least once every four years of the actuarial valuation process, including updating the projections and assumptions in light of the experience of the System. The Board will set its long-term return objectives after considering information provided by those studies.

3. Investment Consultants

The Board will hire a qualified independent consultant, whose relationship does not impose a conflict of interest with the Board or staff, to provide investment performance measurement at least quarterly with the report available to the Board within two months of the quarter end. The report will at least compare actual investment returns of the System --in total, by each asset class, and for each managed portfolio-- with both the investment objectives of the System and a with an appropriate benchmark and peer group. The Board may hire other independent investment consultants as needed to assist the Board in the management of its investment responsibilities, including, but not limited to: (1) performing asset allocation studies, and reviewing and recommending modifications of the asset allocation as conditions warrant; (2) assisting in monitoring the investment managers to assure they are in compliance with the investment policy and their individual guidelines; (3) performing manager evaluations and searches as may be necessary; and (4) assisting in the development and adjustment of investment policy. Except for consultants retained solely for purposes of performance measurement, consultants will be fiduciaries of the Trust.

D. Managers or Agents with Delegated Responsibilities

1. Custodian

(a) Responsibilities

The Board will hire custodians and other agents who will be fiduciaries of the Trust and who will assume full responsibility for the safekeeping and accounting of all assets held on behalf of the Trust. Among other duties, as may be agreed to, the custodian will be responsible for: (a) the receipt, delivery, and safekeeping of securities; (b) the transfer, exchange, or redelivery of securities; (c) the claiming, receipt, and deposit of all dividend, interest, and other corporate actions due the Trust; (d) the daily sweep of all uninvested funds into a cash management account or accounts; and, (e) the provision of reports to PERSI upon agreed time intervals that will include all purchases and sales of securities, all dividend declarations on securities held by the Trust, a list of securities held by the Trust, a valuation of those securities, and a cash statement of all transactions for the account of the Trust. Unless the Board provides otherwise, the custodian will also be responsible for monitoring class action litigation, filing and collecting claims on PERSI's behalf, and reporting to PERSI on such activities.

(b) Authorization of Collective Investment Trusts

Assets of the Trust may be invested in any collective investment trust, which at the time of the investment provides for the pooling of the assets of plans described in Section 401(a) of the Internal Revenue Code of 1986, as amended, and which is exempt from Federal income tax. Assets of the Trust may be commingled with assets of other trusts if invested in any collective investment trust authorized by this policy. The provisions of the trust agreement, as amended by the trustee thereof from time to time, of each collective investment trust in which Trust assets are invested are by this reference incorporated as a part of the trust estate comprising the Trust. The provisions of the collective investment trust will govern any investment of Trust assets in that trust.

2. Investment Managers

The Board will hire investment managers who will be fiduciaries of the Trust and who will be responsible for the investment of Trust assets in specific securities or assets within or among the asset classes.

(a) Minimum Qualifications

Investment managers shall be registered with the Securities and Exchange Commission (unless they are banks, insurance companies, or other category exempted from such registration requirements), have been in the business of investment management at least two years (or the main personnel of the investment management firm have worked together in the business of investment management for at least two years), and, usually, have other United States pension fund assets under management.

(b) Guidelines

Investment Managers shall manage assets in accordance with additional guidelines established by contract and as may be added to or modified from time to time. The additional guidelines will contain minimum diversification requirements that must be followed by that manager. These guidelines will also set out the investment return expected to be achieved by that manager, and shall be linked to a benchmark that represents the passive index fund that would be used to replace the manager's assignment.

(c) Responsibilities and Discretion

Subject to the restrictions set out in this policy or as may be set out in individual contracts or guidelines, an investment manager shall have full discretionary power to direct the investment, exchange, and liquidation of the assets entrusted to that manager. The manager shall place orders to buy and sell securities and, by notice to the custodian, cause the custodian to deliver and receive securities on behalf of the Trust.

(d) Corporate Governance

The Board, unless otherwise stated, will delegate the voting of proxies to the investment manager or custodian. The Board will adopt and from time to time modify a proxy voting policy. The staff will forward PERSI's Proxy Voting Policy to investment managers; however the investment managers will normally have discretion to vote proxies according to their respective proxy voting policies, provided they vote those proxies in the best inter est of the System. The Board may from time to time take any other action it deems appropriate in exercising PERSI's proxy voting powers, including but not limited to directing staff to vote individual proxies in a particular manner.

(e) Transactions and Brokerage

All securities transactions shall be executed by reputable broker/dealers or banks, and shall be on a best price and best execution basis.

3. Use of Passive and Active Managers

(a) Purpose and Use of Active Management

The Board recognizes that passive (index fund) investing has lower costs than active investing, with regard to both management fees and transaction costs. Further, the Board also recognizes that there is uncertainty concerning whether active investing can generally outperform passive investing, particularly in the large, liquid, and efficient portions of the capital markets. Also, the Board has great confidence that a passive investment of assets in an efficient asset allocation will likely meet long-term (20 year) obligations.

Contribution rates, COLAs, and the ability to provide for gain-sharing, however, are based on 1-5 year returns. The Board is concerned that over 1-5 year periods the ability to consistently fund COLAs and to keep contribution rates stable are in considerable jeopardy from two sources: (1) expected "normal" market fluctuations are such that annual returns will likely not meet hurdle rates approximately 40% of the time, with actual negative returns to be expected once every six years; and (2) that most of the Trust assets under the asset allocation will be invested in U.S. capital markets, and are thus vulnerable to poor U.S. returns.

One purpose of active management of Trust assets is to address these two concerns. Active managers will be hired for the purpose of providing greater stability of returns, and better returns, than would be achievable under purely passive management over rolling 3-5 year periods. Active managers will be responsible for timing of markets and the tactical allocation of assets among and within the capital markets (including between the U.S. and international markets).

In addition to providing extra returns, active managers will also be employed to smooth returns, provide higher long-term returns, provide protection in adverse markets, and to add exposure and additional diversification to the portfolio than that achievable solely through investment in passive indices representing the strategic asset allocation and strategic policies.

(b) Structure

In using outside managers, the Board will favor a structure using a reasonable number of managers with broad mandates and benchmarks.

Passive managers will be favored for the core, liquid, efficient markets (such as S&P 500 stocks and U.S. Government/Credit bonds). Active managers will be favored for relatively inefficient markets.

Global managers will be used to provide flexibility in reacting to near-term concerns that may arise concerning any particular region or market, particularly the U.S. capital markets, and to provide an appropriate balance between efficient long-term asset allocations (which favor US assets) and near-term allocations (which have a greater preference for international assets) to meet the real (inflation adjusted) return needs of the System.

Assets under the management of global equity managers will be considered US equity assets for purposes of asset allocation. Consequently, actual allocations to international equities in the overall portfolio from time to time may be above that in the stated asset allocation due to the activities of the global equity managers.

(c) Balance between Passive and Active Management

The balance between active and passive management will be set from time to time with the following considerations in mind: concentration of active investment efforts where there is the most potential for excess returns, implementation of views concerning the state of the U.S. and international capital markets, and reduction of fees and other costs.

(d) Monitoring Standards

Active managers will be monitored under two standards: First, over rolling 3-5 year periods, managers will be expected to exceed, after fees, the benchmark index that represents the passive alternative to the mandate given the manager, and to rank in the top half of the universe of managers that best fits that manager's mandate. Second, over shorter periods of time, managers will be expected to maintain key personnel, a consistent style, and investment capability. Passive managers will be monitored on their ability to track their benchmark index over both short (1 quarter to one year) and long (3 to 5 year) periods. The Board may consider other information it considers relevant, including composite manager indices, in determining whether to retain or terminate managers.

V. Asset Class Policies

A. U.S. Equities

1. Objective

The overall objective of the U.S. equity or Broad Domestic Equity asset class is to obtain, over time, a return after fees that equals or exceeds the returns of the Russell 3000 Index, both absolutely and on a risk-adjusted basis. For assets under the management of global equity managers, the objective for near-term periods (approximately 5 years or sooner) will be to achieve a return after fees that is equal to or exceeds the returns of the MSCI World Index or MSCI All Country World Index, both absolutely and on a risk-adjusted basis.

2. Allowable Investments

Managers may invest in stocks that do not pay dividends. Managers may invest in equity securities outside of the Russell 3000 Index, and global equity managers may invest in equity securities outside of the MSCI World Index. Managers may use derivative securities for purposes of enhancing liquidity, reducing transaction or other costs, or partially hedging an existing exposure in the portfolio.

3. Manager Styles

Managers for the U.S. equity asset class may include index funds, style managers (such as value, growth, and capitalization), "core" managers, and global managers.

4. Benchmarks

The Russell 3000 index will be the benchmark for the passive index funds, core managers, and global man- agers. For near term periods (approximately 5 years or less), the MSCI World or MSCI ACWI indexes are the benchmarks for global equity managers. Other style or capitalization indices maintained by a qualified organization may be used as the benchmark for style managers Active U.S. and global equity managers are expected to exceed, over rolling 3-5 year intervals, the applicable benchmark by 75 basis points annually after fees, and to rank in the top 50th percentile of active managers with similar mandates.

B. International Equities

1. Objective

The overall objective of the International Equity Asset Class is to obtain, over time, a return after fees that equals or exceeds the returns of the MSCI Europe, Australasia, and Far East (MSCI EAFE) Index (unhedged), or the FT Actuaries World ex U.S. Index, both absolutely and on a risk-adjusted basis.

2. Allowable Investments

Managers may invest in stocks that do not pay dividends. Managers may invest in American Depository Receipts or American Depository Shares. Managers may invest in equity securities of companies or in countries that are not included in the indices. Managers may use derivative securities for purposes of enhancing liquidity, reducing transaction or other costs, or partially hedging an existing exposure in the portfolio. Managers may, at their discretion, hedge the currency exposure of all or part of their portfolios. Managers may not overhedge their portfolio, although proxy hedging for purposes of liquidity and cost savings is allowed.

3. Manager Styles

Managers for the International Equity asset class may include index funds, general international managers, and regional or specialized managers (such as emerging markets). The Board may from time to time hire a currency overlay manager to hedge the currency exposure in those portfolios where managers do not actively or normally consider hedging their exposure.

4. Benchmarks

The MSCI EAFE Index (unhedged), will be the benchmark for the developed markets passive index fund. Active international developed markets managers may use as their benchmark either the MSCI EAFE index or the MSCI ACWI ex US index (unhedged). The MSCI Emerging Markets Free (MSCI EMF) index will be the benchmark for the emerging markets managers, both active and passive.

Regional or specialized indices (unhedged) maintained by a qualified organization may be used as the benchmark for other active managers. Active international equity managers are expected to exceed, over rolling 3-5 year intervals, the applicable benchmark by 75 basis points annually after fees, and to rank in the top 50th percentile of active managers with similar mandates.

C. Fixed Income

1. Objectives

The overall objective of the Fixed Income Asset Class is to obtain, over time, a return after fees that equals or exceeds the returns of the Barclays Capital Aggregate Bond Index (Aggregate Bond Index) both absolutely and on a risk-adjusted basis.

The Fixed Income Asset Class shall consist of investments in mortgages and in both dollar and non-dollar fixed income securities. Mortgages shall consist of investments in mortgage backed securities, and direct ownership of commercial mortgages through the Idaho Commercial Mortgage Program.

The objective of the non-mortgage fixed income securities other than real return portfolios is to obtain, over time, a return after fees that equals or exceeds the returns of the Barclays Capital Government/Credit Bond Index (Government/Credit Bond Index) on a risk-adjusted basis. The overall objective of the mortgage securities is to obtain, over time, a return after fees that equals or exceeds the returns of the Barclays Capital Mortgage Index (Mortgage Index) on a risk-adjusted basis. The overall objective of the real return fixed income is to obtain, over time, a return after fees that equals or exceeds the returns of the Barclays Capital TIPS Index on a risk-adjusted basis.

2. Allowable Investments

Managers may invest in debt securities that do not pay interest. Active managers may invest in securities in companies or countries that are not included in the indices. Managers may use derivative securities for purposes of enhancing liquidity, reducing transaction or other costs, or partially hedging an existing exposure in the portfolio. Fixed income managers may, at their discretion and to the extent allowed by their contracts and guidelines, use currency forward or futures markets as may be considered appropriate to implement fixed income strategies.

3. Manager Styles

Managers in the Fixed Income asset class may include index funds, domestic bond managers, specialized managers, and global managers.

4. Benchmarks

The Barclays Capital Government/Credit Index or Barclays Capital Aggregate Index will be the benchmark for all non-mortgage fixed income managers except real return fixed income managers. The Barclays Capital TIPS index will be the benchmark for real return fixed income managers. The Barclays Capital Mortgage Index will be the benchmark for all mortgage managers. The Barclays Capital Aggregate Index will be the benchmark for the asset class. Active fixed income managers are expected to exceed, over rolling 3-5 year intervals, the applicable benchmark by 25 basis points annually after fees, and to rank in the top 50th percentile of active managers with similar mandates.

D. Real Estate

1. Objectives

Private equity real estate investments will be considered part of the U.S. Equity asset class. The overall objective of private equity real estate investments is to attain a 5% real rate of return overall, over a long-term holding period, as long as this objective is consistent with maintaining the safety of principal. The 5% real rate of return includes both income and appreciation, is net of investment management fees, and is net of inflation as measured annually by the Consumer Price Index. Over a short term basis, the objective is to earn a nominal minimum income yield of 5% on each individual investment, or inflation plus 3%, whichever is greater.

2. Allowable Investments

Allowable private equity real estate investments include open-end and closed-end commingled real estate funds, direct real estate investments, publicly traded real estate investment trusts and other public real estate companies, private real estate companies and real estate operating venture entities. Allowable investments must be originated and managed by real estate advisors with substantial experience originating and managing similar investments with other institutional investors. The real estate asset sector is not intended to include solely debt investments; in particular, straight mortgage interests are considered part of the fixed income asset class. The real estate asset sector may include equity-oriented debt investments, including mezzanine loans, that conform with the return targets of the sector.

3. Need for Income Component of Return

Upon closing, each real estate investment must have as a goal the expectation of an annual income return and overall holding period return measured primarily by realized return rather than expected capital appreciation. Thus, a significant portion of real estate investments made should be in existing income producing properties with measurable return expectations rather than purely development properties. However, existing properties with potential for physical enhancement, including development or redevelopment, are acceptable investments.

4. **Protection of the Trust**

Investment vehicles should be chosen that will protect the Trust, including provision for investments that do not contain debt or liability with recourse beyond the Trust commitment to the related business entity, provision for inspection and evaluation of environmental hazards prior to the purchase of any specific property, and the provision of insurance coverage to protect against environmental and natural hazards.

5. **Reporting**

A comprehensive reporting system for individual investments, entities and funds will be maintained so that primary operational and economic characteristics are continually defined, and underperforming investments can be identified and remediated. Active asset and portfolio management is required for the management of all non-publicly traded real estate investments. Investment managers shall be required to present periodic operational reports within approved formats, including statements of fair value, audited financial statements and annual business plans.

6. **Benchmarks**

The MSCI US REIT, Dow Jones Select REIT, NAREIT all Equity, or Wilshire REIT index will be the benchmark for the passive REIT index fund. The National Council of Real Estate Investment Fiduciaries (NCREIF) Property Index or the Open End Core Equity (NFI-ODCE) Value with net will be the benchmarks for the open-end and closed-end funds and private real estate. The asset class in total will be benchmarked against the Russell 3000 index.

7. **Asset Allocation**

For purposes of asset allocation, real estate investments will be treated as part of the U.S. equity asset class.

E. **Alternative Investments**

1. **Definition and Board Approval**

The Board may from time to time authorize the investment of Trust assets in entities or structures that do not fit the asset descriptions listed above. Examples of such investments are venture capital partnerships, private equity, leveraged buy-out funds, private debt, and direct ownership of individual assets such as oil and gas partnerships. These investments shall only be entered into upon the recommendation of a qualified consultant after due diligence and with approval by the Board or a subcommittee appointed by the Board to review the recommendation. Subsequent investments with a previously approved alternative investment manager do not require additional specific approvals by the Board or subcommittee.

2. **Objectives and Benchmarks**

If the alternative investment is an equity investment, the objective for the investment will be to exceed, over time and after fees, the return achieved by the Russell 3000 Index times 1.35. If the alternative investment is a debt investment, then the objective will be to exceed, over time and after fees, the returns achieved by the Barclays Capital Government/Credit Index plus 3%. It is recognized that these investments may experience greater volatility than the comparable publicly traded securities and indices.

3. **Asset Allocation**

For purposes of asset allocation, alternative equity investments will be treated as part of the U.S. equity asset class, and alternative debt investments will be treated as part of the fixed income asset class.

VI. Strategic Asset Allocation

The following tables summarize the strategic asset allocation of the Trust, including the expected net return and risk of each asset class, the strategic normal asset allocation and allowable ranges, and the expected risk and net return of the Trust as compared to the actuarial assumptions.

STRATEGIC ASSET ALLOCATION

(Expected Returns are before fees and expenses)

Asset Class	Expected Return*	Expected Risk	Strategic Normal	Strategic Ranges
Equities			**70%**	**66% - 77%**
Broad Domestic Equity	9.15%	19.00%	55%	50% - 65%
International	9.25%	20.20%	15%	10% - 20%
Fixed Income	**3.05%**	**3.75%**	**30%**	**23% - 33%**
Cash	**2.25%**	**0.9%**	**0%**	**0% - 5%**

Total Fund	Expected Return*	Expected Inflation	Expected Real Return	Expected Risk
Actuary	7.00%	3.25%	3.75%	n/a
Portfolio	6.58%	2.25%	4.33%	12.67%

**** Expected arithmetic return net of fees and expenses***

Data provided by Callan Associates 2015

VII. Deposit and Investment Risk Policy - GASB 40

A. Purpose

The Governmental Accounting Standards Board has identified that state and local governments have deposits and investments which are exposed to risks that may result in losses. GASB Statement number 40 (GASB 40) is intended to inform users of the financial statements about the risks that could affect the ability of a government entity to meet its obligations. GASB 40 has identified general deposit and investment risks as credit risk, including concentration of credit risk and custodial credit risk, interest rate risk, and foreign currency risk and requires disclosures of these risks and of policies related to these risks. This portion of the Investment Policy addresses the monitoring and reporting of those risks.

In general, the risks identified in GASB 40, while present, are diminished when the entire portfolio is viewed as a whole. For example, interest rate risk experienced by fixed income instruments often react in the exact opposite direction as that experienced by equities. Thus, interest rate exposure as set out in GASB 40 will not reflect the cross-influences of impacts across the broad range of investments that make up the PERSI portfolio. And, in fact, the general underlying measures used in GASB 40 across most of the risks identified (credit, concentration, and interest rate risk in particular) were tools that were developed primarily for portfolios dominated by fixed income investments, and are often only poorly transferred, if at all, to portfolios, like PERSI's, that are dominated by equity interests.

Consequently, it is the policy of PERSI that the risks addressed in GASB 40 are to be monitored and addressed primarily through the guidelines agreed to by those managers, and by regular disclosures in reports by managers of levels of risks that may exceed expected limits for those portfolios.

B. Specific Areas of Risk

1. Credit Risk

Summary: Credit risk is the risk that an issuer or other counterparty to an investment will not fulfill its obligations to PERSI.

Policy: Managers will provide PERSI with expected credit risk exposures in their portfolio guidelines. If the actual credit risk exposure falls outside of these expectations, managers will be required to report these occurrences to Staff and these disclosures are to be made available to the Board.

2. Custodial Credit Risk

Summary: Custodial credit risk is the risk that in the event of a financial institution or bank failure, the System would not be able to recover the value of their deposits and investments that are in the possession of an outside party.

Policy: PERSI minimizes exposure to custodial credit risk by requiring that investments, to the extent possible, be clearly marked as to PERSI ownership and further to the extent possible, be held in the System's name.

3. Concentration of Credit Risk

Summary: Concentration of credit risk is the risk of loss that may be attributed to the magnitude of a government's investment in a single issue.

Policy: Managers will provide PERSI with expected concentration of credit risk exposures in their portfolio guidelines. If the concentration of credit risk exceeds expectations, managers are to be required to report these occurrences to Staff and these disclosures are to be made available to the Board. For the portfolio as a whole, staff will report to the Board at a regular Board meeting if the exposure to a non-US government guaranteed credit instrument exceeds 5% of the total PERSI portfolio.

4. Interest Rate Risk

Summary: Interest rate risk is the risk that changes in interest rates will adversely affect the fair value of an investment. Interest rate risk to PERSI's fixed income portfolio is monitored using the effective duration methodology. Effective duration measures the volatility of the price of a bond given a change in interest rates, taking into account the optionality on the underlying bond.

Policy: Managers will provide PERSI with the expected portfolio duration in their portfolio guidelines. If the duration of the portfolio differs from expectations, managers are to be required to report these occurrences to Staff and these disclosures are to be made available to the Board.

5. Foreign Currency Risk

Summary: Foreign currency risk is the risk that changes in exchange rates will adversely impact the fair value of an investment. PERSI's currency risk exposures, or exchange rate risk, primarily reside within the international equity investment holdings.

Policy: The PERSI Board recognizes that international investments (equity or fixed income) will have a component of currency risk associated with it. Currency risk and hedging exposures are dependent on the underlying international exposure, which fluctuates over time. The individual manager guidelines will outline the expected currency exposures (either specifically or through ranges of security exposures to particular currency areas) of the underlying portfolio and if the actual currency exposure differs from the expected, managers are to be required to report these occurrences to Staff and these disclosures are to be made available to the Board.

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October 18, 2019

Retirement Board
Public Employee Retirement System of Idaho
State of Idaho
P.O. Box 83720
Boise, ID 83720

Members of the Board:

Milliman has performed annual actuarial valuations for the Public Employee Retirement System of Idaho (PERSI) since the System's inception. It is anticipated that future actuarial valuations will be performed every year with the next valuation to be as of July 1, 2019. Various benefit increases have occurred since the System was established in 1965. The most recent significant benefit changes were effective July 1, 2000.

Contribution Rates

The financing objective of the System is to establish contribution rates that will tend to remain level as percentages of payroll. From 1993 to 2019, the total contribution rate has been between 15.82% and 19.82%; year by year detail including employer and member rates is shown in the table on the following page.

At July 1, 2002, the combined overall contribution rate was 15.78%. Our July 1, 2002 valuation found that the contribution rates were not sufficient to amortize the unfunded actuarial accrued liability within 25 years of the valuation date, as required by Section 59-1322, Idaho Code. Therefore, in November 2002, the Board approved three 1% contribution rate increases to take effect on July 1, 2004, July 1, 2005, and July 1, 2006. Effective July 1, 2003, the contribution rate for Fire and Police employers was also increased by 0.1% to offset the cost of the $100,000 duty related death benefit. The July 1, 2004 contribution rate increase took effect as scheduled. Due to investment gains, the other two increases were deferred and ultimately in October 2007 the Board canceled the scheduled contribution rate increases.

The July 1, 2009 valuation found that the contribution rates were insufficient to amortize the unfunded actuarial accrued liability within 25 years of the valuation date. Therefore, in December 2009, the Board approved three contribution rate increases to take effect: 1.5% on July 1, 2011, 1.5% on July 1, 2012, and 2.28% on July 1, 2013. In December 2010, these scheduled rate increases were each delayed one year. In December 2011, these scheduled rate increases were again each delayed one year. On July 1, 2013, the first contribution rate increase went into effect as scheduled. In October 2013, the remaining two scheduled rate increases were each delayed one year; in September 2014 these increases were canceled altogether.

The July 1, 2016 valuation found that the contribution rates were insufficient to amortize the unfunded actuarial accrued liability within 25 years of the valuation date. Therefore, in October 2016, the Board approved a 1.0% contribution rate increase to take effect on July 1, 2018. In October 2017, the Board delayed this rate increase until July 1, 2019. On July 1, 2019, this rate increase went into effect.

The historical changes in contribution rates since 1993 are shown in the table below. Note that weighted total values may change even if rates by group do not change.

		Weighted Total		Fire & Police		General/Teachers	
Year of Change	Total Rate	Member Rate	Employer Rate	Member Rate	Employer Rate	Member Rate	Employer Rate
1993	17.16%	6.51%	10.65%	7.82%	10.87%	6.38%	10.63%
1994	18.75	7.12	11.63	8.53	11.85	6.97	11.61
1998	17.78	6.75	11.03	8.10	11.25	6.60	11.01
2000	15.78	5.98	9.80	7.21	10.01	5.86	9.77
2003	15.82	6.01	9.81	7.21	10.11	5.86	9.77
2004	16.84	6.41	10.43	7.65	10.73	6.23	10.39
2008	16.88	6.44	10.44	7.65	10.73	6.23	10.39
2009	16.89	6.45	10.44	7.69	10.73	6.23	10.39
2013	18.39	7.03	11.36	8.36	11.66	6.79	11.32
2019	19.42	7.43	11.99	8.81	12.28	7.16	11.94

Our July 1, 2019 actuarial valuation found that the System's current rates are sufficient to pay the System's normal cost rate of 14.91%. As of July 1, 2019, there is an unfunded actuarial liability of $1,391.1 million. The contribution rates as currently scheduled are sufficient to amortize the Unfunded Actuarial Accrued Liability (UAAL) in 10.6 years, which is lower than the 25-year amortization period required by statute.

Funding Status

Based on the July 1, 2019 actuarial valuation, the unfunded actuarial accrued liability was decreased by $185.6 million due to an asset gain recognized as of July 1, 2019. Specifically, the System's assets earned a net return after expenses of 8.02%, which is 1.02% above the actuarial assumption of 7.00%. All other actuarial experience gains and losses decreased the actuarial accrued liability by $6.7 million. Thus, the total experience gain for the year was $178.9 million.

The UAAL also decreased by $10.0 million because actual contributions plus assumed investment returns were greater than the normal cost and the interest on the UAAL.

All of these items resulted in a total actuarial gain of $188.9 million and a change in funding status from an 91.2% funding ratio on July 1, 2018 to 91.5% on June 30, 2019. The funding ratio is the ratio of the actuarial value of the assets over the value of the actuarial accrued liability.

Comparison to GASB Statement No. 67 Liabilities

The long-term expected rate of return on investments is 7.05%, net of investment expenses. This figure includes 0.05% for expected administrative expenses. For purposes of determining the System's funding status and UAAL, we use a discount rate that is net of all expenses (7.00%). All figures shown in this report have been calculated using this discount rate.

This is in contrast to the discount rate used to determine the Total Pension Liability (TPL) and Net Pension Liability (NPL) for purposes of GASB reporting. According to GASB Statement 67, the discount rate used to calculate TPL and NPL must be net of investment expenses but not administrative expenses. Therefore, TPL and NPL have been determined using a discount rate of 7.05%. Results and further details on these items can be found in our GASB 67 Report.

Assumptions

Our July 1, 2019 actuarial valuation report presented summaries of the actuarial assumptions and methods used in the valuation. The last major experience study, completed in June 2018, covered the period July 1, 2011 through June 30, 2017. The next major experience study, to be completed in 2022, will cover the period July 1, 2017 through June 30, 2021.

Certification Statement

In preparing this letter, we relied, without audit, on information (some oral and some in writing) supplied by PERSI's staff. This information includes, but is not limited to, statutory provisions, member census data, and financial information. We found this information to be reasonably consistent and comparable with data used for other purposes. The valuation results depend on the integrity of this information. If any of this information is inaccurate or incomplete our results may be different and our calculations may need to be revised.

All costs, liabilities, rates of interest, and other factors for the System have been determined on the basis of actuarial assumptions and methods which are individually reasonable (taking into account the experience of the System and reasonable expectations); and which, in combination, offer our best estimate of anticipated experience affecting the System. Further, in our opinion, each actuarial assumption used is reasonably related to the experience of the System and to reasonable expectations which, in combination, represent our best estimate of anticipated experience under the System. We believe that all of these assumptions and methods meet the parameters set by Actuarial Standards of Practice (ASOPs).

Future actuarial measurements may differ significantly from the current measurements 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. Due to the limited scope of our assignment, we did not perform an analysis of the potential range of future measurements. The Retirement Board has the final decision regarding the appropriateness of the assumptions and actuarial cost methods.

Actuarial computations presented in this report are for purposes of determining the recommended funding amounts for the System. Actuarial computations under GASB Statements No. 67 and 68 are for purposes of fulfilling financial accounting requirements. The computations prepared for these two purposes may differ as disclosed in our report. The calculations in the enclosed exhibits have been made on a basis consistent with our understanding of the System's funding requirements and goals. Determinations for purposes other than meeting these requirements may be significantly different from the results contained in this report. Accordingly, additional determinations may be needed for other purposes.

Actuarial Standard of Practice No. 51 (ASOP 51) directs actuaries to identify risks that are significant to any actuarial calculation or communication. Probably the most notable risk is Investment Risk - the potential for plan assets to grow at a rate lower than assumed in the actuarial valuation. If valuation performance is worse than expected, then additional funding may be required. There is also Maturity Risk - the potential for total plan liabilities to become more heavily weighted toward inactive liabilities over time - is pertinent to the contents of this letter because as the System's assets and liabilities continue to grown, the impact of any gains or losses on the assets or liabilities also becomes larger. A third risk is Demographic Risk -

the potential for members experience to differ from our Actuarial assumptions, including (but not limited to) retirement, withdrawal, salary growth, and mortality. If member experience is different than anticipated by the actuarial assumptions, additional System funding may be required. Please refer to our funding valuation report dated October 18, 2019 for more detailed discussion of risk.

Milliman's work is prepared solely for the internal business use of the System. To the extent that Milliman's work is not subject to disclosure under applicable public records laws, Milliman's work may not be provided to third parties without Milliman's prior written consent. Milliman does not intend to benefit or create a legal duty to any third party recipient of its work product. Milliman's consent to release its work product to any third party may be conditioned on the third party signing a Release, subject to the following exception(s):

(a) The System may provide a copy of Milliman's work, in its entirety, to the System's professional service advisors who are subject to a duty of confidentiality and who agree to not use Milliman's work for any purpose other than to benefit the System.

(b) The System may provide a copy of Milliman's work, in its entirety, to other governmental entities, as required by law.

No third party recipient of Milliman's work product should rely upon Milliman's work product. Such recipients should engage qualified professionals for advice appropriate to their own specific needs.

The consultants who worked on this assignment are pension actuaries. Milliman's advice is not intended to be a substitute for qualified legal or accounting counsel.

The signing actuaries are independent of the plan sponsor. We are not aware of any relationship that would impair the objectivity of our work.

On the basis of the foregoing, we hereby certify that, to the best of our knowledge and belief, this letter is complete and accurate and has been prepared in accordance with generally recognized and accepted actuarial principles and practices. We are members of the American Academy of Actuaries and Fellows of the Society of Actuaries and meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion contained herein.

The enclosed Exhibits 1 through 9 provide further related information. Milliman is completely responsible for these exhibits. Specifically, they are:

- Exhibit 1 Summary of Actuarial Assumptions and Methods
- Exhibit 2 Schedule of Active Member Valuation Data
- Exhibit 3 Schedule of Retiree and Beneficiary Valuation Data
- Exhibit 4 Schedule of Funding Progress
- Exhibit 5 Solvency Test
- Exhibit 6 Analysis of Actuarial Gains or Losses
- Exhibit 7 Schedule of Contributions from the Employer and All Other Contributing Entities
- Exhibit 8 Schedule of Contributions from the Employer Expressed as a Percentage of Payroll
- Exhibit 9 Provisions of Governing Law

We would like to express our appreciation to Don Drum, Executive Director of the System, and to members of his staff, who gave substantial assistance in supplying the data on which this report is based.

Respectfully submitted,

Robert L. Schmidt, F.S.A., M.A.A.A.
Principal and Consulting Actuary

Jeffrey D. Bradley, F.S.A., M.A.A.A.
Principal and Consulting Actuary

RLS/JDB/rc

EXHIBIT 1: SUMMARY OF ACTUARIAL ASSUMPTIONS AND METHODS EFFECTIVE JULY 1, 2019

1. Investment Return (Adopted July 1, 2018)

The annual rate of investment return on the assets of the System, net of investment expenses, is assumed to be 7.05% (including 0.05% for administrative expenses) compounded annually.

2. Actuarial Value of Assets (Adopted July 1, 1994)

All assets are valued at market as of the valuation date.

3. Actuarial Assumptions

The actuarial assumptions and methods were adopted by the Board based upon recommendations from the retained actuary. The actuarial assumptions are based on periodic studies of the System's actual experience.

4. Mortality (Adopted July 1, 2014)

Contributing Members, Service Retirement Members, and Beneficiaries

- **Teachers**

  Males RP-2000 Combined Table for Healthy Individuals for males, set back three years.

  Females RP-2000 Combined Table for Healthy Individuals for females, set back three years.

- **Fire & Police**

  Males RP-2000 Combined Table for Healthy Individuals for males, with no offset.

  Females RP-2000 Combined Table for Healthy Individuals for females, set forward one year.

  10% of Fire and Police active member deaths are assumed to be duty related**.** This assumption was adopted July 1, 2008.

- **General *Employees and All Beneficiaries***

  Males RP-2000 Combined Table for Healthy Individuals for males, set back one year.

  Females RP-2000 Combined Table for Healthy Individuals for females,set back one year.

  All mortality tables are adjusted with generational mortality adjustments using projection scale AA as shown in Table A-8B of the July 1, 2019 valuation report. The projection scale is applied from the year 2000 to the year in which the mortality assumption is being applied.

- ***Disabled Members***

  For disabled members, the mortality rates used in the valuation are the rates from the RP-2000 table for disabled individuals for respective sexes, with a one-year setback for males and a one-year set forward for females.

  All mortality tables are adjusted with generational mortality adjustments using projection scale AA as shown in Table A-8B of the July 1, 2019 valuation report. The projection scale is applied from the year 2000 to the year in which the mortality assumption is being applied.

5. Service Retirement (Adopted July 1, 2016)

Annual rates of retirement assumed to occur among persons eligible for a service retirement are illustrated in the following table:

	Fire & Police		General Employees			
			Male		Female	
Age	First Year Eligible	There after	First Year Eligible	There after	First Year Eligible	There after
55	21%	18%	22%	10%	26%	18%
60	17	22	26	17	26	18
65	40	40	33	50	37	52
70	*	*	18	20	18	21

	Teachers			
	Male		Female	
Age	First Year Eligible	Thereafter	First Year Eligible	Thereafter
55	19%	5%	10%	10%
60	30	18	26	18
65	36	46	49	49
70	*	*	*	*

* *For all ages older than the age indicated, retirement is assumed to occur immediately.*

6. **Early Retirement (Adopted July 1, 2016)**

Annual rates of retirement assumed to occur among persons eligible for a reduced early retirement benefit are illustrated in the following table:

		General Employees		Teachers	
Age	Fire & Police	Male	Female	Male	Female
50	4%	*	*	*	*
55	5%	3%	3%	6%	6%
60		5	6	14	12

* *For all ages younger than the age indicated, withdrawal is assumed to occur (see Section 7).*

7. Other Terminations of Employment (Adopted July 1, 2016)

Assumed annual rates of termination are illustrated below. Rates are based only on years of service.

Years of Service	Fire and Police	General Employees		Teachers	
		Male	Female	Male	Female
5	6.6%	8.8%	10.3%	5.5%	6.0%
10	4.2	5.5	6.4	3.1	3.1
15	2.8	3.5	4.0	1.9	1.8
20	1.7	2.4	2.9	1.3	1.3
25	1.5	1.7	2.5	1.2	1.2
30	1.5	1.5	2.5	1.2	1.2

8. Disability Retirement (Adopted July 1, 2016)

Annual rates assumed for disability retirement are illustrated in the following table:

Age	Fire & Police	General Employees		Teachers	
		Male	Female	Male	Female
25	.01%	.01%	.01%	.01%	.05%
35	.03	.03	.01	.02	.04
45	.10	.11	.10	.07	.07
55	.61	.32	.28	.20	.30

25% of Fire and Police active member disabilities are assumed to be duty related**.** This assumption was adopted July 1, 2009.

9. Future Salaries (Adopted July 1, 2016)

In general, the total annual rates at which salaries are assumed to increase include 3.75% per annum for increase in the general wage level of the membership plus increases due to promotions and longevity. The general wage level increases are due to inflation and increases in productivity. The total ultimate rates assumed are illustrated below.

Years of Service	Fire and Police	General Employees		General Employees	
		Male	Female	Male	Female
5	7.02%	6.03%	6.45%	7.07%	7.17%
10	5.57	5.10	5.46	7.17	7.38
15	4.89	4.63	4.68	5.20	5.33
20	4.42	4.37	4.42	4.48	4.56

10. Vesting (Adopted July 1, 2016)

The following table illustrates the assumed probability that vested terminating members will elect to receive deferred benefits instead of withdrawing accumulated contributions.

		General Employees		Teachers	
Age	Fire and Police	Male	Female	Male	Female
25	48%	52%	61%	75%	84%
35	53	71	70	79	88
45	65	76	73	82	85
55	—	—	—	—	—

11. Growth in Membership (Adopted July 1, 2012)

In general, the combined effects of stable active membership and salary levels are assumed to produce a 3.75% average annual expansion in the payroll of covered members.

12. Interest on Employee Contributions (Adopted July 1, 2016)

The credited interest rate on employee contributions is assumed to be 8.50%.

13. Postretirement Benefit Increases (Cost of Living Adjustments)

A nondiscretionary postretirement increase of 1% per year is assumed for the valuation. See Exhibit 3 for total discretionary and nondiscretionary increases granted by the Board for the past ten years.

14. Actuarial Cost Method

The individual entry age actuarial cost method is used. The normal cost rates used in this valuation were calculated based on all current active members as of July 1, 2019, for each sex and type of employee in the valuation. The normal costs and projected fiscal year 2019 salaries for all active members were calculated. The ratio of the two is the aggregate normal cost rate. We anticipate that the normal cost rate will be adopted in November, 2019 in conjunction with the July 1, 2019 actuarial valuation.

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

Commencing July 1, 2007, 1.49% of the payroll of higher education faculty covered by the Optional Retirement Program (ORP) is payable to PERSI until July 1, 2025. Commencing July 1, 1997, 3.83% of the payroll of community college and post-secondary vocational educational institutions covered by the ORP was payable to PERSI until July 1, 2011. The difference between the future ORP contributions and the actuarial accrued liability computed under the actuarial cost method is the portion of the actuarial accrued liability used to determine the UAAL, or funding reserve, for PERSI.

15. Experience Studies

The last experience study was completed in 2018 for the period July 1, 2011 through June 30, 2017 and reviewed economic assumptions, mortality and all demographic assumptions. These assumptions will be studied in 2022 for the period from July 1, 2017 through June 30, 2021. Assumptions were adopted as noted.

16. Recent Changes

The 2019 valuation results reflect the contribution rate effective on July 1, 2019.

EXHIBIT 2: SCHEDULE OF ACTIVE MEMBER VALUATION DATA

		Annual Salaries*		
Valuation Date July 1	Number	Annual Valuation Payroll	Average Annual Pay	% Increase in Average Annual Pay
2010	67,020	$ 2,622,461,000	$ 39,130	0.3%
2011	65,798	2,572,044,000	39,090	-0.1
2012	65,270	2,567,659,000	39,339	0.6
2013	65,535	2,634,566,000	40,201	2.2
2014	66,223	2,676,344,000	40,414	0.5
2015	67,008	2,756,913,000	41,143	1.8
2016	68,517	2,833,369,000	41,353	0.5
2017	70,073	3,040,649,000	43,393	4.9
2018	71,112	3,188,316,000	44,835	3.3
2019	72,502	3,356,492,000	46,295	3.3

* *Actuarial valuation payroll is computed as the sum of the annualized salaries for all active members, and differs from the actual payroll shown in the financial section of the annual report.*

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EXHIBIT 3: SCHEDULE OF RETIREE AND BENEFICIARY VALUATION DATA [1]

Valuation Date July 1	Number			COLA Percentage Increases Granted Previous March 1
	Total	Added	Removed	
2010	33,625	2,335	907	-1.48% + 2.48% Partial Restoration
2011	35,334	2,652	943	1.0
2012	37,150	2,769	953	1.0
2013	38,947	2,815	1,018	1.0
2014	40,776	2,852	1,023	1.0
2015	42,657	2,889	1,008	1.70% + 2.30% Partial Restoration
2016	44,181	2,634	1,110	0.20% + 0.80% Partial Restoration
2017	45,468	2,746	1,459	1.1
2018	46,907	2,657	1,218	1.9
2019	48,120	2,572	1,359	1.0

Valuation Date July 1	Annual Benefits				
	Total Rolls End of Year	Added to Rolls [2]	Removed from Rolls	Average	% Increase in Average
2010	$ 526,020,000	$ 43,382,000	$ 9,308,000	$ 15,644	2.4%
2011	567,933,000	51,647,000	9,734,000	16,073	2.7
2012	611,045,000	53,184,000	10,072,000	16,448	2.3
2013	651,466,000	51,630,000	11,209,000	16,727	1.7
2014	694,946,000	54,963,000	11,483,000	17,043	1.9
2015	754,201,000	70,985,000	11,730,000	17,681	3.7
2016	793,277,000	52,788,000	13,712,000	17,955	1.5
2017	836,201,000	60,924,000	18,000,000	18,391	2.4
2018	884,827,000	64,770,000	16,144,000	18,863	2.6
2019	922,112,000	59,048,000	21,763,000	19,163	1.6

(1) Information regarding the number of retirees and beneficiaries added to, and removed from, the rolls was not used in the actuarial valuations.
(2) Includes postretirement increases.

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EXHIBIT 4: SCHEDULE OF FUNDING PROGRESS
(ALL DOLLAR AMOUNTS IN MILLIONS)

Actuarial Valuation Date	Actuarial Value of Assets	Actuarial Accrued Liabilities (AAL) (1)	Present Value of Future ORP Contributions	Unfunded Actuarial Accrued Liabilities (UAAL) (2)	Funded Ratio (3)	Covered Payroll (4)	UAAL as a Percentage of Covered Payroll
July 1, 2010	$ 9,579.8	$ 12,187.9	$ 52.3	$ 2,555.8	78.9%	$ 2,684.4	95.2%
July 1, 2011	11,360.1	12,641.2	48.5	1,232.6	90.2	2,627.9	46.9
July 1, 2012	11,306.2	13,396.7	47.0	2,043.5	84.7	2,619.6	78.0
July 1, 2013	12,053.5	14,172.9	45.3	2,074.1	85.3	2,697.6	76.9
July 1, 2014	13,833.1	14,928.1	42.7	1,052.3	92.9	2,702.9	38.9
July 1, 2015	13,956.7	15,488.2	41.3	1,490.2	90.4	2,791.1	53.4
July 1, 2016	13,884.2	16,128.3	38.0	2,206.1	86.3	2,909.3	75.8
July 1, 2017	15,296.7	17,101.0	37.7	1,766.6	89.6	3,089.6	57.2
July 1, 2018	16,274.8	17,889.0	34.1	1,580.1	91.2	3,200.4	49.4
July 1, 2019	17,239.5	18,661.7	31.0	1,391.2	92.5	3,382.1	41.1

(1) Actuarial present value of benefits less actuarial present value of future normal costs based on entry age actuarial cost method.

(2) Actuarial accrued liabilities less actuarial value of assets and present value of future ORP contributions. Amounts reported in this table do not include the value of any discretionary COLA or Gain Sharing allocations granted after the valuation date. If negative, amount is referred to as a funding reserve.

(3) Funded Ratio is the ratio of the actuarial value of assets over the actuarial accrued liabilities less the present value of future ORP contributions.

(4) Covered Payroll includes compensation paid to all active employees on which contributions are calculated. Covered Payroll differs from the Active Member Valuation Payroll shown in Exhibit 2, which is an annualized compensation of only those members who were active on the actuarial valuation date.

Public Employee Retirement System of Idaho

EXHIBIT 5: SOLVENCY TEST
(ALL DOLLAR AMOUNTS IN MILLIONS)

		Actuarial Accrued Liabilities For			Portion of Actuarial Accrued Liabilities Covered by Assets		
Actuarial Valuation Date	Actuarial Value of Assets	Active Member Contributions (A)	Retirees and Beneficiaries (B)	Active Members (Employer Financed Portion) (C)	(A)	(B)	(C)
July 1, 2010	$ 9,579.8	$ 2,813.7	$ 5,820.0	$ 3,554.2	100.0	100.0	26.6%
July 1, 2011	11,360.1	2,838.9	6,284.8	3,517.5	100.0	100.0	63.6
July 1, 2012	11,306.2	3,114.9	6,925.0	3,356.8	100.0	100.0	37.7
July 1, 2013	12,053.5	3,304.1	7,425.2	3,443.6	100.0	100.0	38.5
July 1, 2014	13,833.1	3,268.7	8,125.8	3,533.6	100.0	100.0	69.0
July 1, 2015	13,956.7	3,468.5	8,565.6	3,454.1	100.0	100.0	55.7
July 1, 2016	13,884.2	3,652.6	9,097.0	3,378.7	100.0	100.0	33.6
July 1, 2017	15,296.7	3,554.1	9,609.7	3,937.2	100.0	100.0	54.2
July 1, 2018	16,274.8	3,611.4	10,121.1	4,156.5	100.0	100.0	61.2
July 1, 2019	17,237.5	3,817.2	10,559.3	4,285.2	100.0	100.0	66.8

EXHIBIT 6: ANALYSIS OF ACTUARIAL GAINS OR LOSSES
(ALL DOLLAR AMOUNTS IN MILLIONS)

	Gain(Loss) for Period		
	2016-2017	**2017-2018**	**2018-2019**
Investment Income			
Investment income was greater (less) than expected.	$ 772.1	$ 237.2	$ 185.6
Pay Increases			
Pay increases were less (greater) than expected.	(198)	113.5	16.8
Membership Growth & Return to Employment			
(Additional) liability for new members.	(29.1)	(33.2)	(34.9)
Death After Retirement			
Retirees died younger (lived longer) than expected.	17.6	37.6	48.5
Cost of Living Adjustment (COLA)			
Different Automatic COLA than expected.	NA	NA	NA
Other			
Miscellaneous gains (and losses) resulting from other causes. [2]	(68.3)	(73.3)	(73.3)
Total Gain (Loss) During the Period From Actuarial Experience	$ 494.3	$ 281.8	$ 178.9
Contribution Income			
Actual contributions were greater (less) than the normal cost and interest on the Unfunded Actuarial Accrued Liability.	(42.5)	(10.1)	10.0
Non-Recurring Items			
Changes in actuarial assumptions caused a gain (loss)	None	None	None
Changes in actuarial methods caused a gain (loss)	None	None	None
Changes in plan provisions caused a gain (loss) [1]	(9.0)	(85.6)	None
Changes to Contribution Rate Increase Schedule	(3.3)	0.4	None
Composite Gain (Loss) During the Period	$ 439.5	$ 186.5	$ 188.9

Note: Effects related to losses are shown in parentheses. Numerical results are expressed as a decrease (increase) in the actuarial accrued liability.

(1) For 2016-17 this reflects the 0.10% discretionary COLA, effective March 1, 2017. For 2017-18 this reflects the 0.90% retroactive COLA, effective March 1, 2018.
(2) For 2016-17, this reflects changes made to the demographic assumptions adopted to the 2016 Experience Study.

EXHIBIT 7: SCHEDULE OF CONTRIBUTIONS FROM THE EMPLOYER AND ALL OTHER CONTRIBUTING ENTITIES (ALL DOLLAR AMOUNTS IN MILLIONS)

Fiscal Year Ending	Covered Employee Payroll (1)	Actual PERSI Employer Contributions Dollar Amount (2)	Actual ORP Contributions Dollar Amount	Total Actual Employer Contributions	Actuarially Determined Contribution (ADC) (3)	Percentage of ADC Dollars Contributed
06/30/10	$2,684.4	$280.2	$4.7	$284.9	$260.3	109%
06/30/11	2,627.9	274.3	4.8	279.1	326.5	85
06/30/12	2,619.6	273.5	3.7	277.2	327.9	84
06/30/13	2,697.6	281.6	3.8	285.4	295.5	97
06/30/14	2,702.9	307.1	3.9	311.0	325.0	96
06/30/15	2,791.1	317.0	4.2	321.2	327.1	98
06/30/16	2,909.3	331.1	4.5	335.6	298.7	112
06/30/17	3,089.6	351.6	4.8	356.4	337.2	106
06/30/18	3,200.4	364.2	4.9	369.1	388.3	95
06/30/19	3,382.1	384.9	5.2	390.1	382.6 (4)	102

(1) Computed as the dollar amount of the actual PERSI employer contribution made as a percentage of payroll divided by the Actual PERSI contribution rate expressed as a percentage of payroll.

(2) The actual PERSI employer contributions are expressed as a percentage of payroll. Employer contributions are made as a percentage of actual payroll in accordance with statute and the Board's Funding Policy. Thus, the actual employer contributions set by both statute and the Board's Funding Policy may differ from the computed Actuarially Determined Contribution (ADC), employer contribution rate for GASB disclosure purposes. Dollar amounts shown exclude additional receipts due to merger of retirement systems.

(3) For PERSI employers, the ADC, formerly known as the Annual Required Contribution (ARC), is equal to the normal cost rate plus a 25-year amortization of any Unfunded Actuarial Accrued Liability or minus a 25-year amortization of any Funding Reserve amount. The ADC determined as of the valuation date is applicable for employer fiscal years commencing July 1 of the calendar year following the valuation date. For Optional Retirement Plan (ORP) employers, the ADC is equal to 1.49% of salaries of university members in the ORP until 2025 and 3.83% of salaries of junior college members in the ORP until 2011.

(4) The ADC for the PERSI fiscal year ending June 30, 2019 is based on 11.16% of covered payroll as computed in the 2017 valuation. For valuations prior to 2012, the ADC rate determined as of the valuation date was applicable for employer fiscal years commencing October 1 of the calendar year following the valuation date.

Public Employee Retirement System of Idaho

EXHIBIT 8: SCHEDULE OF CONTRIBUTIONS FROM THE EMPLOYER EXPRESSED AS A PERCENTAGE OF PAYROLL

Fiscal Year Ending	Actual PERSI Employer Contribution % (1)	Actuarially Determined Contribution (ADC) % (2)	Percentage of ADC Contributed
6/30/10	10.44%	9.523%	109%
6/30/11	10.44	12.243	85
6/30/12	10.44	12.375	84
6/30/13	10.44	10.813	97
6/30/14	11.36	11.880	96
6/30/15	11.36	11.570	98
6/30/16	11.38	10.110	113
6/30/17	11.38	10.760	106
6/30/18	11.38	11.980	95
6/30/19	11.38	11.160 (3)	102

(1) *The actual PERSI employer contributions are expressed as a percentage of payroll. Employer contributions are made as a percentage of actual payroll in accordance with statute and the Board's Funding Policy. Thus, the actual employer contributions set by both statute and the Board's Funding Policy may differ from the computed Actuarially Determined Contribution (ADC), employer contribution rate for GASB disclosure purposes. Dollar amounts shown exclude additional receipts due to merger of retirement systems.*

(2) *For PERSI employers, the ADC, formerly known as the Annual Required Contribution (ARC), is equal to the normal cost rate plus a 25-year amortization of any Unfunded Actuarial Accrued Liability or minus a 25-year amortization of any Funding Reserve amount. The ADC determined as of the valuation date is applicable for employer fiscal years commencing July 1 of the calendar year following the valuation date. For Optional Retirement Plan (ORP) employers, the ADC is equal to 1.49% of salaries of university members in the ORP until 2025 and 3.83% of salaries of junior college members in the ORP until 2011.*

(3) *The ADC for the PERSI fiscal year ending June 30, 2019 is based on 11.16% of covered payroll as computed in the 2017 valuation. For valuations prior to 2012, the ADC rate determined as of the valuation date was applicable for employer fiscal years commencing October 1 of the calendar year following the valuation date.*

EXHIBIT 9: PROVISIONS OF GOVERNING LAW

All actuarial calculations are based on our understanding of the statutes governing the Public Employee Retirement System of Idaho, as contained in Sections 59-1301 through 59-1399, inclusive, of the Idaho Code, with amendments effective through July 1, 2019. The benefit and contribution provisions of this law are summarized briefly below, along with corresponding references to the Idaho Code. This summary does not attempt to cover all the detailed provisions of the law. Only those benefits in effect through July 1, 2019 are considered in this valuation. The items in parentheses are the provisions applicable to firefighters and police officers.

Effective Date

The effective date of the Retirement System was July 1, 1965.

Member Contribution Rate

The member contribution rate effective July 1, 2019 is 7.16% (8.81%) of salary.

The member contribution rate is fixed at 60% (72%) of the employer contribution rate. For firefighters and police officers, the 72% adjustment is applied after reducing the employer rate by 0.10% for the 2003 addition of a $100,000 death benefit for fire and police members who die in the line of duty. After the 72% is applied, the resulting rate is increased by 0.04% for the lump sum duty disability benefit. Member contributions have been "picked up" on a pre-tax basis by the employer since June 30, 1983 (Sections 59-1331 and 59-1332).

Employer Contribution Rate

The employer contribution rate is set by the Retirement Board (Section 59-1322). The current rates of 11.94% (12.28%) are reflected in this valuation.

Service Retirement Allowance

Eligibility
Age 65 (60) with five years of service including six months of membership service (Section 59-1341).

Amount of Allowance
For each year of credited service, the annual service retirement allowance is 2.0% (2.3%) of the highest 42-month average salary (Section 59-1342).

Service Retirement Allowance (continued)	***Minimum Benefit*** $60 ($72) annual allowance for each year of service. The dollar amounts increase after 1974 according to the rate of cost of living increases in retirement allowances (Section 59-1342).
	Maximum Benefit In no case may a member's regular retirement benefit exceed the highest three-year average salary of the member (Section 59-1342).
	Normal Form Straight life retirement allowance plus any death benefit (Section 59-1351).
	Optional Form Actuarial equivalent of the normal form under the options available, according to the mortality and interest basis adopted by the Board (Section 59-1351).
Early Retirement Allowance	***Eligibility*** Age 55 (50) with five years of service, including six months of membership service (contributing members only) (Section 59- 1345).
	Amount of Allowance Full accrued service retirement allowance if age plus service equals 90 (80); otherwise, the accrued service retirement allowance, reduced by 3% for each of the first five years by which the early retirement date precedes the date the member would be eligible to receive the full accrued benefit, and by 5.75% for each additional year (Section 59-1346).
Vested Retirement Allowance	***Eligibility*** Former contributing members with five years of membership service are entitled to receive benefits after attaining age 55 (50) (Section 59-1345).
	Amount of Allowance Same as early retirement allowance (Section 59-1345).
Disability Retirement Allowance	***Eligibility*** Five years of membership service. For a police officer or a firefighter hired after July 1, 1993, who is disabled from an occupational cause, there is no service requirement (Section 59- 1352).

Amount of Allowance
Projected service retirement allowance based on accrued service plus service projected to age 65 (60) (latter limited to excess of 30 years over accrued service) less any amount payable under workers' compensation law (Section 59-1353).

Normal Form
Temporary annuity to age 65 (60) plus any death benefit. Service retirement allowance becomes payable at age 65 (60) (Section 59-1354)

Safety Member Lump Sum Duty Disability Benefit
Fire and Police members who are disabled in the line of duty are eligible for a $100,000 lump sum benefit, in addition to the annuity benefits discussed above (Section 59-1352A).

Death Benefits

After Retirement
Under the normal form of the retirement allowance, the excess, if any, of the member's accumulated contributions with interest at retirement over all payments received. Otherwise, payable according to the option elected (Section 59-1361).

Before Retirement
A. An automatic joint and survivor option applied to the actuarial equivalent of the member's accrued service retirement allowance is paid to the surviving spouse of a member with at least five years of service who dies while:
   i. contributing;
   ii. not contributing, but eligible for benefits; or
   iii. retired for disability,

or

B. If a member with at least five years of service has no spouse, a lump sum payment is made equal to twice the accumulated contributions with interest (Section 59-1361).

or

C. If a member with at least five years of service has no spouse, a lump sum payment is made equal to twice the accumulated contributions with interest (Section 59-1361).

Fire and police members are entitled to an additional $100,000 payment if death occurs in the line of duty. (Section 59-1361 A).

Withdrawal Benefits Accumulated contributions with interest (Section 59-1358). The interest rate is determined by the Board (Section 59-1301(26)).

Postretirement Increases Postretirement benefit increases are based on changes in the Consumer Price Index. The measurement period for changes in the CPI-U is August to August. The COLA changes are implemented effective on the March 1 following the measurement period.

If the CPI-U increases by at least 1%, the COLA is at least 1%. If the CPI-U increases by more than 1%, an additional postretirement increase of up to 5% each year (but not more than the increase in the CPI-U) may be authorized by the Board, subject to the approval of the Legislature.

If the CPI-U increases by less than 1% or decreases, the COLA is automatic, based on the change in the CPI. If a negative COLA is applicable, the negative COLA cannot decrease benefits by more than 6%. Additionally, a negative COLA cannot decrease a member's benefit below the amount of the benefit at the initial benefit date.

If a COLA is implemented that is less than the increase in the CPI-U, members' benefits will not retain their full inflation adjusted purchasing power. In such cases, the Board may implement a Restoration of Purchasing Power (ROPP) COLA at a later date to bring those members closer to 100% of inflation adjusted purchasing power. As with a discretionary COLA, a ROPP is subject to approval of the Legislature. (Section 59-1355).

Gain Sharing Beginning in 2000, under Section 59-1309, Idaho Code, the Board may allocate all or a portion of "extraordinary gains" to active and retired members and employers as Gain Sharing.

Extraordinary gains are defined as the excess, if any, at the close of the fiscal year of the Assets over Actuarial Accrued Liabilities plus an amount necessary to absorb a one standard deviation market event without increasing contribution rates, as determined by the Board. Under the Board's current investment policy, assets in excess of a 113% funded ratio are considered extraordinary gains. The Board has the authority to rescind the Gain Sharing up to the date of distribution.

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October 18, 2019

Retirement Board
Public Employee Retirement System of Idaho State of Idaho
P.O. Box 83720
Boise, ID 83720

Members of the Board:

Milliman has performed annual actuarial valuations of the Idaho Firefighters' Retirement Fund (FRF) from 1981 through 1988 and biennial valuations from July 1, 1990 to July 1, 2000. Starting with the July 1, 2001 valuation, actuarial valuations occurred annually through the July 1, 2007 valuation. From July 1, 2007 through July 1, 2013 the valuations were again biennial. Beginning with the July 1, 2014 valuation they have been performed annually once again. The most recent actuarial valuation was for July 1, 2019; the next is scheduled for July 1, 2020.

Contribution Rates

FRF covers a closed group of firefighters who were hired before October 1, 1980 and who receive benefits in excess of those provided under the Public Employee Retirement System of Idaho (PERSI). The cost of these excess benefits is paid by member contributions, employer contributions, and receipts from a fire insurance premium tax. Employer contributions comprise two elements: 8.65% of the salaries of covered members and an additional rate applied to the salaries of all firefighters of the employer. The additional rate is designed to meet the costs of the Fund not covered by other resources. Idaho Code Section 59-1394 requires the cost of the excess benefits to be retired by the schedule of contributions over a given period of time not to exceed 50 years.

On September 16, 2014 the PERSI Board moved to reduce the Additional Employer Contribution Rate from the current 17.24% to 5.00%. In accordance with this decision, the additional employer contribution rate for excess benefits (shown in Exhibit 8) was reduced to a rate of 5.00% of payroll, effective January 1, 2015.

FRF benefits were offset by PERSI benefits effective October 1, 1980. Effective July 1, 1990, all members hired after June 30, 1978 are to receive the same FRF benefits as members hired earlier.

Effective October 1, 1994, the PERSI benefits and contributions were increased. The FRF additional contribution rate to fund the excess benefits was decreased to 15.40% and the total employer contributions for FRF members remained fixed at 35.90% for Class A & B firefighters and 27.25% for Class D firefighters.

The Retirement Board lowered the PERSI contribution rates starting October 31, 1997 and made the reduction permanent as of April 25, 2000. The FRF excess contribution rate was increased to 17.24% since the total employer contributions for FRF members remained fixed at the 35.90%/ 27.25% rates.

The Retirement Board raised the PERSI contribution rates, with the first increase effective July 1, 2004, and additional increases effective July 1, 2005 and July 1, 2006 an additional 0.1% contribution was added to provide for a $100,000 death benefit for duty related deaths. The FRF excess contribution rate was maintained at 17.24%. The July 1, 2004 rate increase took effect as scheduled, but the other two rate increases were delayed by the Board to July 1, 2006 and July 1, 2007.

After the July 1, 2006 PERSI and FRF valuation reports were completed, the PERSI Board delayed the effective date of the scheduled contribution rate increases to July 1, 2008 and July 1, 2009. In October 2007, the Board canceled the remaining scheduled contribution rate increases.

After the July 1, 2009 PERSI and FRF valuation reports were completed, the PERSI Board approved three new contribution rate increases scheduled for July 1, 2011, July 1, 2012, and July 1, 2013. These were adopted in December 2009 due to a significant drop in funded status because of investment losses in the year ending June 30, 2009.

Due to the 12.01% investment return in the year ending June 30, 2010, in December 2010, the PERSI Board delayed the scheduled contribution rate increases for July 1, 2011, July 1, 2012, and July 1, 2013, to July 1, 2012, July 1, 2013, and July 1, 2014, respectively.

Due to the 20.25% investment return in the year ending June 30, 2011, in December 2011, the Board delayed the scheduled contribution rate increases for July 1, 2012, July 1, 2013, and July 1, 2014, to July 1, 2013, July 1, 2014, and July 1, 2015, respectively.

On July 1, 2013, the first of three scheduled contribution rate increases went into effect. This raised the member contribution for Class D Firefighters from 7.69% to 8.36%. It also increased the PERSI Rate employer contribution from 10.73% to 11.66% for all firefighter groups.

In December 2013, the Board delayed the scheduled contribution rate increases for July 1, 2014 and July 1, 2015 to July 1, 2015 and July 1, 2016, respectively

In September 2014 the scheduled contribution rate increases scheduled for July 1, 2015 and July 1, 2016 were canceled.

On January 1, 2015, the additional employer contribution rate was decreased from 17.24% to 5.00%.

After the July 1, 2016 PERSI and FRF valuation reports were completed, the PERSI Board approved a contribution rate increase scheduled for July 1, 2018. This was adopted in October 2016 due to a drop in funded status because of low investment returns in the fiscal years 2015 and 2016. In 2017, the rate increase was delayed one year: from July 1, 2018 to July 1, 2019.

On July 1, 2019, the member contribution for Class D Firefighters from 8.36% to 8.81%. The PERSI Rate employer contribution increased from 11.66% to 12.28% for all firefighter groups.

Funding Status

Based on the July 1, 2019 actuarial valuation, there is currently no Unfunded Actuarial Accrued Liability (UAAL) to amortize. This is consistent with the results from the July 1, 2018 valuation. The Fund's original funding goal is to amortize the liabilities by June 30, 2018 (40 years from July 1, 1978). The current amortization period of zero is less than the statutory maximum of 50 years.

The UAAL was decreased by $1.6 million due to an asset gain partially recognized as of July 1, 2019. Specifically, the Fund's assets earned an annual average net return after expenses of 8.20% for the 2018-19 fiscal year which was more than the actuarial assumption of 7.00%. The UAAL was also reduced by $1.9 million due to the February 1, 2019 FRF COLA being 3.13%, which was less than the actuarial assumption of 3.75%.

All experience gains and losses (including the asset loss) over the one-year period since the prior valuation resulted in the UAAL being decreased by $11.2 million. The UAAL decreased by $23.9 million because actual contributions plus assumed investment returns were more than the normal cost and the interest on the UAAL.

The funding status increased from a 136.6% funding ratio on July 1, 2018, to 150.2% on June 30, 2019. The funding ratio is the ratio of the actuarial value of the assets over the value of the actuarial accrued liability.

Comparison to GASB Statement No. 67 Liabilities

The long-term expected rate of return on investments is 7.05%, net of investment expenses. This figure includes 0.05% for expected administrative expenses. For purposes of determining the Fund's funding status and UAAL, we use a discount rate that is net of all expenses (7.00%). The figures shown in this report have been calculated using this discount rate.

This is in contrast to the discount rate used to determine the Total Pension Liability (TPL) and Net Pension Liability (NPL) for purposes of GASB reporting. According to GASB Statement 67, the discount rate used to calculate TPL and NPL must be net of investment expenses but not administrative expenses. Therefore, TPL and NPL have been determined using a discount rate of 7.05%.

For the July 1, 2019 valuation, 3-year smoothing is used to calculate the actuarial value of plan assets. This is in contrast to the Fiduciary Net Position (FNP) used for purposes of GASB reporting. According to GASB Statement 67, the FNP must be based on the plan's fair value of assets at the valuation date. Therefore, FNP has been determined without any asset smoothing.

Results and further details on these items can be found in our GASB 67 Report.

Assumptions

Our July 1, 2019 actuarial valuation report presented summaries of the actuarial assumptions and methods used in the valuation. The FRF assumptions generally reflect the assumptions used for the PERSI Fire and Police members, but are modified to reflect the characteristics expected of the closed group of FRF members.

The mortality assumptions for the plan were changed on July 1, 2014, in conjunction with changes to the assumptions for the PERSI Base Plan, as described in Appendix A of the July 1, 2014 valuation. The next major PERSI experience study, to be completed in 2022, will cover the period July 1, 2017 through June 30, 2021.

Certification Statement

In preparing this report, we relied, without audit, on information (some oral and some in writing) supplied by the PERSI staff. This information includes, but is not limited to; benefit descriptions, employee data, and financial information. In our examination of such data, we have found them to be reasonably consistent and comparable with data used for other purposes. Since the valuation results are dependent on the integrity of the data supplied, the results can be expected to differ if the underlying data is incomplete or missing or if our assumptions regarding incomplete data are incorrect. It should be noted that if any data or other information is inaccurate or incomplete, our calculations may need to be revised.

All costs, liabilities rates of interest, and other factors have been determined on the basis of actuarial assumptions and methods which are individually reasonable (taking into account the experience of the Fund and reasonable expectations) and which in combination, offer our best estimate of anticipated experience affecting the Fund. Further, in our opinion, each actuarial assumption used is reasonably related to the experience of the System and to reasonable expectations which, in combination, represent our best estimate of anticipated experience under the System. We believe that all of these assumptions and methods meet the parameters set by Actuarial Standards of Practice (ASOPs).

Future actuarial measurements may differ significantly from the current measurements 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. Due to the limited scope of our assignment, we did not perform an analysis of the potential range of future measurements.

Actuarial computations presented in this report are for purposes of determining the recommended funding amounts for the Fund. Actuarial computations under GASB Statements No. 67 and 68 are for purposes of fulfilling financial accounting requirements. The computations prepared for these two purposes may differ as disclosed in our report. The calculations in the enclosed exhibits have been made on a basis consistent with our understanding of the Fund's funding requirements and goals. Determinations for purposes other than meeting these requirements may be significantly different from the results contained in this report. Accordingly, additional determinations may be needed for other purposes.

Actuarial Standard of Practice No. 51 (ASOP 51) directs actuaries to identify risks that are significant to any actuarial calculation or communication. Probably the most notable risk is Investment Risk - the potential for plan assets to grow at a rate lower than assumed in the actuarial valuation. If investment performance is worse than expected, then additional funding may be required. There is also Maturity Risk - the potential for total plan liabilities to become more heavily weighted toward inactive liabilities over time - is pertinent to the contents of this letter because as the System's assets and liabilities continue to grow, the impact of any gains or losses on the assets or liabilities also becomes larger. A third risk is Demographic Risk - the potential for members experience to differ from our Actuarial assumptions, including (but not limited to) retirement, withdrawal, salary growth, and mortality. If member experience is different than anticipated by the actuarial assumptions, additional System funding may be required. Please refer to our funding valuation report dated October 18, 2019 for more detailed discussion of risk.

Milliman's work is prepared solely for the internal business use of the Fund. To the extent that Milliman's work is not subject to disclosure under applicable public records laws, Milliman's work may not be provided to third parties without Milliman's prior written consent. Milliman does not intend to benefit or create a legal duty to any third party recipient of its work product. Milliman's consent to release its work product to any third party may be conditioned on the third party signing a Release, subject to the following exception(s):

(a) The Fund may provide a copy of Milliman's work, in its entirety, to the Fund's professional service advisors who are subject to a duty of confidentiality and who agree to not use Milliman's work for any purpose other than to benefit the Fund.

(b) The Fund may provide a copy of Milliman's work, in its entirety, to other governmental entities, as required by law.

No third party recipient of Milliman's work product should rely upon Milliman's work product. Such recipients should engage qualified professionals for advice appropriate to their own specific needs.

The consultants who worked on this assignment are pension actuaries. Milliman's advice is not intended to be a substitute for qualified legal or accounting counsel.

The signing actuaries are independent of the plan sponsor. We are not aware of any relationship that would impair the objectivity of our work.

On the basis of the foregoing, we hereby certify that, to the best of our knowledge and belief, this letter is complete and accurate and has been prepared in accordance with generally recognized and accepted actuarial principles and practices. We are members of the American Academy of Actuaries and Fellows of the Society of Actuaries and meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion contained herein.

The enclosed Exhibits 1 through 9 provide further related information. Milliman is completely responsible for these exhibits. Specifically, they are:

Exhibit 1	Summary of Actuarial Assumptions and Methods
Exhibit 2	Schedule of Active Member Valuation Data
Exhibit 3	Schedule of Retiree and Beneficiary Valuation Data
Exhibit 4	Schedule of Funding Progress
Exhibit 5	Solvency Test
Exhibit 6	Analysis of Actuarial Gains or Losses
Exhibit 7	Schedule of Contributions from the Employer and All Other Contributing Entities
Exhibit 8	Contribution Rates as a Percent of Pay
Exhibit 9	Provisions of Governing Law

Respectfully submitted,

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Principal and Consulting Actuary

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RLS/JDB/rc/tn

Idaho Firefighters' Retirement Fund

EXHIBIT 1: SUMMARY OF ACTUARIAL ASSUMPTIONS AND METHODS EFFECTIVE JULY 1, 2019

1. Investment Return (Adopted July 1, 2012)

The annual rate of investment return on the assets, net of investment expenses, for the Fund is assumed to be 7.05% (including 0.05% for administrative expenses), compounded annually.

2. Actuarial Value of Assets (Adopted September 2014)

For the July 1, 2014 valuation, all assets are valued at market as of the valuation date. Use of 3-year smoothing to calculate the actuarial value of plan assets is being implemented prospectively: the July 1, 2015 valuation used a 2-year smoothing; subsequent valuations have used a 3-year smoothing.

3. Actuarial Assumptions

The actuarial assumptions and methods were adopted by the PERSI Board based upon recommendations from the retained actuary. The actuarial assumptions are based on periodic studies of the PERSI total fund's actual experience.

4. Service Retirement, Disability Retirement, and Termination (Adopted July 1, 2016)

The actively employed members of FRF are fully eligible for unreduced service retirement. They are assumed to retire at the valuation date. No future withdrawals or disabilities are anticipated.

5. Mortality (Adopted July 1, 2014)

The mortality rates used for all members of the Fund, active and retired, are from the RP- 2000 Combined Mortality Table for males with generational mortality adjustments with ages unadjusted. The mortality rates assumed for spouses are from the RP-2000 Combined Mortality Table for females with generational mortality adjustments; with ages set back one year. For disabled members, the mortality rates used in the valuation are from the RP-2000 Mortality Table for disabled males with generational mortality adjustments, set back one year. These tables are illustrated in Table A-2A of the July 1, 2019 valuation report.

The Generational mortality adjustments provide a margin for future mortality improvements. The adjustments are applied from the base year of the tables (2000) to the year in which the mortality assumption is applied. The adjustments are done using the standard RP-2000 projection scale (Scale AA). These tables are illustrated in Tables A-2A and A-2B of the July 1, 2019 valuation report.

6. Future Salaries (Adopted July 1, 2016)

This assumption is not applicable since all remaining actively employed members are assumed to retire at the valuation date. No future withdrawals, disabilities, or salary increases are anticipated.

7. Replacement of Terminated Members

The FRF is a closed group. No new members are permitted. The total number of firefighters in PERSI (including those hired October 1, 1980 and later) is assumed to remain unchanged from year to year.

8. Postretirement Benefit Increases (Cost of Living Adjustments) (Adopted July 1, 2013)

FRF benefits are based on paid salary and are assumed to increase at the same rate as the average paid firefighter's salary, or 3.75% per year. For members whose FRF benefits are offset by their PERSI benefits, the PERSI benefits are assumed to have post-retirement benefit increases of 1.00% per year. The assumptions regarding PERSI future post-retirement benefit increases is part of the funding policy for the FRF.

9. Probability of Marriage

It is assumed that there is an 85% probability that the member has an eligible spouse. The spouse's age is assumed to be three years younger than the member's.

10. Fire Insurance Premiums (Adopted July 1, 2004)

The fire insurance premiums received for the plan year ending June 30, 2019, amounted to $4,320,912 or approximately 5.5% of all firefighters' covered compensation during the same period. Future fire insurance premiums are expected to provide contributions as a decreasing percentage of compensation, due to the assumption that the firefighters' covered compensation (including Class D members) will increase at the rate of 3.75% per year, but future fire insurance premiums are assumed to increase at a rate of only 3.00% per year. The rate for the increase for covered compensation was adopted July 1, 2012. The rate for the increase of fire insurance premiums was adopted July 1, 2018.

11. Actuarial Cost Method (Adopted July 1, 1998)

Costs are determined based on the entry age normal cost method. The actuarial present value of future benefits not provided by PERSI less the present value of future normal costs equals the actuarial accrued liability. The UAAL is equal to the actuarial accrued liability less the actuarial value of the assets. The UAAL is amortized as a level dollar amount over a fixed amortization period. The current amortization period is zero since the UAAL at July 1, 2019 is negative.

The Actuarially Determined Contribution (ADC) is then the total of the normal cost allocated to the current plan year plus the amortization payment on the UAAL. Prior to July 1, 2006, the UAAL was amortized over a closed 40-year period from July 1, 1996. This assumption was adopted July 1, 1998, but applied retroactively to the July 1, 1996 valuation.

12. Experience Studies

The last experience study was for the period July 1, 2011, through June 30, 2017, and reviewed economic assumptions, mortality and all demographic assumptions. These assumptions will be studied in 2022 for the period from July 1, 2017, through June 30, 2021. The FRF assumptions generally reflect the assumptions used for the PERSI Fire and Police members, but are modified to reflect the characteristics expected of the closed group of FRF members.

13. Recent Changes

The results reflect the PERSI Base Plan Discretionary COLA of 0.90% which went into effect March 1, 2018.

Idaho Firefighters' Retirement Fund

EXHIBIT 2: SCHEDULE OF ACTIVE MEMBER VALUATION DATA

Valuation Date July 1	Number	Annual Salaries Total [1]	Annual Salaries Average	Annual Salaries Annual Increase in Average
2007	10	$ 791,125	$ 79,113	5.2%
2009	5	437,818	87,564	2.6
2011	4	(2)	(2)	(2)
2013	3	(2)	(2)	(2)
2014	2	(2)	(2)	(2)
2015	2	(2)	(2)	(2)
2016	2	(2)	(2)	(2)
2017	1	(2)	(2)	(2)
2018	1	(2)	(2)	(2)
2019	1	(2)	(2)	(2)

(1) Annualized average salaries for covered members for the 12-month period commencing July 1 to June 30 of the previous calendar year.

(2) Salary information is not shown for years in which there are fewer than 5 active members.

Idaho Firefighters' Retirement Fund

EXHIBIT 3: SCHEDULE OF RETIREE AND BENEFICIARY VALUATION DATA [1]

Valuation Date July 1	Number			COLA Increases Granted Previous January 1
	Total	Added	Removed	
2007	590	5	12	2.42%
2009	573	6	23	5.10
2011	566	14	21	3.30
2013	551	3	18	2.18
2014	545	3	9	2.48
2015	535	1	11	(0.34)
2016	524	3	14	1.73
2017	517	2	9	2.85
2018	507	1	11	1.88
2019	486	5	26	3.13

Valuation Date July 1	Annual Benefits				
	Total [2]	Added [3]	Removed	Average	Annual Increase in Average
2007	$ 22,992,269	$ 754,703	$ 399,364	$ 38,970	2.8%
2009	24,598,935	2,442,928	836,262	42,930	5.0
2011	25,998,263	2,147,165	747,837	45,933	3.4
2013	26,499,035	1,255,415	754,643	48,093	2.3
2014	26,856,909	784,008	426,134	49,279	2.5
2015	26,319,030	(33,958)	503,921	49,194	(2.0)
2016	26,285,792	576,922	610,160	50,164	2.0
2017	26,687,801	815,356	413,347	51,621	2.9
2018	26,650,120	515,311	552,992	52,564	1.8
2019	26,400,434	964,724	1,214,411	54,322	3.3

(1) Information regarding the number of retirees and beneficiaries added to, and removed from, the rolls was not used in the actuarial valuations.

(2) Combined annual benefits from FRF and PERSI. The FRF benefits comprised $18,962,807 of the 2019 total.

(3) Includes postretirement increases (or decreases, if applicable) for all retirees and beneficiaries.

Idaho Firefighters' Retirement Fund

EXHIBIT 4: SCHEDULE OF FUNDING PROGRESS (All Dollar Amounts in Millions)

Actuarial Valuation Date July 1	Actuarial Value of Assets [1]	Actuarial Accrued Liabilities (AAL) [2]	Unfunded Actuarial Accrued Liabilities (UAAL) [3]	Funded Ratio	Covered Payroll [4]	UAAL as a Percentage of Covered Payroll
2007	$ 291.5	$ 314.8	$ 23.3	92.6%	$ 47.6	48.9%
2009	225.3	325.3	100.0	69.3	55.7	179.5
2011	290.4	311.5	21.1	93.2	59.3	35.6
2013	307.0	321.5	14.5	95.5	63.0	23.0
2014	352.2	315.6	(36.6)	111.6	63.0	(58.1)
2015	360.4	301.9	(58.5)	119.4	63.8	(91.7)
2016	363.4	294.7	(68.7)	123.3	68.0	(101.0)
2017	369.8	292.2	(77.6)	126.6	70.6	(109.9)
2018	385.7	283.2	(102.5)	136.2	74.8	(137.0)
2019	411.5	273.9	(137.6)	150.2	78.3	(175.7)

(1) *For the July 1, 2014 valuation and all preceding valuations, assets are valued at market as of the valuation date. Use of 3-year smoothing to calculate the actuarial value of plan assets has been implemented prospectively: the July 1, 2015 valuation used a 2-year smoothing; subsequent valuations use a 3-year smoothing.*

(2) *Actuarial present value of future excess benefits less actuarial present value of excess statutory contributions over amounts required by PERSI, for years prior to 1996. For years after 1996, the excess of the actuarial present value of future excess benefits less the present value of future normal cost contributions under the entry age cost method.*

(3) *Actuarial accrued liabilities less actuarial value of assets.*

(4) *Covered Payroll includes compensation paid to all active firefighters for whom contributions were made to FRF. Covered Payroll differs from the Active Member Valuation Payroll shown in Exhibit 2, which is an annualized compensation of only those members hired prior to October 1, 1980, who were active on the actuarial valuation date. For years prior to 1996, Covered Payroll is estimated. See footnote to Exhibit 7.*

Idaho Firefighters' Retirement Fund

EXHIBIT 5: SOLVENCY TEST (All Dollar Amounts in Millions)

		Actuarial Liabilities[1] for			Portion of Actuarial Liabilities Covered by Assets		
		(A)	(B)	(C)			
Actuarial Valuation Date July 1	Actuarial Value of Assets [2]	Active Member Contributions	Retirees and Beneficiaries	Active Members (Employer Financed Portion)	(A)	(B)	(C)
2007	$ 291.5	$ 0.0	$ 312.0	$ 2.8	100.0%	93.4%	0.0%
2009	225.3	0.0	324.0	1.3	100.0	69.5	0.0
2011	290.4	0.0	310.7	0.8	100.0	93.5	0.0
2013	307.0	0.0	320.4	1.1	100.0	95.8	0.0
2014	352.2	0.0	314.9	0.7	100.0	100.0	100.0
2015	360.4	0.0	301.3	0.6	100.0	100.0	100.0
2016	363.4	0.0	294.0	0.7	100.0	100.0	100.0
2017	369.8	0.0	291.7	0.5	100.0	100.0	100.0
2018	385.7	0.0	282.7	0.5	100.0	100.0	100.0
2019	411.5	0.0	273.4	0.5	100.0	100.0	100.0

(1) Computed based on funding policy methods and assumptions.

(2) For the July 1, 2014 valuation and all preceding valuations, assets are valued at market as of the valuation date. Use of 3-year smoothing to calculate the actuarial value of plan assets has been implemented prospectively: the July 1, 2015 valuation used a 2-year smoothing; subsequent valuations use a 3-year smoothing.

Idaho Firefighters' Retirement Fund

EXHIBIT 6: ANALYSIS OF ACTUARIAL GAINS OR LOSSES (All Dollar Amounts in Millions)

	Gain (Loss) for Period		
	2015-2016	2017-2018	2018-2019
Investment Income			
Investment income was greater (less) than expected, net of asset smoothing, if applicable.	$ 5.9	$ 1.8	$ 1.6
COLAs			
COLAs were less (greater) than expected.	3.2	7.1	1.9
Other			
Miscellaneous gains (and losses) resulting from other causes including retirees dying younger (living longer) than expected.	0.0	2.8	7.7
Total Gain (Loss) During the Period From Actuarial Experience	$ 9.1	$ 11.7	$ 11.2
Contribution Income			
Actual contributions plus assumed investment returns were greater (less) than the normal cost and interest on the UAAL.	(0.2)	13.2	23.9
Non-Recurring Items			
Effect of automatic PERSI COLA.	NA	NA	NA
Changes in actuarial assumptions and benefits caused a gain (loss).	NA	NA	NA
PERSI Restoration of Purchasing Power and Discretionary COLA.	NA	NA	NA
Composite Gain (Loss) During the Period	$ 8.9	$ 24.9	$ 35.1

Note: Effects related to losses are shown in parentheses. Numerical results are expressed as a decrease (increase) in the actuarial accrued liability.

Idaho Firefighters' Retirement Fund

EXHIBIT 7: SCHEDULE OF CONTRIBUTIONS FROM THE EMPLOYER AND ALL OTHER CONTRIBUTING ENTITIES (Actual Dollar Amounts)

Fiscal Year Ending	Covered Employee Payroll (1)	Statutory Employer Contributions (2)	Additional Employer Contributions (2)	Insurance Premium Payment from the State	Total Employer Contributions	Actuarially Determined Contribution (ADC) (3)	Percentage of ADC Contributed
2010	$ 58,146,207	$ 36,937	$ 10,024,405	$ 3,480,989	$ 13,542,331	$ 7,959,238	170.1%
2011	59,337,447	31,616	10,229,773	3,052,326	13,313,715	7,959,238	167.3
2012	59,883,692	25,532	10,323,948	3,136,829	13,486,309	1,666,127	809.4
2013	62,969,139	25,617	10,855,876	3,345,821	14,227,314	1,666,127	853.9
2014	63,017,405	25,032	10,864,197	3,311,094	14,200,323	1,119,619	1,268.3
2015	63,780,545	17,259	7,720,025	3,568,189	11,305,473	0	NA
2016	68,017,833	17,723	3,400,892	3,779,982	7,198,597	0	NA
2017	70,568,501	12,273	3,638,264	3,802,450	7,452,987	0	NA
2018	74,848,287	12,226	3,731,159	3,962,841	7,706,226	0	NA
2019	78,284,032	12,715	3,914,200	4,320,912	8,247,827	0	NA

(1) Computed as the dollar amount of the actual employer contribution made as a percentage of payroll divided by the contribution rate, expressed as a percentage of payroll.

(2) Employer contributions are made as a percentage of actual payroll rather than as a dollar amount. The Statutory Employer FRF contributions in excess of PERSI required contributions are payable only on Class A & B active member payroll. The Additional Employer FRF contributions are payable on Class A & B and Class D active member payrolls.

(3) Starting July 1, 1996, the ADC, formerly known as the Annual Required Contribution (ARC), is computed as a dollar amount based on the entry age cost method and future payroll contributions from Class A & B members only. The ADC is computed for GASB reporting purposes only. The actual employer contributions as a percentage of payroll varied from those determined by the actuarial valuation based on the funding policy as shown in Table D-2 of the actuarial valuation report. Thus, as long as the actual contributions are made as a percentage of payroll under the current funding policy methods and assumptions, as required by the most recent actuarial valuation, the actual dollar amount of the employer contributions will differ from the dollar amount of the ADC.

Idaho Firefighters' Retirement Fund

EXHIBIT 8: CONTRIBUTION RATES AS A PERCENT OF PAY

	State Contributions	Employer Contributions				Total Employer Contributions For Members	
Year [1]	Fire Insurance Premium Tax [2]	PERSI Rate	Statutory FRF Rate	Additional Rate	Social Security	Hired Before 10/1/80 [3]	Hired After 9/30/80 [4]
Effective Date:	July 1	October 1	January 1	October 1	January 1	October 1	October 1
2007	6.90%	10.73%	8.65%	17.24%	7.65%	36.62%	35.62%
2009	5.20	10.73	8.65	17.24	7.65	36.62	35.62
2011	5.10	10.73	8.65	17.24	7.65	36.62	35.62
2013	5.30	11.66	8.65	17.24	7.65	36.62	35.62
2014	5.20	11.66	8.65	17.24 [5]	7.65	36.62	35.62
2015	5.60	11.66	8.65	5.00	7.65	36.62	35.62
2016	5.60	11.66	8.65	5.00	7.65	36.62	35.62
2017	5.20	11.66	8.65	5.00	7.65	36.62	35.62
2018	5.30	11.66	8.65	5.00	7.65	36.62	35.62
2019	5.50	12.28	8.65	5.00	7.65	25.93	24.93

(1) Rates become effective on dates shown in given year. Biennial valuations were performed 1988-2000.

(2) Rate expressed as a percentage of the value of future fire insurance premium taxes over the value of future covered compensation.

(3) PERSI rate plus Statutory FRF rate plus additional rate.

(4) PERSI rate plus additional rate plus Social Security.

(5) Effective January 1, 2015, the Additional Employer Contribution Rate decreased from 17.24% to 5.00%.

Idaho Firefighters' Retirement Fund

EXHIBIT 9: PROVISIONS OF GOVERNING LAW

This exhibit outlines our understanding of the laws governing the Idaho Firefighters' Retirement Fund (FRF), compared with the provisions that apply to firefighters of the Public Employee Retirement System of Idaho (PERSI), as contained in Sections 59-1301 through 59-1399 for PERSI and Sections 72-1401 through 72-1472 for FRF, inclusive of the Idaho Code through July 1, 2019. Each currently active firefighter hired before October 1, 1980, is entitled to receive the larger of (a) a benefit based on the FRF provisions, considering all of his service as a firefighter, and (b) a PERSI benefit, based on membership service beginning October 1, 1980, plus prior service rendered before July 1, 1965. Firemen hired October 1, 1980 and later (Class D members) are not entitled to FRF benefits.

In 1990, the law was changed to provide benefits to all members of FRF equally. Prior to the change, members hired after July 1, 1978, and before October 1, 1980, (Class C members) received a lower level of benefits. Class A members are members hired prior to July 1, 1976, who chose Option 1, where contributions are calculated on the basis of statewide average paid firefighter's salary. Benefits are based on the statewide average salary in effect at the date of retirement. Class B members are all Option 2 members hired prior to July 1, 1978, where contributions are calculated on the basis of the individual's annual average salary, but benefits are based on actual pay.

Exhibit 9 (continued)

Retirement Provisions Affecting Firefighters In Idaho

July 1, 2019

	Public Employee Retirement System	Firefighters' Retirement Fund
Member Contribution Rate	8.81% of salary.	11.45% of salary[1]
Service Retirement Allowance		
Eligibility	Age 60 with five years of service, including six months of membership service.	20 years of service[2]
Amount of annual Allowance	2.30% of the highest 3.5-year average salary for the each year of credited service	40% of final five-year average salary [1] plus 5.00% of average salary for each year of service in excess of 20 years.
Maximum Benefit	100% highest three-year average salary	65% of final five-year average salary. [1]
Minimum Benefit	For retirement during or prior to 1974, $72 annual allowance for each year of service, increasing in subsequent years at the rate of cost-of-living increases in retirement allowances.	None.

(1) *For firefighters employed prior to July 1, 1976, who chose Option 1, contributions are calculated on the basis of the statewide average paid firefighter's salary. Benefits are based on the statewide average salary in effect at the date of retirement.*

For firefighters employed prior to July 1, 1976, who chose Option 2, contributions are based on the individual members' salaries for the prior year. Benefits are based on actual pay.

(2) *Completed years of service. No partial years of service are recognized.*

Exhibit 9
(continued)

	Public Employee Retirement System	Firefighters' Retirement Fund
Non-Duty Disability Retirement Allowance		
Eligibility	Five years of membership service.	Five years of service. [2]
Amount of Annual Allowance	Projected service retirement allowance based on accrued service plus service projected to age 60 (projected service is limited to excess of 30 years over accrued service), less any amount payable under workers' compensation law.	2.00% of final five-year average salary [1] times years of service [2], or same as service retirement benefit if eligible.
Normal Form	Temporary annuity to age 60 plus any death benefit.	Payable for firefighter's lifetime, with 100% of benefit continued to eligible surviving spouse or children.
Duty Disability Retirement Allowance		
Eligibility	If hired after July 1, 1993, no service requirement, otherwise same as non-duty disability retirement.	No age or service requirements.
Amount of Annual Allowance	Same as non-duty disability retirement.	65% of final five-year average salary.
Normal Form	Same as non-duty disability retirement.	Same as non-duty disability retirement.
Special Disability Benefit		
Eligibility	Firefighters hired after October 1, 1980 and prior to July 1, 1993, with less than 10 years of service.	None.
Benefit	Same as FRF disability benefit.	None.

(1) For firefighters employed prior to July 1, 1976, who chose Option 1, contributions are calculated on the basis of the statewide average paid firefighter's salary. Benefits are based on the statewide average salary in effect at the date of retirement.

For firefighters employed prior to July 1, 1976, who chose Option 2, contributions are based on the individual members' salaries for the prior year. Benefits are based on actual pay.

(2) Completed years of service. No partial years of service are recognized.

Exhibit 9
(continued)

	Public Employee Retirement System	Firefighters' Retirement Fund
Death Benefits Before Retirement		
Eligibility	Five years of service for surviving spouse's benefit.	Non-duty death: Five years of service. [(2)] Duty death: No service requirement. Benefits are payable to surviving spouse or, if no eligible surviving spouse, to unmarried children under 18.
Amount of Annual Allowance	1. Accumulated contribution with interest, or 2. The surviving spouse of a member with five years of service who dies while: i. contributing; ii.noncontributing, but eligible for benefits; or iii retired for disability receives an automatic joint and survivor option applied to the actuarial equivalent of the member's accrued service retirement allowance.	100% of the benefit the firefighter would have received as a duty or non-duty disability allowance, depending on cause of his death
Normal Form	Payable for member's lifetime, with death benefit determined by option selected at retirement.	Payable for firefighter's lifetime, with 100% of benefit continued to eligible surviving spouse or children.
Optional Form	Actuarial equivalent of the normal form under the options available according to the mortality and interest basis adopted by the Board.	None.
Death Benefits After Retirement		
Eligibility	Designated beneficiary or estate	Surviving spouse or, if no eligible surviving spouse, unmarried children under 18.
Amount of Annual Allowance	Under the normal form of the retirement allowance, the excess, if any, of the member's accumulated contributions with interest at retirement over all payments received. Otherwise payable according to the option elected.	100% of firefighter's retirement allowance.

(2) Completed years of service. No partial years of service are recognized.

Exhibit 9
(continued)

	Public Employee Retirement System	Firefighters' Retirement Fund
Early Retirement Allowance		
Eligibility	Age 50 with five years of service including six months of membership service (contributing members only).	None.
Amount of Allowance	Full accrued service retirement allowance if age plus service equals 80; otherwise, the accrued service retirement allowance reduced by 3.00% for each of the first five years by which the early retirement date precedes the date the member would be eligible to receive his full accrued benefit, and by 5.75% for each additional year.	None.
Vested Retirement Allowance		
Eligibility	Former contribution members with five years of membership service are entitled to receive benefits after attaining age 50.	Firefighters who terminate after five years of service [(2)] are entitled to receive benefits beginning at age 60.
Amount of Allowance	Same as early retirement allowance.	2.00% of final five-year average salary times years of service [(2)].
Withdrawal Benefit	Accumulated contributions with interest.	Accumulated contributions with interest
Post-Retirement Increases		
Amount of Adjustment	Increases are based o a cost-of-living factor reflecting the changes in the Consumer Price Index, subject to a maximum total increase or decrease of 6% in any year. If the Consumer Price Index increases by at least 1% from August to August, a 1.00% annual postretirement increase is effective the following March. An additional postretirement increase of up to 5.00% each year may be authorized by the Board. If the CPI-U increases by less than 1% or decreases, the COLA is automatically equal to the change in the CPI-U. A decrease cannot be more than 6%. Member benefits cannot decrease below the amount at the initial benefit date.	Benefits increase or decrease by the same percentage by which the average paid firefighter's salary increases or decreases. The change for the year is effective each February.

(2) Completed years of service. No partial years of service are recognized

Exhibit 9 (concluded)

	Public Employee Retirement System	Firefighters' Retirement Fund
Post-Retirement Increases		
Amount of Adjustment	Increases are based on a cost-of-living factor reflecting the changes in the Consumer Price Index, subject to a maximum total increase or decrease of 6.00% in any year If the Consumer Price Index increases by at least 1% from August to August, a 1.00% annual postretirement increase is effective the following March. An additional postretirement increase of up to 5.00% each year may be authorized by the Board. If the CPI-U increases by less than 1% or decreases, the COLA is automatically equal to the change in the CPI-U. A decrease cannot be more than 6%. Member benefits cannot decrease below the amount at the initial benefit date.	Benefits increase or decrease by the same percentage by which the average paid firefighter's salary increases or decreases. The change for the year is effective each February.

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October 18, 2019

Retirement Board
Public Employee Retirement System of Idaho State of Idaho
P.O. Box 83720
Boise, ID 83720

Members of the Board:

Milliman has performed annual actuarial valuations of the Judges' Retirement Fund of the State of Idaho (JRF) beginning with the June 30, 2010 actuarial valuation. Until June 30, 2014, the JRF was an independent Fund. Beginning with the July 1, 2014 actuarial valuation, the Fund has been administered by the Public Employee Retirement System of Idaho (PERSI). It is anticipated that future actuarial valuations will be performed every year with the next valuation to be as of July 1, 2020.

Contribution Rates

The financing objective of the Fund is to establish contribution rates that will tend to remain level as percentages of payroll. The current total contribution rate is 74.10%: 62.53% employer contribution rate and 11.57% employee contribution rate. Based on the July 1, 2019 valuation assumptions and valuation results, this contribution rate will be sufficient to amortize the Unfunded Actuarial Accrued Liability (UAAL) over the required 25-year period ending July 1, 2043.

Funding Status

Based on the July 1, 2019 actuarial valuation, the UAAL was decreased by $0.723 million due to an asset gain recognized as of July 1, 2019. Specifically, the Fund's assets earned a net return after accounting for all expenses of 7.83%, which is 0.83% above the actuarial assumption of 7.00%. All other experience gains and losses decreased the actuarial liability by $2.656 million. Thus, the total experience gain for the year was $1.933 million.

Also, the UAAL decreased by $0.885 million because actual contributions plus assumed investment returns were more than the normal cost and the interest on the UAAL.

The current contribution rates are adequate to amortize the Normal Cost and UAAL balance over the required 25-year period.

The funding status increased from a 82.12% funding ratio on July 1, 2018, to 82.17% on July 1, 2019. The funding ratio is the ratio of the actuarial value of the assets over the value of the actuarial accrued liability.

Comparison to GASB Statement No. 67 Liabilities

The long-term expected rate of return on investments is 7.05%, net of investment expenses. This figure includes 0.05% for expected administrative expenses. For purposes of determining the Fund's funding status and UAAL, we use a discount rate that is net of all expenses (7.00%). The figures shown in this report have been calculated using this discount rate.

This is in contrast to the discount rate used to determine the Total Pension Liability (TPL) and Net Pension Liability (NPL) for purposes of GASB reporting. According to GASB Statement 67, the discount rate used to calculate TPL and NPL must be net of investment expenses but not administrative expenses. Therefore, TPL and NPL have been determined using a discount rate of 7.05%. Results and further details on these items can be found in our GASB 67 and 68 Report.

Assumptions

Our July 1, 2019 actuarial valuation report presented summaries of the actuarial assumptions and methods used in the valuation. A demographic experience study was performed in 2019 which updated the retirement, disability, and mortality rates as well as the election rate for retirement under Paragraph (b) of section 1-2001(2), Idaho code. See our letter dated August 2, 2019 for more details. Economic and mortality assumptions generally reflect the assumptions use for the PERSI valuation.

The last major PERSI experience study, completed in 2018, covered the period July 1, 2011 through June 30, 2017.

Certification Statement

In preparing this letter, we relied, without audit, on information (some oral and some in writing) supplied by PERSI's staff. This information includes, but is not limited to, statutory provisions, member census data, and financial information. We found this information to be reasonably consistent and comparable with data used for other purposes. The valuation results depend on the integrity of this information. If any of this information is inaccurate or incomplete our results may be different and our calculations may need to be revised.

All costs, liabilities, rates of interest, and other factors for the System have been determined on the basis of actuarial assumptions and methods which are individually reasonable (taking into account the experience of the System and reasonable expectations); and which, in combination, offer our best estimate of anticipated experience affecting the System. Further, in our opinion, each actuarial assumption used is reasonably related to the experience of the System and to reasonable expectations which, in combination, represent our best estimate of anticipated experience under the System. We believe that all of these assumptions and methods meet the parameters set by Actuarial Standards of Practice (ASOPs).

Future actuarial measurements may differ significantly from the current measurements 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. Due to the limited scope of our assignment, we did not perform an analysis of the potential range of future measurements. The Retirement Board has the final decision regarding the appropriateness of the assumptions and actuarial cost methods.

Actuarial computations presented in this report are for purposes of determining the recommended funding amounts for the System. Actuarial computations under GASB Statements No. 67 and 68 are for purposes of fulfilling financial accounting requirements. The computations prepared for these two purposes may differ as disclosed in our report. The calculations in the enclosed exhibits have been made on a basis consistent with our understanding of the System's funding requirements and goals. Determinations for purposes other than meeting these requirements may be significantly different from the results contained in this report. Accordingly, additional determinations may be needed for other purposes.

Milliman's work is prepared solely for the internal business use of the System. To the extent that Milliman's work is not subject to disclosure under applicable public records laws, Milliman's work may not be provided to third parties without Milliman's prior written consent. Milliman does not intend to benefit or create a legal duty to any third party recipient of its work product. Milliman's consent to release its work product to any third party may be conditioned on the third party signing a Release, subject to the following exception(s):

(a) The System may provide a copy of Milliman's work, in its entirety, to the System's professional service advisors who are subject to a duty of confidentiality and who agree to not use Milliman's work for any purpose other than to benefit the System.

(b) The System may provide a copy of Milliman's work, in its entirety, to other governmental entities, as required by law.

No third party recipient of Milliman's work product should rely upon Milliman's work product. Such recipients should engage qualified professionals for advice appropriate to their own specific needs.

The consultants who worked on this assignment are pension actuaries. Milliman's advice is not intended to be a substitute for qualified legal or accounting counsel.

The signing actuaries are independent of the plan sponsor. We are not aware of any relationship that would impair the objectivity of our work.

On the basis of the foregoing, we hereby certify that, to the best of our knowledge and belief, this letter is complete and accurate and has been prepared in accordance with generally recognized and accepted actuarial principles and practices. We are members of the American Academy of Actuaries and Fellows of the Society of Actuaries and meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion contained herein.

The enclosed Exhibits 1 through 9 provide further related information. Milliman is completely responsible for these exhibits. Specifically, they are:

Exhibit 1	Summary of Actuarial Assumptions and Methods
Exhibit2	Schedule of Active Member Valuation Data
Exhibit 3	Schedule of Retiree and Beneficiary Valuation Data
Exhibit 4	Schedule of Funding Progress
Exhibit 5	Solvency Test
Exhibit 6	Analysis of Actuarial Gains or Losses
Exhibit 7	Schedule of Contributions from the Employer
Exhibit 8	Schedule of Contributions from the Employer Expressed as a Percentage of Covered Payroll
Exhibit 9	Provisions of Governing Law

Respectfully submitted,

Bret D. Linton, F.S.A., M.A.A.A.
Principal and Consulting Actuary

Jeffrey D. Bradley, F.S.A., M.A.A.A.
Principal and Consulting Actuary

BDL/JDB/rc/tn

Judges' Retirement Fund of the State of Idaho

EXHIBIT 1: SUMMARY OF ACTUARIAL ASSUMPTIONS AND METHODS EFFECTIVE JULY 1, 2019

1. Investment Return (Adopted July 1, 2014)

The annual rate of investment return on the assets, net of investment expenses, for the Fund is assumed to be 7.05% (including 0.05% for administrative expenses), compounded annually.

2. Actuarial Value of Assets

All assets are valued at market as of the valuation date.

3. Actuarial Assumptions

The actuarial assumptions and methods were adopted by the PERSI Board based upon recommendations from the retained actuary. The actuarial assumptions are based on periodic studies of the PERSI total fund's actual experience.

4. Service Retirement

Annual rates of retirement assumed to occur among persons eligible for a service retirement are illustrated in the following table:

Age	Rate of Retirement[1]
55	8%
60	9%
65	40%
70	71%
71	100%

(1) Eligibility occurs after 20 years of service, attained age 55 with 15 years of service, attained age 60 with 10 years of service, or attained age 65 with four years of service.

5. Mortality (Adopted July 1, 2019)

Contributing Members, Service and Disability Retirement Members, and Beneficiaries

Males	Pre-Commencement	General Pub-2010 Above Median tables for male employees
	Post-Commencement	General Pub-2010 Above Median tables for male healthy annuitants
Females	Pre-commencement	General Pub-2010 Above Median tables for female employees
	Post-Commencement	General Pub-2010 Above Median tables for female healthy annuitants

All mortality tables are adjusted with generational mortality adjustments using projection scale MP-2018.

6. Disability Retirement

None.

7. Other Terminations of Employment

There are no other employment termination assumptions that are valued.

8. Future Salaries (Adopted July 1, 2014)

The rate of annual salary increase assumed for the purpose of the valuation is 3.75%.

9. Growth in Membership (Adopted July 1, 2014)

In general, the combined effects of stable active membership and salary levels are assumed to produce a 3.75% average annual expansion in the payroll of covered members.

10. Interest on Employee Contributions

The credited interest rate on employee contributions is assumed to be 6.50%.

11. Postretirement Benefit Increases (Cost of Living Adjustments) (Adopted July 1, 2014)

Any member who assumed office prior to July 1, 2012 is assumed to have a postretirement increase of 3.75% per year. However, for members who made an irrevocable election prior to August 1, 2012 to have their postretirement benefit increases based on Idaho Code Section 59-1355, a postretirement increase of 1.00% per year is assumed instead.

Any member who assumed office on or after July 1, 2012, is assumed to have a postretirement increase of 1.00% per year.

12. Probability of Marriage

The marriage assumption for all members is 100%. Males are assumed to be 2 years older than their spouses.

13. Actuarial Cost Method

The actuarial valuation is prepared using the entry age actuarial cost method. Under the principles of this method, the actuarial present value of the projected benefits of each individual included in the valuation is allocated as a level percentage of the individual's projected compensation between entry age and assumed exit. The portion of this actuarial present value allocated to a valuation year is called the normal cost. The portion of this actuarial present value not provided for at a valuation date by the sum of (a) the actuarial value of the assets and (b) the actuarial present value of future normal costs is called the unfunded actuarial accrued liability (UAAL). The UAAL, if positive, is amortized as a level percentage of the projected salaries of present and future members of the Fund during various amortization periods. In effect, this means that UAAL amortization payments are assumed to grow at the same rate as the General Wage increase assumption (currently 3.75%).

The normal cost rates used in this valuation were calculated based on all current active members as of July 1, 2017 for each sex and type of employee in that valuation. The actuarial present values of projected benefits and of projected salaries for all active members were calculated. The ratio of the two is the aggregate normal cost rate.

Exhibit 1
(concluded)

14. Experience Studies

A demographic experience study was performed in 2019 which updated the retirement, disability, and mortality rates as well as the election rate for retirement under Paragraph (b) of section 1-2001(2), Idaho code. See our letter dated August 2, 2019, for details. The JRF economic assumptions generally reflect the assumptions used for the PERSI valuation.

15. Recent Changes

There have been no changes to the valuation assumptions since the prior valuation.

Judges' Retirement Fund of the State of Idaho

Concluded

EXHIBIT 2: SCHEDULE OF ACTIVE MEMBER VALUATION DATA

Valuation Date July 1	Number	Annual Salaries Total (1)	Average	Annual Increase in Average
2015	52	$ 6,543,000	$ 125,827	NA
2016	53	6,886,500	129,934	3.3%
2017	50	6,690,000	133,800	3.0%
2018	53	7,257,000	136,928	2.3%
2019	53	7,448,600	140,540	2.6%

(1) Annualized average salaries for covered members for the 12-month period commencing July 1 to June 30 of the current valuation period.

Judges' Retirement Fund of the State of Idaho

EXHIBIT 3: SCHEDULE OF RETIREE AND BENEFICIARY VALUATION DATA

Valuation Date July 1	Number			COLA Increases Granted Previous Year	
	Total	Added	Removed	JRF	PERSI
2015	92	8	2	0.0%	1.70%
2016	94	2	—	3.70%[(1)]	0.20%
2017	101	8	1	6.59%[(1)]	1.10%
2018	102	5	4	3.20%[(1)]	1.90%
2019	107	7	2	2.81%[(1)]	1.00%

Valuation Date July 1	Annual Benefits				Annual Increases in Average
	Total	Added[(2)]	Removed	Average	
2015	$ 5,873,186	$ 545,609	$ 121,376	$ 63,839	NA
2016	6,124,128	250,942	—	65,150	2.1%
2017	6,740,340	690,100	73,888	66,736	2.4%
2018	7,004,642	507,626	243,324	68,673	2.9%
2019	7,572,230	654,828	87,240	70,769	3.1%

(1) JRF COLA's are based on salary increase of position previously held by the retiree. Pay raises vary by position. The raises effective July 1, 2016 ranged from 0.00% to 3.70%. The raises effective July 1, 2017 ranged from 2.49% to 6.59%. The raises effective July 1, 2018 ranged from 2.63% to 3.20%. The raises effective July 1, 2019 ranged from 2.46% to 2.81%

(2) Includes postretirement increases for all retirees and beneficiaries.

Judges' Retirement Fund of the State of Idaho

EXHIBIT 4: SCHEDULE OF FUNDING PROGRESS (All Dollar Amounts in Thousands)

Actuarial Valuation Date July 1	Actuarial Value of Assets	Actuarial Accrued Liabilities (AAL)[(1)]	Unfunded Actuarial Accrued Liabilities (UAAL)[(2)]	Funded Ratio	Covered Payroll[(3)]	UAAL as a Percentage of Covered Payroll
2015	$ 76,468	$ 97,780	$ 21,312	78.2%	$ 6,149	346.6%
2016	75,449	100,159	24,710	75.3%	6,097	405.3%
2017	82,936	104,521	21,585	79.3%	6,162	350.3%
2018	88,071	107,250	19,179	82.1%	6,178	310.4%
2019	93,199	113,426	20,227	82.2%	6,732	300.5%

(1) Actuarial present value of benefits less actuarial present value of future normal costs based on entry age actuarial cost method.

(2) Actuarial accrued liabilities less actuarial value of assets.

(3) Covered Payroll includes compensation paid to all active judges for whom contributions were made to JRF. Covered Payroll differs from the Active Member Valuation Payroll shown in Exhibit 2, which is an annualized compensation of only those members who were active on the actuarial valuation date.

Judges' Retirement Fund of the State of Idaho

EXHIBIT 5: SOLVENCY TEST
(All Dollar Amounts in Thousands)

		Actuarial Liabilities for			Portion of Actuarial Liabilities Covered by Assets		
		(A)	(B)	(C)			
Actuarial Valuation Date July 1	Actuarial Value of Assets	Active Member Contributions	Retirees and Beneficiaries	Active Member (Employee) Financed Portion)	(A)	(B)	(C)
2015	$ 76,468	$ 3,130	$ 70,487	$ 24,163	100.0%	100.0%	11.8%
2016	75,449	3,574	72,304	24,281	100.0%	99.4%	0.0%
2017	82,936	3,013	78,511	22,997	100.0%	100.0%	6.1%
2018	88,071	3,738	81,706	21,806	100.0%	100.0%	12.0%
2019	93,199	3,797	91,177	18,452	100.0%	98.1%	0.0%

Judges' Retirement Fund of the State of Idaho

EXHIBIT 6: ANALYSIS OF ACTUARIAL GAINS OR LOSSES (All Dollar Amounts in Thousands)

	Gain (Loss) for Period		
	2016-2017	**2017-2018**	**2018-2019**
Investment Income			
Investment income was greater (less) than expected, net of asset smoothing, if applicable.	$ 3,935	$ 1,195	$ 723
Pay Increases			
Pay increases and COLAs were less (greater) than expected.	416	692	914
Assumption Changes			
There were changes in demographic assumptions.	—	—	(3,493)
Other			
Miscellaneous gains (and losses) resulting from other causes, includes gains or losses due to retiree mortality experience.	(751)	197	(77)
Total Gain (Loss) During the Period From Actuarial Experience	$ 3,600	$ 2,084	$ (1,933)
Contribution Income			
Actual contributions plus assumed investment returns were greater (less) than the normal cost and interest on the UAAL.	(475)	322	885
Non-Recurring Items			
Effect of automatic 0.2% PERSI COLA	NA	NA	NA
Changes in actuarial assumptions and benefits caused a gain (loss).	NA	NA	NA
PERSI Restoration of Purchasing Power and Discretionary COLA	NA	NA	NA
Composite Gain (Loss) During the Period	$ 3,125	$ 2,406	$ (1,048)

Note: Effects related to losses are shown in parentheses. Numerical results are expressed as a decrease (increase) in the UAAL.

Judges' Retirement Fund of the State of Idaho

EXHIBIT 7: SCHEDULE OF CONTRIBUTIONS FROM THE EMPLOYER (Actual Dollar Amounts)

Fiscal Year Ending	Covered Employee Payroll(1)	Total Actual Employer Contributions(2)	Actuarially Determined Contribution (ADC)(3)	Percentage of ADC Dollars Contributed
6/30/15	$ 6,149,339	$ 3,595,417	$ 3,492,825	103%
6/30/16	6,097,302	3,370,587	3,463,268	97%
6/30/17	6,162,190	3,946,599	3,604,265	109%
6/30/18	6,178,081	4,278,996	3,273,147	131%
6/30/19	6,731,755	4,688,762	3,307,311	142%

(1) Computed as the dollar amount of the actual employee contribution made as a percentage of payroll divided by the contribution rate, expressed as a percentage of payroll.

(2) The actual JRF employer contributions are expressed as a percentage of payroll. Employer contributions are made as a percentage of actual payroll in accordance with statute and the Board's Funding Policy. Thus, the actual employer contributions set by both statute and the Board's Funding Policy may differ from the computed Actuarially Determined Contribution (ADC) employer contribution rate for GASB disclosure purposes.

(3) The ADC is computed as a dollar amount based on the entry age cost method and future payroll contributions from members. The ADC is computed for GASB reporting purposes only. As long as the actual contributions are made as a percentage of payroll under the current funding policy methods and assumptions, as required by the most recent actuarial valuation, the actual dollar amount of the employer contributions will differ from the dollar amount of the ADC.

Judges' Retirement Fund of the State of Idaho

EXHIBIT 8: SCHEDULE OF CONTRIBUTIONS FROM THE EMPLOYER EXPRESSED AS A PERCENTAGE OF COVERED PAYROLL

Fiscal Year Ending	Actual JRF Employer Contribution %(1)	Annual Determined Contribution (ADC) %(2)	Percentage of ADC Contributed
6/30/15	58.47%	56.80%	103%
6/30/16	55.28%	56.80%	97%
6/30/17	64.05%	58.49%	109%
6/30/18	69.26%	52.98%	131%
6/30/19	69.65%	49.13%	142%

(1) The actual JRF employer contributions are expressed as a percentage of covered payroll. Employer contributions are made as a percentage of actual payroll in accordance with the Idaho Codes. Thus, the actual employer contributions set by the Idaho Codes may differ from the computed ADC employer contribution rate for GASB disclosure purposes.

(2) The ADC is equal to the employer normal cost rate plus a 25-year amortization of any UAAL or minus a 25-year amortization of any Funding Reserve amount.

Judges' Retirement Fund of the State of Idaho

EXHIBIT 9: PROVISIONS OF GOVERNING LAW

All actuarial calculations are based on our understanding of the statutes governing the Judges' Retirement Fund of the State of Idaho, as contained in Sections 1-2001 through 1-2012, inclusive, of the Idaho Code, with amendments effective through July 1, 2019. The benefit and contribution provisions of this law are summarized briefly below, along with corresponding references to the Idaho Code. This summary does not attempt to cover all the detailed provisions of the law. Members seeking specific plan provisions should consult their member handbook. Only those benefits in effect through July 1, 2019 are considered in this valuation.

Effective Year

The effective date of the Retirement Fund was 1947.

Member Contribution Rate

The member contribution rate effective July 1, 2019 is 11.57% of salary. Members contribute to the plan during the first 20 years of service (Section 1-2004B).

Employer Contribution Rate

The employer contribution rate effective July 1, 2019, 62.53% of salary is contributed by the State, during the first 20 years of service (Section 1-2004A).

Service Retirement Allowance

Eligibility
Age 65 with four years of service, 60 with 10 years of service, 55 with 15 years of service, or any age with 20 years of service
(Section 1-2001).

Amount of Allowance
The annual service retirement allowance is 5.0% multiplied by the number of years served as either justice or judge or both, for the first 10 years of credited service plus 2.5% multiplied by the remaining number of years of credited service as either justice or judge or both, but in any event the total shall not be greater than 75%.

For members who assumed office before July 1, 2012, the retirement allowance is multiplied by the current annual compensation of the highest office in which he or she served.

For members who assumed office on or after July 1, 2012, the initial retirement allowance is multiplied by the annual compensation at the time of retirement of the highest office in which he or she served (Section 1-2001).

Exhibit 9
(continued)

Service Retirement Allowance (continued)

Normal Form
For members who first assumed office before July 1, 2012, monthly payments for life under a fully subsidized 50% Joint and
Survivor annuity.

For members who first assumed office on or after July 1, 2012, monthly payments for life under a fully subsidized 30% Joint and Survivor annuity (Section 1-2001, 1-2001b, and 1-2009).

Vested Retirement Allowance

Eligibility
Vested former contributing members are entitled to receive benefits upon reaching the eligibility age requirements in Section 1-2001.

Amount of Allowance
Accrued service retirement allowance (Section 1-2001).

Disability Retirement Allowance

Eligibility
Four years of membership service. (Section 1-2001).

Amount of Allowance
The annual service retirement allowance is 5.0% multiplied by the number of years served as either justice or judge or both, for the first 10 years of credited service plus 2.5% multiplied by the remaining number of years of credited service as either justice or judge or both, but in any event the total shall not be greater than 75%.

For members who assumed office before July 1, 2012, the annual retirement allowance is multiplied by the current annual compensation of the highest office in which he or she served.

For members who assumed office on or after July 1, 2012, the annual service retirement allowance is multiplied by the annual compensation at the time of retirement of the highest office in which he or she served (Section 1-2001).

Normal Form
For members who first assumed office before July 1, 2012, monthly payments for life under a fully subsidized 50% Joint and Survivor annuity.

For members who first assumed office on or after July 1, 2012, monthly payments for life under a fully subsidized 30% Joint and Survivor annuity (Section 1-2001, 1-2001b, and 1-2009).

Exhibit 9
(continued)

Death Benefits

After Retirement or Termination
For members who first assumed office before July 1, 2012, 50% of the judge's retirement benefit is continued to the surviving spouse.

For members who first assumed office on or after July 1, 2012, 30% of the judge's retirement benefit is continued to the surviving spouse.

Upon termination or retirement, a member may elect to have 100% of his or her accrued retirement benefit continued to his or her surviving spouse upon his or her death. Such election results in a reduction of his or her monthly benefit to the actuarial equivalent of their assumed normal retirement benefit, which is a 50% surviving spouse benefit if first assumed office before July 1, 2012, or a 30% surviving spouse benefit if first assumed office on or after July 1, 2012 (Sections 1-2001b and 1-2009).

Before Retirement or Termination
An amount equal to the benefit the judge would have received had he or she elected a 100% Joint and Survivor benefit before his or her death (Section 1-2009).

Withdrawal Benefits

Accumulated contributions with credited interest at 6.5% per annum, compounded annually (Section 1-2001).

Postretirement Increases

For members who first assumed office before July 1, 2012, postretirement benefit increases are in proportion to increases in the salary of the highest office in which the member served (Section 1-2001).

Members who assumed office before July 1, 2012, had until August 1, 2012 to make an irrevocable election to have their postretirement benefit increases based on the consumer Price Index as described in Idaho Code Section 59-1355. those that made this election will instead receive the benefit increases described below.

For members who first assumed office on or after July 1, 2012, and those who made the election described in the prior paragraph, postretirement benefit increases are based on changes in the Consumer Price Index. The measurement period for changes in the CPI-U is August to August. The COLA changes are implemented effective on the July 1 following the measurement period.

If the CPI-U increases by at least 1%, the COLA is at least 1%. If the CPI-U increases by more than 1%, an additional postretirement increase of up to 5% each year (but not more than the increase in the CPI-U) may be authorized by the Board, subject to the approval of the Legislature.

If the CPI-U increases by less than 1% or decreases, the COLA is automatic, based on the change in the CPI. If a negative COLA is applicable, the negative COLA cannot decrease benefits by more than 6%. Additionally, a negative COLA cannot decrease a member's benefit below the amount of the benefit at the initial benefit date.

If a COLA is implemented that is less than the increase in the CPI-U, members' benefits will not retain their full inflation-adjusted purchasing power. In such cases the Board may implement a Restoration of Purchasing Power (ROPP) COLA at a later date to bring those members closer to 100% of inflation adjusted purchasing power. As with a discretionary COLA, a ROPP is subject to approval of the Legislature (Section 59-12355).

Exhibit 9
(concluded)

Pop-Up Benefit

Section 1-2001b, paragraph (2), provides a judge with a pop-up benefit if the named contingent annuitant predeceases the judge. This benefit equals what they wold have received had they not elected the 100% Joint and Survivor form of payment.

Retirement Under Paragraph (b)

Section 1-2001(2), paragraph (b), provides any person now serving as justice of the supreme court, a judge of the court of appeals, or a district judge of a district court an additional 2.5% multiplied by 5 years senior judge service but in any event the total shall not be greater than 75% of the current annual compensation of the highest office held while in active service. The five years of senior judge service is required for this benefit. This benefit is not available with the age 55 and 15 years of service retirement for those judges who first took office after July 1, 2012.

Postretirement Increases (continued)

If the CPI-U increases by at least 1%, the COLA is at least 1%. If the CPI-U increases by more than 1%, an additional postretirement increase of up to 5% each year (but not more than the increase in the CPI-U) may be authorized by the Board, subject to the approval of the Legislature.

If the CPI-U increases by less than 1% or decreases, the COLA is automatic, based on the change in the CPI. If a negative COLA is applicable, the negative COLA cannot decrease benefits by more than 6%. Additionally, a negative COLA cannot decrease a member’s benefit below the amount of the benefit at the initial benefit date.

If a COLA is implemented that is less than the increase in the CPI-U, members’ benefits will not retain their full inflation- adjusted purchasing power. In such cases the Board may implement a Restoration of Purchasing Power (ROPP) COLA at a later date to bring those members closer to 100% of inflation adjusted purchasing power. As with a discretionary COLA, a ROPP is subject to approval of the Legislature (Section 59-1355).

Pop-Up Benefit

Section 1-2001b, paragraph (2), provides a judge with a pop-up benefit if the named contingent annuitant predeceases the judge. This benefit equals what they would have received had they not elected the 100% Joint and Survivor form of payment.

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October 18, 2019

Retirement Board
Public Employee Retirement System of Idaho State of Idaho
P.O. Box 83720
Boise, ID 83720

Members of the Board:

Milliman has performed actuarial valuations for the Sick Leave of Idaho Retirement Fund (the Fund). The most recent valuation was performed as of July 1, 2019. It is anticipated that future actuarial valuations will be performed every other year with the next valuation to be as of July 1, 2021. The benefits provided by the fund are provided under Idaho Code Section 67-5333 for State employees and Section 33-1228 for School employees and administered by the Public Employee Retirement System of Idaho (PERSI).

Contribution Rates

The financing objective of the Fund is to establish contribution rates that will tend to remain level as percentages of payroll. From 1993 to 2019, the total contribution rate has been between 0.65% and 1.26%; year by year detail including employer and member rates is shown in the table on the following page.

At July 1, 1988, the contribution rates were 0.40% and 0.325% for State employers and School employers, respectively. Our July 1, 1988 valuation found that the contribution rates were not sufficient to amortize the unfunded actuarial accrued liability. Therefore, the Board approved contribution rate increases to take effect over the next few years. Effective July 1, 1993, the contribution rate for State employers was set at 0.65%. Contribution rates for School employers were also increased over this time period, settling at 1.15% as of July 1, 1996. Effective July 1, 2006, the contribution rate for School employers was increased again. The rates vary by school location between 1.16% and 1.26% according to the number of days of paid sick leave accruing during the contract year in accordance with Rule 552 of the Idaho Administrative Code.

The historical changes in contribution rates since 1992 are shown in the table on the following page.

	Actual Rates		Calculated Employer Rates State					
			State			School		
Effective Date[(1)]	State	School	Normal Cost	Unfunded Actuarial Accrued Liability	Total	Normal Cost	Unfunded Actuarial Accrued Liability	Total
1992	0.800%	1.000%	0.30%	0.31%	0.61%	0.52%	0.57%	1.09%
1993	0.650	1.100	0.30	0.31	0.61	0.52	0.57	1.09
1994	0.650	1.100	0.30	0.31	0.61	0.52	0.57	1.09
1995	0.650	1.100	0.32	0.27	0.59	0.59	0.55	1.14
1996	0.650	1.150 (2)	0.32	0.27	0.59	0.59	0.55	1.14
1997	0.650	1.150	0.35	0.16	0.51	0.63	0.44	1.07
1999	0.650	1.150	0.42 (3)	0.10	0.52	0.60	0.22	0.82
2001	0.650	1.150	0.45 (3)	0.20	0.65	0.62	0.29	0.91
2004	0.650	1.150	0.40	0.23	0.63	0.73	0.68	1.41
2006	0.650	1.16/1.26 (4)	0.40	0.13	0.53	0.67	0.41	1.08
2008	0.650	1.16/1.26 (4)	0.39	0.16	0.55	0.66	0.48	1.14
2010	0.650	1.16/1.26 (4)	0.37	0.16	0.53	0.62	0.51	1.13
2012	0.650	1.16/1.26 (4)	0.37	NA	0.37	0.63	0.13	0.76
2015	0.650	1.16/1.26 (4)	0.35	NA	0.35	0.62	NA	0.62
2016	0.650	1.16/1.26 (4)	0.39	NA	0.39	0.65	NA	0.65
2017	0.650	1.16/1.26 (4)	0.38	NA	0.38	0.68	NA	0.68
2019	0.650	1.16/1.26 (4)	0.36	NA	0.36	0.64	NA	0.64

(1) Contribution rates are effective July 1 of the indicated year for the State program, September 1 of the indicated year for the School program.
(2) Rates are effective October 1 of indicated year.
(3) Reflects changes in benefit provisions.
(4) Contribution rates for School participants vary by school location according to the number of days of paid sick leave accruing during the contract year in accordance with Rule 552 of the Idaho Administrative Code.

Our July 1, 2019 actuarial valuation found that the Fund's current rates are sufficient to pay the normal cost rate. As of July 1, 2019, there is no unfunded actuarial liability.

Funding Status

The most recent valuation was performed as July 1, 2019. Based on this valuation, there is currently no unfunded actuarial accrued liability to amortize. This is consistent with the July 1, 2017 actuarial valuation. As of July 1, 2019 there is a funding excess (assets exceed actuarial accrued liability) of $125.9 million for State employers and $95.2 million for School employers.

The Fund's assets earned a net return after expenses of 9.2% during Fiscal Year 2017-18, which is above and 7.8% during Fiscal Year 2018-2019, both of which are above the actuarial assumption of 7.00%. All other actuarial experience gains and losses increased the actuarial accrued liability (AAL) by $2.2 million for State employers and increased AAL by $4.2 million for School employers.

All of these items resulted in a change in funding status for State employers from a 217.1% funding ratio on July 1, 2017 to 226.6% on July 1, 2019. All of these items resulted in a change in funding status for School employers from a 129.5% funding ratio on July 1, 2017 to 138.2% on July 1, 2019. The funding ratio is the ratio of the actuarial value of the assets over the value of the actuarial accrued liability.

Comparison to GASB Statement No. 74 Liabilities

The long-term expected rate of return on investments is 7.05%, net of investment expenses. This figure includes 0.05% for expected administrative expenses. For purposes of determining the System's funding status and UAAL, we use a discount rate that is net of all expenses (7.00%). All figures shown in this report have been calculated using this discount rate.

This is in contrast to the discount rate used to determine the Total OPEB Liability (TOL) and Net OPEB Liability (NOL) for purposes of GASB reporting. According to GASB Statement 74, the discount rate used to calculate TOL and NOL must be net of investment expenses but not administrative expenses. Therefore, TOL and NOL have been determined using a discount rate of 7.05%. Results and further details on these items can be found in our GASB 74/75 Report.

Assumptions

Our July 1, 2019 actuarial valuation report presented summaries of the actuarial assumptions and methods used in the valuation. The last major experience study for PERSI, completed in June 2018, covered the period July 1, 2011 through June 30, 2017. The next major experience study, to be completed in 2022, will cover the period July 1, 2017 through June 30, 2021.

Certification Statement

In preparing this letter, we relied, without audit, on information (some oral and some in writing) supplied by PERSI's staff. This information includes, but is not limited to, statutory provisions, member census data, and financial information. We found this information to be reasonably consistent and comparable with data used for other purposes. The valuation results depend on the integrity of this information. If any of this information is inaccurate or incomplete our results may be different and our calculations may need to be revised.

All costs, liabilities, rates of interest, and other factors for the System have been determined on the basis of actuarial assumptions and methods which are individually reasonable (taking into account the experience of the System and reasonable expectations); and which, in combination, offer our best estimate of anticipated experience affecting the System. Further, in our opinion, each actuarial assumption used is reasonably related to the experience of the System and to reasonable expectations which, in combination, represent our best estimate of anticipated experience under the System. We believe that all of these assumptions and methods meet the parameters set by Actuarial Standards of Practice (ASOPs).

Future actuarial measurements may differ significantly from the current measurements 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. Due to the limited scope of our assignment, we did not perform an analysis of the potential range of future measurements. The Retirement Board has the final decision regarding the appropriateness of the assumptions and actuarial cost methods.

Actuarial Standard of Practice No. 51 (ASOP 51) directs actuaries to identify significant risks inherent in pension actuarial calculations or communications. Probably the most notable risk is Investment Risk - the potential for plan assets to grow at a rate lower than assumed in the actuarial valuation. If investment performance is worse than expected, then additional funding may be required. Another risk is Demographic Risk - the potential for members experience to differ from our Actuarial assumptions, including (but not limited to) retirement, withdrawal, salary growth, and mortality. If member experience is different than anticipated by the actuarial assumptions, additional System funding may be required.

Actuarial computations presented in this report are for purposes of determining the recommended funding amounts for the System. Actuarial computations under GASB Statements No. 74 and 75 are for purposes of fulfilling financial accounting requirements. The computations prepared for these two purposes may differ as disclosed in our report. The calculations in the enclosed exhibits have been made on a basis consistent with our understanding of the System's funding requirements and goals. Determinations for purposes other than meeting these requirements may be significantly different from the results contained in this report. Accordingly, additional determinations may be needed for other purposes.

Milliman's work is prepared solely for the internal business use of the System. To the extent that Milliman's work is not subject to disclosure under applicable public records laws, Milliman's work may not be provided to third parties without Milliman's prior written consent. Milliman does not intend to benefit or create a legal duty to any third party recipient of its work product. Milliman's consent to release its work product to any third party may be conditioned on the third party signing a Release, subject to the following exception(s):

(a) The System may provide a copy of Milliman's work, in its entirety, to the System's professional service advisors who are subject to a duty of confidentiality and who agree to not use Milliman's work for any purpose other than to benefit the System.

(b) The System may provide a copy of Milliman's work, in its entirety, to other governmental entities, as required by law.

No third party recipient of Milliman's work product should rely upon Milliman's work product. Such recipients should engage qualified professionals for advice appropriate to their own specific needs.

The consultants who worked on this assignment are pension actuaries. Milliman's advice is not intended to be a substitute for qualified legal or accounting counsel.

The signing actuaries are independent of the plan sponsor. We are not aware of any relationship that would impair the objectivity of our work.

On the basis of the foregoing, we hereby certify that, to the best of our knowledge and belief, this letter is complete and accurate and has been prepared in accordance with generally recognized and accepted actuarial principles and practices. We are members of the American Academy of Actuaries and Fellows of the Society of Actuaries and meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion contained herein.

The enclosed Exhibits 1 through 9 provide further related information. Milliman is completely responsible for these exhibits. Specifically, they are:

- Exhibit 1 Summary of Actuarial Assumptions and Methods
- Exhibit 2 Schedule of Active Member Valuation Data
- Exhibit 3 Schedule of Retiree and Beneficiary Valuation Data
- Exhibit 4 Schedule of Funding Progress
- Exhibit 5 Solvency Test
- Exhibit 6 Analysis of Actuarial Gains or Losses
- Exhibit 7 Schedule of Contributions from the Employer All Other Contributing Entities
- Exhibit 8 Schedule of Contributions from the Employer Expressed as a Percentage of Covered Payroll
- Exhibit 9 Provisions of Governing Law

We would like to express our appreciation to Don Drum, Executive Director of PERSI, and to members of his staff, who gave substantial assistance in supplying the data on which this report is based.

Respectfully submitted,

Robert L. Schmidt, F.S.A., M.A.A.A.
Principal and Consulting Actuary

Jeffrey D. Bradley, F.S.A., M.A.A.A.
Principal and Consulting Actuary

RLS/JDB/rc

Sick Leave of Idaho Retirement Fund
Public Employee Retirement System of Idaho

EXHIBIT 1: SUMMARY OF ACTUARIAL ASSUMPTIONS AND METHODS EFFECTIVE JULY 1, 2019

1. Investment Return (Adopted July 1, 2018)

The annual rate of investment return on the assets of the System, net of investment expenses, is assumed to be 7.05% (including 0.05% for administrative expenses) compounded annually.

2. Actuarial Value of Assets (Adopted July 1, 1994)

All assets are valued at market as of the valuation date.

3. Actuarial Assumptions

The actuarial assumptions and methods were adopted by the Board based upon recommendations from the retained actuary. The actuarial assumptions are based on periodic studies of the System's actual experience.

4. Mortality (Adopted July 1, 2014)

Contributing Members, Service Retirement Members, and Beneficiaries

- **Teachers**

  Males RP-2000 Combined Table for Healthy Individuals for males, set back three years.

  Females RP-2000 Combined Table for Healthy Individuals for females, set back three years.

- **General *Employees and All Beneficiaries***

  Males RP-2000 Combined Table for Healthy Individuals for males, set back one year.

  Females RP-2000 Combined Table for Healthy Individuals for females, set back one year.

  All mortality tables are adjusted with generational mortality adjustments using projection scale AA as shown in Table A-8B of the July 1, 2019 valuation report. The projection scale is applied from the year 2000 to the year in which the mortality assumption is being applied.

- ***Disabled Members***

  For disabled members, the mortality rates used in the valuation are the rates from the RP-2000 table for disabled individuals for respective sexes, with a one-year setback for males and a one-year set forward for females.

  All mortality tables are adjusted with generational mortality adjustments using projection scale AA as shown in Table A-8B of the July 1, 2017 valuation report. The projection scale is applied from the year 2000 to the year in which the mortality assumption is being applied.

Exhibit 1 (continued)

5. Service Retirement (Adopted July 1, 2016)

Annual rates of retirement assumed to occur among persons eligible for a service retirement are illustrated in the following table:

	General Employees			
	Male		Female	
Age	First Year Eligible	Thereafter	First Year Eligible	Thereafter
55	22%	10%	26%	18%
60	26	17	26	18
65	33	50	37	52
70	18	20	18	21

	General Employees			
	Male		Female	
Age	First Year Eligible	Thereafter	First Year Eligible	Thereafter
55	19%	5%	10%	10%
60	30	18	26	18
65	36	46	49	49
70	*	*	*	*

* *For all ages older than the age indicated, retirement is assumed to occur immediately.*

6. Early Retirement (Adopted July 1, 2016)

Annual rates of retirement assumed to occur among persons eligible for a reduced early retirement benefit are illustrated in the following table:

	General Employees		Teachers	
	Male		Female	
Age	First Year Eligible	Thereafter	First Year Eligible	Thereafter
50	*	*	*	*
55	3%	3%	6%	6%
60	5	6	14	12

* *For all ages younger than the age indicated, withdrawal is assumed to occur (see Section 7).*

Exhibit 1
(continued)

7. Other Terminations of Employment (Adopted July 1, 2016)

Assumed annual rates of termination are illustrated below. Rates are based only on years of service.

Years of Service	General Employees		Teachers	
	Male	Female	Male	Female
5	8.8%	10.3%	5.5%	6.0%
10	5.5	6.4	3.1	3.1
15	3.5	4.0	1.9	1.8
20	2.4	2.9	1.3	1.3
25	1.7	2.5	1.2	1.2
30	1.5	2.5	1.2	1.2

8. Disability Retirement (Adopted July 1, 2016)

Annual rates assumed for disability retirement are illustrated in the following table:

	General Employees		Teachers	
Age	Male	Female	Male	Female
25	.01%	.01%	.01%	.05%
35	.03	.01	.02	.04
45	.11	.10	.07	.07
55	.32	.28	.20	.30

9. Future Salaries (Adopted July 1, 2016)

In general, the total annual rates at which salaries are assumed to increase include 3.75% per annum for increase in the general wage level of the membership plus increases due to promotions and longevity. The general wage level increases are due to inflation and increases in productivity. The total ultimate rates assumed are illustrated below.

Years of service	General Employees		Teachers Service	
	Male	Female	Male	Female
5	6.03%	6.45%	7.07%	7.17%
10	5.10	5.46	7.17	7.38
15	4.63	4.68	5.20	5.33
20	4.37	4.42	4.48	4.56

Exhibit 1
(continued)

10. Vesting (Adopted July 1, 2016)

The following table illustrates the assumed probability that vested terminating members will elect to receive deferred benefits instead of withdrawing accumulated contributions.

	General Employees		Teachers	
Age	Male	Female	Male	Female
25	52%	61%	75%	84%
35	71	70	79	88
45	76	73	82	85
55	—	—	—	—

11. Growth in Membership (Adopted July 1, 2012)

In general, the combined effects of stable active membership and salary levels are assumed to produce a 3.75% average annual expansion in the payroll of covered members.

12. Actuarial Cost Method

The individual entry age actuarial cost method is used. This cost method was adopted as of July 1, 2013 by the Board in order to be consistent with the cost method required by GASB Statements 74 and 75.

The normal cost rates used in the July 1, 2019 valuation were calculated based on all current active members as of July 1, 2019, for each sex and type of employee in the valuation. The normal costs and projected fiscal year 2019 salaries for all active members were calculated. The ratio of the two is the aggregate normal cost rate. The current normal cost rate was adopted in October, 2019 in conjunction with the July 1, 2019 actuarial valuation.

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

13. Experience Studies

The last experience study was completed in 2018 for the period July 1, 2011 through June 30, 2017 and reviewed economic assumptions, mortality and all demographic assumptions. These assumptions will be studied in 2022 for the period from July 1, 2017 through June 30, 2021. Assumptions were adopted as noted.

14. Assumed Rates of Accrual for Sick Leave Hours and Days

The sick leave hours and days assumptions were set based on a study of actual member sick leave hours and days, as of July 1, 2004. The member's current salary was compared against $40,000 for State participants $50,000 for School participants. If the salary was larger than the indexed amount, his or her current sick leave hours were projected forward based on the higher accrual scale.

Exhibit 1
(continued)

State Hours Assumptions

	Salary Under $40,000		Salary Over $40,000	
Service	Males	Females	Males	Females
2	118.5	50.0	100.5	130.0
3	156.2	75.8	148.7	163.6
4	193.7	101.6	196.8	197.2
5	231.2	127.4	245.0	230.8
6	268.7	153.2	293.1	264.4
7	306.2	179.0	341.3	298.0
8	343.6	204.8	389.4	331.6
9	381.1	230.6	437.6	365.2
10	418.6	256.4	485.7	398.8
11	456.1	282.2	533.9	432.4
12	493.6	308.0	582.0	466.0
13	531.1	333.8	630.2	499.6
14	568.6	359.6	678.4	533.2
15	606.1	385.4	726.5	566.8
16	643.6	411.2	774.7	600.4
17	681.0	437.0	822.8	634.0
18	718.5	462.8	871.0	667.6
19	756.0	488.7	919.1	701.2
20	793.5	514.5	967.3	734.8
21	831.0	540.3	1,015.4	768.4
22	868.5	566.1	1,063.6	802.0
23	906.0	591.9	1,111.7	835.6
24	943.5	617.7	1,159.9	869.2
25	980.9	643.5	1,208.0	902.8
26	1,018.4	669.3	1,256.2	936.4
27	1,055.9	695.1	1,304.4	970.0
28	1,093.4	720.9	1,352.5	1,003.6
29	1,130.9	746.7	1,400.7	1,037.2
30	1,168.4	772.5	1,448.8	1,070.8
31	1,206.1	798.3	1,496.9	1,104.4
32	1,243.7	824.1	1,545.1	1,138.0
33	1,281.4	849.9	1,593.2	1,171.6
34	1,319.0	875.7	1,641.4	1,205.2
35	1,356.7	901.5	1,689.5	1,238.8
36	1,394.4	927.3	1,737.6	1,272.4
37	1,432.0	953.1	1,785.8	1,306.0
38	1,469.7	978.9	1,833.9	1,339.6
39	1,507.3	1,004.7	1,882.1	1,373.2
40	1,545.0	1,030.5	1,930.2	1,406.8

Exhibit 1
(concluded)

School Days Assumptions

	Salary Under $50,000		Salary Over $50,000	
Service	**Males**	**Females**	**Males**	**Females**
2	28.5	16.4	30.0	22.8
3	33.5	20.3	36.2	27.3
4	38.6	24.2	42.4	31.8
5	43.6	28.0	48.7	36.3
6	48.7	31.9	54.9	40.8
7	53.7	35.8	61.1	45.4
8	58.8	39.6	67.4	49.9
9	63.8	43.5	73.6	54.4
10	68.9	47.3	79.8	58.9
11	73.9	51.2	86.0	63.4
12	78.9	55.1	92.3	67.9
13	84.0	58.9	98.5	72.5
14	89.0	62.8	104.7	77.0
15	94.1	66.7	110.9	81.5
16	99.1	70.5	117.2	86.0
17	104.2	74.4	123.4	90.5
18	109.2	78.3	129.6	95.0
19	114.2	82.1	135.8	99.6
20	119.3	86.0	142.1	104.1
21	124.3	89.9	148.3	108.6
22	129.4	93.7	154.5	113.1
23	134.4	97.6	160.7	117.6
24	139.5	101.5	167.0	122.1
25	144.5	105.3	173.2	126.7
26	149.5	109.2	179.4	131.2
27	154.6	113.1	185.6	135.7
28	159.6	116.9	191.9	140.2
29	164.7	120.8	198.1	144.7
30	169.7	124.6	204.3	149.3
31	174.7	128.5	210.5	153.8
32	179.8	132.3	216.8	158.3
33	184.8	136.2	223.0	162.9
34	189.9	140.0	229.2	167.4
35	194.9	143.9	235.5	171.9
36	199.9	147.8	241.7	176.4
37	205.0	151.6	247.9	180.9
38	210.0	155.5	254.1	185.5
39	215.1	159.3	260.4	190.0
40	220.1	163.2	266.6	194.5

15. Recent Changes

There were no changes to actuarial assumptions or methods between the 2017 valuation and the 2019 valuation.

Sick Leave of Idaho Retirement Fund
Public Employee Retirement System of Idaho

EXHIBIT 2: SCHEDULE OF ACTIVE MEMBER VALUATION DATA

	State Coverage - ORP		State Coverage - Other		School Coverage		Total	
	Members	Annual Salaries In Thousands	Members	Annual Salaries In Thousands	Members	Annual Salaries In Thousands	Members	Annual Salaries In Thousands
July 1, 2004	(1)	(2)	18,881	$ 642,516	28,041	$ 933,726	46,922	$ 1,576,242
July 1, 2006	(1)	$ 206,061	18,854	$ 690,750	28,924	$ 997,211	47,778	$ 1,894,022
July 1, 2008	(1)	$ 241,822	18,954	$ 744,319	29,672	$ 1,083,264	48,625	$ 2,069,405
July 1, 2010	(1)	$ 263,868	18,100	$ 722,064	30,290	$ 1,134,279	48,389	$ 2,120,211
July 1, 2012	(1)	$ 276,912	17,856	$ 729,030	28,843	$ 1,051,824	46,698	$ 2,057,766
July 1, 2015	(1)	$ 310,128	18,159	$ 775,085	29,879	$ 1,121,478	48,037	$ 2,206,691
July 1, 2016	3,978	$ 242,292	18,291	$ 779,043	30,464	$ 1,150,959	52,733	$ 2,172,294
July 1, 2017	3,859	$ 257,426	16,863	$ 803,788	31,558	$ 1,238,143	52,280	$ 2,299,357
July 1, 2019	4127	$ 281,937	16,932	$ 839,989	33,114	$ 1,380,543	54,173	$ 202,469

(1) *Detailed individual data for ORP members was not provided before the 2016 valuation.*

(2) *Compensation data for ORP members was not provided before the 2006 valuation.*

Sick Leave of Idaho Retirement Fund
Public Employee Retirement System of Idaho

EXHIBIT 3: SCHEDULE OF RETIREE VALUATION DATA

	State Coverage		School Coverage		Total	
Valuation Date	Retired Members	Remaining Entitlement Balance in Thousands	Retired Members	Remaining Entitlement Balance in Thousands	Retired Members	Remaining Entitlement Balance in Thousands
July 1, 2006	2,337	$9,369	3,506	$23,389	5,843	$32,758
July 1, 2008	2,504	$11,764	3,547	$28,039	6,051	$39,803
July 1, 2010	2,937	$13,308	4,045	$32,428	6,982	$45,736
July 1, 2012	3,384	$15,061	4,775	$38,652	8,159	$53,713
July 1, 2015	4,027	$16,946	5,724	$43,602	9,751	$60,548
July 1, 2016	4,145	$17,014	5,910	$44,031	10,055	$61,045
July 1, 2017	4,301	$17,635	5,946	$43,418	10,247	$61,053
July 1, 2019	5,232	$25,226	6,229	$44,721	11,461	$69,947

Sick Leave of Idaho Retirement Fund
Public Employee Retirement System of Idaho

EXHIBIT 4: SCHEDULE OF FUNDING PROGRESS (ALL DOLLAR AMOUNTS IN MILLIONS)

State Sick Leave Program

Valuation Date	Actuarial Accrued Liability	Plan Assets	Unfunded Actuarial Accrued Liability	Funding Percentage	Covered Payroll	UAAL as a Percent of Cov. Payroll
July 1, 2006	$ 86.8	$ 75.2	$ 11.6	87%	$ 896.8	1%
July 1, 2008	94.1	79.3	14.8	84%	986.1	2%
July 1, 2010	97.1	82.8	14.3	85%	890.9	2%
July 1, 2012	100.1	108.3	(8.2)	108%	891.3	-1%
July 1, 2015	91.3	157.7	(66.4)	173%	976.6	-7%
July 1, 2016	86.5	162.9	(76.4)	188%	1,046.8	-7%
July 1, 2017	85.9	186.5	(100.6)	217%	1,098.0	-9%
July 1, 2019	99.3	225.2	(125.9)	227%	1,153.5	-11%

School Sick Leave Program

Valuation Date	Actuarial Accrued Liability	Plan Assets	Unfunded Actuarial Accrued Liability	Funding Percentage	Covered Payroll	UAAL as a Percent of Cov. Payroll
July 1, 2006	$ 166.9	$ 123.9	$ 43.0	74%	$ 997.2	4%
July 1, 2008	183.4	131.2	52.2	72%	1,083.3	5%
July 1, 2010	193.7	137.8	55.9	71%	1,164.3	5%
July 1, 2012	194.1	175.2	18.9	90%	1,081.2	2%
July 1, 2015	194.6	246.6	(52.0)	127%	1,136.3	-5%
July 1, 2016	200.8	250.9	(50.1)	125%	1,174.7	-4%
July 1, 2017	220.5	285.5	(65.0)	129%	1,240.6	-5%
July 1, 2019	249.3	344.5	(95.2)	138%	1,380.9	-7%

Notes:

Actuarial present value of benefits less actuarial present value of future normal costs based on entry age actuarial cost method.

Funded Ratio is the ratio of the actuarial value of assets over the actuarial accrued liabilities.

Covered Payroll includes compensation paid to all active employees on which contributions are calculated. Covered Payroll differs from the Active Member Valuation Payroll shown in Exhibit 2 which is an annualized compensation of only those members who were active on the actuarial valuation date.

Sick Leave of Idaho Retirement Fund
Public Employee Retirement System of Idaho

EXHIBIT 5: SOLVENCY TEST
(ALL DOLLAR AMOUNTS IN MILLIONS)

State Sick Leave Program

		Actuarial Accrued Liabilities for					
Valuation Date	Plan Assets	Active Member Contributions (A)	Retirees and Beneficiaries (B)	Active Members (Employer Financed) (C)	Portion Covered by Assets (A)	Portion Covered by Assets (B)	Portion Covered by Assets (C)
July 1, 2006	$ 75.2	$ —	$ 9.4	$ 77.4	100%	100%	85%
July 1, 2008	79.3	—	11.8	82.3	100%	100%	82%
July 1, 2010	82.8	—	13.3	83.8	100%	100%	83%
July 1, 2012	108.3	—	15.1	85.0	100%	100%	100%
July 1, 2015	157.7	—	16.9	74.4	100%	100%	100%
July 1, 2016	162.9	—	17.0	69.5	100%	100%	100%
July 1, 2017	186.5	—	17.6	68.3	100%	100%	100%
July 1, 2019	225.2	—	25.2	74.1	100%	100%	100%

School Sick Leave Program

		Actuarial Accrued Liabilities for					
Valuation Date	Plan Assets	Active Member Contributions (A)	Retirees and Beneficiaries (B)	Active Members (Employer Financed) (C)	Portion Covered by Assets (A)	Portion Covered by Assets (B)	Portion Covered by Assets (C)
July 1, 2006	$ 123.9	$ —	$ 23.4	$ 143.5	100%	100%	70%
July 1, 2008	131.2	—	28.0	155.4	100%	100%	66%
July 1, 2010	137.8	—	32.4	161.3	100%	100%	65%
July 1, 2012	175.2	—	38.7	155.4	100%	100%	88%
July 1, 2015	246.6	—	43.6	151.0	100%	100%	100%
July 1, 2016	250.9	—	44.0	156.8	100%	100%	100%
July 1, 2017	285.5	—	43.4	177.1	100%	100%	100%
July 1, 2019	344.5	—	44.7	204.6	100%	100%	100%

Sick Leave of Idaho Retirement Fund
Public Employee Retirement System of Idaho

EXHIBIT 6: ANALYSIS OF ACTUARIAL GAINS OR LOSSES (ALL DOLLAR AMOUNTS IN MILLIONS)

State Sick Leave Program

	2016-2017	2017-2019
Investment gain (or loss)	$ 10.1	$ 5.9
Miscellaneous gains (or losses)[1]	5.8	(2.2)
Subtotal: Actuarial Experience	15.9	3.7
Passage of Time	8.3	21.6
Assumption Changes	0.0	0.0
Actuarial Method Changes	0.0	0.0
Changes in Plan Provisions	0.0	0.0
Total Gain (Loss) During the Period	$ 24.2	$ 25.3

School Sick Leave Program

	2016-2017	2017-2019
Investment gain (or loss)	$ 15.3	$ 9.1
Miscellaneous gains (or losses)[1]	(11.0)	(4.2)
Subtotal: Actuarial Experience	4.3	4.9
Passage of Time	10.6	25.3
Assumption Changes	0.0	0.0
Actuarial Method Changes	0.0	0.0
Changes in Plan Provisions	0.0	0.0
Total Gain (Loss) During the Period	$ 14.9	$ 30.2

Note: Effects related to losses are shown in parentheses. Numerical results are expressed as a decrease (increase) in the actuarial accrued liability.

(1) Reflects losses on active and inactive member experience.

Sick Leave of Idaho Retirement Fund
Public Employee Retirement System of Idaho

EXHIBIT 7a: STATE EMPLOYERS

SCHEDULE OF CONTRIBUTIONS FROM THE EMPLOYER AND ALL OTHER CONTRIBUTING ENTITIES (ALL DOLLAR AMOUNTS IN MILLIONS)

Fiscal Year Ending	Covered Employee Payroll (1)	Actual PERSI Employer Contributions Dollar Amount (2)	Actuarially Determined Contribution (ADC)(3)	Percentage of ADC Dollars Contributed
6/30/10	$ 890.9	$ 5.8	$ 4.9	118%
6/30/11	873.2	5.7	4.6	123
6/30/12	891.3	5.8	4.7	123
6/30/13	930.7	6.0	3.4	176
6/30/14	936.7	6.1	3.5	176
6/30/15	976.6	6.3	3.6	176
6/30/16	1,046.8	6.8	3.7	186
6/30/17	1,098.0	7.1	4.3	167
6/30/18	1,101.7	7.2	4.2	171
6/30/19	1,153.5	7.5	4.4	170

(1) Computed as the dollar amount of the actual PERSI employer contribution made as a percentage of payroll divided by the Actual PERSI contribution rate expressed as a percentage of payroll.

(2) The actual Sick Leave employer contributions are expressed as a percentage of payroll. Employer contributions are made as a percentage of actual payroll in accordance with statute and the Board's Funding Policy. Thus, the actual employer contributions set by both statute and the Board's Funding Policy may differ from the computed Actuarially Determined Contribution (ADC), employer contribution rate for GASB disclosure purposes. Dollar amounts shown exclude additional receipts due to merger of retirement systems.

(3) The ADC, formerly known as the Annual Required Contribution (ARC), is equal to the normal cost rate plus an amortization of any Unfunded Actuarial Accrued Liability over the remaining lifetime of the covered members. The ADC determined as of the valuation date is applicable for employer fiscal years commencing July 1 of the calendar year following the valuation date.

Sick Leave of Idaho Retirement Fund
Public Employee Retirement System of Idaho

EXHIBIT 7b: SCHOOL EMPLOYERS

SCHEDULE OF CONTRIBUTIONS FROM THE EMPLOYER AND ALL OTHER CONTRIBUTING ENTITIES (ALL DOLLAR AMOUNTS IN MILLIONS)

Fiscal Year Ending	Covered Employee Payroll (1)	Actual PERSI Employer Contributions Dollar Amount (2)	Actuarially Determined Contribution (ADC)(3)	Percentage of ADC Dollars Contributed
6/30/10	$ 1,164.3	$ 13.9	$ 13.3	104%
6/30/11	1,118.3	13.3	12.6	105
6/30/12	1,081.2	12.9	12.2	105
6/30/13	1,124.4	13.4	8.5	157
6/30/14	1,114.7	13.3	8.5	157
6/30/15	1,136.3	13.5	8.6	157
6/30/16	1,174.7	14.0	7.3	192
6/30/17	1,240.6	14.8	8.1	183
6/30/18	1,310.9	15.6	8.9	175
6/30/19	1,380.9	16.4	9.4	174

(1) Computed as the dollar amount of the actual PERSI employer contribution made as a percentage of payroll divided by the Actual PERSI contribution rate expressed as a percentage of payroll.

(2) The actual Sick Leave employer contributions are expressed as a percentage of payroll. Employer contributions are made as a percentage of actual payroll in accordance with statute and the Board's Funding Policy. Thus, the actual employer contributio ns set by both statute and the Board's Funding Policy may differ from the computed Actuarially Determined Contribution (ADC), employer contribution rate for GASB disclosure purposes. Dollar amounts shown exclude additional receipts due to merger of retirement systems.

(3) The ADC, formerly known as the Annual Required Contribution (ARC), is equal to the normal cost rate plus an amortization of any Unfunded Actuarial Accrued Liability over the remaining lifetime of the covered members. The ADC determined as of the valuation date is applicable for employer fiscal years commencing July 1 of the calendar year following the valuation date.

EXHIBIT 8a: STATE EMPLOYERS

SCHEDULE OF CONTRIBUTIONS FROM THE EMPLOYER EXPRESSED AS A PERCENTAGE OF PAYROLL

Fiscal Year Ending	Actual PERSI Employer Contribution % (1)	Actuarially Determined Contribution (ADC) %(2)	Percentage of ADC Contributed
6/30/10	0.65%	0.55%	118%
6/30/11	0.65	0.55	118
6/30/12	0.65	0.53	123
6/30/13	0.65	0.37	176
6/30/14	0.65	0.37	176
6/30/15	0.65	0.37	176
6/30/16	0.65	0.37	176
6/30/17	0.65	0.35	186
6/30/18	0.65	0.39	167
6/30/19	0.65	0.38	171

(1) The actual Sick Leave employer contributions are expressed as a percentage of payroll. Employer contributions are made as a percentage of actual payroll in accordance with statute and the Board's Funding Policy. Thus, the actual employer contributions set by both statute and the Board's Funding Policy may differ from the computed Actuarially Determined Contribution (ADC), employer contribution rate for GASB disclosure purposes.

(2) The ADC, formerly known as the Annual Required Contribution (ARC), is equal to the normal cost rate plus an amortization of any Unfunded Actuarial Accrued Liability over the remaining lifetime of the covered members. The ADC determined as of the valuation date is applicable for employer fiscal years commencing July 1 of the calendar year following the valuation date.

Sick Leave of Idaho Retirement Fund
Public Employee Retirement System of Idaho

EXHIBIT 8b: STATE EMPLOYERS

SCHEDULE OF CONTRIBUTIONS FROM THE EMPLOYER EXPRESSED AS A PERCENTAGE OF PAYROLL

Fiscal Year Ending	Actual PERSI Employer Contribution %(1)	Actuarially Determined Contribution (ADC) % (2)	Percentage of ADC Contributed
6/30/10	1.19%	1.14%	104%
6/30/11	1.19	1.14	104
6/30/12	1.19	1.13	105
6/30/13	1.19	1.13	105
6/30/14	1.19	0.76	157
6/30/15	1.19	0.76	157
6/30/16	1.19	0.76	157
6/30/17	1.19	0.62	192
6/30/18	1.19	0.65	183
6/30/19	1.19	0.68	175

(1) The actual Sick Leave employer contributions are expressed as a percentage of payroll. Employer contributions are made as a percentage of actual payroll in accordance with statute and the Board's Funding Policy. Thus, the actual employer contributions set by both statute and the Board's Funding Policy may differ from the computed Actuarially Determined Contribution (ADC), employer contribution rate for GASB disclosure purposes.

(2) The ADC, formerly known as the Annual Required Contribution (ARC), is equal to the normal cost rate plus an amortization of any Unfunded Actuarial Accrued Liability over the remaining lifetime of the covered members. The ADC determined as of the valuation date is applicable for employer fiscal years commencing July 1 of the calendar year following the valuation date.

Sick Leave of Idaho Retirement Fund
Public Employee Retirement System of Idaho

EXHIBIT 9: PROVISIONS OF GOVERNING LAW

All actuarial calculations are based on our understanding of the statutes governing the use of unused sick leave benefits administered by the Public Employee Retirement System of Idaho, as contained in Section 67-5333 for State employees and Section 33-1228 for School employees of the Idaho Code. The benefit and contribution provisions of this law are summarized briefly below. The items in parentheses are the provisions applicable to school employees.

Benefits

Upon separation from State (public school) employment for retirement reasons, a member's unused sick leave earned subsequent to July 1, 1976, is determined and reported to PERSI. The monetary value of one-half of the unused sick leave is transferred from the sick leave account to the member's retirement account (the entitlement balance). The monetary value of the unused sick leave is based upon the rate of pay of the employee at the time of retirement.

Effective July 1, 2001, the maximum amount transferred shall be limited for State covered members only, based on the number of hours of credited State service as follows:

Years of State Service	Maximum Unused Sick Leave
Less than 5*	420 Hours
5-10	480
10-15	540
16 or more	600

** All members who are eligible for retirement benefits have at least 5 years of service.*

The transferred monies to the member's retirement account are used for the payment of group health, accident, and life insurance premiums under programs maintained by the State (school district). Upon a retired covered member's death, any remaining entitlement balance reverts to the sick leave account.

Contributions

Each State government (public school) employer contributes a percentage of covered members' salaries to the sick leave account maintained by the System. The System's board determines the contribution rate.

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STATISTICAL
SECTION

The objectives of the Statistical Section are to provide additional historical perspective, context, and relevant details to assist readers in using the information in the financial statements, notes to the financial statements, and the required supplementary information in order to understand and assess the System's economic condition. In support of these objectives, the System has implemented GASB Statement No. 44, *Economic Condition Reporting: The Statistical Section.*

The System is the administrator of seven fiduciary funds including three defined benefit retirement plans - the Public Employee Retirement Fund Base Plan (PERSI Base Plan) the Firefighters' Retirement Fund (FRF) and the Judges' Retirement Plan (JRF); two defined contribution plans - the Public Employee Retirement Fund Choice Plans 401(k) and 414(k) (PERSI Choice Plan); and two Sick Leave Insurance Reserve Trust Funds – one for state employers and one for school district employers. The data in Tables 1 through 4 of this section was provided by the System's actuary and Choice Plan record keeper. The data in the remaining tables was provided by the System's own records.

During FY 2019, the number of active PERSI members increased from 71,112 to 72,502 The number of retired members or annuitants receiving monthly allowances increased from 46,907 to 48,120. The number of inactive members who have not been paid a separation benefit increased from 37,588 to 39,867. Of these inactive members, 13,536 have achieved vested eligibility. Total membership in PERSI increased from 155,607 to 160,489 during the fiscal year. Table 1 of this section illustrates the diversity of our employee membership, and Table 2 shows how the membership distribution of active, retired, and inactive members has changed over the years.

As of June 30, 2019 there were 808 public employers in Idaho who were PERSI members. Tables 8 and 9 of this section illustrate the diversity of our employer participation.

Table 1
Distribution of Membership by Group

	Active Members			Inactive Members			Retirees	
	Vested	Non-vested	Total	Vested	Non-vested	Total		Total
Cities	4,683	3,072	7,755	1,896	1,889	3,785	4,406	15,946
Female	1,386	1,095	2,481	675	767	1,442	1,577	5,500
Male	3,297	1,977	5,274	1,221	1,122	2,229	2,829	10,332
Counties	5,040	3,944	8,984	1,245	2,397	3,642	4,147	16,773
Female	2,399	2,000	4,399	699	1,342	2,041	2,138	8,578
Male	2,641	1,944	4,585	546	1,055	1,601	2,009	8,195
Schools	19,887	13,152	33,039	5,135	11,707	16,842	21,178	71,059
Female	14,833	10,191	25,024	4,078	9,180	13,258	15,361	53,643
Male	5,054	2,961	8,015	1,057	2,527	3,584	5,817	17,416
State	10,303	6,988	17,291	4,067	8,421	12,488	14,432	44,211
Female	5,308	3,629	8,937	2,333	4,678	7,011	7,520	23,468
Male	4,995	3,359	8,354	1,734	3,743	5,477	6,912	20,743
All Others	3,351	2,082	5,433	1,168	1,942	3,110	3,957	12,500
Female	1,007	790	1,797	592	1,115	1,707	1,701	5,205
Male	2,344	1,292	3,636	576	827	1,403	2,256	7,295
Grand Total	43,264	29,238	72,502	13,511	26,356	39,867	48,120	160,489
Female	24,933	17,705	42,638	8,377	17,082	25,459	28,297	96,394
Male	18,331	11,533	29,864	5,134	9,274	14,408	19,823	64,095

Table 2
Changes in Membership - PERSI Base Plan

	Active Members			Retired Members		Inactive Members
Fiscal Year Ended	Number	Average Age	Average Years of Service	Number	Average Age	Number
2010	67,020	46.7	10.6	33,625	71.3	24,119
2011	65,798	46.9	10.8	35,334	71.5	25,489
2012	65,270	46.9	10.8	37,150	71.6	26,682
2013	65,535	46.8	10.7	38,947	71.6	27,110
2014	66,223	46.6	10.5	40,776	71.7	28,273
2015	67,008	46.5	10.4	42,657	71.6	29,827
2016	68,517	46.8	10.1	44,181	71.8	31,862
2017	70,073	46.6	9.9	45,468	72.2	34,151
2018	71,112	46.0	9.9	46,907	72.4	37,588
2019	72,502	45.9	9.8	48,120	72.7	39,867

Table 3a
Retired Members by Type of Benefit - PERSI Base Plan

		Type of Retirement			Option Selected	
Amount of Monthly Benefit	Total Number of Retirees	Normal	Disability	Beneficiary	Joint & Survivor [(1)]	Straight Life [(2)]
$0 - 250	5,221	4,592	4	625	1,400	3,821
251 - 500	6,424	5,835	46	543	1,647	4,777
501 - 750	5,231	4,669	133	429	1,436	3,795
751 - 1,000	4,202	3,686	141	375	1,220	2,982
1,001 - 1,250	3,648	3,195	144	309	1,163	2,485
1,251 - 1,500	3,044	2,650	181	213	924	2,120
1,501 - 1,750	2,648	2,298	169	181	894	1,754
1,751 - 2,000	2,429	2,140	149	140	869	1,560
Over 2,000	15,273	14,291	553	429	5,989	9,284
Totals	48,120	43,356	1,520	3,244	15,542	32,578

[1]*Joint & Survivor (also known as Contingent Annuitant)*
[2]*Single Life Options include Straight Life, Cash Refund, Social Security and all other FOPs.*

Table 3b
Retired Members by Type of Benefit - Firefighters' Retirement Fund

Amount of Monthly Benefit	Total Number of Retirees	Type of Retirement: Normal	Type of Retirement: Disability	Type of Retirement: Beneficiary	Option Selected: Joint & Survivor (1)	Option Selected: Straight Life (2)
$0 - 250	10	4	—	6	4	6
251 - 500	5	—	—	5	—	5
501 - 750	12	4	—	8	4	8
751 - 1,000	8	5	—	3	5	3
1,001 - 1,250	11	9	—	2	9	2
1,251 - 1,500	13	10	1	2	11	2
1,501 - 1,750	14	11	1	2	12	2
1,751 - 2,000	9	7	1	1	8	1
Over 2,000	404	268	26	110	294	110
Totals	486	318	29	139	347	139

[1] *Joint & Survivor (also known as Contingent Annuitant)*

[2] *Single Life Options include Straight Life, Cash Refund, Social Security and all other FOPs.*

Monthly benefit refers to the benefit payable by the FRF plan (total benefit less PERSI benefit).

All FRF retirees and disableds are valued with two benefits and two options.
1) *The benefit payable by the FRF plan is valued using a Straight Life option.*
2) *The total benefit is valued using a Spouse Reversionary option (spouse benefit payable upon the death of the retiree or disabled).*

All FRF beneficiaries are valued using a Straight Life option.

Table 3c

Retired Members by Type of Benefit - Judges' Retirement Fund

		Type of Retirement			Option Selected	
Amount of Monthly Benefit	Total Number of Retirees	Normal	Disability	Beneficiary	Joint & Survivor (1)	Straight Life (2)
$0 - 2,000	5	1	—	4	1	4
2,001 - 2,500	4	1	—	3	1	3
2,501 -3,000	5	1	—	4	1	4
3,001 - 3,500	8	3	—	5	3	5
3,501 - 4,000	9	3	—	6	2	7
4,001 - 4,500	7	5	—	2	4	3
4,501 - 5,000	4	3	—	1	2	2
5,001 - 5,500	5	4	—	1	3	2
Over 5,500	60	58	—	2	47	13
Totals	107	79	—	28	64	43

[1]*Joint & Survivor (also known as Contingent Annuitant)*
[2]*Single Life*

Table 3d

Retired Members by Type of Benefit - PERSI Choice Plan

Amount of Monthly Benefit	Total Number of Retirees	Both 414(k) and 401(k)	414(k) Only	401(k) Only
$0 - 250	105	58	23	24
251 - 500	90	65	3	22
501 - 750	43	34	—	9
751 - 1,000	43	29	—	14
1,001 - 1,250	11	8	—	3
1,251 - 1,500	9	5	—	4
1,501 - 1,750	2	1	—	1
1,751 - 2,000	10	7	—	3
Over 2,000	12	9	—	3
Totals	325	216	26	83

Table 4a

Average Benefit Payments – PERSI Base Plan

Retirement Effective Dates	Years Credited Service						
	0-4	5 - 9	10 - 14	15 - 19	20 - 24	25 - 29	30+
Period 7/1/2009 to 6/30/2010							
Average monthly benefit	$ 213	$ 398	$ 748	$ 1,090	$ 1,564	$ 2,449	$ 3,297
Average final average salary	$ 516	$ 2,321	$ 2,773	$ 3,109	$ 3,601	$ 4,337	$ 4,833
Number of retired members	41	333	317	326	303	309	474
Period 7/1/2010 to 6/30/2011							
Average monthly benefit	$ 112	$ 388	$ 717	$ 1,128	$ 1,567	$ 2,420	$ 3,457
Average final average salary	$ 887	$ 2,408	$ 2,755	$ 3,266	$ 3,686	$ 4,421	$ 4,904
Number of retired members	39	426	357	364	362	353	573
Period 7/1/2011 to 6/30/2012							
Average monthly benefit	$ 201	$ 387	$ 760	$ 1,153	$ 1,667	$ 2,445	$ 3,437
Average final average salary	$ 791	$ 2,382	$ 2,888	$ 3,233	$ 3,761	$ 4,318	$ 4,809
Number of retired members	55	486	386	382	397	371	518
Period 7/1/2012 to 6/30/2013							
Average monthly benefit	$ 172	$ 423	$ 782	$ 1,158	$ 1,664	$ 2,463	$ 3,545
Average final average salary	$ 1,849	$ 2,401	$ 2,925	$ 3,307	$ 3,706	$ 4,397	$ 4,969
Number of retired members	54	533	450	413	398	386	494
Period 7/1/2013 to 6/30/2014							
Average monthly benefit	$ 262	$ 400	$ 746	$ 1,171	$ 1,728	$ 2,367	$ 3,510
Average final average salary	$ 1,269	$ 2,552	$ 2,760	$ 3,315	$ 3,924	$ 4,303	$ 4,946
Number of retired members	51	518	469	429	418	427	524
Period 7/1/2014 to 6/30/2015							
Average monthly benefit	$ 215	$ 373	$ 764	$ 1,091	$ 1,629	$ 2,473	$ 3,469
Average final average salary	$ 1,536	$ 2,357	$ 3,040	$ 3,237	$ 3,727	$ 4,478	$ 4,966
Number of retired members	39	573	467	463	372	428	561
Period 7/1/2015 to 6/30/2016							
Average monthly benefit	$ 228	$ 398	$ 765	$ 1,198	$ 1,687	$ 2,498	$ 3,435
Average final average salary	$ 1,300	$ 2,460	$ 3,048	$ 3,528	$ 3,889	$ 4,505	$ 4,965
Number of retired members	40	474	421	379	421	430	522
Period 7/1/2016 to 6/30/2017							
Average monthly benefit	$ 566	$ 416	$ 760	$ 1,196	$ 1,706	$ 2,486	$ 3,603
Average final average salary	$ 1,804	$ 2,531	$ 3,178	$ 3,473	$ 3,786	$ 4,732	$ 5,231
Number of retired members	24	401	420	381	337	436	542
Period 7/1/2017 to 6/30/2018							
Average monthly benefit	$ 134	$ 412	$ 787	$ 1,198	$ 1,849	$ 2,481	$ 3,361
Average final average salary	$ 813	$ 2,880	$ 3,212	$ 3,360	$ 4,077	$ 4,436	$ 5,031
Number of retired members	28	396	370	364	331	419	430
Period 7/1/2018 to 6/30/2019							
Average monthly benefit	$ 83	$ 411	$ 824	$ 1,224	$ 1,847	$ 2,672	$ 3,480
Average final average salary	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Number of retired members	12	346	405	395	351	449	493

Table 4b

Average Benefit Payments – Firefighters' Retirement Fund

Retirement Effective Dates	Years Credited Service						
	0-4	5- 9	10 - 14	15 - 19	20 - 24	25 - 29	30+
Period 7/1/2009 to 6/30/2010							
Average monthly benefit	$ 3,535	$ —	$ —	$ —	$ —	$ 201	$ —
Number of retired members	4	—	—	—	—	1	—
Period 7/1/2010 to 6/30/2011							
Average monthly benefit	$ 4,337	$ —	$ —	$ —	$ —	$ —	$ —
Number of retired members	5	—	—	—	—	—	—
Period 7/1/2011 to 6/30/2012							
Average monthly benefit	$ 3,107	$ —	$ —	$ —	$ —	$ —	$ 1,186
Number of retired members	3	—	—	—	—	—	1
Period 7/1/2012 to 6/30/2013							
Average monthly benefit	$ 3,722	$ —	$ —	$ —	$ —	$ —	$ —
Number of retired members	7	—	—	—	—	—	—
Period 7/1/2013 to 6/30/2014							
Average monthly benefit	$ 4,004	$ —	$ —	$ —	$ —	$ —	$ —
Number of retired members	6	—	—	—	—	—	1
Period 7/1/2014 to 6/30/2015							
Average monthly benefit	$ 2,516	$ —	$ —	$ —	$ —	$ —	$ —
Number of retired members	9	—	—	—	—	—	—
Period 7/1/2015 to 6/30/2016							
Average monthly benefit	$ 4,130	$ —	$ —	$ —	$ 2,339	$ 4,701	$ —
Number of retired members	4	—	—	—	1	1	—
Period 7/1/2016 to 6/30/2017							
Average monthly benefit	$ —	$ —	$ —	$ —	$ —	$ —	$ —
Number of retired members	—	—	—	—	—	—	1
Period 7/1/2017 to 6/30/2018							
Average monthly benefit	$ —	$ —	$ —	$ —	$ —	$ —	$ —
Number of retired members	—	—	—	—	—	—	—
Period 7/1/2018 to 6/30/2019							
Average monthly benefit	$ —	$ —	$ —	$ —	$ —	$ —	$ —
Number of retired members	—	—	—	—	—	—	—

Table 4c

Average Benefit Payments - Judges Retirement Plan

Retirement Effective Dates	Years Credited Service						
	0 - 4	5 - 9	10 - 14	15 - 19	20 - 24	25 - 29	30+
Period 7/1/2014 to 6/30/2015							
Average monthly benefit	$ 1,950	$ 4,587	$ 5,779	$ —	$ 8,875	$ —	$ —
Number of retired members	1	1	1	—	2	—	—
Period 7/1/15 to 6/30/16							
Average monthly benefit	$ —	$ —	$ 8,543	$ 7,928	$ 9,063	$ —	$ —
Number of retired members		—	1	1	1	—	—
Period 7/1/16 to 6/30/17							
Average monthly benefit	$ —	$ 5,364	$ 6,063	$ 7,681	$ —	$ 4,292	$ 2,523
Number of retired members	—	2	2	2	—	1	1
Period 7/1/17 to 6/30/18							
Average monthly benefit	$ 2,415		$ 6,307		$ 8,576	$ —	$ —
Number of retired members	1	—	2	—	1	—	—
Period 7/1/2018 to 6/30/2019							
Average monthly benefit	$ —	$ —	$ 5,737	$ 7,836	$ 7,395	$ —	$ 2,767
Number of retired members	—	—	3	1	2	—	1

Schedule is intended to show information for 10 years. Additional years will be displayed as they become available

Table 4d
Average Benefit Payments – PERSI Choice Plan

Retirement Effective Dates	Years of Service						
	0 - 4*	5 - 9	10 - 14	15 - 19	20 - 24	25 - 29	30+
Period 7/1/09 to 6/30/10							
Average monthly benefit	$ 445	$ 1,063	$ 285	$ 566	$ 729	$ 642	$ 529
Number of retired members	1	7	7	19	11	8	28
Period 7/1/10 to 6/30/11							
Average monthly benefit	$ 445	$ 913	$ 378	$ 511	$ 794	$ 621	$ 674
Number of retired members	1	11	11	25	17	14	38
Period 7/1/11 to 6/30/12							
Average monthly benefit	$ 850	$ 525	$ 425	$ 514	$ 534	$ 489	$ 588
Number of retired members	1	12	14	30	12	13	37
Period 7/1/12 to 6/30/13							
Average monthly benefit	$ 820	$ 456	$ 515	$ 554	$ 480	$ 683	$ 644
Number of retired members	2	14	14	27	22	17	44
Period 7/1/13 to 6/30/14							
Average monthly benefit	$ 120	$ 890	$ 534	$ 1,124	$ 560	$ 656	$ 560
Number of retired members	1	10	15	23	13	17	41
Period 7/1/14 to 6/30/15							
Average monthly benefit	$ 588	$ 1,665	$ 844	$ 1,341	$ 747	$ 927	$ 738
Number of retired members	2	14	25	26	13	22	43
Period 7/1/15 to 6/30/16							
Average monthly benefit	$ 318	$ 945	$ 606	$ 585	$ 577	$ 563	$ 499
Number of retired members	5	18	37	26	29	29	48
Period 7/1/16 to 6/30/17							
Average monthly benefit	$ 694	$ 844	$ 737	$ 670	$ 494	$ 776	$ 588
Number of retired members	21	26	44	41	30	46	60
Period 7/1/17 to 6/30/18							
Average monthly benefit	$ 679	$ 898	$ 534	$ 415	$ 476	$ 488	$ 485
Number of retired members	40	30	47	41	32	44	57
Period 7/1/18 to 6/30/19							
Average monthly benefit	$ 482.95	$ 786.29	$ 599.24	$ 611.36	$ 700.91	$ 548.64	$ 603.76
Number of retired members	18	38	58	49	38	47	77

**Average final average salary data not applicable for this defined contribution plan. The average monthly benefit is determined by the retiree and can vary significantly based on the number of months the retiree chooses to receive payments*

Table 5
Schedule of Benefit Expenses by Type

Fiscal Year	Age & Service Benefits: Retirants	Age & Service Benefits: Survivors (2)	Disabilities: Retirants (1): Pre-NRA	Disabilities: Retirants (1): Post-NRA	Disabilities: Survivors	Refunds: Death	Refunds: Separation	Total
PERSI BASE PLAN and FRF								
2014	677,054,949	31,181,280	19,263,836	11,699,605	1,499,603	12,414,898	33,959,615	787,073,786
2015	685,057,604	32,850,337	18,982,851	12,714,575	1,769,618	11,212,116	28,354,914	790,942,015
2016	731,945,232	34,812,098	18,968,148	13,955,913	1,943,926	10,556,133	32,307,543	844,488,993
2017	769,911,801	35,034,939	18,218,550	15,307,442	3,661,761	13,559,082	28,872,581	884,566,156
2018	813,358,969	34,939,807	17,837,813	16,089,613	6,054,511	13,543,029	26,823,893	928,647,635
2019	858,803,241	37,082,031	16,982,825	17,682,996	6,464,109	13,883,047	27,262,885	978,161,134
JUDGES' RETIREMENT PLAN								
2015	4,683,420	893,969						
2016	5,059,316	915,621						
2017	5,173,494	999,921						
2018	5,703,094	988,464						
2019	6,117,401	1,051,002						
PERSI CHOICE PLAN								
2015	15,662,811							
2016	41,363,965							
2017	37,358,429							
2018	41,919,856							
2019	51,884,409							
SICK LEAVE INSURANCE RESERVE TRUST FUND								
2014	17,373,642							
2015	17,853,009							
2016	18,438,911							
2017	18,166,014							
2018	16,858,055							
2019	16,885,258							

(1) The split between duty and non-duty disabilities is not available.

(2) Benefit amounts are not available. All survivors are included with the Age & Service Benefits survivors.

NRA = Normal Retirement Age. PERSI members with disability benefits convert to age & service retirants at NRA (60 for Fire & Police, 65 for other members).

Schedule is intended to show information for 6 years. Additional years will be displayed as they become available.

Table 6

History of Cost-of-Living Adjustments

Year [1]	CPI Rate	PERSI COLA Rate	Maximum COLA	Difference	
1980	12.2	6.0	6.0	0.0	
1981	12.6	6.0	6.0	0.0	
1982	10.2	6.0	6.0	0.0	
1983	5.1	5.1	5.1	0.0	
1984	2.9	2.9	2.9	0.0	
1985	4.2	4.2	4.2	0.0	
1986	3.2	1.0	3.2	2.2	(2)
1987	1.5	1.5	1.5	0.0	
1988	4.5	1.0	4.5	3.5	(2)
1989	4.2	1.0	4.2	3.2	(2)
1990	4.7	4.7	4.7	0.0	
1991	5.6	5.6	5.6	0.0	
1992	3.8	3.8	3.8	0.0	
1993	3.1	3.1	3.1	0.0	
1994	2.8	2.8	2.8	0.0	
1995	2.9	2.9	2.9	0.0	
1996	2.6	2.6	2.6	0.0	
1997	2.9	2.9	2.9	0.0	
1998	2.2	2.2	2.2	0.0	
1999	1.6	1.6	1.6	0.0	(2)
2000	2.3	2.3	2.3	0.0	
2001	3.4	3.4	3.4	0.0	
2002	2.7	2.7	2.7	0.0	
2003	1.8	1.0	1.8	0.8	(3)
2004	2.2	2.2	2.2	0.0	
2005	2.7	2.7	2.7	0.0	(3)
2006	3.6	3.6	3.6	0.0	
2007	3.8	3.8	3.8	0.0	
2008	2.0	2.0	2.0	0.0	
2009	5.4	1.0	5.4	4.4	(4),(5)
2010	-1.48	1.0	-1.48	0.0	(4)
2011	1.15	1.0	1.15	0.15	(5) (6)
2012	3.77	1.0	3.77	2.77	(5)
2013	1.69	1.0	1.69	.69	
2014	1.59	1.0	1.59	.59	
2015	1.7	1.7	1.7	0.0	(5)
2016	.2	.2	.2	0.0	
2017	1.1	1.1	1.1	0.0	
2018	1.9	1.9	1.9	0.0	
2019	1.7	1.0	1.0	0.7	

(1) For years 1980 through 1986, based on the prior year annual change in CPI-U, August to August, adjustments were effective January 1. Beginning in 1987, adjustments were effective March 1.

(2) Retro-active COLAs were awarded effective March 1, 1999 to re-establish purchasing power for the years 1986, 1988, 1989.

(3) A retro-active COLA was awarded effective March 1, 2005 to re-establish purchasing power for 2003.

(4) A retro-active COLA of 2.48% was awarded effective March 1, 2010 to re-store partial purchasing power for 2009 for a net COLA of 1%.

(5) A retro-active COLA of up to 2.3% was awarded effective March 1, 2015 to re-establish purchasing power for the years 2009, 2011, 2012.

(6) A retro-active COLA of up to .8% was awarded effective March 1, 2016 to re-establish purchasing power for the year 2011.

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Table 7a

Changes in Net Position - Base Plan Continued
(last 10 fiscal years)

	2010	2011	2012
Additions:			
Employee Contributions	$ 178,124,381	$ 178,415,845	$ 179,168,074
Employer Contributions	284,932,418	279,174,844	277,143,887
Investment Income [(1)]	200,479,456	231,745,111	240,033,473
Gains and Losses	833,597,303	1,697,095,152	(102,816,241)
Transfers/Rollovers In	—	—	—
Other Income	12,261	37,716	24,089
Total additions to plan net position	**1,497,145,819**	**2,386,468,668**	**593,553,282**
Deductions			
Benefit Payments	517,046,719	558,619,602	599,848,356
Refunds	36,747,852	38,753,611	40,830,899
Administrative Expenses	6,471,359	5,973,540	6,231,431
Transfers/Rollovers Out	—	—	—
Total deductions to plan net position	**560,265,930**	**603,346,753**	**646,910,686**
Change in net position	**$ 936,879,889**	**$ 1,783,121,915**	**$ (53,357,404)**

[1] Investment income is reported net of investment expense.

Table 7a

Changes in Net Position - Base Plan

(last 10 fiscal years)

Concluded

2013	2014	2015	2016	2017	2018	2019
$ 184,652,290	$ 203,890,954	$ 211,468,780	$ 220,866,936	$ 237,032,668	$ 243,950,654	$ 257,060,511
285,440,860	310,986,283	321,240,628	335,610,100	356,367,389	369,139,113	390,080,902
247,522,779	279,876,227	273,500,316	277,666,987	284,543,243	309,314,922	293,129,527
726,899,521	1,719,909,543	97,579,801	(72,888,917)	1,411,348,507	976,147,101	1,009,441,400
—	—	—	—	—	—	—
16,311	12,690	16,767	25,283	29,366	38,380	329,710
1,444,531,761	**2,514,675,697**	**903,806,292**	**761,280,389**	**2,289,321,173**	**1,898,590,170**	**1,950,042,050**
654,141,410	694,765,148	742,712,826	792,705,222	835,774,004	885,355,285	963,881,907
33,845,755	34,828,507	28,354,914	32,307,543	29,497,711	24,357,947	22,854,217
6,308,487	6,787,811	6,434,462	6,806,655	8,810,136	8,922,335	9,276,642
694,295,652	**736,381,466**	**777,502,202**	**831,819,420**	**874,081,851**	**918,635,567**	**984,509,516**
$ 750,236,109	**$ 1,778,294,231**	**$ 126,304,090**	**$ (70,539,031)**	**$ 1,415,239,322**	**$ 979,954,603**	**$ 965,532,534**

Table 7b

Changes in Net Position - FRF Plan
(last 10 fiscal years)

Continued

	2010	2011	2012
Additions:			
Employee Contributions	$ 16,185	$ 13,746	$ 11,100
Employer Contributions	13,542,331	13,313,715	13,486,309
Investment Income [1]	5,165,228	5,912,515	6,096,564
Gains and Losses	21,423,526	43,298,001	(2,611,410)
Transfers/Rollovers In	—	—	—
Other Income	—	—	—
Total additions to plan net position	**40,147,270**	**62,537,977**	**16,982,563**
Deductions			
Benefit Payments	18,372,312	19,238,671	19,637,373
Refunds	—	—	—
Administrative Expenses	—	—	—
Transfers/Rollovers Out	—	—	—
Total deductions to plan net position	**18,372,312**	**19,238,671**	**19,637,373**
Change in net position	**$ 21,774,958**	**$ 43,299,306**	**$ (2,654,810)**

[1] Investment income is reported net of investment expense.

Table 7b

Changes in Net Position - FRF Plan
(last 10 fiscal years)

Concluded

	2013	2014	2015	2016	2017	2018	2019
	$ 11,136	$ 9,095	$ 6,168	$ 6,329	$ 4,385	$ 4,368	$ 4,540
	14,227,313	14,200,323	11,305,473	7,198,597	7,452,987	7,706,226	8,247,827
	6,289,701	8,078,269	6,896,831	6,892,864	6,961,648	7,489,302	7,203,382
	18,470,947	49,642,989	2,461,078	(1,809,410)	34,527,177	23,635,009	24,806,072
	38,999,097	**71,930,676**	**20,669,550**	**12,288,380**	**48,946,197**	**38,834,905**	**40,261,821**
	19,801,418	19,958,800	19,874,275	19,476,228	19,294,441	18,934,403	18,929,519
	—	—	—	—	—	—	—
	—	—	153,719	58,873	43,022	29,833	55,031
	—	—	—	—	—	—	—
	19,801,418	**19,958,800**	**20,027,994**	**19,535,101**	**19,337,463**	**18,964,236**	**18,984,550**
	$ 19,197,679	**$ 51,971,876**	**$ 641,556**	**$ (7,246,721)**	**$ 29,608,734**	**$ 19,870,669**	**$ 21,277,270**

Table 7c

Changes in Net Position - Choice Plan 401(k) (last 10 fiscal years)

Continued

	2010	2011	2012
Additions:			
Employee Contributions	$ 33,413,555	$ 33,068,567	$ 32,417,476
Employer Contributions	127,154	180,556	383,189
Investment Income [(1)]	6,144,609	7,441,583	8,267,997
Gains and Losses	20,858,277	51,079,923	(1,861,880)
Transfers/Rollovers In	4,867,768	7,469,551	9,576,929
Other Income	—	—	—
Total additions to plan net position	**65,411,363**	**99,240,180**	**48,783,711**
Deductions			
Benefit Payments	6,013,245	7,771,465	7,123,041
Refunds	—	—	—
Administrative Expenses	—	—	—
Transfers/Rollovers Out	7,676,334	12,032,837	13,323,865
Total deductions to plan net position	**13,689,579**	**19,804,302**	**20,446,906**
Change in net position	**$ 51,721,784**	**$ 79,435,878**	**$ 28,336,805**

[1]Investment income is reported net of investment expense.

Table 7c

Changes in Net Position - Choice
Plan 401(k) (last 10 fiscal years)

Concluded

	2013	2014	2015	2016	2017	2018	2019
	$ 36,341,951	$ 39,062,685	$ 42,874,459	$ 45,299,030	$ 48,333,290	$ 52,141,131	$ 59,426,695
	9,119,848	14,230,058	5,166,873	4,778,923	5,475,485	5,993,209	6,517,244
	9,431,394	11,462,165	9,589,538	12,385,370	13,786,327	15,624,002	15,820,380
	31,292,784	69,529,511	9,030,653	(3,529,621)	64,650,113	53,200,084	54,408,333
	9,132,179	10,706,301	14,575,338	11,868,500	14,836,646	14,179,305	13,948,722
	95,318,156	**144,990,720**	**81,236,861**	**70,802,202**	**147,081,861**	**141,137,731**	**150,121,373**
	8,018,315	8,936,739	12,729,966	35,985,817	34,029,074	38,708,774	43,319,799
	—	—	—	—	—	—	—
	—	—	—	1,069,543	115,788	125,334	1,570,385
	15,382,348	18,901,443	23,364,173	—	—	—	—
	23,400,663	**27,838,182**	**36,094,139**	**35,985,817**	**34,029,074**	**38,708,774**	**44,890,184**
	$ 71,917,493	**$ 117,152,538**	**$ 45,142,722**	**$ 34,816,385**	**$ 113,052,787**	**$ 102,428,957**	**$ 105,231,189**

Table 7d

Changes in Net Position - Choice Plan 414(k) (last 10 fiscal years)

Continued

	2010	2011	2012
Additions:			
Employee Contributions	$ —	$ —	$ —
Employer Contributions	—	—	—
Investment Income [1]	1,168,118	1,244,977	1,190,148
Gains and Losses	4,877,123	9,321,922	(564,614)
Transfers/Rollovers In			
Other Income			
Total additions to plan net position	**6,045,241**	**10,566,899**	**625,534**
Deductions			
Benefit Payments	1,690,346	2,339,079	2,341,735
Refunds	—	—	—
Administrative Expenses	—	—	—
Transfers/Rollovers Out	1,208,031	1,627,984	1,619,181
Total deductions to plan net position	**2,898,377**	**3,967,063**	**3,960,916**
Change in net position	**$ 3,146,864**	**$ 6,599,836**	**$ (3,335,382)**

[1] Investment income is reported net of investment expense.

Table 7d

Changes in Net Position - Choice
Plan 414(k) (last 10 fiscal years)

Concluded

2013	2014	2015	2016	2017	2018	2019
$ —	$ —	$ —	$ —	$ —	$ —	$ —
—	—	—	—	—	—	—
1,198,833	1,293,253	901,407	227,137	(101,457)	93,272	117,688
3,732,343	8,177,394	776,244	639,034	5,758,352	3,627,429	4,308,210
—	—	—	—	—	—	—
—	—	—	—	—	—	—
4,931,176	**9,470,647**	**1,677,651**	**866,171**	**5,656,895**	**3,720,701**	**4,425,898**
2,233,004	2,210,950	2,932,845	5,378,148	3,329,355	3,211,082	3,838,437
—	—	—	—	—	—	—
—	—	—	523,170	10,491	10,196	344,469
1,619,036	1,661,723	2,049,671	—	—	—	—
3,852,040	**3,872,673**	**4,982,516**	**5,901,318**	**3,339,846**	**3,221,278**	**4,182,906**
$ 1,079,136	**$ 5,597,974**	**$ (3,304,865)**	**$ (5,035,147)**	**$ 2,317,049**	**$ 499,423**	**$ 242,992**

Table 7e

Continued

Changes in Net Position – Sick Leave Insurance Reserve Fund – State
(last 10 fiscal years)

	2010	2011	2012
Additions:			
Employer Contributions	$ 5,790,947	$ 5,675,940	$ 5,793,204
Net appreciation (depreciation) (1)	9,814,139	19,114,477	2,298,334
Other Income	2,042	2,656	3,690
Total additions to plan net position	**15,607,128**	**24,793,073**	**8,095,228**
Deductions			
Benefit Payments	3,656,816	3,765,826	3,463,901
Administrative Expenses	39,080	39,148	39,346
Total deductions to plan net position	**3,695,896**	**3,804,974**	**3,503,247**
Change in net position	**$ 11,911,232**	**$ 20,988,099**	**$ 4,591,981**

Table 7f

Continued

Changes in Net Position – Sick Leave Insurance Reserve Fund – School (last 10 fiscal years)

	2010	2011	2012
Additions:			
Employer Contributions	$ 13,855,046	$ 13,307,372	$ 12,866,373
Net appreciation (depreciation) (1)	16,376,593	31,830,496	3,796,750
Other Income	2,877	2,064	740
Total additions to plan net position	**30,234,516**	**45,139,932**	**16,663,863**
Deductions			
Benefit Payments	10,647,446	11,502,027	12,846,104
Administrative Expenses	65,259	65,192	64,994
Total deductions to plan net position	**10,712,705**	**11,567,219**	**12,911,098**
Change in net position	**$ 19,521,811**	**$ 33,572,713**	**$ 3,752,765**

[1] Reported net of investment expense.

Table 7e

Concluded

Changes in Net Position – Sick Leave Insurance Reserve Fund – State
(last 10 fiscal years)

2013	2014	2015	2016	2017	2018	2019
$ 6,049,837	$ 6,088,489	$ 6,347,903	$ 6,804,354	$ 7,136,693	$ 7,161,239	$ 7,497,670
15,142,268	23,097,449	5,722,685	3,356,390	21,515,574	17,315,690	16,084,184
1,290	1,079	600	889	30	1,270	1,777
21,193,395	**29,187,017**	**12,071,188**	**10,161,633**	**28,652,297**	**24,478,199**	**23,583,631**
4,049,618	4,366,900	4,510,989	4,980,235	5,010,974	4,671,380	4,611,044
39,876	40,181	40,375	40,752	41,148	44,182	47,183
4,089,494	**4,407,081**	**4,551,364**	**5,020,987**	**5,052,122**	**4,715,562**	**4,658,227**
$ 17,103,901	**$ 24,779,936**	**$ 7,519,824**	**$ 5,140,646**	**$ 23,600,175**	**$ 19,762,637**	**$ 18,925,404**

Table 7f

Concluded

Changes in Net Position – Sick Leave Insurance Reserve Fund – School
(last 10 fiscal years)

2013	2014	2015	2016	2017	2018	2019
$ 13,380,821	$ 13,264,646	$ 13,521,617	$ 13,978,967	$ 14,763,323	$ 15,599,238	$ 16,432,554
24,479,545	36,880,546	9,043,823	3,919,755	32,991,024	26,544,159	24,687,356
724	327	164	360	2,187	1,948	2,725
37,861,090	**50,145,519**	**22,565,604**	**17,899,082**	**47,756,534**	**42,145,345**	**41,122,635**
12,638,080	13,006,742	13,342,020	13,458,676	13,155,040	12,186,675	11,930,829
64,464	64,159	63,965	63,588	63,192	67,806	72,453
12,702,544	**13,070,901**	**13,405,985**	**13,522,264**	**13,218,232**	**12,254,481**	**12,003,282**
$ 25,158,546	**$ 37,074,618**	**$ 9,159,619**	**$ 4,376,818**	**$ 34,538,302**	**$ 29,890,864**	**$ 29,119,354**

Table 7g

Changes in Net Position – JRF

	2015	2016	2017	2018	2019
Additions:					
Employee Contributions	$ 629,077	$ 623,754	$ 630,392	$ 714,804	$ 778,864
Employer Contributions	3,595,417	3,370,587	3,946,599	4,278,996	4,688,762
Investment Income [1]	1,523,041	1,505,550	1,540,236	1,668,307	1,579,702
Net appreciation (depreciation)	526,854	(413,420)	7,612,667	5,261,917	5,357,121
Other Income	2,063	2,571	4,946	7,947	13,200
Total additions to plan net position	**6,276,452**	**5,089,042**	**13,734,840**	**11,931,971**	**12,417,649**
Deductions					
Benefit Payments	5,577,389	5,974,937	6,173,415	6,691,558	7,168,403
Administrative Expenses	95,733	133,096	74,035	104,949	121,305
Total deductions to plan net position	**5,673,122**	**6,108,033**	**6,247,450**	**6,796,507**	**7,289,708**
Special Item - Transfer in of Judges' Retirement	**75,864,300**	—	—	—	—
Change in net position	**$ 76,467,630**	**$ (1,018,991)**	**$ 7,487,390**	**$ 5,135,464**	**$ 5,127,941**

[1] Reported net of investment expense.

Schedule is intended to show information for 10 years. Additional years will be displayed as they become available.

Table 8

Principal Participating Employers

2019

Participating Employers	Covered Employees	Rank	Percentage of Total System
State of Idaho	17,291	1	24%
West Ada School District (formerly Meridian School District)	3,791	2	5%
Boise Ind.School District	3,107	3	4%
Ada County	1,859	4	3%
City of Boise	1,438	5	2%
Nampa School District	1,368	6	2%
Pocatello School District	1,351	7	2%
Bonneville School District	1,321	8	2%
Coeur d'Alene School District	1,110	9	2%
Idaho Falls School District	1,006	10	1%
All other	38,860		54%
Total (709 employers)	**72,502**		**100%**

2010

Participating Employers	Covered Employees	Rank	Percentage of Total System
State of Idaho	17,214	1	26%
Meridian School District	3,556	2	5%
Boise Ind School District	2,974	3	4%
Ada County	1,496	4	2%
Nampa School District	1,460	5	2%
City of Boise	1,261	6	2%
Pocatello School District	1,163	7	2%
Idaho Falls School District	1,005	8	1%
Coeur d'Alene School District	1,000	9	1%
Bonneville School District	982	10	1%
All other	34,909		52%
Total (630 employers)	**67,020**		**100%**

Table 9
Public Entities Participating in PERSI

State Agencies

Accountancy Board
Administration Dept
Agriculture Dept
Attorney General
Barley Commission
Board of Veterinary Med
Bean Commission
Beef Council
Board of Education
Boise State Univ
Brand Inspector
Comm For The Blind
Comm On Hispanic Affairs
Commerce Dept
Commission On Aging
Commission On The Arts
Commission for Pardons and Paroles
Controller`s Office
Correction Dept
Correctional Indust
Dairy Council
Dentistry Board
Dept of Environmental Quality
Div of Bldg Safety
Div of Financial Mgt
Div of Veteran Services
Division of Human Resources
Endowment Fund Investment Board
Finance Dept
Fish & Game Dept
Forest Products Comm
Governor`s Office
Health & Welfare Dept
Health District 1
Health District 2
Health District 3
Health District 4
Health District 5
Health District 6
Health District 7
Historical Society
House of Reps
ID Workforce Development Council
ID Public Television
Idaho Career & Technical Education
Idaho Grape Growers & Wine Producers Commission
Idaho Oilseed Commission
Idaho Rangeland Resources Commission
Idaho State Police
Idaho State Univ
Independent Living Council
Industrial Commission
Info Tech Services
Insurance Dept
Insurance Fund
Judicial Branch
Juvenile Corrections
Labor Dept
Lands Dept
Lava Hot Springs Foundation
Legislative Services
Lewis-Clark State College
Library
Lieutenant Governor
Liquor Dispensary
Lottery
Medicine Board
Military Division
Nursing Board
Occupational License Bur
Office of Drug Policy
Office of Energy Resources
Office of Performance Evaluations
Office of Species Conservation
Outfitters & Guides
Parks & Recreation
Pharmacy Board
Potato Commission
Prof Eng & Surveyors
Public Defense Commission
Public Employee Retirement System
Public Utility Comm
Racing Commission
Real Estate Comm
STEM Action Center
Secretary of State
Senate
Soil Conservation Comm
State Appellate Public Defender
State Bar
Supt Public Inst
Tax Appeals Board
Tax Commission
Transportation Dept
Treasurer
University of Idaho
Vocational Rehab
Water Resources Dept
Wheat Commission

Counties

Ada County
Adams County
Bannock County
Bear Lake County
Benewah County

Bingham County
Blaine County
Boise County
Bonner County
Bonneville County
Boundary County
Butte County
Camas County
Canyon County
Caribou County
Cassia County
Clark County
Clearwater County
Custer County
Elmore County
Franklin County
Fremont County
Gem County
Gooding County
Idaho County
Jefferson County
Jerome County
Kootenai County
Latah County
Lemhi County
Lewis County
Lincoln County
Madison County
Minidoka County
Nez Perce County
Oneida County
Owyhee County
Payette County
Power County
Shoshone County
Teton County
Twin Falls County
Valley County
Washington County

Cities

City of Aberdeen
City of Albion
City of Amer Falls
City of Ammon
City of Arco
City of Ashton
City of Athol
City of Bancroft
City of Basalt
City of Bellevue
City of Blackfoot
City of Bliss
City of Bloomington
City of Boise
City of Bonners Ferry
City of Bovill
City of Buhl
City of Burley
City of Caldwell
City of Cambridge
City of Carey
City of Cascade
City of Castleford
City of Challis
City of Chubbuck
City of Clark Fork
City of Coeur d`Alene
City of Cottonwood
City of Council
City of Craigmont
City of Culdesac
City of Dalton Gardens
City of Deary
City of Declo
City of Donnelly
City of Dover
City of Downey
City of Driggs
City of Dubois
City of Eagle
City of Emmett
City of Fairfield
City of Filer
City of Firth
City of Franklin
City of Fruitland
City of Garden City
City of Genesee
City of Georgetown
City of Glenns Ferry
City of Gooding
City of Grace
City of Grand View
City of Grangeville
City of Greenleaf
City of Hagerman
City of Hailey
City of Harrison
City of Hayden
City of Hayden Lake
City of Hazelton
City of Heyburn
City of Homedale
City of Hope
City of Horseshoe Bend
City of Idaho City
City of Idaho Falls
City of Inkom
City of Iona
City of Island Park
City of Jerome
City of Juliaetta
City of Kamiah
City of Kellogg
City of Kendrick
City of Ketchum
City of Kimberly
City of Kooskia
City of Kootenai
City of Kuna
City of Lapwai
City of Lava Hot Springs
City of Lewiston
City of Mackay
City of Malad
City of Malta
City of Marsing
City of McCall
City of McCammon
City of Melba
City of Menan
City of Meridian
City of Middleton
City of Montpelier

City of Moscow
City of Moyie Springs
City of Mtn Home
City of Mud Lake
City of Mullan
City of Nampa
City of New Meadows
City of New Plymouth
City of Newdale
City of Nezperce
City of Notus
City of Oakley
City of Oldtown
City of Orofino
City of Osburn
City of Paris
City of Parker
City of Parma
City of Paul
City of Payette
City of Pinehurst
City of Plummer
City of Pocatello
City of Ponderay
City of Post Falls
City of Potlatch
City of Preston
City of Priest River
City of Rathdrum
City of Rexburg
City of Richfield
City of Rigby
City of Riggins
City of Ririe
City of Roberts
City of Rupert
City of Salmon
City of Sandpoint
City of Shelley
City of Shoshone
City of Smelterville
City of Soda Springs
City of Spirit Lake
City of St Anthony
City of St Charles
City of St Maries
City of Stanley
City of Sugar City
City of Sun Valley
City of Tensed
City of Teton
City of Tetonia
City of Troy
City of Twin Falls
City of Ucon
City of Victor
City of Wallace
City of Weippe
City of Weiser
City of Wendell
City of Weston
City of Wilder
City of Winchester
City of Worley

Water and Sewer Districts

A&B Irrigation District
Aberdeen-Springfield Canal Co
Ada Co Drainage Dist #2
Amer Falls Res Dist #1
Amer Falls Res Dist #2
Avondale Irr District
Big Lost River Irr
Big Wood Canal Co
Black Canyon Irrigation District
Boise Proj Bd Control
Boise-Kuna Irr District
Burley Irr District
Cabinet Mountains Water District
Caldwell Irrigation Lateral District
Canyon Hill Irr District
Cataldo Water District
Central Shoshone Co Water District
Dalton Gardens Irr District
E Greenacres Irr District
East Shoshone Co Water District
Emmett Irrigation District
Falls Irrigation District
Fish Haven Area Recreational Sewer Dist
Fremont-Madison Irr
Grandview Mutual Canal Co
Granite Reeder Water & Sewer
Hayden Lake Recreational Water & Sewer District
Hayden Lake Irrigation Dist
Henry's Fork Ground Water District
Idaho Irr District
Kalispel Bay Water & Sewer District
King Hill Irr District
Kingston Water District
Kootenai-Ponderay Sewer District
Lake Irr District
Lewiston Orchard Irr Dist
Little Wood Riv Irr District
Milner Low Lift Irr District
Minidoka Irr District
Mtn Home Irr District
Nampa-Meridian Irr
New Sweden Irr District
New York Irr District
No Kootenai Water District
North Snake Ground Water District
Orofino Cr-Whiskey Cr Water & Sewer District
Outlet Bay Water & Sewer District
Owyhee Proj S Board of Control
Payette Lakes Water & Sewer District

Peoples Canal and Irrigation Co
Pinehurst Water District
Pioneer Irr District
Progressive Irr District
Riverside Indep Water & Sewer
Riverside Irr District
Riverside Irr District LTD
Roseberry Irr District
Ross Point Water District
Settlers Irr District
Snake River Valley Irr Dist
Southside Wtr & Swr Dist
Star Sewer & Water Dist
Sun Valley Water & Sewer
Twin Falls Canal Co
W Bonner Water & Sewer District
Water District #1
Water District #11
Water District #31
Water District #32-C
Water District #34
Water District #63
Water District 37
Water District 37N
Water District 67
Weiser Irr District
Wilder Irr District

Highway Districts

Ada County Hwy District
Atlanta Hwy District
Bliss Hwy District
Buhl Hwy District
Burley Hwy District
Canyon Hwy District #4
Central Hwy District
Clarkia Better Roads Hwy District
Clearwater Hwy District
Cottonwood Hwy District
Deer Creek Hwy District
Dietrich Hwy District #5
Downey Swan Lake Hwy District
East Side Hwy District
Evergreen Hwy District
Fenn Hwy District
Ferdinand Hwy District
Filer Highway District
Gem Hwy District
Glenns Ferry Hwy District
Golden Gate Hwy District
Gooding Hwy District
Grangeville Hwy District
Greencreek Hwy District
Hagerman Hwy District
Highway District #1 (Fruitland)
Hillsdale Hwy District
Homedale Hwy District
Independent Hwy District
Jerome Hwy District
Kamiah Hwy District
Keuterville Hwy District
Kidder-Harris Hwy District
Kimama Highway District
Lakes Hwy District
Lost River Hwy District
Minidoka Co Hwy District
Mtn Home Hwy District
Murtaugh Hwy District
N Latah Co Hwy District
Nampa Hwy District
North Hwy District
Notus-Parma Hwy District
Oakley Highway District
Plummer-Gateway Hwy District
Post Falls Hwy District
Prairie Hwy District Board
Raft River Hwy District
Richfield Hwy District #3
S Latah County Hwy District #2
Shoshone Hwy District #2
Twin Falls Hwy District
Union Ind Hwy District
Weiser Valley Hwy District
Wendell Hwy District #6
West Point Hwy District
White Bird Hwy District
Winona Hwy District
Worley Hwy District

Junior Colleges and Public School Districts

Aberdeen School District
Alturas International Academy
American Falls SD
American Heritage Charter School
Another Choice Virtual Charter School
Anser of Idaho Inc
Arbon School District
Avery School District
Basin School District
Bear Lake School District
Bingham Academy
Blackfoot Charter Comm Learning Center
Blackfoot School District
Blaine Co School District
Bliss School District
Boise Ind School District
Bonneville School District
Boundary County SD
Bruneau-Grandview SD
Buhl School District
Butte Co School District
Caldwell School District
Camas Co School District
Cambridge School District
Canyon-Owyhee SD (COSSA)
Cascade School District
Cassia Co School District
Castleford School District
Challis Jt School District

Chief Tahgee Elementary Academy
Clark Co School District
Clearwater/Orofino Jt SD
Coeur d`Alene Charter Academy
Coeur d`Alene SD
College of Eastern Idaho
College of Southern Idaho
College of Western Idaho
Compass Public Charter School
Cottonwood SD
Council Valley SD
Culdesac Jt SD
Dietrich School District
Emmett School District
Falconridge Charter School
Filer School District
Firth School District
Fruitland School District
Future Public School Inc
Garden Valley SD
Gem Prep: Meridian, Inc
Gem Prep: Nampa, Inc.
Gem Prep: Online, LLC
Gem Prep: Pocatello Inc.
Genesee School District
Glenns Ferry Jt SD
Gooding Jt School District
Grace School District
Hagerman Jt SD
Hansen School District
Heritage Academy
Heritage Community Charter School
Highland Jt School District
Homedale School District
Horseshoe Bend SD
I Succeed Virtual High School
ID High Sch Activity Assn
Idaho Arts Charter School
Idaho College and Career Readiness Academy
Idaho Falls School District
Idaho Science & Technology Charter School
Idaho Virtual Academy
Idaho Virtual Education Partners, Inc.
Inspire Virtual Charter School
Jerome School District
Kamiah Jt School District
Kellogg School District
Kendrick School District
Kimberly School District
Kootenai Bridge Academy
Kootenai School District
Kootenai Technical Education Campus
Kuna Jt School District
Lake Pend Oreille School District
Lakeland School District
Lapwai School District
Legacy Public Charter School
Lewiston Independ SD
Liberty Charter School Inc
Mackay School District
Madison School District
Marsh Valley Jt SD
Marsing School District
McCall Donnelly SD
Meadows Valley SD
Melba School District
Meridian Charter High School Inc
Meridian Medical Arts Charter School
Meridian School District
Middleton School District
Midvale School District
Minidoka County SD
Monticello Montessori Charter School
Moscow Charter School
Moscow School District
Mountain Home SD
Mountain View SD
Mullan School District
Murtaugh School District
Nampa School District
New Plymouth SD
NezPerce Jt SD
North Gem SD
North Idaho College
North Star Charter School
North Valley Academy Charter School
Notus School District
Oneida School District
Palouse Prairie Education Organization
Parma School District
Pathways in Education - Nampa, Inc.
Payette River Regional Technical Academy
Payette School District
Peace Valley Charter
Pleasant Valley SD
Plummer-Worley Jt SD
Pocatello Community Charter School
Pocatello School District
Post Falls School District
Potlatch School District
Prairie School District
Preston School District
Project Impact STEM Academy
Richard McKenna Charter High School
Richfield School District
Rigby School District
Ririe School District
Rockland School District
Rolling Hills Charter School
STEM Charter Academy

Sage International School of Boise
Salmon River Jt SD
Salmon School District
Sandpoint Charter School
Shelley Jt School District
Shoshone School District
Snake River SD
Soda Springs SD
South Lemhi SD
St Anthony SD (FremontCoSD)
St Maries School District
Sugar-Salem SD
Swan Valley SD
Syringa Mountain School
Taylors Crossing Public Charter School
Teton School District
The Academy, Inc.
The Village Charter School
Thomas Jefferson Charter School
Three Creek SD
Troy School District
Twin Falls School District
Upper Carmen Charter School
Valley School District
Vallivue School District
Victory Charter School
Vision Charter School
Wallace School District
Weiser School District
Wendell School District
West Bonner Co Sch Dist
West Jefferson SD
West Side School District
White Pine Charter School
Whitepine Jt SD
Wilder School District
Xavier Charter School

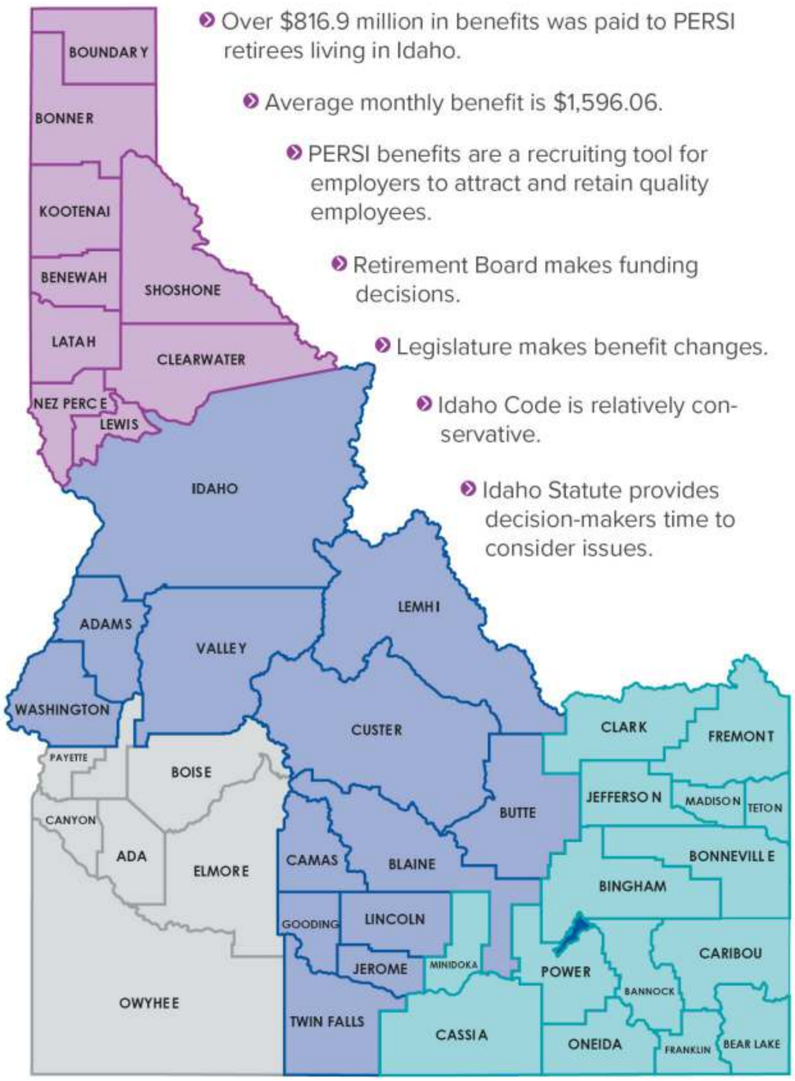
Other

Aberdeen District Library
Ada Co Free Library
Am Falls Housing Agn
Amer Falls Free Libr
Assoc of ID Cities
Bannock Planning Organization
Bear Lake Co Library
Bear Lake County Fire District
Bear Lake Regional Commission
Bingham Co Senior Citizen Center
Blackfoot Fire Department
Blaine Co Rec District
Boise City/Ada Co Housing Authority
Boise Fire Department
Bonner Soil & Water Conservation District
Boundary Co Free Library
Buhl Fire District
Buhl Housing Authority
Burley Fire Dept
Burley Library
Caldwell Fire Department
Caldwell Housing Authority
Canyon Co Mosquito Abatement District
Canyon County Ambulance District
Capital City Dev Corp
Caribou Soil Conservation District
Cascade Medical Center
Cascade Rural Fire & EMS
Central Fire District
Central Orchards Sewer District
Clearwater-Potlatch Timber Prot Assn
Coeur d`Alene Fire Dept
Comm Planning Assn - SW ID
Consolidated Free Library District
Coolin Sewer District
Cottonwood Rural FD
Council Valley Free Library District
Deary Rural Fire District
Donnelly Rural FPD
Dry Creek Cemetery Dist
Eagle Fire Protection Dist
Eagle Sewer District
East Bonner County Library District
Eastern ID Fair Dist
Eastern Idaho Reg Waste Water Authority
Edwards Mosquito Abatement District
Ellisport Bay Sewer District
Foster Grandparents of SE Idaho
Franklin Co Library Dist
Franklin County Fire Dist
Fremont County Dist Lib
Garden Valley Fire Protection District
Gem Co Mosquito Abatement District
Gem Co Recreation
Gem County Fire Prot District 1
Gooding Cem Maint Dist
Gooding Fire District
Gooding Soil Conservation District
Grangeville Cemetery Maintenance District
Greater Middleton Parks & Rec District
Greater Swan Valley Fire Protection District

Hagerman Cemetery Dist
Hagerman Fire Prot Dist
Hauser Lake Fire Protection District
Hayden Area Regional Sewer Board
Hillcrest Cemetery Maintenance District
Homedale Rural Fire Prot District
Housing Alliance & Community Partnerships (HACP)
ID Assn of Counties
ID Assn of School Administrators
ID Bureau of Education Svc for the Deaf and Blind
ID Co Risk Mgmt Prog
ID Crop Improvement Association
ID Falls Fire Dept
ID Public Emp Assn
Idaho Digital Learning Academy
Idaho Education Assn
Idaho Heritage Trust
Idaho School Boards Association
Idaho School District Council
Iona Bonneville Sewer District
Jefferson Free Library District
Jerome Cemetery Maintenance District
Jerome Fire Dept
Jerome Recreation District
Ketchum Fire Dept
Kingston-Cataldo Sewer District
Kootenai Co Emergency MedSvc
Kootenai Co Fire & Rescue F
Kootenai Co Fire & Rescue P
Kootenai Metropolitan Planning Organization
Kuna Cemetery Maintenance District
Kuna Fire District
Kuna Library District
Kuna Rural Fire District
Latah County Library Dist
Lemhi Co Fire Protection District
Lewiston Fire Dept
Lewiston-Nez Perce County Airport Authority
Lincoln Co Cemetery Dist
Lincoln County Emergency Services
Lincoln County Housing Authority
Local Hwy Tech Assistance Council
Madison Co Library Dist
M-A-R Cemetery Dist
Marsing-Homedale Cemetery District
McCall Fire Prot District
Meadows Valley Rural Fire District
Meadows Vly Pub Lib Dist
Meridian Cemetery Maint District
Meridian Library District
Metro Community Services, Inc.
Mica Kidd Island Fire Prot District
Middleton Rural Fire District
Minidoka County Fire Protection District
Minidoka Soil & Water Conservation District
Moscow Cemetery District
Moscow Fire Dept
Moscow Rural Fire District
N Ada Co Fire/Rescue District
N Bingham Co Library District
N Fremont Cemetery Dist
Nampa Fire Dept
Nampa Housing Auth
Nez Perce Co Fair Board
No Lakes Fire Prot Dist
North Idaho Fair
Northside Fire District
Oneida Co Library
Orofino Cemetery District
Paradise Valley Fire Dist
Paul Cemetery District
Payette County Recreation District
Payette Fire Dept
Plummer Gateway Fire Prot District
Pocatello Fire Dept
Pocatello-Chubbuck Auditorium District
Port of Lewiston
Portneuf Library District
Post Falls Urban Renewal Agency
Prairie-River Library Dist
Priest Lake Public Library
Rexburg Cemetery Dist
Rexburg-Madison Fire
Rock Creek Fire Protection District
S Bannock Library District
S Id Solid Waste Dist
S Id Timber Prot Assn
Sagle Fire District
Salmon Library District
Sandpoint Fire Dept
Schweitzer Fire District

Selkirks-Pend Oreille Transit Authority
Shelley Cemetery Dist
Shoshone City & Rural Fire Protection District
Shoshone Co Fd #1
Shoshone Co Fd #2
Shoshone Co FD#2
So Cent Region E911
South Bingham Soil Conservation District
South Boundary Fire Protection District
South Fork Coeur d'Alene River Sewer District
South Fremont Fire Protection District
Southern Valley County Rec District
Spirit Lake Fire Prot Dist
St Maries Fire Prot Dist
Stanley Community Library District
Star Joint FPD
Targhee Regional Public Transit Authority
Teton Co Fire Pr Dist
Timberlake Fire Protection District
Twin Falls Co Pest Abatement District
Twin Falls County Fair
Twin Falls Fire Dept
Twin Falls Housing Auth
Valley of Tetons Library Board
Valley Recreation District of Hazelton
Valley Regional Transit
Valley Soil & Water Conservation District
W Boise Sewer District
Weiser Ambulance District
Weiser Area Rural Fire District
Weiser Memorial Hospital
Wendell Rural FD
West Bonner Library Dist
West End Cemetery Dist
West End Fire Prot Dist
Westside Fire District
Whitney FPD
Whitney FPD
Wilder Cemetery District
Wilder Housing Auth
Wilder Rural Fire Protection District
Wood River Fire & Rescue
Wood River Soil & Water Conservation District
Worley Fire Protect. Dist

PERSI BENEFITS PAID IN FISCAL YEAR 2019 TO RETIREES LIVING IN IDAHO



- Over $816.9 million in benefits was paid to PERSI retirees living in Idaho.
- Average monthly benefit is $1,596.06.
- PERSI benefits are a recruiting tool for employers to attract and retain quality employees.
- Retirement Board makes funding decisions.
- Legislature makes benefit changes.
- Idaho Code is relatively conservative.
- Idaho Statute provides decision-makers time to consider issues.

COUNTIES	2019 in millions	NUMBER OF RETIREES	AVERAGE MONTHLY BENEFIT
Boundary	4.1	314	$1,112.88
Bonner	15.0	950	$1,318.28
Kootenai	58.5	3,113	$1,566.02
Benewah	4.0	278	$1,208.95
Shoshone	8.2	509	$1,348.52
Latah	29.3	1,442	$1,695.76
Clearwater	7.0	444	$1,321.35
Nez Perce	25.5	1,262	$1,684.45
Lewis	1.2	211	$488.83
Idaho	9.1	512	$1,491.66
Adams	3.0	191	$1,332.13
Washington	6.8	410	$1,399.87
Valley	11.6	528	$1,844.08
Lemhi	4.6	314	$1,237.20
Custer	2.4	165	$1,230.47
Butte	1.2	99	$1,052.16
Camas	0.8	54	$1,242.39
Blaine	8.8	399	$1,845.56
Gooding	7.8	508	$1,284.14
Lincoln	2.4	158	$1,314.34
Jerome	7.2	439	$1,376.28
Twin Falls	35.3	1,861	$1,584.72
Payette	8.1	475	$1,436.06
Gem	10.2	603	$1,413.95
Boise	4.3	240	$1,504.31
Canyon	76.4	4,206	$1,514.13
Ada	250.0	11,427	$1,823.64
Elmore	11.4	692	$1,376.39
Owyhee	3.4	264	$1,103.78
Minidoka	8.2	550	$1,251.31
Cassia	11.3	675	$1,395.95
Oneida	2.2	138	$1,344.92
Power	4.0	247	$1,357.99
Franklin	4.5	295	$1,291.48
Bear Lake	3.5	259	$1,132.42
Bannock	57.6	2,677	$1,796.00
Caribou	3.6	239	$1,288.11
Bingham	21.5	1,276	$1,404.78
Bonneville	49.3	2,356	$1,743.78
Teton	2.2	145	$1,275.94
Madison	9.9	566	$1,470.84
Jefferson	11.2	645	$1,448.31
Fremont	7.8	479	$1,367.30
Clark	0.58	42	$1,162.08
TOTALS FOR IDAHO	816.9	42,657	$1,596.06

CONTACT US AT

Public Employee Retirement System of Idaho
607 North 8th Street | Boise, Idaho 83702
208.334.3365 or 1.800.451.8228
www.persi.idaho.gov

Several publications and reports are distributed to members and employers to keep them informed about the status of their membership accounts and PERSI in general, including:

- Comprehensive Annual Financial Report
- Member Handbook
- Annual Membership Account Statement
- Remittance Advice
- Newsletters
- Brochures
- Distributions From Pensions, Annuities, Retirement or Profit-Sharing Plans, IRAs, Insurance Contracts, etc. (Form 1099R)
- Pre-Retirement Education Materials
- Reports to Legislature
- Memorandums to Employers

To receive any of these materials, contact PERSI (numbers below). Additional PERSI information can be found on PERSI's website at www.persi.idaho.gov.

PERSI Office Locations:

Boise

Office Location:
607 North 8th Street
Boise, ID 83702

Mailing Address:
P.O. Box 83720
Boise, ID 83720-0078

Coeur d'Alene

Office Location & Mailing Address:
2005 Ironwood Parkway
Suite 226
Coeur d'Alene, ID 83814

Pocatello

Office Location:
1246 Yellowstone Avenue
Suite A5
Pocatello, ID 83201

Telephone:

PERSI Answer Center (208) 334-3365 Toll-free 1-800-451-8228

Employer Service Center (208) 287-9525 Toll-free 1-866-887-9525

PERSI Choice 401(k) Plan Toll-free 1-866-437-3774

PERSI

Public Employee Retirement System of Idaho

The costs associated with this publication are available from the Public Employee Retirement System of Idaho in accordance with Secition 60-202, Idaho Statute.