

Washington State Department of Retirement Systems

Comprehensive Annual Financial Report

Funds of the State of Washington for the Year Ended June 30, 2019



Comprehensive Annual Financial Report

Funds of the State of Washington
for the Fiscal Year Ended June 30, 2019

Prepared by:

Washington State Department of Retirement Systems

PO Box 48380

Olympia, WA 98504-8380

www.drs.wa.gov



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8 RETIREMENT SYSTEMS

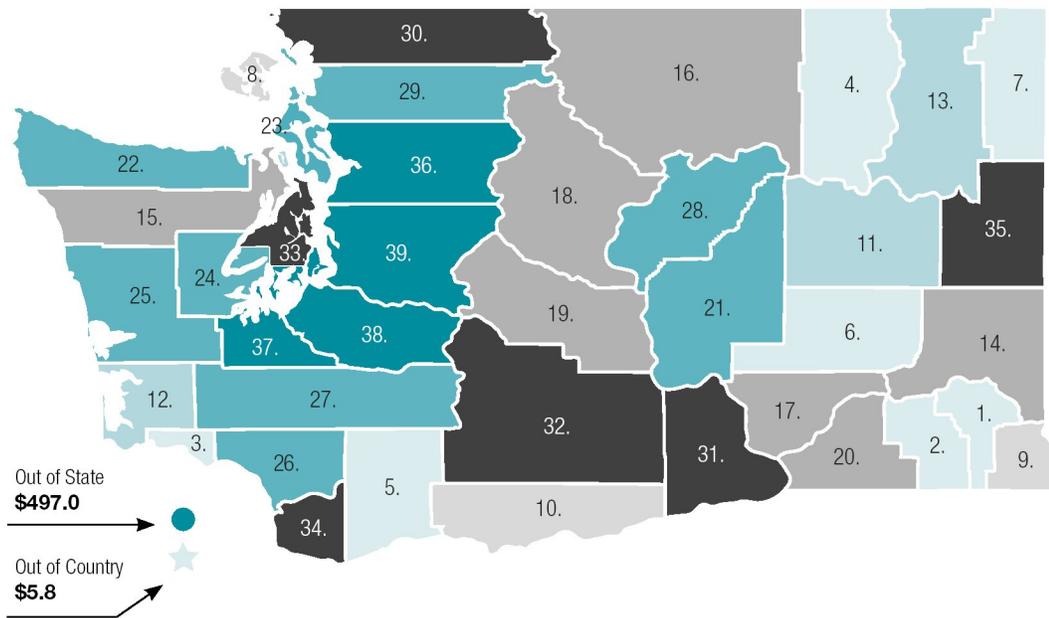
15 RETIREMENT PLANS

The Washington State Department of Retirement Systems (DRS) provides expertise, tools and services to active, inactive and retired members.

DRS serves a diverse population of state and local government employees, including fire fighters, police officers and teachers.

Benefit Payments by County

This map illustrates all benefit payments made to retirees and survivors in fiscal year 2019.



87% OF BENEFIT RECIPIENTS LIVE IN WASHINGTON

\$4.6 BILLION IN PAYMENTS GO OUT EACH YEAR

Dollars in millions

\$0-\$10	
1. Garfield	\$1.9
2. Columbia	\$3.3
3. Wahkiakum	\$3.8
4. Ferry	\$5.4
5. Skamania	\$5.9
6. Adams	\$8.2
7. Pend Orielle	\$9.7
\$10.1-\$15	
8. San Juan	\$10.1
9. Asotin	\$11.3
10. Klickitat	\$14.0
\$15.1-\$25	
11. Lincoln	\$18.4
12. Pacific	\$21.6
13. Stevens	\$23.0
\$25.1-\$50	
14. Whitman	\$26.5
15. Jefferson	\$28.4
16. Okanogan	\$31.7
17. Franklin	\$32.9
18. Chelan	\$33.0
19. Kittitas	\$41.0
20. Walla Walla	\$42.8
\$50.1-\$100	
21. Grant	\$57.4
22. Clallam	\$58.7
23. Island	\$61.2
24. Mason	\$62.8
25. Grays Harbor	\$63.2
26. Cowlitz	\$63.5
27. Lewis	\$65.0
28. Douglas	\$74.6
29. Skagit	\$94.9
\$100.1-\$300	
30. Whatcom	\$112.5
31. Benton	\$118.0
32. Yakima	\$137.2
33. Kitsap	\$137.4
34. Clark	\$172.6
35. Spokane	\$287.8
\$300.1+	
36. Snohomish	\$403.9
37. Thurston	\$419.6
38. Pierce	\$433.3
39. King	\$876.3

Introductory Section

Director's Message

I am pleased to present the Washington State Department of Retirement Systems (DRS) *Comprehensive Annual Financial Report (CAFR)* for the fiscal year ended June 30, 2019.

This past fiscal year has seen a number of accomplishments in support of our team members' work to promote a secure, successful retirement for the 330,000-plus members working for state and local governments in Washington.

We especially appreciate the state Legislature's approval of several improvements suggested by DRS, all aimed at strengthening security, convenience and retirement readiness for our customers.

With legislative support, we are moving forward on several security-related enhancements, including software tools and dedicated personnel to improve system monitoring and security for sensitive data. We have also established a Chief Information Security Officer (CISO) for the agency, bringing a heightened focus and strategic approach to protecting the information entrusted to us.

Another important outcome of the 2019 legislative session was approval of a measure giving retiring members of all DRS systems and plans the option to purchase an annuity via the Washington State Investment Board. This purchase option, previously available in only three systems, allows all members a way to supplement their regular pension benefit through an annuity purchase from their own savings.

The Legislature also approved a bill to simplify the spousal consent requirements for members applying for retirement, streamlining the process and removing unnecessary paperwork for many DRS customers.

Looking ahead, DRS continues to work on a long-range initiative to modernize the agency's mission-critical legacy systems for collecting, maintaining and analyzing retirement-related information, as well as calculating and paying pension benefits. The initial phase of this effort is focused on moving from a mainframe hosting environment to cloud-based services.



Meanwhile, at the DRS headquarters in Tumwater, we are well underway in a comprehensive renovation of our building, which we've occupied for over 20 years. When completed in 2020, the renovations will make the building more efficient, flexible and secure, and provide a greatly improved experience for both our customers and our team members.

As we look to the coming year at DRS, I'd like to take this opportunity to thank our team members, partners, policymakers, stakeholders and others who collaborate to deliver one of the best-run and well-funded public pension systems in America. And, as always, appreciation goes out to our members and retirees - the hundreds of thousands of people around Washington who work to support the residents of our communities and our state. Thank you!

Sincerely,

A handwritten signature in black ink that reads "Tracy Guerin". The signature is written in a cursive, flowing style.

Tracy Guerin

Director

October 18, 2019

Washington State Department of Retirement Systems' Organization



 Leadership Team Member

 Special Reporting Requirements to the Director

Pension System Roles and Responsibilities

Pension System Roles and Responsibilities — Page 1 of 3

Organization and Contact Information	Responsibility	Membership/Executive
<p>Department of Retirement Systems PO Box 48380 Olympia, WA 98504-8380</p> <p>Phone: 360.664.7000 or 800.547.6657 Website: www.drs.wa.gov</p>	<p>Collects and accounts for employer and employee contributions, maintains retirement records, pays benefits, communicates pension information, provides investment education, and administers the Deferred Compensation Program</p>	<p>Tracy Guerin — Director</p> <p>(The governor appoints the director of DRS.)</p>
<p>Washington State Investment Board PO Box 40916 Olympia, WA 98504-0916</p> <p>Phone: 360.956.4600 Website: www.sib.wa.gov</p>	<p>Invests and accounts for pension assets</p>	<p>The board consists of 10 voting and five nonvoting members.</p> <p>Voting members</p> <p>Duane Davidson — State Treasurer Rep. Timm Ormsby Sen. Mark Mullet Tracy Guerin — Director, Department of Retirement Systems Joel Sacks (vice chair) — Director, Department of Labor and Industries Yona Makowski — Retired members Greg Markley — LEOFF BJ Colvin — SERS Judy Kuschel (chair) — PERS Stephen Miller — TRS</p> <p>Nonvoting members — investment professionals</p> <p>William A. Longbrake Ada Healey George Zinn David Nierenberg Mary Pugh</p>
<p>Office of Financial Management PO Box 43113 Olympia, WA 98504-3113</p> <p>Phone: 360.902.0555 Website: www.ofm.wa.gov</p>	<p>Advises the governor on pension and funding policies and issues</p>	<p>David Schumacher — Director</p> <p>(The governor appoints the director of OFM.)</p>
<p>Office of the State Actuary PO Box 40914 Olympia, WA 98504-0914</p> <p>Phone: 360.786.6140 Website: osa.leg.wa.gov</p>	<p>Acts as an adviser and consultant to the Legislature and to the director of DRS; performs actuarial studies and reports on retirement bills; and creates factors used to compute benefit payment adjustments for early retirement, Cost-of-Living Adjustments and long-term survivor benefits</p>	<p>Matt Smith — State Actuary</p> <p>(The State Actuary Appointment Committee appoints the State Actuary.)</p>

Pension System Roles and Responsibilities (cont.)

Pension System Roles and Responsibilities — Page 2 of 3

Organization and Contact Information	Responsibility	Membership/Executive
<p>Law Enforcement Officers' and Fire Fighters' Plan 2 Retirement Board PO Box 40918 Olympia, WA 98504-0918</p> <p>Phone: 360.586.2320 Website: www.leoff.wa.gov</p>	<p>Policy-making board that studies pension issues, acts as fiduciary of LEOFF Plan 2, sets contribution rates and recommends pension policy to the Legislature for LEOFF Plan 2 members</p>	<p>Fire fighter representatives Dennis Lawson (chair) AJ Johnson Mark Johnston</p> <p>Law enforcement representatives Rep. Jeff Holy (retired) Tarina Rose-Watson Jason Granneman</p> <p>Employer representatives Ade' Ariwoola Dwight Dively Pat McElligott</p> <p>Legislators Rep. Steve Bergquist Sen. Judy Warrnick</p>
<p>Select Committee on Pension Policy Contact through the Office of the State Actuary</p>	<p>Studies pension issues, develops pension policies, and recommends pension legislation</p>	<p>Legislators Rep. Timm Ormsby Rep. Joe Fitzgibbon (chair) Rep. Drew Stokesbary Rep. Mike Volz Sen. Barbara Bailey (vice chair) Sen. Steve Conway Sen. Steve Hobbs Sen. Mark Schoesler</p> <p>Agency directors David Schumacher — Office of Financial Management Tracy Guerin — Department of Retirement Systems</p> <p>Retiree representatives Bev Hermanson — PERS Mark Soper — WSPRS</p> <p>Active member representatives Randy Davis — TRS Leanne Kunze — PERS J. Pat Thompson — PERS Anthony Murietta — PERS</p> <p>Employer representatives John Boesenberg — PERS/Higher Education Annette Creekpau — PERS Beverly Freeman — PERS Byron Olson — PERS</p>

Pension System Roles and Responsibilities (cont.)

Pension System Roles and Responsibilities — Page 3 of 3

Organization and Contact Information	Responsibility	Membership/Executive
DRS Advisory Committee Contact through DRS	Advises the director of DRS on pension issues	PERS Bev Hermanson — Retired Mary L. Sherman — Active SERS Jacques Meddles — Active Cheri Ingersoll — Retired LEOFF Scott Bieber — Active Richard Warbrouck — Retired TRS Nancy Baldwin — Retired (chair) Darrell Heisler — Active PSERS William Copland — Active WSPRS Monica Alexander — Active Rick Jensen — Retired (vice chair) JRS Judge Julie Spector — Active DCP Kathy Whitlock — Participant Defined contribution plan administration Deirdre Walker — Weyerhaeuser
Pension Funding Council Contact through DRS	Adopts economic assumptions for pension funding and member and employer contribution rates for LEOFF Plan 1, PERS, PSERS, SERS, TRS and WSPRS	Legislators Rep. Drew Stokesbary — Ranking minority member, House Appropriations Committee Rep. Timm Ormsby — Chair, House Appropriations Committee Sen. Christine Rolfes — Chair, Senate Ways and Means Committee Sen. John Braun — Ranking minority member, Senate Ways and Means Committee Agency directors David Schumacher (chair) — Office of Financial Management Tracy Guerin — Department of Retirement Systems
Legislative Fiscal Committees House Appropriations Committee PO Box 40600 Olympia, WA 98504-0600 Senate Ways and Means Committee PO Box 40482 Olympia, WA 98504-0482 Phone: 360.786.7155 or 800.562.6000 Website: www.leg.wa.gov	Reviews and reports on retirement bills to the full Legislature	The legislative fiscal committees are the House Appropriations Committee and the Senate Ways and Means Committee.

Letter of Transmittal



STATE OF WASHINGTON
DEPARTMENT
OF RETIREMENT SYSTEMS
PO Box 48380 • Olympia, WA 98504-8380

October 18, 2019

The Honorable Jay Inslee, Governor
Members of the Sixty-Sixth Legislature
Members of the Select Committee on Pension Policy

We are pleased to present our *Comprehensive Annual Financial Report (CAFR)* for the fiscal year ended June 30, 2019. This report is intended to provide complete and reliable information for use in making management decisions and evaluating responsible stewardship of the retirement systems' funds. This CAFR is also designed to comply with the requirements of RCW 41.50.050(4), RCW 41.50.055(6) and RCW 41.50.780(8).

Responsibility for the accuracy of the data and the fairness and completeness of its presentation, including all disclosures, rests with the management of the Department of Retirement Systems (DRS). To the best of our knowledge, the enclosed information is accurate in all material respects and provides a fair representation of the financial position and results of operations of the department.

CliftonLarsonAllen LLP, certified public accountants, issued an unmodified ("clean") opinion on DRS' financial statements for the year ended June 30, 2019. The independent auditors' report is located at the beginning of the Financial Section of this CAFR.

"Management's Discussion and Analysis" (MD&A) immediately follows the independent auditors' report and provides a narrative introduction, overview and analysis of the basic financial statements. The MD&A complements this letter of transmittal and should be read in conjunction with it.

Agency Description

DRS was established to administer pension plans for state employees, teachers, classified educational employees, law enforcement officers, fire fighters and other employees of participating political subdivisions. DRS was also given administrative responsibility for the state's Deferred Compensation Program.

As of June 30, 2019, 1,357 employers were covered, 154 of which were component units of the state. They participate in the eight statewide retirement systems DRS administers. Those retirement systems are composed of 15 defined benefit plans, three of which include a defined contribution component.

Additionally, DRS is responsible for the accounting, reporting and collection of contributions for the Judicial Retirement Account (JRA), a defined contribution pension plan the Washington State Administrative Office of the Courts administers.

Departmental Initiatives

DRS' activities are highlighted in the "Director's Message" on page 3 of this Introductory Section.

Financial Reporting and Internal Control

This CAFR has been prepared to conform to the principles of accounting and reporting established by the Governmental Accounting Standards Board (GASB). The basic financial statements are presented in accordance with guidelines established by GASB Statement No. 67, Financial Reporting for Pension Plans, and other authoritative accounting criteria. Specific accounting policies are detailed in the "Notes to the Financial Statements."

Letter of Transmittal (cont.)

DRS' management is responsible for establishing and maintaining an internal control structure designed to protect the assets of the retirement systems from loss, theft or misuse and to provide reliable accounting data to support the preparation of financial statements in conformity with generally accepted accounting principles.

The internal control structure is designed to provide reasonable, but not absolute, assurance that these objectives are met. The concept of reasonable assurance recognizes that the cost of a control should not exceed the benefits and the valuation of costs and benefits requires estimates and judgments.

Funding

The intent of public pension funding in Washington is to provide a dependable and systematic process for financing the benefits the retirement systems provide. Measurement of funding status indicates how well that goal is being met.

There are two standard indicators of funding status: the funding ratio and the existence of an unfunded liability. Both measure the benefit obligations, or liabilities, of a plan against its assets. If the funding level is adequate, the ratio of total accumulated assets to total liabilities will be larger and more funds will be available for investment purposes. An adequate funding level also provides members with assurance on the security of their pension benefits.

The actuarial value of assets available as of the latest actuarial date, June 30, 2018, for all systems is \$86,863 million. The accrued liability is \$98,148 million.

The accrued liability exceeds the net actuarial value of assets available for benefits by \$11,285 million. The ratio of assets to liabilities is 89%, compared to 86% last year. Current contribution rates remain in keeping with the goal of attaining a funding ratio of 100% by the amortization dates applicable to each plan, as required by Chapter 41.45 RCW.

Valuations are performed for DRS-administered retirement systems on an annual basis by the Office of the State Actuary. Additional information is included in the Actuarial Section of this CAFR.

Investments

In accordance with RCW 43.33A.110, the Washington State Investment Board (WSIB) manages the pension portfolio to maximize return at a prudent level of risk.

The WSIB establishes asset allocation targets that constitute the board's view of a prudent and well-reasoned approach to the management of the entrusted funds. At any given time, the asset mix might deviate from the target; deviations greater than predetermined acceptable levels require rebalancing. The goal of rebalancing is to meet the target allocation within consideration of the other remaining asset classes.

Most pension funds are invested in the Commingled Trust Fund (CTF), a diversified pool of investments. For fiscal year 2019, the CTF investments provided a 8.4% one year time-weighted rate of return. The annualized rate of return was 10.7% over the past three years and 7.9% over the past five years.

A listing of investment professionals who provide services to the WSIB is available on pages 126 and 127. The Schedule of Investment Management Fees and Commissions is available on pages 128 through 133. Additional investment information is included in the Investment Section of this CAFR.

Professional Award

The Government Finance Officers Association (GFOA) awarded a Certificate of Achievement for Excellence in Financial Reporting to DRS for its CAFR for the fiscal year ended June 30, 2018.

This was the 24th consecutive year DRS earned this prestigious award. To receive a Certificate, a financial report must be easily readable, efficiently organized, and satisfy both generally accepted accounting principles and applicable legal requirements.

Letter of Transmittal (cont.)

A Certificate of Achievement is valid for a period of one year. We believe our current CAFR continues to meet the Certificate of Achievement program's requirements, and we are submitting it to the GFOA to determine its eligibility.

Acknowledgments

This report was made possible by team members of DRS. Additional information was provided by the Office of Financial Management, the Office of the State Actuary, the Office of the State Treasurer and the

Washington State Investment Board. We appreciate their assistance.

Respectfully submitted,



Tracy Guerin
Director
October 18, 2019

Significant Events in State Retirement History

1930s-1940s

PERS, TRS, WSPRS, JRF and many local police and fire fighters' retirement systems were created.

1970

Local police and fire fighters' retirement systems were consolidated into LEOFF.

1976

The Department of Retirement Systems was created to administer state retirement systems.

The Office of the State Actuary was created to provide pension cost estimates.

1977

LEOFF, PERS and TRS Plans 2 were created.

1981

The Washington State Investment Board was created to manage the investment of state trust funds.

1987

The Joint Committee on Pension Policy was established.

1995

TRS Plan 3 was created.

1996

The state Deferred Compensation Program (DCP) was transferred to DRS.

DRS assumed accounting and reporting responsibility for JRA.

1998

School Employees' Retirement System (SERS) Plans 2 and 3 were created.

The Pension Funding Council was created.

2000

PERS Plan 3 was created. It became effective March 1, 2002, for state and higher education employees and September 1, 2002, for local government employees.

2001

WSPRS Plan 2 was created.

2003

The LEOFF 2 Board was established.

The Joint Committee on Pension Policy became the Select Committee on Pension Policy.

2004

The Public Safety Employees' Retirement System (PSERS) was created.



Government Finance Officers Association

Certificate of
Achievement
for Excellence
in Financial
Reporting

Presented to

**Washington State Department
of Retirement Systems**

For its Comprehensive Annual
Financial Report
for the Fiscal Year Ended

June 30, 2018

Christopher P. Morill

Executive Director/CEO

2019 Washington State Legislative Actions

In 2019, the Washington Legislature passed 5 pension-related bills that Governor Jay Inslee signed into law. Those laws are summarized below. For a complete list of pension-related bills introduced in 2019, see the [Legislation section](#) of the DRS website.

All Systems and Plans

HB 1408

Clarifying the written consent requirement for survivorship benefit options

Written spousal consent for a survivorship selection will be required only in instances where retiring members choose not to have a survivor benefit for their spouse or domestic partner.

LEOFF

SB 5355

Allowing certain law enforcement officers and firefighters to recover service credit withdrawn from the Public Employees' Retirement System

This bill allows LEOFF members who meet specific criteria to restore service credit in LEOFF Plan 2 that was previously withdrawn from PERS. Qualifying individuals must pay all member contributions owed in a lump sum or by taking an actuarial reduction to their ongoing benefit. This option is only available until July 1, 2020.

TRS/SERS/PERS

SB 5360

Changing plan membership default provisions

This bill establishes Plan 2 as the default for new members of the Teachers' Retirement System, School Employees' Retirement System, or Public Employees' Retirement System who do not make a plan choice selection within 90 days. The change from the current default of Plan 3 will be effective July 1, 2020.

TRS/SERS

HB 1139

Expanding the workforce supply

This bill allows TRS and SERS retirees who retired using the 2008 Early Retirement Factors to work in certain post-retirement employment options in K-12 prior to reaching age 65 without suspension of their retirement benefits.

SERS/PERS/PSERS

SB 5350

Allowing the purchase of an optional annuity benefit

This bill allows members of the School Employees' Retirement System, Public Employees' Retirement System, and Public Safety Employees' Retirement System the option to purchase a lifetime annuity benefit at retirement. The minimum purchase price is \$5,000 and must be paid by funds transferred from a qualified governmental plan. This option becomes available January 1, 2020.

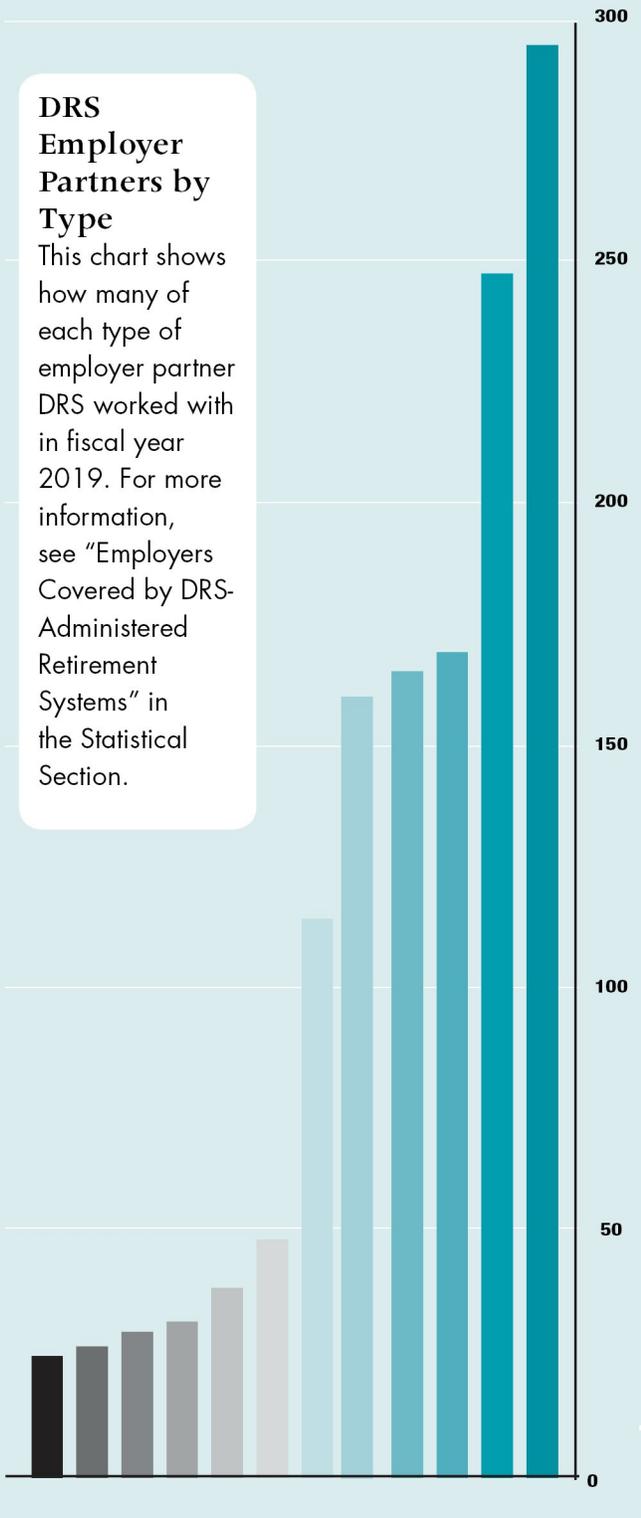
EMPLOYERS by the Numbers

1,357 EMPLOYER PARTNERS

\$2.9 BILLION IN EMPLOYER CONTRIBUTIONS

DRS Employer Partners by Type

This chart shows how many of each type of employer partner DRS worked with in fiscal year 2019. For more information, see "Employers Covered by DRS-Administered Retirement Systems" in the Statistical Section.



DRS partners with employers across the state to ensure retirement system members receive the benefits they've earned.

School Districts	295	Irrigation, Sewer and Water Districts	115
Cities and Towns	248	Ports	49
Fire Protection Districts	170	Counties	39
State	166	Public Utility Districts	32
Agencies	101	Housing Authorities	30
State Commissions	29	Libraries and Library Districts	27
Technical and Community Colleges	30	Transportation Authorities and Districts	25
Universities	6		
Other Political Subdivisions	161		
Aging and Long-Term Care	4		
Air Quality Agencies	7		
Airports and Airport Boards	4		
Associations and Unions	2		
Cemetery Districts	5		
Charter Schools	9		
Conservation Districts	17		
Councils	13		
Development Authorities/Districts	5		
Educational Service Districts	9		
Emergency Services and Communication Districts	20		
Insurance Authorities	7		
Mosquito Districts	5		
Parks and Recreation Districts	11		
Public Facility Districts	5		
Public Health	15		
Public Hospital Districts	8		
Road Departments	2		
Weed Control Districts	6		
Other Government Entities	7		

Financial Section



INDEPENDENT AUDITORS' REPORT

Ms. Tracy Guerin, Director
Washington State Department of Retirement Systems
Olympia, Washington

Report on the Financial Statements

We have audited the accompanying financial statements (including the individual fund financial statements) of the Washington State Department of Retirement Systems (DRS), which comprise the statement of fiduciary net position as of June 30, 2019, and the related statement 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.

Auditors' Responsibility

Our responsibility is to express opinions 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 auditors' 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 opinions.

Opinions

In our opinion, the financial statements referred to above present fairly, in all material respects, DRS' fiduciary net position as of June 30, 2019, and the changes in its fiduciary net position for the year then ended, in accordance with accounting principles generally accepted in the United States of America. Also, in our opinion, the financial statements present fairly in all material respects, the fiduciary net position of each of the individual funds of DRS as of June 30, 2019, and the changes in fiduciary net position of such funds 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 DRS' 2018 financial statements, and we expressed an unmodified audit opinion on those audited financial statements in our report dated October 15, 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.

Independent Auditors' Report (cont.)

Ms. Tracy Guerin, Director
Washington State Department of Retirement Systems

Emphasis of Matter

As described in Note 1, R. Accounting and Reporting Changes, to the financial statements of DRS, management has transferred amounts, related to certain PERS, SERS and TRS defined benefit member accounts previously reported in their respective Plan 3 Defined Contribution Funds, to their respective Plan 2/3 Pension Trust Funds. Our opinion is not modified with respect to this matter.

Other Matters

Required Supplementary Information

Accounting principles generally accepted in the United States of America require that the Management's Discussion and Analysis, the Schedules of Changes in Net Pension Liability, Net Pension Liability, Employer Contributions and Investment Returns and the related Notes to Pension Required Supplementary Information, as listed in the table of contents, 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 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 opinions on the financial statements that collectively comprise the DRS' basic financial statements. The Schedules of Administrative Expenses, Investment Expenses – Pension Trust Funds and Payments to Consultants (Supporting Schedules), and the Introductory, Investment, Actuarial, and Statistical Sections as listed in the table of contents, are presented for the purpose of additional analysis and are not a required part of the financial statements.

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

The Introductory, Investment, Actuarial, and Statistical Sections, as listed in the table of contents, have not been subjected to the auditing procedures applied in the audit of the 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 18, 2019 on our consideration of the DRS' 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 DRS' 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 DRS' internal control over financial reporting and compliance.



CliftonLarsonAllen LLP

Baltimore, Maryland
October 18, 2019

Management's Discussion and Analysis

This discussion and analysis provides an overview of financial activities of the Washington State Department of Retirement Systems (DRS) for the fiscal year ended June 30, 2019. Please read it in conjunction with the "Letter of Transmittal," beginning on page 8, and the financial statements, beginning on page 22.

Financial Highlights

- DRS' overall financial position improved during the year; the fiduciary net position of all the pension funds increased \$8,957.2 million.
- Covered payroll subject to both employee and employer pension contributions increased 8.4% over the previous year.
- Employer contributions totaled \$2,934.8 million, and member contributions (including restorations) totaled \$1,766.5 million, representing increases of 11.0% and 8.1%, respectively, over the previous year.
- Net investment earnings decreased \$113.5 million to \$9,445.6 million.
- Pension benefits paid to retirees and beneficiaries increased \$320.4 million, bringing the total benefit payments to \$4,627.1 million. Refunds of contributions increased 12.7% to \$960.0 million.
- Administrative expenses totaled \$41.7 million and represented a 8.9% increase over the last fiscal year.

Overview of the Financial Statements

DRS' financial statements consist of the following components: basic financial statements, notes to the financial statements, required supplementary information and other supporting schedules.

Basic Financial Statements: The basic financial statements are fund financial statements and include a "Statement of Fiduciary Net Position" and a "Statement of Changes in Fiduciary Net Position." The fiduciary funds include defined benefit and defined contribution pension trust funds and the Deferred Compensation Program trust fund.

The "Statement of Fiduciary Net Position," beginning on page 22, reports the assets, liabilities and resulting net position available for pension and other benefits as of June 30, 2019. The "Statement of Changes in Fiduciary Net Position," beginning on page 26, reports the additions to, deductions from and resulting change in fiduciary net position for the fiscal year.

Notes to the Financial Statements: The notes to the financial statements, beginning on page 30 of this report, are an integral part of the financial statements and include additional information not readily evident in the statements themselves. Note 1 provides a summary of significant accounting policies and plan asset matters. Note 2 provides a general description of the retirement plans, membership, employer net pension liability and actuarial assumptions.

Required Supplementary Information

Two years of financial statements alone cannot provide sufficient information to properly evaluate the long-term financial position of the plans. The required supplementary information enhances that perspective and consists of four schedules built prospectively to present 10-year historical trends.

The "Schedule of Net Pension Liability" presents the liability for each pension plan. The "Schedules of Changes in Net Pension Liability" include current fiscal year and prior fiscal year information about the changes in each pension plan.

The "Schedule of Investment Returns" presents the annual money-weighted rate of return, net of investment expense, for each pension plan. The "Schedule of Contributions" presents information about the annual required contributions of employers, the contributions made in relation to that requirement, covered employee payroll and the contributions as a percentage of covered payroll. The required schedules begin on page 87.

Management's Discussion and Analysis (cont.)

Supporting Schedules and Other Financial Information

The supporting schedules, which begin on page 114, provide information that is useful in evaluating the condition of the plans DRS administers.

These schedules include administrative expenses, investment expenses and payments to consultants.

Financial Analysis of DRS Funds

The fiduciary net position increased by \$8,957.2 million in fiscal year 2019 and totaled \$120,117.0 million at fiscal year-end. The increase was mostly due to strong investment earnings.

Total trust-fund assets as of June 30, 2019, were \$125,565.6 million, representing an increase of \$10,943.5 million, or 9.5% over the previous fiscal year. This increase was primarily due to a \$8,793.8 million increase in noncurrent investment balance, caused almost entirely by current year market movements.

Total trust-fund liabilities as of June 30, 2019, were \$5,448.6 million, representing an increase of

\$1,986.3 million, or 57.4%, over the previous year. The increase in liabilities is mostly attributable to the timing of payments at year-end which resulted in an increase in short term investment trades pending payable.

Additions to the retirement trust funds primarily consist of contributions from employers, active system members, the state and investment earnings. Additions to the deferred compensation trust fund consist of participant contributions and investment earnings.

Total trust-fund additions (excluding plan transfers) totaled \$14,586.0 million, an increase of \$355.4 million from fiscal year 2018. This was primarily due to the \$424.0 million increase in combined employer and employee contributions. Employer contributions increased \$291.5 million, or 11.0%, and totaled \$2,934.8 million. This was the result of increased employment, salaries and employer contribution rates.

Analysis of Fiduciary Net Position

Dollars in Millions

Fiduciary Net Position	Fiscal Year 2019	Fiscal Year 2018	Increase (Decrease) Amount	Increase (Decrease) Percentage
Assets				
Cash and Pooled Investments	\$ 50.1	\$ 36.0	\$ 14.1	39.2%
Receivables	5,051.0	2,915.5	2,135.5	73.2%
Capital Assets, Net of Depreciation	0.1	0.1	—	0.0%
Investments, Noncurrent	120,462.8	111,669.0	8,793.8	7.9%
Other Assets	1.6	1.5	0.1	6.7%
Total Assets	125,565.6	114,622.1	10,943.5	9.5%
Liabilities				
Obligations Under Securities Lending Agreements	736.8	661.4	75.4	11.4%
Other Short-Term Liabilities	4,710.2	2,799.4	1,910.8	68.3%
Long-Term Obligations	1.6	1.5	0.1	6.7%
Total Liabilities	5,448.6	3,462.3	1,986.3	57.4%
Fiduciary Net Position	\$ 120,117.0	\$ 111,159.8	\$ 8,957.2	8.1%

Management's Discussion and Analysis (cont.)

Analysis of Changes in Fiduciary Net Position Dollars in Millions

Changes in Fiduciary Net Position	Fiscal Year 2019	Fiscal Year 2018	Increase (Decrease) Amount	Increase (Decrease) Percentage
Additions				
Employer Contributions	\$ 2,934.8	\$ 2,643.3	\$ 291.5	11.0 %
Member Contributions	1,766.5	1,634.0	132.5	8.1 %
State Contributions	81.9	77.4	4.5	5.8 %
Participant Contributions	312.8	275.7	37.1	13.5 %
Net Investment Income (Loss)	9,445.6	9,559.1	(113.5)	(1.2)%
Charges for Services	44.4	41.1	3.3	8.0 %
Transfers from Other Pension Plans	148.1	161.7	(13.6)	(8.4)%
Total Additions	14,734.1	14,392.3	341.8	2.4 %
Deductions				
Benefits	4,627.1	4,306.7	320.4	7.4 %
Refunds of Contributions	960.0	852.1	107.9	12.7 %
Transfers to Other Pension Plans	148.1	161.7	(13.6)	(8.4)%
Administrative Expenses	41.7	38.3	3.4	8.9 %
Total Deductions	5,776.9	5,358.8	418.1	7.8 %
Net Increase (Decrease)	8,957.2	9,033.5	(76.3)	(0.8)%
Fiduciary Net Position: July 1	111,159.8	102,126.3	9,033.5	8.8 %
Fiduciary Net Position: June 30	\$ 120,117.0	\$ 111,159.8	\$ 8,957.2	8.1 %

Total covered payroll was \$23,007.6 million and represented a 8.4% increase over the previous year.

Member contributions include both regular and restoration contributions as well as service credit purchases. Total member contributions increased \$132.5 million, or 8.1%, over the previous year and totaled \$1,766.5 million for fiscal year 2019.

- Regular member contributions increased \$150.8 million to \$1,711.9 million and reflected increased salaries and employee contribution rates.
- Other contributions decreased \$18.3 million to \$54.6 million during the current year.

State contributions increased \$4.5 million to \$81.9 million in fiscal year 2019. The increase was in state General Fund allocations for Plan 2 of the Law Enforcement Officers' and Fire Fighters' Retirement System (LEOFF), which moved from \$68.2 million to \$73.0 million. State contributions to the Judicial Retirement System (JRS) decreased to \$8.4 million and the Judges' Retirement Fund (JRF) received \$0.5 million during the current year.

Participant contributions to the Deferred Compensation Program (DCP) increased 13.5% over the prior year and totaled \$312.8 million in fiscal year 2019. Increase in contributions can be attributed to DCP contribution transfers from employer DCP plans merging with the DRS administered DCP plan and an increase in active participants. As of June 30, 2019, the number of active and contributing DCP participants was 55,569 and represented an increase of 8,032, or 17% over the previous year. The significant increase in DCP participation is a result of the mandatory auto-enrollment of new state employees at a 3% deferral rate that went into effect January 1, 2017.

Investment performance yielded a 8.4% time-weighted return for the retirement funds' Commingled Trust Fund (CTF), compared to the 10.2% return of the previous year.

Transfers from and to other pension plans decreased from \$161.7 million in fiscal year 2018 to \$148.1 million in fiscal year 2019.

Management’s Discussion and Analysis (cont.)

Deductions to the retirement trust funds consist of the payment of benefits to retirees and beneficiaries, the refund of contributions to former retirement system members, and the cost of administering the retirement systems. Benefit payments to members include both pension and annuity benefits.

Deductions from the deferred compensation trust fund consist of payments to plan participants and administrative expenses.

Expenses the Washington State Investment Board (WSIB) incurred for the investment of trust funds are funded from earnings on investments.

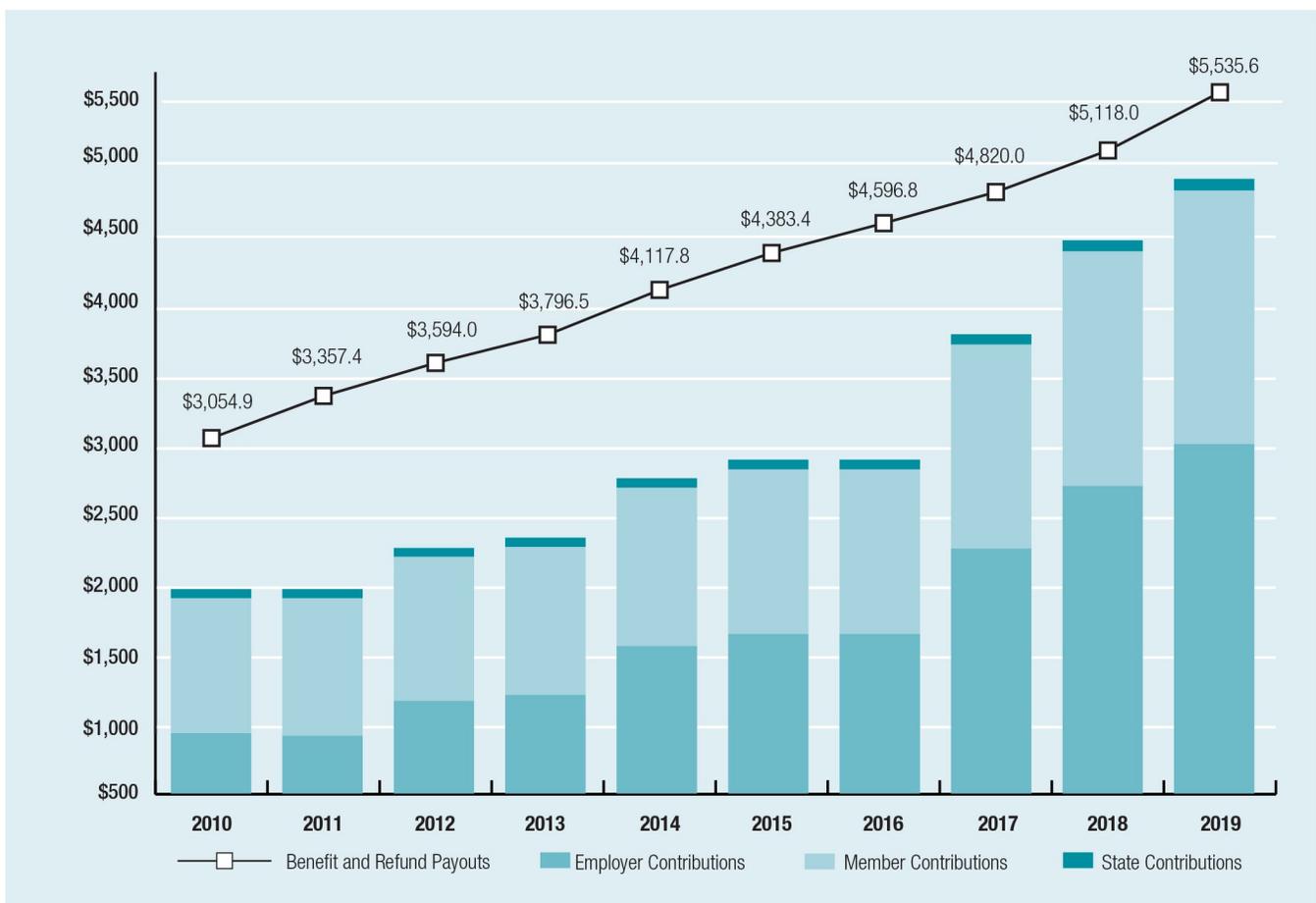
Total trust fund deductions (excluding plan transfers) for fiscal year 2019 were \$5,628.8 million, an increase of \$431.7 million, or 8.3%, over fiscal year 2018. This

resulted primarily from an increase in benefits paid to retirees and beneficiaries. Benefit payments increased \$320.4 million, or 7.4%, due to an increase in the number of retirees during the year, the annual Cost-of-Living Adjustments that increased benefit payouts and the higher salaries of those newly retired.

Total refunds for fiscal year 2019 were \$960.0 million, representing a \$107.9 million increase from the previous year. Of this increase, \$83.9 million can be attributed to employees withdrawing their plan contributions upon terminating public employment and \$24 million can be attributed to increased distributions from DCP for mandatory distributions and other withdrawals from program participants.

Trust Fund Contributions and Payouts

For the Fiscal Years Ended June 30, 2010-2019 — Dollars in Millions



Management's Discussion and Analysis (cont.)

Capital Assets

DRS' investment in capital assets includes furnishings, equipment and improvements other than buildings. As of June 30, 2019, total net book value was \$0.09 million. Additional information can be found in Note 1 to the financial statements.

Other Long-Term Obligations

At year-end, DRS had \$1.6 million in outstanding general long-term obligations. These long-term obligations represent DRS' liability for employees' accumulated annual and sick leave. Additional information can be found in Note 1 to the financial statements.

Contacting DRS' Financial Management

This CAFR is designed to provide a general overview of DRS' finances. If you have questions about this report or need additional financial information, contact:

Department of Retirement Systems' Fiscal Office
PO Box 48380
Olympia, WA 98504-8380

Statement of Fiduciary Net Position

Pension Trust Funds by Plan

June 30, 2019, with Comparative Totals for June 30, 2018 — Page 1 of 4

Dollars in Thousands	Pension Trust				
	PERS Plan 1	PERS Plan 2/3	PERS Plan 3 Defined Contribution	SERS Plan 2/3	SERS Plan 3 Defined Contribution
Assets					
Cash and Pooled Investments	\$ 2,776	\$ 4,539	\$ 330	\$ 2,105	\$ 2,582
Receivables					
Due from Other Governments	1,383	81,953	8,061	18,980	7,511
Member Accounts Receivable (Net of Allowance)	1,020	3,380	—	77	—
Interest and Dividends	26,173	141,911	6,299	20,400	5,138
Investment Trades Pending Receivable — Short Term	308,581	1,681,597	74,591	241,551	60,825
Due from Pension Funds	54,790	3,994	1,352	1,826	—
Total Receivables	<u>391,947</u>	<u>1,912,835</u>	<u>90,303</u>	<u>282,834</u>	<u>73,474</u>
Capital Assets, Net of Depreciation	<u>16</u>	<u>26</u>	<u>—</u>	<u>4</u>	<u>—</u>
Investments					
Equity in CTF	7,669,043	41,791,972	1,853,953	6,003,021	1,511,828
Liquidity	120,800	641,542	35,307	96,344	28,188
Other Noncurrent Investments	—	—	1,330,720	—	540,876
Collateral Held Under Securities Lending Agreements	52,421	285,666	12,671	41,034	10,333
Total Investments	<u>7,842,264</u>	<u>42,719,180</u>	<u>3,232,651</u>	<u>6,140,399</u>	<u>2,091,225</u>
Other Assets	<u>280</u>	<u>457</u>	<u>—</u>	<u>74</u>	<u>—</u>
Total Assets	<u>8,237,283</u>	<u>44,637,037</u>	<u>3,323,284</u>	<u>6,425,416</u>	<u>2,167,281</u>
Liabilities					
Obligations Under Securities Lending Agreements	52,421	285,666	12,671	41,034	10,333
Accounts Payable	1,306	7,645	4,996	1,599	6,277
Investment Trades Pending Payable — Short Term	323,168	1,761,089	78,118	252,970	63,700
Due to Pension Funds	—	44,443	2,962	10,513	1,659
Due to Washington State Agencies	89	163	—	24	—
Deposits Payable	—	—	—	—	—
Other Short-Term Liabilities	5,493	267	—	7	—
Other Long-Term Obligations	280	457	—	74	—
Accrued Salaries	160	260	—	42	—
Unearned Revenues	49	251	—	1	—
Total Liabilities	<u>382,966</u>	<u>2,100,241</u>	<u>98,747</u>	<u>306,264</u>	<u>81,969</u>
Net Position Restricted for Pensions					
Pension Plans	7,854,317	42,536,796	3,224,537	6,119,152	2,085,312
DCP	—	—	—	—	—
Total Net Position Restricted for Pensions	<u>\$ 7,854,317</u>	<u>\$ 42,536,796</u>	<u>\$ 3,224,537</u>	<u>\$ 6,119,152</u>	<u>\$ 2,085,312</u>

The accompanying notes are an integral part of this statement.

Statement of Fiduciary Net Position (cont.)

Pension Trust Funds by Plan

June 30, 2019, with Comparative Totals for June 30, 2018 — Page 2 of 4

Dollars in Thousands	Pension Trust				
	PSERS Plan 2	TRS Plan 1	TRS Plan 2/3	TRS Plan 3 Defined Contribution	LEOFF Plan 1
Assets					
Cash and Pooled Investments	\$ 421	\$ 2,350	\$ 4,660	\$ 12,122	\$ 1,924
Receivables					
Due from Other Governments	3,947	515	47,031	33,046	—
Member Accounts Receivable (Net of Allowance)	—	247	134	—	235
Interest and Dividends	2,376	19,605	53,204	19,078	20,187
Investment Trades Pending Receivable — Short Term	28,095	231,119	629,993	225,762	238,655
Due from Pension Funds	15	43,987	5,309	—	325
Total Receivables	34,433	295,473	735,671	277,886	259,402
Capital Assets, Net of Depreciation	—	13	12	—	8
Investments					
Equity in CTF	698,235	5,743,925	15,656,491	5,611,296	5,931,209
Liquidity	16,282	89,270	257,604	112,785	88,894
Other Noncurrent Investments	—	—	—	3,626,898	—
Collateral Held Under Securities Lending Agreements	4,773	39,262	107,022	38,352	40,542
Total Investments	719,290	5,872,457	16,021,117	9,389,331	6,060,645
Other Assets	7	237	211	—	144
Total Assets	754,151	6,170,530	16,761,671	9,679,339	6,322,123
Liabilities					
Obligations Under Securities Lending Agreements	4,773	39,262	107,022	38,352	40,542
Accounts Payable	109	993	4,856	10,416	970
Investment Trades Pending Payable — Short Term	29,423	242,045	659,774	236,434	249,937
Due to Pension Funds	2,543	—	44,599	4,833	3
Due to Washington State Agencies	1	75	73	—	46
Deposits Payable	—	—	—	—	—
Other Short-Term Liabilities	—	5,521	5	—	1
Other Long-Term Obligations	7	237	211	—	144
Accrued Salaries	5	132	118	—	79
Unearned Revenues	—	—	61	—	—
Total Liabilities	36,861	288,265	816,719	290,035	291,722
Net Position Restricted for Pensions					
Pension Plans	717,290	5,882,265	15,944,952	9,389,304	6,030,401
DCP	—	—	—	—	—
Total Net Position Restricted for Pensions	\$ 717,290	\$ 5,882,265	\$ 15,944,952	\$ 9,389,304	\$ 6,030,401

The accompanying notes are an integral part of this statement.

Statement of Fiduciary Net Position (cont.)

Pension Trust Funds by Plan

June 30, 2019, with Comparative Totals for June 30, 2018 — Page 3 of 4

Dollars in Thousands	Pension Trust			
	LEOFF Plan 2	WSPRS Plan 1/2	JRS	JRF
Assets				
Cash and Pooled Investments	\$ 2,026	\$ 654	\$ 8,440	\$ 972
Receivables				
Due from Other Governments	24,978	982	—	—
Member Accounts Receivable (Net of Allowance)	145	1	5	—
Interest and Dividends	47,477	4,551	15	2
Investment Trades Pending Receivable — Short Term	562,548	53,825	—	—
Due from Pension Funds	331	47	—	—
Total Receivables	<u>635,479</u>	<u>59,406</u>	<u>20</u>	<u>2</u>
Capital Assets, Net of Depreciation	<u>8</u>	<u>1</u>	<u>—</u>	<u>—</u>
Investments				
Equity in CTF	13,980,817	1,337,676	—	—
Liquidity	213,966	21,389	—	—
Other Noncurrent Investments	—	—	—	—
Collateral Held Under Securities Lending Agreements	95,565	9,144	—	—
Total Investments	<u>14,290,348</u>	<u>1,368,209</u>	<u>—</u>	<u>—</u>
Other Assets	<u>146</u>	<u>21</u>	<u>—</u>	<u>—</u>
Total Assets	<u>14,928,007</u>	<u>1,428,291</u>	<u>8,460</u>	<u>974</u>
Liabilities				
Obligations Under Securities Lending Agreements	95,565	9,144	—	—
Accounts Payable	2,218	213	—	—
Investment Trades Pending Payable — Short Term	589,140	56,369	—	—
Due to Pension Funds	406	15	—	—
Due to Washington State Agencies	92	10	—	—
Deposits Payable	—	—	—	—
Other Short-Term Liabilities	1	—	—	—
Other Long-Term Obligations	146	21	—	—
Accrued Salaries	94	12	—	—
Unearned Revenues	289	—	—	—
Total Liabilities	<u>687,951</u>	<u>65,784</u>	<u>—</u>	<u>—</u>
Net Position Restricted for Pensions				
Pension Plans	14,240,056	1,362,507	8,460	974
DCP	—	—	—	—
Total Net Position Restricted for Pensions	<u>\$ 14,240,056</u>	<u>\$ 1,362,507</u>	<u>\$ 8,460</u>	<u>\$ 974</u>

The accompanying notes are an integral part of this statement.

Statement of Fiduciary Net Position (cont.)

Pension Trust Funds by Plan

June 30, 2019, with Comparative Totals for June 30, 2018 — Page 4 of 4

Dollars in Thousands	Pension Trust		Totals	
	JRA Defined Contribution	Deferred Compensation Program	6/30/2019	6/30/2018
Assets				
Cash and Pooled Investments	\$ 10	\$ 4,214	\$ 50,125	\$ 36,021
Receivables				
Due from Other Governments	—	82	228,469	212,554
Member Accounts Receivable (Net of Allowance)	1	1,818	7,063	7,527
Interest and Dividends	—	4	366,420	302,634
Investment Trades Pending Receivable — Short Term	—	—	4,337,142	2,302,356
Due from Pension Funds	—	—	111,976	90,474
Total Receivables	1	1,904	5,051,070	2,915,545
Capital Assets, Net of Depreciation	—	—	88	123
Investments				
Equity in CTF	—	—	107,789,466	98,776,164
Liquidity	—	—	1,722,371	2,575,742
Other Noncurrent Investments	9,280	4,706,366	10,214,140	9,655,670
Collateral Held Under Securities Lending Agreements	—	—	736,785	661,377
Total Investments	9,280	4,706,366	120,462,762	111,668,953
Other Assets	—	—	1,577	1,467
Total Assets	9,291	4,712,484	125,565,622	114,622,109
Liabilities				
Obligations Under Securities Lending Agreements	—	—	736,785	661,377
Accounts Payable	—	14	41,612	39,621
Investment Trades Pending Payable — Short Term	—	—	4,542,167	2,652,460
Due to Pension Funds	—	—	111,976	90,474
Due to Washington State Agencies	—	19	592	552
Deposits Payable	—	—	—	200
Other Short-Term Liabilities	—	1,031	12,326	14,581
Other Long-Term Obligations	—	—	1,577	1,467
Accrued Salaries	—	53	955	865
Unearned Revenues	—	—	651	673
Total Liabilities	—	1,117	5,448,641	3,462,270
Net Position Restricted for Pensions				
Pension Plans	9,291	—	115,405,614	106,727,843
DCP	—	4,711,367	4,711,367	4,431,996
Total Net Position Restricted for Pensions	\$ 9,291	\$ 4,711,367	\$ 120,116,981	\$ 111,159,839

The accompanying notes are an integral part of this statement.

Statement of Changes in Fiduciary Net Position

Pension Trust Funds by Plan

For the Fiscal Year Ended June 30, 2019, with Comparative Totals for June 30, 2018 — Page 1 of 4

Dollars in Thousands	Pension Trust				
	PERS Plan 1	PERS Plan 2/3	PERS Plan 3 Defined Contribution	SERS Plan 2/3	SERS Plan 3 Defined Contribution
Additions					
Retirement Contributions					
Employer	\$ 726,385	\$ 820,188	\$ —	\$ 200,604	\$ —
Plan Member	7,240	641,756	154,982	79,864	86,755
State	—	—	—	—	—
Plan Member Restorations	2,587	26,980	—	773	—
Total Retirement Contributions	736,212	1,488,924	154,982	281,241	86,755
Participant Contributions	—	—	—	—	—
Investment Income					
Net Appreciation (Depreciation) in Fair Value of Investments	515,445	2,794,610	188,283	400,984	128,430
Interest and Other Investment Income	133,607	697,768	34,912	99,810	27,542
Dividends	45,467	241,298	10,726	34,496	8,800
Less: Investment Expenses	(54,276)	(283,229)	(13,717)	(40,567)	(10,741)
Subtotal Net Investment Income (Loss)	640,243	3,450,447	220,204	494,723	154,031
Securities Lending Income					
Securities Lending Income	1,949	10,311	456	1,473	376
Less: Costs of Lending Securities	(1,437)	(7,610)	(336)	(1,087)	(277)
Net Securities Lending Income	512	2,701	120	386	99
Total Net Investment Income (Loss)	640,755	3,453,148	220,324	495,109	154,130
Charges for Services	3,224	16,675	799	1,874	642
Transfers from Other Pension Plans	17	32,589	3,390	21,251	1,976
Miscellaneous	4	2	—	—	—
Total Additions	1,380,212	4,991,338	379,495	799,475	243,503
Deductions					
Benefits	1,198,939	1,196,473	—	176,012	—
Contribution Refunds	3,859	47,782	117,315	4,592	105,108
Annuity Payments	—	10,620	—	7,394	—
Transfers to Other Pension Plans	17	4,251	33,054	1,983	21,237
Administrative Expenses	3,067	15,108	799	1,580	642
Total Deductions	1,205,882	1,274,234	151,168	191,561	126,987
Net Increase (Decrease) in Net Position	174,330	3,717,104	228,327	607,914	116,516
Net Position Restricted for Pensions					
Beginning of Year as Restated: July 1	7,679,987	38,819,692	2,996,210	5,511,238	1,968,796
End of Year: June 30	\$ 7,854,317	\$ 42,536,796	\$ 3,224,537	\$ 6,119,152	\$ 2,085,312

The accompanying notes are an integral part of this statement.

Statement of Changes in Fiduciary Net Position (cont.)

Pension Trust Funds by Plan

For the Fiscal Year Ended June 30, 2019, with Comparative Totals for June 30, 2018 — Page 2 of 4

Dollars in Thousands	Pension Trust				
	PSERS Plan 2	TRS Plan 1	TRS Plan 2/3	TRS Plan 3 Defined Contribution	LEOFF Plan 1
Additions					
Retirement Contributions					
Employer	\$ 32,468	\$ 500,822	\$ 523,733	\$ —	\$ 3
Plan Member	32,934	2,227	119,844	389,550	—
State	—	—	—	—	—
Plan Member Restorations	264	629	4,828	—	146
Total Retirement Contributions	65,666	503,678	648,405	389,550	149
Participant Contributions	—	—	—	—	—
Investment Income					
Net Appreciation (Depreciation) in Fair Value of Investments	46,345	386,155	1,045,088	576,960	398,767
Interest and Other Investment Income	11,263	100,495	260,500	101,139	102,764
Dividends	3,898	34,131	90,038	32,340	35,189
Less: Investment Expenses	(4,483)	(40,839)	(105,994)	(41,177)	(41,981)
Subtotal Net Investment Income (Loss)	57,023	479,942	1,289,632	669,262	494,739
Securities Lending Income					
Securities Lending Income	166	1,464	3,839	1,387	1,508
Less: Costs of Lending Securities	(123)	(1,079)	(2,834)	(1,024)	(1,112)
Net Securities Lending Income	43	385	1,005	363	396
Total Net Investment Income (Loss)	57,066	480,327	1,290,637	669,625	495,135
Charges for Services	295	2,415	4,167	2,394	2,474
Transfers from Other Pension Plans	—	17	84,930	3,004	—
Miscellaneous	—	3	1	—	—
Total Additions	123,027	986,440	2,028,140	1,064,573	497,758
Deductions					
Benefits	2,935	898,799	354,858	—	369,070
Contribution Refunds	3,739	1,010	4,393	406,483	—
Annuity Payments	—	6,280	27,159	—	—
Transfers to Other Pension Plans	—	—	2,645	84,958	1
Administrative Expenses	272	2,184	3,530	2,394	2,254
Total Deductions	6,946	908,273	392,585	493,835	371,325
Net Increase (Decrease) in Net Position	116,081	78,167	1,635,555	570,738	126,433
Net Position Restricted for Pensions					
Beginning of Year as Restated: July 1	601,209	5,804,098	14,309,397	8,818,566	5,903,968
End of Year: June 30	\$ 717,290	\$ 5,882,265	\$ 15,944,952	\$ 9,389,304	\$ 6,030,401

The accompanying notes are an integral part of this statement.

Statement of Changes in Fiduciary Net Position (cont.)

Pension Trust Funds by Plan

For the Fiscal Year Ended June 30, 2019, with Comparative Totals for June 30, 2018 — Page 3 of 4

Dollars in Thousands	Pension Trust			
	LEOFF Plan 2	WSPRS Plan 1/2	JRS	JRF
Additions				
Retirement Contributions				
Employer	\$ 115,882	\$ 14,700	\$ —	\$ —
Plan Member	188,113	8,581	—	—
State	72,960	—	8,400	500
Plan Member Restorations	16,271	2,163	—	—
Total Retirement Contributions	393,226	25,444	8,400	500
Participant Contributions	—	—	—	—
Investment Income				
Net Appreciation (Depreciation) in Fair Value of Investments	935,027	89,675	—	—
Interest and Other Investment Income	233,593	22,800	166	17
Dividends	80,761	7,831	—	—
Less: Investment Expenses	(94,730)	(9,268)	—	—
Subtotal Net Investment Income (Loss)	1,154,651	111,038	166	17
Securities Lending Income				
Securities Lending Income	3,451	335	—	—
Less: Costs of Lending Securities	(2,547)	(247)	—	—
Net Securities Lending Income	904	88	—	—
Total Net Investment Income (Loss)	1,155,555	111,126	166	17
Charges for Services	5,844	559	—	—
Transfers from Other Pension Plans	203	769	—	—
Miscellaneous	1	—	—	—
Total Additions	1,554,829	137,898	8,566	517
Deductions				
Benefits	304,872	64,253	7,958	338
Contribution Refunds	9,087	117	—	—
Annuity Payments	—	—	—	—
Transfers to Other Pension Plans	—	—	—	—
Administrative Expenses	7,180	619	2	1
Total Deductions	321,139	64,989	7,960	339
Net Increase (Decrease) in Net Position	1,233,690	72,909	606	178
Net Position Restricted for Pensions				
Beginning of Year as Restated: July 1	13,006,366	1,289,598	7,854	796
End of Year: June 30	\$ 14,240,056	\$ 1,362,507	\$ 8,460	\$ 974

The accompanying notes are an integral part of this statement.

Statement of Changes in Fiduciary Net Position (cont.)

Pension Trust Funds by Plan				
For the Fiscal Year Ended June 30, 2019, with Comparative Totals for June 30, 2018 — Page 4 of 4				
Dollars in Thousands	Pension Trust		Totals	
	JRA Defined Contribution	Deferred Compensation Program	6/30/2019	6/30/2018
Additions				
Retirement Contributions				
Employer	\$ 9	\$ —	\$ 2,934,794	\$ 2,643,337
Plan Member	9	—	1,711,855	1,561,129
State	—	—	81,860	77,352
Plan Member Restorations	—	—	54,641	72,855
Total Retirement Contributions	18	—	4,783,150	4,354,673
Participant Contributions	—	312,768	312,768	275,725
Investment Income				
Net Appreciation (Depreciation) in Fair Value of Investments	299	201,642	7,707,710	7,744,537
Interest and Other Investment Income	51	21,348	1,847,775	1,740,444
Dividends	10	5,683	630,668	591,709
Less: Investment Expenses	(12)	(6,555)	(747,569)	(524,699)
Subtotal Net Investment Income (Loss)	348	222,118	9,438,584	9,551,991
Securities Lending Income				
Securities Lending Income	—	—	26,715	19,241
Less: Costs of Lending Securities	—	—	(19,713)	(12,138)
Net Securities Lending Income	—	—	7,002	7,103
Total Net Investment Income (Loss)	348	222,118	9,445,586	9,559,094
Charges for Services	—	3,012	44,374	41,132
Transfers from Other Pension Plans	—	—	148,146	161,651
Miscellaneous	—	27	38	117
Total Additions	366	537,925	14,734,062	14,392,392
Deductions				
Benefits	1,143	—	4,575,650	4,265,942
Contribution Refunds	—	256,448	959,933	852,143
Annuity Payments	—	—	51,453	40,846
Transfers to Other Pension Plans	—	—	148,146	161,651
Administrative Expenses	—	2,106	41,738	38,309
Total Deductions	1,143	258,554	5,776,920	5,358,891
Net Increase (Decrease) in Net Position	(777)	279,371	8,957,142	9,033,501
Net Position Restricted for Pensions				
Beginning of Year as Restated: July 1	10,068	4,431,996	111,159,839	102,126,338
End of Year: June 30	\$ 9,291	\$ 4,711,367	\$ 120,116,981	\$ 111,159,839

The accompanying notes are an integral part of this statement.

Notes to the Financial Statements

Note 1: Summary of Significant Accounting Policies and Plan Asset Matters

A. Reporting Entity

The state of Washington, through DRS, administers eight retirement systems for employees of the state and political subdivisions:

- Public Employees' Retirement System (PERS)
- School Employees' Retirement System (SERS)
- Public Safety Employees' Retirement System (PSERS)
- Teachers' Retirement System (TRS)
- Law Enforcement Officers' and Fire Fighters' Retirement System (LEOFF)
- Washington State Patrol Retirement System (WSPRS)
- Judicial Retirement System (JRS)
- Judges' Retirement Fund (JRF)

The state also offers the Deferred Compensation Program (DCP) which DRS administers.

Since DRS is part of the primary government of the state of Washington, it is considered part of the state's financial reporting entity and is included in the state's [Comprehensive Annual Financial Report](#) (CAFR).

The state's CAFR can be obtained from the Office of Financial Management's website at www.ofm.wa.gov/cafr.

B. Basic Financial Statements

The financial statements provided in this report are fiduciary statements. Fiduciary funds report assets held for others in a trustee or agency capacity and cannot be used to support the government's own programs. DRS' fiduciary funds are the retirement pension trust funds.

DRS' financial statements have been prepared in conformity with generally accepted accounting principles (GAAP). The statements include a "Statement of Fiduciary Net Position" (SFNP) and a "Statement of Changes in Fiduciary Net Position" (SCFNP).

The SFNP includes information about the assets, liabilities and fiduciary net position for each plan. The SCFNP includes information about the additions to, deductions from and net increase (or decrease) in fiduciary net position for each plan for the year. The statements provide a separate column for each retirement plan.

C. Measurement Focus and Basis of Accounting

The retirement plans are accounted for in pension trust funds using the flow-of-economic-resources measurement focus and the accrual basis of accounting.

The members of the retirement systems, their employers and the state provide funding for the systems based on actuarial valuations. The Legislature establishes benefit levels and approves the actuarial assumptions used in determining contribution levels.

Plan member contributions are recognized as revenues in the period in which the contributions are earned. Employer contributions to each plan are recognized when due and the employer has made a formal commitment to provide the contributions. Benefits and refunds are recognized when due and payable in accordance with the terms of each plan.

The Deferred Compensation Program (DCP) is accounted for in a pension trust fund using the flow-of-economic-resources measurement focus and the accrual basis of accounting. Participant contributions are recognized as revenues in the period in which the contributions are due. Refunds are recognized when due and payable in accordance with the terms of the plan.

DRS maintains an administrative fund to account for the revenues and operating expenditures incurred in administering DCP. Since these transactions occur in the administration of the program, they have been reported within the program.

Notes to the Financial Statements (cont.)

D. Method Used to Value Investments

The pension trust funds report investments at fair value and categorize measurements within the fair value hierarchy established by GAAP.

Unrealized gains and losses are included in the SCFNP. The following table presents fair value measurements as of June 30, 2019.

Investments Measured at Fair Value — Commingled Trust Fund (CTF)				
As of June 30, 2019 — Dollars in Thousands				
Investment Type	Fair Value	Level 1 Inputs	Level 2 Inputs	Level 3 Inputs
Debt Securities				
Mortgage- and Other Asset-Backed Securities	\$ 1,471,918	\$ —	\$ 1,471,918	\$ —
Corporate Bonds	12,501,525	—	12,501,525	—
U.S. and Foreign Government and Agency Securities	8,830,373	—	8,830,373	—
Total Debt Securities	22,803,816	—	22,803,816	—
Equity Securities				
Common and Preferred Stock	20,999,004	20,977,301	20,380	1,323
Depository Receipts and Other Miscellaneous	706,827	688,623	18,181	23
Mutual Funds and Exchange-Traded Funds	2,744	2,744	—	—
Real Estate Investment Trusts	408,192	408,192	—	—
Private Equity and Tangible Asset Funds	146,652	146,652	—	—
Total Equity Securities	22,263,419	22,223,512	38,561	1,346
Total Investments by Fair Value Level	45,067,235	22,223,512	22,842,377	1,346
Investments Measured at Net Asset Value				
Private Equity	24,317,233			
Real Estate	20,230,687			
Tangible Assets	5,488,941			
Collective Investment Trust Funds (Equity Securities)	12,685,370			
Total Investments at Net Asset Value	62,722,231			
Total Investments Measured at Fair Value	\$ 107,789,466			
Other Assets at Fair Value				
Collateral Held Under Securities Lending Agreements	736,785	—	736,785	
Net Foreign Exchange Contracts Receivable — Forward and Spot	(4,798)	—	(4,798)	
Net Swap Contracts Receivable	1,915	—	1,915	
Margin Variation Receivable — Futures Contracts	22,517	22,517	—	
Obligations Under Securities Lending Agreements	(736,785)	—	(736,785)	
Total Other Assets Measured at Fair Value	\$ 19,634	\$ 22,517	\$ (2,883)	

Notes to the Financial Statements (cont.)

Cash and Cash Equivalents: Cash and cash equivalents are highly liquid investments, which include foreign currencies and short-term investment funds. The short-term investment funds are valued at cost. Accordingly, these investments are excluded from the fair value schedule. Cash and cash equivalents of \$1.7 billion are reported as liquidity in the SFNP.

Investments Classified as Level 1: Investments classified as Level 1 are exchange-traded equity securities whose values are based on published market prices and quotations from national security exchanges as of the appropriate market close at the end of the reporting period.

Investments Classified as Level 2: Investments classified as Level 2 are primarily composed of publicly traded debt securities and exchange-traded stocks traded in inactive markets. Values for publicly traded debt securities are sourced from reputable pricing vendors using models that are market-based measurements representing their good faith opinion on the exit value of a security in an orderly transaction under current market conditions. Such models take into account quoted prices, nominal yield spreads, benchmark yield curves, prepayment speeds and other market-corroborated inputs.

Investments Classified as Level 3: Investments classified

as Level 3 were publicly traded equity securities that have noncurrent, or “stale,” values and are included in the table at the most recently traded price. The stale pricing occurred due to trading suspensions, delisting from an active exchange or lack of investor demand. The current market values of these securities are unknown.

Investments Measured at Net Asset Value (NAV): The fair value of investments that are organized as limited partnerships and have no readily ascertainable fair value is determined by using the NAV per share (or its equivalent) of the pension trust fund’s ownership interest in partners’ capital. These values are based on the individual investor’s capital account balance reported at fair value by the general partner for the most recent available reporting period, adjusted by subsequent contributions, distributions, management fees, and changes in values of foreign currency and published market prices for certain securities.

The limited partnerships’ annual financial statements are audited by independent auditors. These investments make up approximately 46% of total investments as of June 30, 2019.

However, due to the inherent uncertainties in estimating fair values, it is reasonably possible that the estimates

Investments Measured at Net Asset Value (NAV)

As of June 30, 2019 — Dollars in Millions

	Fair Value	Liquidation Periods			Redemption Notice Period and Frequency	Unfunded Commitments
		Less Than 3 Years	3 to 9 Years	10 or More Years		
Collective Investment Trust Funds (Equity Securities)	\$ 12,685.4	\$ —	\$ —	\$ —	variable ¹	\$ —
Private Equity	24,317.3	98.9	3,361.4	20,857.0	n/a ²	18,831.1
Real Estate	20,230.6	17.2	1,668.6	18,544.8	n/a ²	7,612.4
Tangible Assets	5,488.9	0.2	847.2	4,641.5	n/a ²	4,419.2
Total Investments Measured at NAV	\$ 62,722.2	\$ 116.3	\$ 5,877.2	\$ 44,043.3		\$ 30,862.7

¹ The retirement funds invest in three separate collective investment trust funds. Two passively managed funds allow for withdrawals on any business day at the discretion of the fund manager. The third fund seeks to achieve long-term capital appreciation through active investment management in emerging market countries and might redeem some or all of its holdings on each monthly valuation date.

² These investments can never be redeemed. Instead, the nature of these investments provides for distributions from the sale/liquidation of the underlying assets of the fund and from net operating cash flows. It is anticipated that the various investments within each asset class will be liquidated in the liquidation periods listed within the above schedule.

Notes to the Financial Statements (cont.)

could change in the near term or that the subsequent sale price of assets would be different from the reported NAV.

Private Equity: This includes 299 private equity limited liability partnerships that invest primarily in the United States, Europe and Asia in leveraged buyouts, venture capital, distressed debt and growth equity.

The fair value of individual capital account balances is based on the valuations private equity partnerships reported using the following methodologies to value the underlying portfolio companies:

- Valuations of publicly traded portfolio companies are based on active exchanges using quoted market prices as of the close of trading for each month end.
- When a portfolio company investment does not have a readily available market price but has a return that is determined by reference to an asset for which a market price is readily available, valuations are based on the closing market price of the reference asset on the valuation date, adjusted for factors that affect the fair value of the investment held.
- When the portfolio company's investments are private holdings and are not traded on active security exchanges, valuation methodologies consist primarily of income and market approaches. The income approach involves a discounted cash-flow analysis based on the portfolio company's projections. The market approach involves valuing a company at a multiple of a specified financial measure, generally earnings before interest, taxes, depreciation and amortization (EBITDA) based on multiples at which comparable companies trade.

Real Estate: This includes 34 real estate investments. Targeted investment structures within the real estate portfolio include real estate operating companies, limited liability companies, joint ventures, commingled funds and co-investments. Real estate partnerships

provide quarterly valuations based on the most recent capital account balances. The partnerships value individual properties at least annually and adjust them as frequently as quarterly if material market or operational changes have occurred. Properties are generally externally valued every one to five years, depending on the partnership. Structured finance investments receive quarterly value adjustments; the partners generally apply the assumption that all such positions will be held to maturity. Annual audits of most partnerships include a review of compliance with the partnerships' valuation policies.

Tangible Assets: This includes 48 limited liability structures and funds. The primary goals of the tangible asset portfolio are to generate a long-term sustainable and stable income stream as well as generate appreciation at least commensurate with inflation. Valuation practices of general partners and asset managers are consistent with private equity limited partnerships.

Collective Investment Trust Funds: The pension trust funds invest in three separate collective investment trust funds. Each fund determines a fair value by obtaining fair values of the underlying holdings using reputable pricing sources and computing an overall NAV per share. The holdings within each fund are publicly traded equity securities.

Two funds are passively managed to approximate the capitalization-weighted total rates of return of the MSCI U.S. Investable Market Index and the MSCI Emerging Markets Investable Market Index. Each fund has daily openings and contributions, and withdrawals can be made on any business day. The fund managers can require withdrawal proceeds be made partially or wholly in kind. In certain circumstances, the fund managers might choose to suspend valuation and/or the right to make contributions and withdrawals from the fund. Such circumstances include actual or anticipated closure, restriction, or suspension of trading activity in any markets or exchanges in which the fund investments are traded; when the purchase, sale or

Notes to the Financial Statements (cont.)

pricing of the fund's investments would not be reasonably practicable or advisable; or when suspending contributions or withdrawals would be in the best interest of the fund or participants.

One fund seeks to achieve long-term capital appreciation through active investment management in emerging-market countries. The index against which the fund compares its performance is the MSCI Emerging Market Index. The pension trust funds can redeem some or all holdings on each monthly valuation date. The fund managers can delay redemption proceeds if they determine that doing so is reasonably necessary to prevent a material adverse impact on the fund or other investors. The fund managers can require withdrawal proceeds be made partially or wholly in kind.

Other Assets and Liabilities Measured at Fair Value:

Forward exchange contracts are valued by interpolating a value using the spot foreign exchange rate and forward points (based on the spot rate and currency interest rate differentials), which are all inputs that are observable in active markets (Level 2).

Cash collateral held and the offsetting obligations under securities lending agreements are valued by the lending agency. They are sourced from reputable pricing vendors using models that are market-based measurements representing their good faith opinion on the exit value of a security in an orderly transaction under current market conditions. Such models take into account quoted prices, nominal yield spreads, benchmark yield curves, prepayment speeds and other market-corroborated inputs.

Gains and losses on futures contracts are settled daily, based on the underlying principal value, and do not involve an actual transfer of the specific instrument. The margin variation represents the current gain or loss remaining to be settled from the prior day. The custodial bank provides quoted prices for these securities from a reputable pricing vendor.

Unfunded Commitments: The WSIB has entered into

agreements that commit the pension funds to make additional investment purchases up to a predetermined amount. As of June 30, 2019, the retirement funds had the following unfunded commitments:

Unfunded Commitments As of June 30, 2019 — Dollars in Millions	
Private Equity	\$ 18,831.13
Real Estate	\$ 7,612.37
Tangible Assets	\$ 4,419.19
Total	\$ 30,862.69

DCP, JRA and Plan 3 Self-Directed Investments

Valuation:

DCP, JRA and Plan 3 Self-Directed Investments As of June 30, 2019 — Dollars in Thousands		Fair Value
Investments Measured at Net Asset Value		
Target Date Funds (Retirement Strategy Funds)	\$ 5,168,144	
Equity Index Funds	2,629,358	
Bond Funds	689,506	
Short-Term Investment Funds	522,472	
Balanced Fund	316,389	
Subtotal	9,325,869	
Investments Measured at Contract Value		
Guaranteed Investment Contracts	888,271	
Total Other Noncurrent Investments	\$ 10,214,140	

DCP, JRA and Plan 3 defined contribution Self-directed investments are daily valued funds, have no unfunded commitments and can be redeemed daily with no notice period. Funds are managed by the WSIB (Bond Fund), Alliance Bernstein (Target Date Funds), Walden Asset Management (Balanced Fund) and BlackRock Institutional Trust Co. (Equity Index Funds and Short-Term Investment Funds). All DCP, JRA and Plan 3 Self-Directed funds that are measured at fair value are measured at the NAV. The guaranteed investment contracts the WSIB manages for DCP and JRA are reported at contract value.

Trading restrictions have been established to safeguard participants against the effects of excessive trading. If a participant transfers more than \$1,000 out of a fund, he or she will be required to wait 30 calendar days before transferring money back into that fund. The 30-

Notes to the Financial Statements (cont.)

day window is based on the last time the participant made a transfer out of the fund.

Bond Fund: The WSIB manages the Washington State Bond Fund. Investments in this fund are not available to the general public. The fund employs an active strategy that seeks to add incremental value over the index and normally invests in a diversified portfolio of investment-grade corporate securities. The portfolio intends to earn additional returns through security selection, but it is allowed to deviate from the index's duration by plus or minus 15%. WSIB determines a NAV per share by obtaining fair values of the underlying holdings, using reputable pricing sources on a daily basis. The holdings within this fund are publicly traded debt securities and are actively managed to meet or exceed the return of the Bloomberg Barclays Intermediate Credit Index. The fund can redeem some or all holdings daily without restriction.

Balanced Fund: Walden Asset Management actively manages the Walden Socially Responsible Investment Balanced Fund. The fund is a well-diversified portfolio of stocks, bonds and money market instruments. At least 30% of the fund's assets are invested in fixed-income securities and, at most, 70% of the fund's assets are invested in foreign and domestic equity securities. The fund's asset allocation will vary based on Walden's assessment of global economic conditions and current valuations within capital markets, balancing risk and reward, and the relative attractiveness of stocks versus bonds. Equity investments will focus on an opportunity set of domestic and international companies Walden judges to be of higher quality than peers. Fixed-income investments are restricted to investment-grade securities. No restrictions on redemptions exist.

Equity Index Funds: BlackRock manages the Equity Index funds, which include the U.S. Large Cap, Global, U.S. Small Cap Value and Emerging Market Equity Index Funds. BlackRock uses a passive, or indexing, approach to achieve each fund's investment objectives. It does not seek to outperform the index; rather, it seeks to track the index and does not seek temporary

defensive positions when markets decline or appear overvalued.

The funds' investments are valued at fair value each day the fund is open for contributions and redemptions and, as of the report date, if the financial reporting period ends on a day the fund is not open. The BlackRock Global Valuation Methodologies Committee (GVMC) provides oversight of the valuation of investments for the fund. The investments of the funds are valued pursuant to the policies and procedures the GVMC developed and BlackRock's global valuation policy. Various inputs are used in determining the fair value of financial instruments and could be based on independent market data or be internally developed.

The U.S. Large Cap Equity Index Fund invests exclusively in the Equity Index Fund, which seeks investment results that correspond generally to the price and yield performance of a particular index. The fund is invested in a portfolio of equity securities. Its objective is to approximate the capitalization-weighted total rate of return of the segment of the U.S. market for publicly traded equity securities the larger capitalized companies represent. The criterion for selection of investments is the S&P 500 Index.

The Global Equity Index Fund seeks investment results that correspond generally to the price and yield performance of a particular index. The fund is invested and reinvested primarily in equity securities. Its objective is to approximate the capitalization-weighted total rate of return of the entire global market for publicly traded equity securities as captured by the MSCI ACWI IMI US \$ Net Dividend Index. The fund invests in the Russell 3000 Index Fund E and the BlackRock MSCI ACWI ex-U.S. IMI Index Fund E in target weights, subject to periodic rebalancing. Each fund is an index fund that seeks investment results that correspond generally to the price and yield performance of a particular index.

The U.S. Small Cap Equity Index Fund invests exclusively in Russell 2000 Value Fund F, which is an

Notes to the Financial Statements (cont.)

index fund that seeks investment results that correspond generally to the price and yield performance of a particular index. The fund is invested and reinvested in a portfolio of equity securities. Its objective is to approximate the capitalization-weighted total rate of return of the segment of the U.S. market for publicly traded equity securities the Russell 3000 Index represents, excluding the equity securities of the 1,000 largest capitalized companies. Of those 2,000 companies, the Russell 2000 Value Index represents those with a less-than-median orientation toward growth. Companies in this index generally have low price-to-book and price-to-earnings ratios, higher dividend yields, and lower forecasted growth values than more growth-oriented securities.

The Emerging Market Equity Index Fund is invested and reinvested in a portfolio of international equity securities, depositary receipts, registered investment companies and derivatives. Its objective is to provide returns that approximate the capitalization-weighted total rates of return of the markets in certain countries for equity securities traded outside the United States.

Target Date Funds: Target Date Funds (Retirement Strategy Funds) are diversified asset allocation portfolios of equities and bonds. The asset mix of each fund is adjusted over time to the allocation deemed appropriate for the target retirement date and becomes progressively more conservative as the fund approaches and passes through its target date for retirement.

The assets of these funds are aggregated, and fair value is measured at the NAV. Alliance Bernstein is the fund manager of the Target Date Funds. The funds include underlying funds managed by the WSIB and BlackRock, whose valuation methods are described within the Bond Fund (WSIB) and Equity Index Funds (BlackRock).

The fair value of debt instruments, such as bonds, and over-the-counter derivatives is generally based on market price quotations, recently executed market

transactions, when observable, or industry-recognized modeling techniques.

When readily available market prices or relevant bid prices are not available for certain equity investments, such investments could be valued based on similar publicly traded investments, movements in relevant indices since last available prices, or underlying company fundamentals and comparable company data, such as multiples to earnings or other multiples to equity.

Options are valued using market-based inputs to models, broker or dealer quotations, or alternative pricing sources with reasonable levels of price transparency, when such inputs and models are available. Alternatively, the values might be obtained through unobservable management-determined inputs and/or management's proprietary models. When models are used, the selection of a particular model to value an option depends on the contractual terms of, and specific risks inherent in, the option as well as the availability of pricing information in the market. Valuation models require a variety of inputs, including contractual terms, market prices, measures of volatility and correlations of such inputs.

Bank loan prices are provided by third-party pricing services and consist of a composite of the quotes the vendor receives, which creates a consensus price.

Pricing vendors' valuations of mortgage-backed or other asset-backed securities are based on both proprietary and industry-recognized models and discounted cash-flow techniques. Significant inputs to the valuation of these instruments include value of the collateral, the rates and timing of delinquencies, the rates and timing of prepayments, and default and loss expectations, which are driven in part by housing prices for residential mortgages. Significant inputs are determined based on relative value analyses, which incorporate comparisons to instruments with similar collateral and risk profiles, including relevant indices.

Notes to the Financial Statements (cont.)

Other fixed-income investments, including non-U.S. government and corporate debt, are generally valued using quoted market prices, if available, which are typically impacted by current interest rates, maturity dates and any perceived credit risk of the issuer. Additionally, in the absence of quoted market prices, pricing vendors use these inputs to derive valuations based on industry or proprietary models that incorporate issuer-specific data with relevant yield/spread comparisons with more widely quoted bonds that have similar key characteristics.

E. Use of Estimates

The preparation of financial statements in conformity with accounting principles generally accepted in the United States requires management to make estimates and assumptions that affect certain reported amounts and disclosures. Actual results could differ from the estimated amounts.

F. Revenue Recognition — Investments

Interest and dividend income is recognized when earned. Capital gains and losses are recognized on a trade-date basis. Purchases and sales of investments are also recorded on a trade-date basis.

G. Allocations

DRS maintains an administrative fund to account for the additions and deductions incurred in administering the pension plans. These additions and deductions have been allocated to the pension plans.

DRS maintains a general capital assets fund to account for the capital assets used in administering the pension plans. These capital assets have been allocated to the pension plans based on asset balance. DRS also maintains a general long-term obligation fund to account for accumulated compensated absences incurred in administering the pension plans. These general long-term obligations have also been allocated to the pension plans based on asset balance.

H. Deposits

The Office of the State Treasurer (OST) manages DRS'

deposits. These consist of securities that AAA-rated issuers issue or deposits in financial institutions the Federal Deposit Insurance Corp. (FDIC) partially insures or the Washington Public Deposit Protection Commission (PDPC) collateralizes up to legal limitations. The PDPC constitutes a multiple financial institution collateral pool. The PDPC's agent holds pledged securities under the pool in the name of the collateral pool.

State law (RCW 43.84.080) specifies that whenever a fund or cash balance in the state treasury is more than sufficient to meet the current expenditures properly payable from it, the OST can invest or reinvest such portion of the funds or balances as the OST deems expedient. The statute authorizes the OST to buy and sell the following types of instruments: U.S. government and agency securities, bankers' acceptances, commercial paper, and deposits with qualified public depositories.

Securities underlying repurchase and reverse repurchase agreements are limited to those same instruments. DRS receives its proportionate share of investment earnings from surplus balances in the state treasury based on its daily balance for the period. DRS' deposits are separately displayed on the SFNP as cash and pooled investments.

Custodial Credit Risk: "Custodial credit risk" is the risk that deposits might not be returned in the event of the failure of a financial institution. Statutes minimize custodial credit risk by restricting the OST to deposit funds in financial institutions that are physically located in Washington state unless otherwise expressly permitted by statute and authorized by the PDPC. As of June 30, 2019, the carrying amount of DRS' cash and pooled investment deposits is \$50.1 million, all of which is insured or collateralized.

I. Securities Lending and Repurchase Agreements

Management responsibilities for securities lending and repurchase agreements are as follows:

Notes to the Financial Statements (cont.)

WSIB: Washington state law and WSIB policy permit the WSIB to participate in securities lending transactions to augment the investment income of the retirement funds. The WSIB has entered into an agreement with State Street Corporation (SSC) to act as agent for the WSIB in securities lending transactions. Because SSC is the custodian bank for the WSIB, it is a counterparty to these transactions.

The fair value of the securities on loan as of June 30, 2019, was approximately \$2.2 billion. The securities on loan remain in the SFNP in their respective categories. Cash collateral received totaling \$736.8 million is reported as a securities lending obligation, and the fair value of the reinvested cash collateral totaling \$736.8 million is reported as securities lending collateral in the SFNP.

Securities received as collateral that the WSIB does not have the ability to pledge or sell unless the borrower defaults are not reported as assets and liabilities. Securities received as collateral as of June 30, 2019, totaled \$1.5 billion.

The WSIB's agent loaned and collateralized debt and equity securities with cash and U.S. government or U.S. agency securities, including U.S. agency mortgage-backed securities (excluding letters of credit). When the loaned securities had collateral denominated in the same currency, the collateral requirement was 102% of the fair value, including accrued interest of the securities loaned. All other securities were required to be collateralized at 105% of the fair value, including accrued interest on the loaned securities.

The following table summarizes the securities held from reinvestment of cash collateral and securities received as collateral as of June 30, 2019:

Cash and Securities Held as Collateral			
As of June 30, 2019 — Dollars in Millions			
	Cash Collateral	Noncash Collateral	Total
Mortgage-Backed Securities	\$ —	\$ 1,118.6	\$ 1,118.6
Repurchase Agreements	245.8	—	245.8
Yankee CD	171.4	—	171.4
Commercial Paper	188.1	—	188.1
U.S. Treasuries	—	366.6	366.6
Cash Equivalents and Other	131.5	—	131.5
Total Collateral Held	\$ 736.8	\$ 1,485.2	\$ 2,222.0

During fiscal year 2019, securities lending transactions could be terminated on demand by either the WSIB or the borrower.

As of June 30, 2019, the collateral held had an average duration of 17.82 days and an average weighted final maturity of 98.27 days. Because the securities lending agreements were terminable at will, their duration did not generally match the duration of the investments made with the cash collateral. Noncash collateral could not be pledged or sold, absent borrower default. A specific borrower could hold no more than 20% of the total-on-loan value. Collateral investment guidelines specifically prohibit European domiciled holdings. There were no restrictions on the amount of securities that could be lent.

Securities were lent with the agreement that they would be returned in the future for exchange of the collateral. SSC indemnified the WSIB by agreeing to purchase replacement securities or return the cash collateral in the event a borrower failed to return the loaned securities or pay distributions on them. SSC's responsibilities included performing appropriate borrower and collateral investment credit analyses, demanding adequate types and levels of collateral, and complying with applicable federal regulations.

During fiscal year 2019, there were no significant violations of legal or contractual provisions or failures

Notes to the Financial Statements (cont.)

by any borrowers to return loaned securities or to pay distributions on them. Further, the retirement funds incurred no losses during the fiscal year resulting from a default by either borrowers or securities lending agents.

The WSIB mitigates credit risk in securities lending with a policy that strictly limits the types of collateral that can be used to secure these transactions.

Office of the State Treasurer (OST): State statutes permit the OST to lend securities to broker-dealers and other entities with a simultaneous agreement to return the collateral for the same securities in the future. The OST, which has contracted with Northern Trust as lending agent, receives earnings for this activity.

The OST lending agent lends U.S. government and U.S. agency securities and receives collateral, which can be in the form of cash or other securities. The collateral, which must be valued at 102% of the fair market value of the loaned securities, is priced daily and, if necessary, action is taken to maintain the collateralization level at 102%.

The lending agent invests the cash in accordance with investment guidelines the OST approved. The custodian holds the securities held as collateral and the securities underlying the cash collateral. One option available to the lending agent is to invest cash collateral into an OST account in the Local Government Investment Pool.

The contract with the lending agent requires indemnification of the OST if the borrowers fail to return the securities (or if the collateral is inadequate to replace the securities lent) or if the borrower fails to pay the OST for income distribution by the securities' issuers while the securities are on loan. The OST cannot pledge or sell collateral securities received unless the borrower defaults. As of June 30, 2019, security lending collateral was all Non-Cash.

State law also permits the OST to enter into reverse repurchase agreements (that is, a sale of securities with a simultaneous agreement to repurchase them in the

future at the same price plus a contract rate of interest). The fair value of the securities underlying reverse repurchase agreements normally exceeds the cash received, providing the dealers a margin against a decline in the fair value of the securities.

If the dealers default on their obligations to resell these securities to the OST or provide securities or cash of equal value, the retirement funds would suffer an economic loss equal to the difference between the fair value plus accrued interest of the underlying securities and the agreement obligation, including accrued interest.

During fiscal year 2019, the OST did not engage in reverse repurchase activity. It incurred no losses by default from these transactions. As of June 30, 2019, no obligations were under reverse repurchase agreements.

The OST limits its credit risk with an investment policy that restricts the types of investments in which the OST can participate. Additionally, the investment policy requires that any securities on loan be made available by the lending agent for next day liquidity at the option of the OST. During fiscal year 2019, the OST had no credit-risk exposure to borrowers because the amounts owed to the borrowers exceeded the amounts the borrowers owed the OST.

The OST investment policy requires that securities purchased be held by the master custodian, acting as an independent third party, in its safekeeping or trust department. Securities-utilized repurchase agreements are subject to additional restrictions. These restrictions are designed to limit exposure to risk and ensure the safety of the investment.

During fiscal year 2019, there were no violations of legal or contractual provisions or any losses resulting from a default by either borrowers or securities lending agent.

Notes to the Financial Statements (cont.)

J. Investments

The WSIB has investment management responsibility for the retirement and DCP funds. The WSIB can invest as provided by statute (Chapter 43.33A RCW) and WSIB policy in the following:

- U.S. treasury bills
- Discount notes
- Repurchase agreements
- Reverse repurchase agreements
- Bankers' acceptances
- Commercial paper
- Guaranteed investment contracts
- U.S. government and agency (government-sponsored corporations eligible for collateral purposes at the Federal Reserve) securities
- Non-U.S. dollar bonds
- Investment-grade corporate bonds
- Noninvestment-grade corporate bonds
- Publicly traded mortgage-backed securities
- Privately placed mortgages
- Private placements of corporate debt
- U.S. and foreign common stock
- U.S. preferred stock
- Convertible securities
- Private equity, including but not limited to investment corporations, partnerships and limited liability companies for venture capital; leveraged buyouts; real estate and other tangible assets; and other forms of private equity
- Asset-backed securities
- Derivative securities, including futures, options, options on futures, forward contracts and swap transactions

No violations of these investment restrictions occurred during fiscal year 2019.

Interest Rate Risk: "Interest rate risk" is the risk that changes in interest rates over time will adversely affect the fair value of an investment. This risk is managed within the portfolios using effective duration, which is

the measure of a debt investment's exposure to fair value changes arising from changes in interest rates. Increases in prevailing interest rates generally translate into decreases in the fair values of those investments.

The retirement funds' fixed-income investments are actively managed to meet or exceed the return of the Bloomberg Barclays U.S. Universal Index, with volatility similar to or less than the index. As of June 30, 2019, the retirement funds' duration was within the duration target of this index.

The schedule on page 41 provides information about the interest rate risks associated with the categorized investments in the Commingled Trust Fund (CTF) as of June 30, 2019. The schedule displays asset classes held by maturity in years and effective durations. Residential mortgage-backed, commercial mortgage-backed and asset-backed securities are reported using the average life within the portfolio.

"Average life" is a calculated estimate of the average time until maturity for these securities, taking into account possible prepayments of principal. All other categorized securities on this schedule are reported using the stated maturity date.

Credit Risk: "Credit risk" is the risk that an issuer or other counterparty to an investment will not fulfill its obligations. The WSIB's investment policies for the retirement funds limit the fixed-income securities to investment grade or higher at the time of purchase. Investment-grade securities are those fixed income securities with a Moody's rating of Aaa to Baa, or a Standard and Poor's rating of AAA to BBB. The retirement funds' rated debt investments as of June 30, 2019, were rated by Moody's and/or an equivalent national rating organization.

Credit ratings for the retirement funds' rated debt investments as of June 30, 2019, are presented in the schedule on page 41.

Notes to the Financial Statements (cont.)

Investment Maturities

As of June 30, 2019 — Dollars in Thousands

Investment Type	Total Fair Value	Maturity				Effective Duration ¹
		Less Than One Year	1-5 Years	6-10 Years	More Than 10 Years	
Mortgage- and Other Asset-Backed Securities	\$ 1,298,367	\$ 2,593	\$ 1,157,677	\$ 138,097	\$ —	3.3
Corporate Bonds	12,501,525	1,089,981	5,359,396	4,490,693	1,561,455	5.8
U.S. Government and Agency Securities	6,842,590	996,124	2,111,749	2,001,393	1,733,324	8.2
Foreign Government and Agency Securities	1,987,783	38,839	1,277,578	524,010	147,356	4.7
Totally Internally Managed Fixed Income	22,630,265	2,127,537	9,906,400	7,154,193	3,442,135	6.3
Mortgage-Backed TBA Forwards	173,551	173,551	—	—	—	—
Total CTF Investment Categorized	\$ 22,803,816	\$ 2,301,088	\$ 9,906,400	\$ 7,154,193	\$ 3,442,135	6.2
Investments Not Required to Be Categorized						
Cash and Cash Equivalents	1,722,371					
Equity Securities	34,802,137					
Alternative Investments	50,183,513					
Total CTF Investments Not Categorized	\$ 86,708,021					
DCP, JRA and Defined Contribution Self-Directed Investments						
Retirement Strategy Funds (Target Date Funds)	5,168,144					
Equity Index Funds	2,629,358					
Guaranteed Investment Contracts	888,271					
Bond Funds	689,506					
Short-Term Investment Funds	522,472					
Balanced Fund	316,389					
Total DCP, JRA and Defined Contribution Self-Directed Investments	\$ 10,214,140					
Securities Under Lending Agreements	736,785					
Total Investments as of June 30, 2019	\$120,462,762					

¹ Excludes cash balances in calculation

Investment Credit Ratings

As of June 30, 2019 — Dollars in Thousands

Moody's Equivalent Rating	Total Fair Value	Mortgage- and Other Asset-Backed Securities	Corporate Bonds	U.S. Government and Agency Securities	Foreign Government and Agency Securities
Aaa	\$ 9,025,711	\$ 1,471,411	\$ 598,025	\$ 6,842,590	\$ 113,685
Aa1	366,118	—	101,163	—	264,955
Aa2	376,971	—	256,571	—	120,400
Aa3	958,934	—	842,428	—	116,506
A1	1,281,924	—	882,363	—	399,561
A2	1,595,170	—	1,595,170	—	—
A3	1,290,021	—	1,272,268	—	17,753
Baa1	1,852,359	—	1,801,423	—	50,936
Baa2	2,023,056	507	1,629,132	—	393,417
Baa3	2,014,503	—	2,014,503	—	—
Ba1 or Lower	2,019,049	—	1,508,479	—	510,570
Total	\$ 22,803,816	\$ 1,471,918	\$ 12,501,525	\$ 6,842,590	\$ 1,987,783

Notes to the Financial Statements (cont.)

Concentration of Credit Risk: “Concentration of credit risk” is the risk of loss attributed to the magnitude of an investment in a single issuer.

The retirement funds’ policy states that no corporate fixed-income issue will exceed 3% of cost at the time of purchase or 6% of fair value of the fund thereafter and that no high-yield issues will exceed 1% of cost or 2% of the fair value of the fund.

No concentration of credit risk exceeded these policy guidelines as of June 30, 2019.

Custodial Credit Risk: “Custodial credit risk” is the risk that if a depository institution or counterparty were to fail, the WSIB would not be able to recover the value of its deposits, investments or collateral securities.

As of June 30, 2019, investment securities (excluding cash, cash equivalents and repurchase agreements held as securities lending collateral) were registered and held in the name of the WSIB for the benefit of the retirement funds and were not exposed to custodial credit risk. The WSIB has no general policies relating to custodial credit risk.

Foreign Currency Exposure by Country As of June 30, 2019 — Dollars in Thousands, Investment Type in U.S. Dollar Equivalent

Foreign Currency Denomination	Cash and Cash Equivalents	Debt Securities	Equity Securities	Derivatives	Alternative Assets	Open Foreign Exchange Contracts — Net	% of Total Investment Balances
Australian Dollar	\$ 7,325	\$ 131,623	\$ 557,384	\$ 122,824	\$ 126	\$ 819,282	0.7%
Brazilian Real	420	124,240	184,867	—	(911)	308,616	0.3%
Canadian Dollar	10,394	—	604,234	—	1,820	616,448	0.6%
Chilean Peso	1,022	61,473	13,204	—	(323)	75,376	0.1%
Colombian Peso	25	74,551	5,725	—	8	80,309	0.1%
Danish Krone	31	—	227,692	—	(119)	227,604	0.2%
Euro	21,533	—	3,498,260	3,237,752	(2,661)	6,754,884	6.1%
Hong Kong Dollar	4,978	—	844,095	—	235	849,308	0.8%
Indian Rupee	1,368	62,605	160,283	—	364	224,620	0.2%
Indonesian Rupiah	147	26,239	51,481	—	(570)	77,297	0.1%
Japanese Yen	10,302	—	2,148,798	—	(63)	2,159,037	1.9%
Mexican Peso	241	36,788	81,703	—	1,260	119,992	0.1%
New Taiwan Dollar	2,638	—	192,457	—	(620)	194,475	0.2%
Norwegian Krone	493	—	55,983	—	679	57,155	0.1%
Pound Sterling	7,057	—	1,946,727	—	(3,618)	1,950,166	1.7%
Singapore Dollar	1,988	—	171,129	—	46	173,163	0.2%
South Korean Won	5,165	—	377,305	—	(1,918)	380,552	0.3%
Swedish Krona	1,502	—	311,739	—	(653)	312,588	0.3%
Swiss Franc	216	—	967,425	—	(1,905)	965,736	0.9%
Thai Baht	1,986	—	50,830	—	236	53,052	—%
Yuan Renminbi	1,765	27,739	197,278	—	219	227,001	0.2%
Other	6,041	55,583	227,270	—	3,570	292,464	0.3%
Total Foreign Currency Exposure	\$ 86,637	\$ 600,841	\$ 12,875,869	\$ 3,360,576	\$ (4,798)	\$ 16,919,125	15.4%

Source: Washington State Investment Board

Notes to the Financial Statements (cont.)

Foreign Currency Risk: “Foreign currency risk” is the risk that changes in exchange rates will adversely affect the fair value of an investment or a deposit. The WSIB does not have a formal policy to limit the retirement funds’ foreign currency risk.

The WSIB manages exposure to fair value loss by requiring its international securities investment managers to maintain diversified portfolios by sector and by issuer to limit foreign currency and security risk.

The retirement funds’ exposure to foreign currency risk as of June 30, 2019, is presented in the schedule on page 42. The schedule, stated in U.S. dollars, provides information on deposits and investments held in various foreign currencies. Private equity and real estate are presented according to the financial reporting currency of the individual funds.

Derivatives: Derivative management responsibilities are described in the following paragraphs.

OST: The OST did not engage in derivative transactions during fiscal year 2019.

WSIB: The WSIB is authorized to use various derivative financial instruments, including financial futures, forward contracts, interest rate swaps, credit default swaps, equity swaps and options. Derivative transactions involve, to varying degrees, market and credit risk. As of June 30, 2019, the retirement funds held investments in financial futures, forward currency contracts, and total return swap contracts that are recorded at fair value with changes in value recognized in investment income in the SCFNP in the period of change. For accounting and reporting purposes, the derivative instruments are considered investment derivatives, not hedging derivatives.

Derivatives are generally used to achieve the desired market exposure of a security, index or currency; adjust portfolio duration; or rebalance the total portfolio to the target asset allocation. Derivative contracts are instruments that derive their value from underlying

assets, indices, reference interest rates or a combination of these factors. A derivative instrument could be a contract negotiated on behalf of the retirement funds and a specific counterparty. This would typically be referred to as an “over-the-counter (OTC) contract,” such as forward contracts. Alternatively, derivative instruments, such as futures, could be listed and traded on an exchange and referred to as “exchange traded.”

Derivatives that are exchange traded are not subject to credit risk.

Inherent in the use of OTC derivatives, the retirement funds are exposed to counterparty credit risk on all open OTC positions. “Counterparty credit risk” is the risk that a derivative counterparty might fail to meet its payment obligation under the derivative contract. As of June 30, 2019, the retirement funds’ counterparty risk was approximately \$30.9 million.

Futures contracts are standardized, exchange-traded contracts to purchase or sell a specific financial instrument at a predetermined price. Gains and losses on futures contracts are settled daily based on an underlying principal value and do not involve an actual transfer of the specific instrument. The exchange assumes the risk that the counterparty will not pay and generally requires margin payments to minimize such risk. Futures are generally used to achieve the desired market exposure of a security or index or to rebalance the total portfolio.

Forward currency contracts are agreements to exchange the currency of one country for the currency of another country at an agreed-upon price and settlement date. These forward commitments are not standardized and carry credit risk due to the possible nonperformance of one of the counterparties. The maximum potential loss is the aggregate face value in U.S. dollars at the time the contract was opened; however, the likelihood of such a loss is remote.

As of June 30, 2019, the retirement funds had outstanding forward currency contracts with a net

Notes to the Financial Statements (cont.)

unrealized gain of \$4.8 million, which is included in the accompanying SCFNP. The contracts have varying settlement dates ranging from July 1, 2019, through June 17, 2020.

As of June 30, 2019, the counterparties' credit ratings for forward currency contracts that are subject to credit risk had a credit rating of no less than Baa2 using Moody's rating scale.

As of June 30, 2019, the retirement funds' fixed income portfolio held derivative securities consisting of collateralized mortgage obligations of \$178.2 million. Domestic and foreign passive equity index fund managers can also use various derivative securities to manage exposure to risk and increase portfolio returns.

Information on passive equity index fund managers' use and holdings of derivative securities is unavailable.

Open swap contracts held by the retirement funds at June 30, 2019 have maturity dates of July 17, 2019 and September 20, 2019.

The schedule below presents the significant terms for derivatives the WSIB holds as investments.

Investments Not Required to Be Categorized: Certain investment types in DRS' portfolio cannot be categorized within the guidelines GASB Statement No. 3 established. These investments total about \$86.7 billion in both carrying value and fair value.

Derivatives Schedule

Significant Terms for Derivatives Held as Investments by the WSIB — Dollars in Thousands

Classification	Changes in Fair Value — Included in Investment Income		Fair Value as of June 30, 2019 — Investment Derivative		Notional
	Amount		Amount		
Futures Contracts					
Bond Index Futures	investment	\$ 20,624	\$ 3,817	\$	114,949
Equity Index Futures	investment	91,244	18,700		107,248
		111,868	22,517		222,197
Forward Currency Contracts					
	investment	4,813	(4,802)		4,000,698
Total Return Swap Contracts					
Total Return Swap Bond	investment	(3,033)	(563)		57,294
Total Return Swap Equity	investment	(1,693)	1,490		(110,074)
		\$ (4,726)	\$ 927	\$	(52,780)

Investment Maturities — DCP, JRA and Plan 3 DC Self-Directed Investments — Bond Funds

As of June 30, 2019 — Dollars in Thousands

Investment Type	Total Fair Value	Maturity				Effective Duration
		Less Than 1 Year	1-5 Years	6-10 Years	More Than 10 Years	
Corporate Bonds	\$ 601,828	\$ 60,706	\$ 347,966	\$ 189,260	\$ 3,895	5.8
Foreign Government and Agency Securities	73,231	—	42,618	30,613	—	4.7
U.S. Government and Agency	14,447	—	—	14,447	—	8.2
Total	\$ 689,506	\$ 60,706	\$ 390,584	\$ 234,320	\$ 3,895	

Notes to the Financial Statements (cont.)

Credit Rating (Moody's Equivalent) DCP, JRA and Plan 3 DC Self-Directed Investments — Bond Funds

As of June 30, 2019 — Dollars in Thousands

Investment Type	Corporate Bonds	Foreign Government and Agency Securities	U.S. Government and Agency	Total
Aaa	\$ 21,710	\$ 7,630	\$ 14,447	\$ 43,787
Aa1	5,673	3,788	—	9,461
Aa2	21,221	7,516	—	28,737
Aa3	46,243	11,557	—	57,800
A1	88,831	29,093	—	117,924
A2	86,203	—	—	86,203
A3	77,752	—	—	77,752
Baa1	91,816	7,756	—	99,572
Baa2	75,547	5,891	—	81,438
Baa3	79,769	—	—	79,769
Ba1 or Lower	7,063	—	—	7,063
Total	601,828	73,231	14,447	689,506

DCP, JRA Investments and Defined Contribution — Self-Directed Investments:

The assets within DCP, JRA and Self-Directed defined contribution investments total \$10.2 billion and represent less than 9% of the total investments DRS administers. Participation and membership in these options are voluntary. Although withdrawals are restricted to those who have left employment (except in the case of hardship withdrawals from DCP), the participants and members own these assets, have full control over their investment choices and assume the responsibility for the results of those choices.

The composition of these investments is as follows:

- 50% Retirement Strategy Funds (Target Date Funds): These funds are customized asset allocation portfolios that WSIB-contracted investment professionals manage. They offer investors a diversified mix of equities, bonds and global Real Estate Investment Trusts. Each of these funds has both actively and passively managed investments. The investment mix becomes progressively more conservative over time as the fund approaches and passes through its target date for retirement. These

funds are not publicly traded and, thus, have no ratings. Foreign credit risk and fixed income exposure are deemed immaterial for these funds as of June 30, 2019.

- 26% Equity Index Funds: Four funds are in this category. All are passively managed, and all seek to meet or surpass the returns of established benchmarks.
- 9% Guaranteed Investment Contracts (GICs): GICs are valued at contract value as the respective insurance companies or investment managers estimate. GICs provide a guaranteed return on the principal invested over a specified time period. The GIC pool has no credit rating because it is not a publicly traded fund. The pool has no duration since GICs are priced at par. The GIC pool contained no foreign currency exposure as of June 30, 2019.
- 5% Short-Term Investment Fund: This fund is not publicly traded.
- 3% U.S. Socially Responsible Fund: This is a balanced fund containing both equities and fixed-income components.
- 7% Bond Fund: The Washington State Bond Fund has no rating because it is not publicly traded. Refer to the tables for the maturities, effective duration and credit ratings of its underlying securities.

Management Fees: The fees the WSIB paid are accounted for as a reduction of investment income or are netted directly from the asset value of the retirement funds' investments. These fees include investment management fees and commissions, investment consultant fees, and legal fees.

As of June 30, 2019, total investment management fee expenses were \$767.3 million and total netted fees were \$231.8 million. For a detailed disclosure, refer to the "Schedule of Investment Expenses" in the "Supporting Schedules" of the Financial Section of this report.

Notes to the Financial Statements (cont.)

K. Reserves

Member Reserves: Member reserves reflect the total liability for contributions members have made.

Employee contributions and interest earnings increase these reserves. Contribution refunds and transfers to the benefit reserves for current-year retirees decrease these reserves. The member reserves are considered fully funded.

Because each Plan 3 defined contribution component offers two separate investment programs to members, DRS maintains two separate member reserves for each component. The WSIB reserves account for members who participate in the WSIB's Total Allocation Portfolio (TAP). The Self-Directed reserves account for members who participate in the self-directed investment offerings.

Member reserves as of June 30, 2019 and 2018, are as follows:

Member Reserves as of June 30, 2019 and 2018 Dollars in Thousands		
	06/30/2019	06/30/2018
PERS Plan 1	\$ 282,411	\$ 353,881
PERS Plan 2/3	7,607,570	7,102,597
PERS Plan 3 — WSIB	1,888,447	1,871,058
PERS Plan 3 — Self-Directed	1,336,090	1,256,882
SERS Plan 2/3	654,100	586,351
SERS Plan 3 — WSIB	1,539,130	1,544,445
SERS Plan 3 — Self-Directed	546,182	514,579
PSERS Plan 2	268,976	230,623
TRS Plan 1	90,203	129,263
TRS Plan 2/3	937,246	835,001
TRS Plan 3 — WSIB	5,735,297	5,672,976
TRS Plan 3 — Self-Directed	3,654,007	3,480,997
LEOFF Plan 1	5,382	6,513
LEOFF Plan 2	2,914,010	2,783,959
WSPRS Plan 1/2	103,373	99,719
JRS	—	—
JRF	—	—
Total Member Reserves	\$ 27,562,424	\$ 26,468,844

Benefit Reserves: The benefit reserves reflect the funded liability associated with all retired members of DRS-administered systems. These reserves are increased by employer contributions, state contributions, investment

earnings and employee contributions that are attributable to current-year retirees. These reserves are decreased by the amounts of pensions actually paid in the current year, interest payments transferred to the member reserves and administrative expenses in support of the trust funds.

Benefit reserves as of June 30, 2019 and 2018, are as follows:

Benefit Reserves as of June 30, 2019 and 2018 Dollars in Thousands		
	06/30/2019	06/30/2018
PERS Plan 1	\$ 7,568,868	\$ 7,323,497
PERS Plan 2/3	34,924,258	31,582,720
SERS Plan 2/3	5,464,245	4,834,187
PSERS Plan 2	448,240	370,552
TRS Plan 1	5,789,490	5,672,584
TRS Plan 2/3	15,005,414	13,137,570
LEOFF Plan 1	6,023,455	5,896,220
LEOFF Plan 2	11,294,873	10,197,141
LEOFF Plan 2 — Medical	29,582	24,452
WSPRS Plan 1/2	1,258,780	1,189,625
WSPRS Plan 1/2 — Medical	128	102
JRS	8,460	7,852
JRF	974	795
Total Benefit Reserves	\$ 87,816,767	\$ 80,237,297

The funded status of each of the benefit reserves is the same as the funded status of each of the respective pension plans, which is reflected in the "Solvency Test" schedules in the Actuarial Section of this CAFR.

L. Capital Assets

Capital assets with a unit cost (including ancillary costs) of \$5,000 or more are capitalized and reported in the accompanying financial statements. Capital leases with a net present value or fair market value, whichever is less, of \$10,000 or more are capitalized and also included in these financial statements. Purchased capital assets are valued at cost when historical records exist. Where necessary, estimates of original cost and fair market value are derived by factoring price levels from the current period to the time of acquisition. Capital asset costs include the purchase price or construction cost plus those costs necessary to place the asset in its intended location and condition for use. Normal maintenance and repair costs that do not

Notes to the Financial Statements (cont.)

materially add to the value or extend the life of the asset are not capitalized.

Depreciation is calculated using the straight-line method with estimated useful lives of five to 50 years for buildings and three to 50 years for furnishings and equipment, other improvements, and miscellaneous capital assets.

The following is a summary of changes in capital assets for fiscal year 2019:

Changes in Capital Assets As of June 30, 2019 — Dollars in Thousands				
Assets	Beginning Balance	Acquisition/ Increase Depreciation	Disposal/ Decrease Depreciation	Ending Balance
Improvements Other Than Buildings	\$ 645	\$ —	\$ (67)	\$ 578
Furnishings and Equipment	1,043	30	(304)	769
Accumulated Depreciation	(1,565)	(55)	361	(1,259)
Total	\$ 123	\$ (25)	\$ (10)	\$ 88

M. Leases

DRS leases office facilities and office equipment. Lease terms vary. Leases are considered noncancelable for financial reporting purposes. All DRS leases are classified as operating leases with the lease payments recorded as expenditures or expenses during the life of the lease. Certain operating leases are renewable for specified periods. In most cases, management expects that the leases will be renewed or replaced by other leases.

The following schedule presents future minimum payments for operating leases as of June 30, 2019:

Future Minimum Payments for Operating Leases As of June 30, 2019 — Dollars in Thousands	
Fiscal Year	Payments
2020	\$ 1,388
2021	1,330
2022	1,299
2023	1,299
2024 and beyond	8,012
Total Future Minimum Payments	\$ 13,328

The total operating lease rental expenditure for fiscal year 2019 was \$1.5 million.

N. Other Long-Term Obligations

Annual Leave: DRS employees accrue annual leave at a variable rate based on years of service. In general, accrued annual leave cannot exceed 240 hours at the employee's anniversary date. The expense and accrued liability is recognized when the annual leave is earned. DRS' liability for accumulated annual leave was \$1.1 million as of June 30, 2019.

Sick Leave: Employees accrue sick leave at the rate of eight hours per month without limitation on the amount that can be accumulated. Sick leave is not vested (that is, DRS does not pay employees for unused sick leave except in the event of the employee's death or retirement; at such time, DRS is liable for 25% of the accumulated sick leave).

In addition, the state has a sick-leave buyback program. Each January, employees who have accumulated sick leave in excess of 480 hours can redeem sick leave earned but not taken during the previous year at the rate of one hour's pay in exchange for four hours of sick leave. The expense and accrued liability is recognized when the sick leave is earned. DRS' liability for accumulated sick leave was \$0.5 million as of June 30, 2019.

The following is a summary of changes in compensated absences for the fiduciary funds for fiscal year 2019:

Notes to the Financial Statements (cont.)

Changes in Compensated Absences For Fiscal Year 2019 — Dollars in Thousands				
Compensated Absences	Beginning Balance	Additions	Deletions	Ending Balance
Annual Leave	\$ 1,023	\$ 1,431	\$ (1,345)	\$ 1,109
Sick Leave	444	184	(160)	468
Total	\$ 1,467	\$ 1,615	\$ (1,505)	\$ 1,577

O. Other Post Employment Benefits

In fiscal year 2018, the Office of Financial Management implemented Statement No. 75 of the Governmental Accounting Standards Board *Accounting and Financial Reporting for Postemployment Benefits Other Than Pensions*. The state, through the Health Care Authority, administers a single employer defined benefit plan for other postemployment benefits (OPEB). DRS participates in the plan, and DRS' proportionate share of the state's OPEB liability is included in the state's CAFR. The liability has not been included in these financial statements as it is insignificant to the pension trust funds.

P. Transfers

Transfers from and to other pension plans, as reported in the financial statements, reflect routine transfers among the funds resulting from plan membership changes, member-directed plan selections and Plan 3 TAP annuity purchases within PERS Plan 2/3, SERS Plan 2/3 and TRS Plan 2/3. In fiscal year 2019, these transfers totaled \$148.1 million and represented a \$13.6 million decrease from the previous year.

Q. Contingencies — Litigation

As a state agency, DRS is party to legal proceedings that normally occur in governmental operations. Pending legal actions involving DRS exist. For each pending legal action, DRS has good defenses and will continue to bring a vigorous defense.

R. Accounting and Reporting Changes

DRS reported increases to the beginning Net Position Restricted for Pensions in PERS Plan 2/3, SERS Plan 2/3 and TRS plan 2/3 defined benefit (DB) plans. These increases were recorded as reductions to the beginning Net Position Restricted for Pensions in the corresponding defined contribution (DC) component of each plan. The restatement of the beginning Net Position Restricted for Pensions in the Plan 2/3 plans, DB and DC, is the result of GASB 67 implementation for the Plan 3 Total Allocation Portfolio (TAP) annuities previously recorded within the financial statements as Plan 3 DC. The Plan 3 TAP annuity balances were immaterial to the Plan 2/3 DB balances prior to the fiscal year ending June 30, 2019 and therefore provisions of GASB 67 for TAP annuities were not implemented in prior fiscal years. Prior periods have not been restated within the financial statements or required supplementary information. Certain amounts in 2018 comparative statements within the Management Discussion and Analysis have been reclassified in conformity with the 2019 presentation. These reclassifications of 2018 amounts had no effect on the total net position restricted for pensions or the total change in fiduciary net position.

Accounting and Reporting Changes For Fiscal Year 2019 — Dollars in Thousands

	PERS Plan 2/3	PERS Plan 3 Defined Contribution	SERS Plan 2/3	SERS Plan 3 Defined Contribution	TRS Plan 2/3	TRS Plan 3 Defined Contribution
Net Position Restricted for Pensions at June 30, 2018, as previously reported	\$ 38,687,962	\$ 3,127,940	\$ 5,421,010	\$ 2,059,024	\$ 13,973,990	\$ 9,153,973
Prior Period Adjustment	131,730	(131,730)	90,228	(90,228)	335,407	(335,407)
Net Position Restricted for Pensions at June 30, 2018, as restated	\$ 38,819,692	\$ 2,996,210	\$ 5,511,238	\$ 1,968,796	\$ 14,309,397	\$ 8,818,566

Notes to the Financial Statements (cont.)

Note 2: General Description of the Retirement Systems

A. General

As established in the Revised Code of Washington (RCW) Chapter 41.50, the Department of Retirement Systems (DRS) administers eight retirement systems covering eligible employees of the state and local governments.

Administration of the retirement systems is funded by an employer rate of 0.18% of reported compensation.

The director of DRS is appointed by the governor.

The state Legislature establishes and amends laws pertaining to the creation and administration of the retirement systems, which are currently composed of 12 defined benefit pension plans and three combination defined benefit plans with defined contribution components.

They include:

Cost-Sharing, Multiple-Employer Plans

Public Employees' Retirement System (PERS)

Plan 1: Defined benefit

Plan 2: Defined benefit

Plan 3: Defined benefit/defined contribution

School Employees' Retirement System (SERS)

Plan 2: Defined benefit

Plan 3: Defined benefit/defined contribution

Public Safety Employees' Retirement System (PSERS)

Plan 2: Defined benefit

Teachers' Retirement System (TRS)

Plan 1: Defined benefit

Plan 2: Defined benefit

Plan 3: Defined benefit/defined contribution

Law Enforcement Officers' and Fire Fighters' Retirement System (LEOFF)

Plan 1: Defined benefit

Plan 2: Defined benefit

Single-Employer Plans

Washington State Patrol Retirement System (WSPRS)

Plan 1: Defined benefit

Plan 2: Defined benefit

Judicial Retirement System (JRS)

Defined benefit

Judges' Retirement Fund (JRF)

Defined benefit

Notes to the Financial Statements (cont.)

Number of Participating Members

As of June 30, 2019

Plan	Retirees and Beneficiaries Receiving Benefits	Terminated Members Entitled to But Not Yet Receiving Benefits	Active Plan Members Vested	Active Plan Members Nonvested	Total
PERS Plan 1	45,792	401	1,407	128	47,728
PERS Plan 2	55,161	29,139	79,014	42,954	206,268
PERS Plan 3	5,709	6,381	15,230	22,315	49,635
SERS Plan 2	10,072	6,175	14,147	14,347	44,741
SERS Plan 3	10,007	8,983	18,300	17,446	54,736
PSERS Plan 2	296	637	3,354	4,283	8,570
TRS Plan 1	32,645	120	342	7	33,114
TRS Plan 2	5,874	2,779	10,180	11,608	30,441
TRS Plan 3	13,745	8,675	37,306	18,427	78,153
LEOFF Plan 1	6,954	1	20	—	6,975
LEOFF Plan 2	6,448	980	13,390	5,154	25,972
WSPRS Plan 1	1,181	69	397	—	1,647
WSPRS Plan 2	—	37	414	232	683
JRS	90	—	—	—	90
JRF	10	—	—	—	10
Total	193,984	64,377	193,501	136,901	588,763

Number of Participating Employers

As of June 30, 2019

Plan	Component Units of the State of Washington	Counties/Municipalities	School Districts	Other Political Subdivisions	Total
PERS Plan 1	92	90	140	78	400
PERS Plan 2	154	280	19	535	988
PERS Plan 3	147	218	—	356	721
SERS Plan 2	—	—	310	—	310
SERS Plan 3	—	—	309	—	309
PSERS Plan 2	21	65	—	1	87
TRS Plan 1	18	—	142	—	160
TRS Plan 2	27	—	306	—	333
TRS Plan 3	40	—	313	—	353
LEOFF Plan 1	—	14	—	2	16
LEOFF Plan 2	9	202	—	180	391
WSPRS Plan 1	1	—	—	—	1
WSPRS Plan 2	1	—	—	—	1
JRS	—	—	—	—	—
JRF	—	—	—	—	—

Employers can participate in multiple systems and/or plans. The actual total number of participating employers as of June 30, 2019, is 1,357. Of that number, 154 are component units of the state. For a list of covered employers, refer to the Statistical Section of this report.

Notes to the Financial Statements (cont.)

B. System and Plan Descriptions

Public Employees' Retirement System (PERS)

Administration: PERS was established in 1947, and its retirement benefit provisions are contained in Chapters 41.34 and 41.40 RCW. PERS is a cost-sharing, multiple-employer retirement system composed of three separate pension plans for membership purposes. PERS Plan 1 and Plan 2 are defined benefit plans. Plan 3 is a defined benefit plan with a defined contribution component.

PERS members include elected officials, state employees, employees of local governments and higher education employees not participating in higher education retirement plans (HERPs).

PERS is composed of and reported as three separate plans for accounting purposes: Plan 1, Plan 2/3 and Plan 3. Plan 1 accounts for the defined benefits of Plan 1 members. Plan 2/3 accounts for the defined benefits of Plan 2 members and the defined benefit portion of benefits for Plan 3 members. Plan 3 accounts for the defined contribution portion of benefits for Plan 3 members.

Although employees can be a member of only Plan 2 or Plan 3, the defined benefits of Plan 2 and Plan 3 are accounted for in the same pension trust fund. All assets of Plan 2/3 may legally be used to pay the defined benefits of any Plan 2 or Plan 3 members or beneficiaries. Therefore, Plan 2/3 is considered a single plan for accounting purposes.

PERS Plan 1

As of June 30, 2019, 309 employers and 840 nonemployer contributing entities were participating in PERS Plan 1. The plan is closed to new entrants.

Plan Membership: As of June 30, 2019, PERS Plan 1 membership consisted of the following:

PERS Plan 1	
Inactive Plan Members or Beneficiaries Currently Receiving Benefits	45,792
Inactive Plan Members Entitled to But Not Yet Receiving Benefits	401
Active Plan Members	1,535
Total Membership	47,728

Vesting: PERS Plan 1 members became vested after the completion of five years of eligible service.

Benefits Provided: PERS Plan 1 provides retirement, disability and death benefits. Retirement benefits are calculated as 2% times the member's Average Final Compensation (AFC) times the member's years of service. AFC is the average of the member's 24 consecutive highest-paid service credit months. Members are eligible for retirement from active status at any age with at least 30 years of service, at age 55 with at least 25 years of service or at age 60 with at least five years of service.

PERS Plan 1 retirement benefits are actuarially reduced if a survivor benefit is chosen. Members retiring from inactive status before age 65 may also receive actuarially reduced benefits. Other benefits include an optional Cost-of-Living Adjustment (COLA).

Contributions: The PERS Plan 1 member contribution rate is established in statute at 6%. The employer contribution rate is developed by the Office of the State Actuary (OSA), adopted by the Pension Funding Council, and is subject to change by the Legislature.

The PERS Plan 1 required contribution rates (expressed as a percentage of covered payroll) at the close of fiscal year 2019 were as follows:

PERS Plan 1		
Actual Contribution Rates	Employer	Employee
State Agencies	12.83%	6.00%
Local Governmental Units	12.83%	6.00%

Notes to the Financial Statements (cont.)

Investments

Investment Policy: The Washington State Investment Board (WSIB) has been authorized by statute (43.33A RCW) as having investment management responsibility for the pension funds. The WSIB manages retirement fund assets to maximize return at a prudent level of risk.

Retirement funds are invested in the Commingled Trust Fund (CTF). The CTF is a diversified pool of investments that consist of fixed income, public equity, private equity, real estate and tangible assets. Investment decisions are made within the framework of a Strategic Asset Allocation Policy and a series of WSIB-adopted investment policies for the various asset classes.

General information about the retirement funds' investments, valuation, classifications, concentrations and maturities can be found in "Note 1: Summary of Significant Accounting Policies and Plan Asset Matters."

Rate of Return: The money-weighted rates of return are provided by the Washington State Investment Board. For the fiscal year ended June 30, 2019, the annual money-weighted rate of return on PERS Plan 1 pension investments, net of pension plan investment expense, was 8.68%. This money-weighted rate of return expresses investment performance, net of pension plan investment expense, and reflects both the size and timing of cash flows.

Net Pension Liability of Participating Employers

The components of the net pension liability of PERS Plan 1 as of June 30, 2019, were as follows:

PERS Plan 1	
Dollars in Thousands	
Total Pension Liability	\$ 11,696,634
Plan Fiduciary Net Position	(7,851,279)
Participating Employers' Net Pension Liability	\$ 3,845,355
Plan Fiduciary Net Position as a Percentage of Total Pension Liability	67.12%

Actuarial Assumptions: The total pension liability was determined by an actuarial valuation as of June 30, 2018, with the results rolled forward to June 30, 2019,

using the following actuarial assumptions, applied to all prior periods included in the measurement:

PERS Plan 1	
Inflation	2.75% total economic inflation, 3.50% salary inflation
Salary Increases	In addition to the base 3.50% salary inflation assumption, salaries are also expected to grow by promotions and longevity
Investment Rate of Return	7.40%

Mortality rates were based on the *RP-2000* report's "Combined Healthy Table" and "Combined Disabled Table," which the Society of Actuaries published. OSA applied offsets to the base table and recognized future improvements in mortality by projecting the mortality rates using 100% Scale BB. Mortality rates are applied on a generational basis, meaning members are assumed to receive additional mortality improvements in each future year throughout their lifetimes.

The actuarial assumptions used in the June 30, 2018, valuation were based on the results of the *2007-2012 Experience Study Report* and the *2017 Economic Experience Study*. Additional assumptions for subsequent events and law changes are current as of the 2018 actuarial valuation report.

OSA selected a 7.40% long-term expected rate of return on pension plan investments using a building-block method. In selecting this assumption, OSA reviewed the historical experience data, considered the historical conditions that produced past annual investment returns, and considered Capital Market Assumptions (CMAs) and simulated expected investment returns the WSIB provided.

The CMAs contain three pieces of information for each class of assets the WSIB currently invests in:

- Expected annual return
- Standard deviation of the annual return
- Correlations between the annual returns of each asset class with every other asset class

The WSIB uses the CMAs and their target asset allocation to simulate future investment returns over various time horizons.

Notes to the Financial Statements (cont.)

The expected future rates of return (expected returns, net of pension plan investment expense, including inflation) are developed by the WSIB for each major asset class.

Best estimates of arithmetic real rates of return for each major asset class included in the pension plan's target asset allocation as of June 30, 2019, are summarized in the following table:

PERS Plan 1		
Asset Class	Target Allocation	Long-Term Expected Real Rate of Return
Fixed Income	20.00%	2.20%
Tangible Assets	7.00%	5.10%
Real Estate	18.00%	5.80%
Global Equity	32.00%	6.30%
Private Equity	23.00%	9.30%

The inflation component used to create the table above was 2.20% and represents the WSIB's most recent long-term estimate of broad economic inflation.

For additional information and background on OSA's development of the long-term rate of return assumption, please see the *2017 Report on Financial Condition and Economic Study* located on the OSA website. The selection of this assumption and economic experience studies are further detailed in the Actuarial Certification Letter.

Discount Rate: The discount rate used to measure the total pension liability was 7.40%. To determine the discount rate, an asset sufficiency test was completed to test whether the pension plan's fiduciary net position was sufficient to make all projected future benefit payments of current plan members. Consistent with current law, the completed asset sufficiency test included an assumed 7.50% long-term discount rate to determine funding liabilities for calculating future contribution rate requirements. Consistent with the long-term expected rate of return, a 7.40% future investment rate of return on invested assets was assumed for the test.

Contributions from plan members and employers were

assumed to continue being made at contractually required rates (including PERS Plan 2/3, PSERS Plan 2 and SERS Plan 2/3 employers, whose rates include a component for the PERS Plan 1 liability). Based on those assumptions, the pension plan's fiduciary 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 of 7.40% on pension plan investments was applied to determine the total pension liability.

Sensitivity of the Net Pension Liability to Changes in the

Discount Rate: The following table presents the net pension liability of the employers calculated using the discount rate of 7.40% as well as what the employers' net pension liability would be if it were calculated using a discount rate that is 1 percentage point lower (6.40%) or 1 percentage point higher (8.40%) than the current rate.

PERS Plan 1 Dollars in Thousands			
	1% Decrease (6.40%)	Current Discount Rate (7.40%)	1% Increase (8.40%)
Employers' Net Pension Liability	\$ 4,815,609	\$ 3,845,355	\$ 3,003,532

PERS Plan 2/3

As of June 30, 2019, 835 employers were participating in PERS Plan 2/3.

Plan Membership: As of June 30, 2019, PERS Plan 2/3 membership consisted of the following:

PERS Plan 2/3		
	Plan 2	Plan 3
Inactive Plan Members or Beneficiaries		
Currently Receiving Benefits	55,161	5,709
Inactive Plan Members Entitled to But Not Yet Receiving Benefits	29,139	6,381
Active Plan Members	121,968	37,545
Total Membership	206,268	49,635

Vesting: PERS Plan 2 members are vested after completing five years of eligible service. Plan 3 members are vested in the defined benefit portion of

Notes to the Financial Statements (cont.)

their plan after 10 years of service or after five years of service if 12 months of that service was earned after age 44.

Benefits Provided: PERS Plan 2/3 provides retirement, disability and death benefits. Retirement benefits for Plan 2 are calculated as 2% times the member's Average Final Compensation (AFC) times the member's years of service. Defined benefits for Plan 3 are calculated using 1% times the member's AFC times the member's years of service. AFC is the monthly average of the member's 60 consecutive highest-paid service credit months.

Members are eligible for retirement with a full benefit at age 65 with at least five years of service credit. Retirement before age 65 is considered an early retirement. PERS Plan 2/3 members who have at least 20 years of service credit and are 55 years of age or older are eligible for early retirement with a reduced benefit. The benefit is reduced by a factor that varies according to age for each year before age 65.

PERS Plan 2/3 retirement benefits are actuarially reduced if a survivor benefit is chosen.

Other PERS Plan 2/3 benefits include a Cost-of-Living Adjustment (COLA) based on the Consumer Price Index, capped at 3% annually.

Contributions: The PERS Plan 2/3 employer and employee contribution rates are developed by the Office of the State Actuary (OSA) to fully fund Plan 2 and the defined benefit portion of Plan 3. The rates are adopted by the Pension Funding Council, and are subject to change by the Legislature. The employer rate includes a component to address the PERS Plan 1 Unfunded Actuarial Accrued Liability.

The PERS Plan 2/3 required defined benefit contribution rates (expressed as a percentage of covered payroll) at the close of fiscal year 2019 were as follows:

PERS Plan 2/3			
Actual Contribution Rates	Employer	Employee Plan 2	Employee Plan 3
State Agencies	12.83%	7.41%	0%
Local Governmental Units	12.83%	7.41%	0%

Investments

Investment Policy: The Washington State Investment Board (WSIB) has been authorized by statute (43.33A RCW) as having investment management responsibility for the pension funds. The WSIB manages retirement fund assets to maximize return at a prudent level of risk. Retirement funds are invested in the Commingled Trust Fund (CTF). The CTF is a diversified pool of investments that consist of fixed income, public equity, private equity, real estate and tangible assets. Investment decisions are made within the framework of a Strategic Asset Allocation Policy and a series of WSIB-adopted investment policies for the various asset classes.

General information about the retirement funds' investments, valuation, classifications, concentrations and maturities can be found in "Note 1: Summary of Significant Accounting Policies and Plan Asset Matters."

Rate of Return: The money-weighted rates of return are provided by the Washington State Investment Board. For the fiscal year ended June 30, 2019, the annual money-weighted rate of return on PERS Plan 2/3 pension investments, net of pension plan investment expense, was 8.89%. This money-weighted rate of return expresses investment performance, net of pension plan investment expense, and reflects both the size and timing of cash flows.

Notes to the Financial Statements (cont.)

Net Pension Liability of Participating Employers

The components of the net pension liability of PERS Plan 2/3 as of June 30, 2019, were as follows:

PERS Plan 2/3 Dollars in Thousands	
Total Pension Liability	\$ 43,503,168
Plan Fiduciary Net Position	(42,531,828)
Participating Employers' Net Pension Liability	\$ 971,340
Plan Fiduciary Net Position as a Percentage of Total Pension Liability	97.77%

Actuarial Assumptions: The total pension liability was determined by an actuarial valuation as of June 30, 2018, with the results rolled forward to June 30, 2019, using the following actuarial assumptions, applied to all prior periods included in the measurement:

PERS Plan 2/3	
Inflation	2.75% total economic inflation, 3.50% salary inflation
Salary Increases	In addition to the base 3.50% salary inflation assumption, salaries are also expected to grow by promotions and longevity
Investment Rate of Return	7.40%

Mortality rates were based on the *RP-2000* report's "Combined Healthy Table" and "Combined Disabled Table," which the Society of Actuaries published. OSA applied offsets to the base table and recognized future improvements in mortality by projecting the mortality rates using 100% Scale BB. Mortality rates are applied on a generational basis, meaning members are assumed to receive additional mortality improvements in each future year throughout their lifetimes.

The actuarial assumptions used in the June 30, 2018, valuation were based on the results of the *2007-2012 Experience Study Report* and the *2017 Economic Experience Study*. Additional assumptions for subsequent events and law changes are current as of the 2018 actuarial valuation report.

OSA selected a 7.40% long-term expected rate of return on pension plan investments using a building-block method. In selecting this assumption, OSA reviewed the historical experience data, considered the

historical conditions that produced past annual investment returns, and considered Capital Market Assumptions (CMAs) and simulated expected investment returns the WSIB provided.

The CMAs contain three pieces of information for each class of assets the WSIB currently invests in:

- Expected annual return
- Standard deviation of the annual return
- Correlations between the annual returns of each asset class with every other asset class

The WSIB uses the CMAs and their target asset allocation to simulate future investment returns over various time horizons.

The expected future rates of return (expected returns, net of pension plan investment expense, including inflation) are developed by the WSIB for each major asset class.

Best estimates of arithmetic real rates of return for each major asset class included in the pension plan's target asset allocation as of June 30, 2019, are summarized in the following table:

PERS Plan 2/3		
Asset Class	Target Allocation	Long-Term Expected Real Rate of Return
Fixed Income	20.00%	2.20%
Tangible Assets	7.00%	5.10%
Real Estate	18.00%	5.80%
Global Equity	32.00%	6.30%
Private Equity	23.00%	9.30%

The inflation component used to create the table above was 2.20% and represents the WSIB's most recent long-term estimate of broad economic inflation.

For additional information and background on OSA's development of the long-term rate of return assumption, please see the *2017 Report on Financial Condition and Economic Study* located on the OSA website. The selection of this assumption and economic experience studies are further detailed in the Actuarial Certification Letter.

Notes to the Financial Statements (cont.)

Discount Rate: The discount rate used to measure the total pension liability was 7.40%. To determine the discount rate, an asset sufficiency test was completed to test whether the pension plan's fiduciary net position was sufficient to make all projected future benefit payments of current plan members. Consistent with current law, the completed asset sufficiency test included an assumed 7.50% long-term discount rate to determine funding liabilities for calculating future contribution rate requirements. Consistent with the long-term expected rate of return, a 7.40% future investment rate of return on invested assets was assumed for the test.

Contributions from plan members and employers were assumed to continue being made at contractually required rates. Based on those assumptions, the pension plan's fiduciary 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 of 7.40% on pension plan investments was applied to determine the total pension liability.

Sensitivity of the Net Pension Liability to Changes in the Discount Rate:

The following table presents the net pension liability of the employers calculated using the discount rate of 7.40% as well as what the employers' net pension liability would be if it were calculated using a discount rate that is 1 percentage point lower (6.40%) or 1 percentage point higher (8.40%) than the current rate.

PERS Plan 2/3 Dollars in Thousands				
	1% Decrease (6.40%)	Current Discount Rate (7.40%)	1% Increase (8.40%)	
Employers' Net Pension Liability	\$ 7,449,792	\$ 971,340	\$ (4,344,658)	

PERS Plan 3

As of June 30, 2019, 575 employers were participating in PERS Plan 3.

Plan Membership: As of June 30, 2019, PERS Plan 3 membership consisted of the following:

PERS Plan 3	
Inactive Plan Members or Beneficiaries Currently Receiving Benefits	5,709
Inactive Plan Members Entitled to But Not Yet Receiving Benefits	6,381
Active Plan Members	37,545
Total Membership	49,635

Vesting: PERS Plan 3 members are immediately vested in the defined contribution portion of their plan.

Benefits Provided: PERS Plan 3 defined contribution benefits are totally dependent on employee contributions and investment earnings on those contributions.

Contributions: As established by Chapter 41.34 RCW, Plan 3 defined contribution rates are set at a minimum of 5% and a maximum of 15%. PERS Plan 3 members choose their contribution rate from six options when joining membership and can change rates only when changing employers. Employers do not contribute to the defined contribution benefits.

School Employees' Retirement System (SERS)

Administration: The Legislature created SERS in 1998, and the plan became effective in 2000. SERS retirement benefit provisions are established in Chapters 41.34 and 41.35 RCW. SERS members include classified employees of school districts and educational service districts. SERS is a cost-sharing, multiple-employer retirement system composed of two separate plans for membership purposes. SERS Plan 2 is a defined benefit plan, and SERS Plan 3 is a defined benefit plan with a defined contribution component.

Although employees can be a member of only Plan 2 or Plan 3, the defined benefit portions of Plan 2 and Plan 3 are accounted for in the same pension trust fund. All assets of Plan 2/3 defined benefit plan may legally be used to pay the defined benefits of any of the Plan 2 or Plan 3 members or beneficiaries. Therefore, Plan 2/3 is considered to be a single plan for accounting purposes. Plan 3 accounts for the defined contribution portion of

Notes to the Financial Statements (cont.)

benefits for Plan 3 members.

SERS Plan 2/3

As of June 30, 2019, 310 employers were participating in SERS Plan 2/3.

Plan Membership: As of June 30, 2019, SERS Plan 2/3 membership consisted of the following:

SERS Plan 2/3		
	Plan 2	Plan 3
Inactive Plan Members or Beneficiaries		
Currently Receiving Benefits	10,072	10,007
Inactive Plan Members Entitled to But Not Yet Receiving Benefits	6,175	8,983
Active Plan Members	28,494	35,746
Total Membership	44,741	54,736

Vesting: SERS Plan 2 members are vested after completing five years of eligible service. SERS Plan 3 members are vested in the defined benefit portion of their plan after 10 years of service or after five years of service if 12 months of that service was earned after age 44.

Benefits Provided: SERS Plan 2/3 provides retirement, disability and death benefits. Retirement benefits for Plan 2 are calculated as 2% times the member's Average Final Compensation (AFC) times the member's years of service. Defined benefits for Plan 3 are calculated using 1% times the member's AFC times the member's years of service. AFC is the monthly average of the member's 60 consecutive highest-paid service credit months.

Members are eligible for retirement with a full benefit at age 65 with at least five years of service credit. Retirement before age 65 is considered an early retirement. SERS members who have at least 20 years of service credit and are 55 years of age or older are eligible for early retirement with a reduced benefit. The benefit is reduced by a factor that varies according to age for each year before age 65.

SERS Plan 2/3 retirement benefits are actuarially reduced if a survivor benefit is chosen.

Other SERS Plan 2/3 benefits include a Cost-of-Living Adjustment (COLA) based on the Consumer Price Index, capped at 3% annually.

Contributions: The SERS Plan 2/3 employer and employee contribution rates are developed by OSA to fully fund the defined benefits of Plan 2/3. The rates are adopted by the Pension Funding Council, and are subject to change by the Legislature. The employer rate includes a component to address the PERS Plan 1 Unfunded Actuarial Accrued Liability.

The SERS Plan 2/3 defined benefit required contribution rates (expressed as a percentage of covered payroll) at the close of fiscal year 2019 were as follows:

SERS Plan 2/3			
Actual Contribution Rates	Employer	Employee Plan 2	Employee Plan 3
State Agencies	n/a	n/a	0%
Local Governmental Units	13.58%	7.27%	0%

Investments

Investment Policy: The Washington State Investment Board (WSIB) has been authorized by statute (43.33A RCW) as having investment management responsibility for the pension funds. The WSIB manages retirement fund assets to maximize return at a prudent level of risk.

Retirement funds are invested in the Commingled Trust Fund (CTF). The CTF is a diversified pool of investments that consist of fixed income, public equity, private equity, real estate and tangible assets. Investment decisions are made within the framework of a Strategic Asset Allocation Policy and a series of WSIB-adopted investment policies for the various asset classes.

General information about the retirement funds' investments, valuation, classifications, concentrations and maturities can be found in "Note 1: Summary of Significant Accounting Policies and Plan Asset Matters."

Rate of Return: The money-weighted rates of return are provided by the Washington State Investment Board.

Notes to the Financial Statements (cont.)

For the fiscal year ended June 30, 2019, the annual money-weighted rate of return on SERS Plan 2/3 pension investments, net of pension plan investment expense, was 8.93%. This money-weighted rate of return expresses investment performance, net of pension plan investment expense, and reflects both the size and timing of cash flows.

Net Pension Liability of Participating Employers

The components of the net pension liability of SERS 2/3 as of June 30, 2019, were as follows:

SERS Plan 2/3 Dollars in Thousands	
Total Pension Liability	\$ 6,352,843
Plan Fiduciary Net Position	(6,118,345)
Participating Employers' Net Pension Liability	\$ 234,498
Plan Fiduciary Net Position as a Percentage of Total Pension Liability	96.31%

Actuarial Assumptions: The total pension liability was determined by an actuarial valuation as of June 30, 2018, with the results rolled forward to June 30, 2019, using the following actuarial assumptions, applied to all prior periods included in the measurement:

SERS Plan 2/3	
Inflation	2.75% total economic inflation, 3.50% salary inflation
Salary Increases	In addition to the base 3.50% salary inflation assumption, salaries are also expected to grow by promotions and longevity
Investment Rate of Return	7.40%

Mortality rates were based on the *RP-2000* report's "Combined Healthy Table" and "Combined Disabled Table," which the Society of Actuaries published. OSA applied offsets to the base table and recognized future improvements in mortality by projecting the mortality rates using 100% Scale BB. Mortality rates are applied on a generational basis, meaning members are assumed to receive additional mortality improvements in each future year throughout their lifetimes.

The actuarial assumptions used in the June 30, 2018, valuation were based on the results of the *2007-2012 Experience Study Report* and the *2017 Economic*

Experience Study. Additional assumptions for subsequent events and law changes are current as of the 2018 actuarial valuation report.

OSA selected a 7.40% long-term expected rate of return on pension plan investments using a building-block method. In selecting this assumption, OSA reviewed the historical experience data, considered the historical conditions that produced past annual investment returns, and considered Capital Market Assumptions (CMAs) and simulated expected investment returns the WSIB provided.

The CMAs contain three pieces of information for each class of assets the WSIB currently invests in:

- Expected annual return
- Standard deviation of the annual return
- Correlations between the annual returns of each asset class with every other asset class

The WSIB uses the CMAs and their target asset allocation to simulate future investment returns over various time horizons.

The expected future rates of return (expected returns, net of pension plan investment expense, including inflation) are developed by the WSIB for each major asset class. Best estimates of arithmetic real rates of return for each major asset class included in the pension plan's target asset allocation as of June 30, 2019, are summarized in the following table:

SERS Plan 2/3		
Asset Class	Target Allocation	Long-Term Expected Real Rate of Return
Fixed Income	20.00%	2.20%
Tangible Assets	7.00%	5.10%
Real Estate	18.00%	5.80%
Global Equity	32.00%	6.30%
Private Equity	23.00%	9.30%

The inflation component used to create the table above was 2.20% and represents the WSIB's most recent long-term estimate of broad economic inflation.

Notes to the Financial Statements (cont.)

For additional information and background on OSA's development of the long-term rate of return assumption, please see the *2017 Report on Financial Condition and Economic Study* located on the OSA website. The selection of this assumption and economic experience studies are further detailed in the Actuarial Certification Letter.

Discount Rate: The discount rate used to measure the total pension liability was 7.40%. To determine the discount rate, an asset sufficiency test was completed to test whether the pension plan's fiduciary net position was sufficient to make all projected future benefit payments of current plan members. Consistent with current law, the completed asset sufficiency test included an assumed 7.50% long-term discount rate to determine funding liabilities for calculating future contribution rate requirements. Consistent with the long-term expected rate of return, a 7.40% future investment rate of return on invested assets was assumed for the test.

Contributions from plan members and employers were assumed to continue being made at contractually required rates. Based on those assumptions, the pension plan's fiduciary 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 of 7.40% on pension plan investments was applied to determine the total pension liability.

Sensitivity of the Net Pension Liability to Changes in the Discount Rate: The following table presents the net pension liability of the employers calculated using the discount rate of 7.40% as well as what the employers' net pension liability would be if it were calculated using a discount rate that is 1 percentage point lower (6.40%) or 1 percentage point higher (8.40%) than the current rate.

SERS Plan 2/3 Dollars in Thousands			
	1% Decrease (6.40%)	Current Discount Rate (7.40%)	1% Increase (8.40%)
Employers' Net Pension Liability	\$ 1,141,883	\$ 234,498	\$ (513,722)

SERS Plan 3

As of June 30, 2019, 309 employers were participating in SERS Plan 3.

Plan Membership: As of June 30, 2019, SERS Plan 3 membership consisted of the following:

SERS Plan 3	
Inactive Plan Members or Beneficiaries Currently Receiving Benefits	10,007
Inactive Plan Members Entitled to But Not Yet Receiving Benefits	8,983
Active Plan Members	35,746
Total Membership	54,736

Vesting: SERS Plan 3 members are immediately vested in the defined contribution portion of their plan.

Benefits Provided: SERS Plan 3 defined contributions benefits are totally dependent on employee contributions and the investment earnings on those contributions.

Contributions: As established by Chapter 41.34 RCW, Plan 3 defined contribution rates are set at a minimum of 5% and a maximum of 15%. SERS Plan 3 members choose their contribution rate from six options when joining membership and can change rates only when changing employers. Employers do not contribute to the defined contribution benefits.

Notes to the Financial Statements (cont.)

Public Safety Employees' Retirement System (PSERS)

Administration: The Legislature created PSERS in 2004, and the plan became effective July 1, 2006. PSERS retirement benefit provisions are established in Chapter 41.37 RCW. PSERS is a cost-sharing, multiple-employer retirement system composed of a single defined benefit plan, PSERS Plan 2, for both accounting and membership purposes.

PSERS membership includes certain public employees whose jobs contain a high degree of physical risk to their own personal safety. In addition to meeting strict statutory work requirements, membership is further restricted to specific employers including:

- Washington state counties
- Washington state cities (except Seattle, Spokane and Tacoma)
- Entities PSERS employers form under the Interlocal Cooperation Act
- A limited number of state agencies

PSERS Plan 2

As of June 30, 2019, 67 employers were participating in PSERS Plan 2.

Plan Membership: As of June 30, 2019, PSERS Plan 2 membership consisted of the following:

PSERS Plan 2	
Inactive Plan Members or Beneficiaries Currently Receiving Benefits	296
Inactive Plan Members Entitled to But Not Yet Receiving Benefits	637
Active Plan Members	7,637
Total Membership	8,570

Vesting: PSERS members are vested after completing five years of eligible service.

Benefits Provided: PSERS Plan 2 provides retirement, disability and death benefits. Retirement benefits are calculated using 2% times the member's Average Final Compensation (AFC) times the member's years of service. AFC is based on the member's 60 consecutive highest-paid months of service credit.

Members are eligible for retirement at age 65 with five years of service, at age 60 with at least 10 years of PSERS service credit or at age 53 with 20 years of service. Benefits are actuarially reduced for each year the member's age is less than 60 (with 10 or more service credit years in PSERS) or less than 65 (with fewer than 10 service credit years).

There is no cap on years of service credit. Retirement before age 60 is considered an early retirement, and PSERS members who retire before turning 60 receive reduced benefits. If retirement is at age 53 or older with at least 20 years of service, a 3% per year reduction for each year between age at retirement and age 60 applies. PSERS retirement benefits are actuarially reduced if a survivor benefit is chosen.

Other PSERS Plan 2 benefits include a Cost-of-Living Adjustment (COLA) based on the Consumer Price Index, capped at 3% annually.

Contributions: The PSERS Plan 2 employer and employee contribution rates are developed by the Office of the State Actuary (OSA) to fully fund Plan 2. The rates are adopted by the Pension Funding Council, and are subject to change by the Legislature. The employer rate includes a component to address the PERS Plan 1 Unfunded Actuarial Accrued Liability.

The PSERS Plan 2 required contribution rates (expressed as a percentage of covered payroll) at the close of fiscal year 2019 were as follows:

PSERS Plan 2		
Actual Contribution Rates	Employer	Employee
State Agencies	12.38%	7.07%
Local Governmental Units	12.38%	7.07%

Investments

Investment Policy: The Washington State Investment Board (WSIB) has been authorized by statute (43.33A RCW) as having investment management responsibility for the pension funds. The WSIB manages retirement fund assets to maximize return at a prudent level of risk.

Notes to the Financial Statements (cont.)

Retirement funds are invested in the Commingled Trust Fund (CTF). The CTF is a diversified pool of investments that consist of fixed income, public equity, private equity, real estate and tangible assets. Investment decisions are made within the framework of a Strategic Asset Allocation Policy and a series of WSIB-adopted investment policies for the various asset classes.

General information about the retirement funds' investments, valuation, classifications, concentrations and maturities can be found in "Note 1: Summary of Significant Accounting Policies and Plan Asset Matters."

Rate of Return: The money-weighted rates of return are provided by the Washington State Investment Board. For the fiscal year ended June 30, 2019, the annual money-weighted rate of return on PSERS Plan 2 pension investments, net of pension plan investment expense, was 9.12%. This money-weighted rate of return expresses investment performance, net of pension plan investment expense, and reflects both the size and timing of cash flows.

Net Pension Liability of Participating Employers

The components of the net pension liability of PSERS Plan 2 as of June 30, 2019, were as follows:

PSERS Plan 2	
Dollars in Thousands	
Total Pension Liability	\$ 704,212
Plan Fiduciary Net Position	(717,216)
Participating Employers' Net Pension Liability	\$ (13,004)
Plan Fiduciary Net Position as a Percentage of Total Pension Liability	101.85%

Actuarial Assumptions: The total pension liability was determined by an actuarial valuation as of June 30, 2018, with the results rolled forward to June 30, 2019, using the following actuarial assumptions, applied to all prior periods included in the measurement:

PSERS Plan 2	
Inflation	2.75% total economic inflation, 3.50% salary inflation
Salary Increases	In addition to the base 3.50% salary inflation assumption, salaries are also expected to grow by promotions and longevity
Investment Rate of Return	7.40%

Mortality rates were based on the *RP-2000* report's "Combined Healthy Table" and "Combined Disabled Table," which the Society of Actuaries published. OSA applied offsets to the base table and recognized future improvements in mortality by projecting the mortality rates using 100% Scale BB. Mortality rates are applied on a generational basis, meaning members are assumed to receive additional mortality improvements in each future year throughout their lifetimes.

The actuarial assumptions used in the June 30, 2018, valuation were based on the results of the *2007-2012 Experience Study Report* and the *2017 Economic Experience Study*. Additional assumptions for subsequent events and law changes are current as of the 2018 actuarial valuation report.

OSA selected a 7.40% long-term expected rate of return on pension plan investments using a building-block method. In selecting this assumption, OSA reviewed the historical experience data, considered the historical conditions that produced past annual investment returns, and considered Capital Market Assumptions (CMAs) and simulated expected investment returns the WSIB provided.

The CMAs contain three pieces of information for each class of assets the WSIB currently invests in:

- Expected annual return
- Standard deviation of the annual return
- Correlations between the annual returns of each asset class with every other asset class

Notes to the Financial Statements (cont.)

The WSIB uses the CMAs and their target asset allocation to simulate future investment returns over various time horizons.

The expected future rates of return (expected returns, net of pension plan investment expense, including inflation) are developed by the WSIB for each major asset class.

Best estimates of arithmetic real rates of return for each major asset class included in the pension plan's target asset allocation as of June 30, 2019, are summarized in the following table:

PSERS Plan 2		
Asset Class	Target Allocation	Long-Term Expected Real Rate of Return
Fixed Income	20.00%	2.20%
Tangible Assets	7.00%	5.10%
Real Estate	18.00%	5.80%
Global Equity	32.00%	6.30%
Private Equity	23.00%	9.30%

The inflation component used to create the table above was 2.20% and represents the WSIB's most recent long-term estimate of broad economic inflation.

For additional information and background on OSA's development of the long-term rate of return assumption, please see the *2017 Report on Financial Condition and Economic Study* located on the OSA website. The selection of this assumption and economic experience studies are further detailed in the Actuarial Certification Letter.

Discount Rate: The discount rate used to measure the total pension liability was 7.40%. To determine the discount rate, an asset sufficiency test was completed to test whether the pension plan's fiduciary net position was sufficient to make all projected future benefit payments of current plan members. Consistent with current law, the completed asset sufficiency test included an assumed 7.50% long-term discount rate to determine funding liabilities for calculating future contribution rate requirements. Consistent with the long-term expected rate of return, a 7.40% future investment

rate of return on invested assets was assumed for the test.

Contributions from plan members and employers were assumed to continue being made at contractually required rates. Based on those assumptions, the pension plan's fiduciary 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 of 7.40% on pension plan investments was applied to determine the total pension liability.

Sensitivity of the Net Pension Liability to Changes in the

Discount Rate: The following table presents the net pension liability of the employers calculated using the discount rate of 7.40% as well as what the employers' net pension liability would be if it were calculated using a discount rate that is 1 percentage point lower (6.40%) or 1 percentage point higher (8.40%) than the current rate.

PSERS Plan 2			
Dollars in Thousands			
	1% Decrease (6.40%)	Current Discount Rate (7.40%)	1% Increase (8.40%)
Employers' Net Pension Liability	\$ 134,252	\$ (13,004)	\$ (128,686)

Teachers' Retirement System (TRS)

Administration: TRS was established in 1938, and its retirement benefit provisions are contained in Chapters 41.32 and 41.34 RCW. TRS eligibility for membership requires service as a certificated public school employee working in an instructional, administrative or supervisory capacity. TRS is a cost-sharing, multiple-employer retirement system composed of three separate plans for membership purposes: Plans 1 and 2 are defined benefit plans, and Plan 3 is a defined benefit plan with a defined contribution component.

TRS is composed of three separate plans for accounting purposes: Plan 1, Plan 2/3 and Plan 3. Plan 1 accounts for the defined benefits of Plan 1 members.

Notes to the Financial Statements (cont.)

Plan 2/3 accounts for the defined benefits of Plan 2 members and the defined benefit portion of benefits for Plan 3 members. Plan 3 accounts for the defined contribution portion of benefits for Plan 3 members.

Although members can be a member of only Plan 2 or Plan 3, the defined benefit portions of Plan 2 and Plan 3 are accounted for in the same pension trust fund. All assets of Plan 2/3 defined benefit plan may legally be used to pay the defined benefits of any Plan 2 or Plan 3 members or beneficiaries. Therefore, Plan 2/3 is considered a single plan for accounting purposes.

TRS Plan 1

As of June 30, 2019, 143 employers and 56 nonemployer contributing entities were participating in TRS Plan 1. The plan is closed to new entrants.

Plan Membership: As of June 30, 2019, TRS Plan 1 membership consisted of the following:

TRS Plan 1	
Inactive Plan Members or Beneficiaries Currently Receiving Benefits	32,645
Inactive Plan Members Entitled to But Not Yet Receiving Benefits	120
Active Plan Members	349
Total Membership	33,114

Vesting: TRS Plan 1 members became vested after the completion of five years of eligible service.

Benefits Provided: TRS Plan 1 provides retirement, disability and death benefits. Retirement benefits are calculated using 2% of the member's Average Final Compensation (AFC) times the member's years of service — up to a maximum of 60%. AFC is the average of the member's two consecutive highest-paid fiscal years.

Members are eligible for retirement at any age after 30 years of service, at age 60 with five years of service or at age 55 with 25 years of service. Other benefits include temporary and permanent disability payments, and an optional Cost-of-Living Adjustment (COLA).

Contributions: The TRS Plan 1 member contribution rate is set in statute at 6%. The employer contribution rate is

developed by the Office of the State Actuary (OSA), adopted by the Pension Funding Council, and is subject to change by the Legislature.

The TRS Plan 1 required contribution rates (expressed as a percentage of covered payroll) at the close of fiscal year 2019 were as follows:

TRS Plan 1		
Actual Contribution Rates	Employer	Employee
State Agencies	15.41%	6.00%
Local Governmental Units	15.41%	6.00%

Investments

Investment Policy: The Washington State Investment Board (WSIB) has been authorized by statute (43.33A RCW) as having investment management responsibility for the pension funds. The WSIB manages retirement fund assets to maximize return at a prudent level of risk.

Retirement funds are invested in the Commingled Trust Fund (CTF). The CTF is a diversified pool of investments that consist of fixed income, public equity, private equity, real estate and tangible assets. Investment decisions are made within the framework of a Strategic Asset Allocation Policy and a series of WSIB-adopted investment policies for the various asset classes.

General information about the retirement funds' investments, valuation, classifications, concentrations and maturities can be found in "Note 1: Summary of Significant Accounting Policies and Plan Asset Matters."

Rate of Return: The money-weighted rates of return are provided by the Washington State Investment Board. For the fiscal year ended June 30, 2019, the annual money-weighted rate of return on TRS Plan 1 pension investments, net of pension plan investment expense, was 8.65%. This money-weighted rate of return expresses investment performance, net of pension plan investment expense, and reflects both the size and timing of cash flows.

Notes to the Financial Statements (cont.)

Net Pension Liability of Participating Employers

The components of the net pension liability of TRS Plan 1 as of June 30, 2019, were as follows:

TRS Plan 1	
Dollars in Thousands	
Total Pension Liability	\$ 8,355,496
Plan Fiduciary Net Position	(5,879,693)
Participating Employers' Net Pension Liability	\$ 2,475,803
Plan Fiduciary Net Position as a Percentage of Total Pension Liability	70.37%

Actuarial Assumptions: The total pension liability was determined by an actuarial valuation as of June 30, 2018, with the results rolled forward to June 30, 2019, using the following actuarial assumptions, applied to all prior periods included in the measurement:

TRS Plan 1	
Inflation	2.75% total economic inflation, 3.50% salary inflation
Salary Increases	In addition to the base 3.50% salary inflation assumption, salaries are also expected to grow by promotions and longevity
Investment Rate of Return	7.40%

Mortality rates were based on the *RP-2000* report's "Combined Healthy Table" and "Combined Disabled Table," which the Society of Actuaries published. OSA applied offsets to the base table and recognized future improvements in mortality by projecting the mortality rates using 100% Scale BB. Mortality rates are applied on a generational basis, meaning members are assumed to receive additional mortality improvements in each future year throughout their lifetimes.

The actuarial assumptions used in the June 30, 2018, valuation were based on the results of the *2007-2012 Experience Study Report* and the *2017 Economic Experience Study*. Additional assumptions for subsequent events and law changes are current as of the 2018 actuarial valuation report.

OSA selected a 7.40% long-term expected rate of

return on pension plan investments using a building-block method. In selecting this assumption, OSA reviewed the historical experience data, considered the historical conditions that produced past annual investment returns, and considered Capital Market Assumptions (CMAs) and simulated expected investment returns the WSIB provided.

The CMAs contain three pieces of information for each class of assets the WSIB currently invests in:

- Expected annual return
- Standard deviation of the annual return
- Correlations between the annual returns of each asset class with every other asset class

The WSIB uses the CMAs and their target asset allocation to simulate future investment returns over various time horizons.

The expected future rates of return (expected returns, net of pension plan investment expense, including inflation) are developed by the WSIB for each major asset class.

Best estimates of arithmetic real rates of return for each major asset class included in the pension plan's target asset allocation as of June 30, 2019, are summarized in the following table:

TRS Plan 1		
Asset Class	Target Allocation	Long-Term Expected Real Rate of Return
Fixed Income	20.00%	2.20%
Tangible Assets	7.00%	5.10%
Real Estate	18.00%	5.80%
Global Equity	32.00%	6.30%
Private Equity	23.00%	9.30%

The inflation component used to create the table above was 2.20% and represents the WSIB's most recent long-term estimate of broad economic inflation.

Notes to the Financial Statements (cont.)

For additional information and background on OSA's development of the long-term rate of return assumption, please see the *2017 Report on Financial Condition and Economic Study* located on the OSA website. The selection of this assumption and economic experience studies are further detailed in the Actuarial Certification Letter.

Discount Rate: The discount rate used to measure the total pension liability was 7.40%. To determine the discount rate, an asset sufficiency test was completed to test whether the pension plan's fiduciary net position was sufficient to make all projected future benefit payments of current plan members. Consistent with current law, the completed asset sufficiency test included an assumed 7.50% long-term discount rate to determine funding liabilities for calculating future contribution rate requirements. Consistent with the long-term expected rate of return, a 7.40% future investment rate of return on invested assets was assumed for the test.

Contributions from plan members and employers were assumed to continue being made at contractually required rates (including TRS Plan 2/3 employers, whose rates include a component for the TRS Plan 1 liability). Based on those assumptions, the pension plan's fiduciary 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 of 7.40% on pension plan investments was applied to determine the total pension liability.

Sensitivity of the Net Pension Liability to Changes in the Discount Rate: The following table presents the net pension liability of the employers calculated using the discount rate of 7.40% as well as what the employers' net pension liability would be if it were calculated using a discount rate that is 1 percentage point lower (6.40%) or 1 percentage point higher (8.40%) than the current rate.

TRS Plan 1 Dollars in Thousands			
	1% Decrease (6.40%)	Current Discount Rate (7.40%)	1% Increase (8.40%)
Employers' Net Pension Liability	\$ 3,164,358	\$ 2,475,803	\$ 1,878,531

TRS Plan 2/3

As of June 30, 2019, 307 employers were participating in TRS Plan 2/3.

Plan Membership: As of June 30, 2019, TRS Plan 2/3 membership consisted of the following:

TRS Plan 2/3		
	Plan 2	Plan 3
Inactive Plan Members or Beneficiaries		
Currently Receiving Benefits	5,874	13,745
Inactive Plan Members Entitled to But Not Yet Receiving Benefits	2,779	8,675
Active Plan Members	21,788	55,733
Total Membership	30,441	78,153

Vesting: TRS Plan 2 members are vested after completing five years of eligible service. TRS Plan 3 members are vested in the defined benefit portion of their plan after 10 years of service or after five years of service if 12 months of that service are earned after age 44.

Benefits Provided: TRS Plan 2/3 provides retirement, disability and death benefits. Retirement benefits for Plan 2 are calculated using 2% of the member's Average Final Compensation (AFC) times the member's years of service. Retirement defined benefits for Plan 3 are calculated using 1% of AFC times the member's years of service. AFC is the monthly average of the member's 60 consecutive highest-paid service credit

Notes to the Financial Statements (cont.)

months. TRS Plan 2/3 has no cap on years of service credit.

Members are eligible for retirement with a full benefit at age 65 with at least five years of service credit.

Retirement before age 65 is considered an early retirement. TRS Plan 2/3 members who have at least 20 years of service credit and are 55 years of age or older are eligible for early retirement with a reduced benefit. The benefit is reduced by a factor that varies according to age for each year before age 65. TRS Plan 2/3 retirement benefits are actuarially reduced to reflect the choice of a survivor benefit.

Other TRS Plan 2/3 benefits include a Cost-of-Living Adjustment (COLA) based on the Consumer Price Index, capped at 3% annually.

Contributions: The TRS Plan 2/3 member and employer contribution rates are developed by the Office of the State Actuary (OSA) to fully fund Plan 2 and the defined benefit portion of Plan 3. The rates are adopted by the Pension Funding Council, and are subject to change by the Legislature. The Plan 2/3 employer rate includes a component to address the TRS Plan 1 Unfunded Actuarial Accrued Liability .

The TRS Plan 2/3 defined benefit required contribution rates (expressed as a percentage of covered payroll) at the close of fiscal year 2019 were as follows:

TRS Plan 2/3			
Actual Contribution Rates	Employer	Employee Plan 2	Employee Plan 3
State Agencies	15.41%	7.06%	0%
Local Governmental Units	15.41%	7.06%	0%

Investments

Investment Policy: The Washington State Investment Board (WSIB) has been authorized by statute (43.33A RCW) as having investment management responsibility for the pension funds. The WSIB manages retirement fund assets to maximize return at a prudent level of risk.

Retirement funds are invested in the Commingled Trust Fund (CTF). The CTF is a diversified pool of investments

that consist of fixed income, public equity, private equity, real estate and tangible assets. Investment decisions are made within the framework of a Strategic Asset Allocation Policy and a series of WSIB-adopted investment policies for the various asset classes.

General information about the retirement funds' investments, valuation, classifications, concentrations and maturities can be found in "Note 1: Summary of Significant Accounting Policies and Plan Asset Matters."

Rate of Return: The money-weighted rates of return are provided by the Washington State Investment Board. For the fiscal year ended June 30, 2019, the annual money-weighted rate of return on TRS Plan 2/3 pension investments, net of pension plan investment expense, was 8.93%. This money-weighted rate of return expresses investment performance, net of pension plan investment expense, and reflects both the size and timing of cash flows.

Net Pension Liability of Participating Employers

The components of the net pension liability of TRS 2/3 as of June 30, 2019, were as follows:

TRS Plan 2/3 Dollars in Thousands	
Total Pension Liability	\$ 16,545,194
Plan Fiduciary Net Position	(15,942,660)
Participating Employers' Net Pension Liability	\$ 602,534
Plan Fiduciary Net Position as a Percentage of Total Pension Liability	96.36%

Actuarial Assumptions: The total pension liability was determined by an actuarial valuation as of June 30, 2018, with the results rolled forward to June 30, 2019, using the following actuarial assumptions, applied to all prior periods included in the measurement:

TRS Plan 2/3	
Inflation	2.75% total economic inflation, 3.50% salary inflation
Salary Increases	In addition to the base 3.50% salary inflation assumption, salaries are also expected to grow by promotions and longevity
Investment Rate of Return	7.40%

Notes to the Financial Statements (cont.)

Mortality rates were based on the *RP-2000* report's "Combined Healthy Table" and "Combined Disabled Table," which the Society of Actuaries published. OSA applied offsets to the base table and recognized future improvements in mortality by projecting the mortality rates using 100% Scale BB. Mortality rates are applied on a generational basis, meaning members are assumed to receive additional mortality improvements in each future year throughout their lifetimes.

The actuarial assumptions used in the June 30, 2018, valuation were based on the results of the *2007-2012 Experience Study Report* and the *2017 Economic Experience Study*. Additional assumptions for subsequent events and law changes are current as of the 2018 actuarial valuation report.

OSA selected a 7.40% long-term expected rate of return on pension plan investments using a building-block method. In selecting this assumption, OSA reviewed the historical experience data, considered the historical conditions that produced past annual investment returns, and considered Capital Market Assumptions (CMAs) and simulated expected investment returns the WSIB provided.

The CMAs contain three pieces of information for each class of assets the WSIB currently invests in:

- Expected annual return
- Standard deviation of the annual return
- Correlations between the annual returns of each asset class with every other asset class

The WSIB uses the CMAs and their target asset allocation to simulate future investment returns over various time horizons.

The expected future rates of return (expected returns, net of pension plan investment expense, including inflation) are developed by the WSIB for each major asset class.

Best estimates of arithmetic real rates of return for each major asset class included in the pension plan's target asset allocation as of June 30, 2019, are summarized in the following table:

TRS Plan 2/3		
Asset Class	Target Allocation	Long-Term Expected Real Rate of Return
Fixed Income	20.00%	2.20%
Tangible Assets	7.00%	5.10%
Real Estate	18.00%	5.80%
Global Equity	32.00%	6.30%
Private Equity	23.00%	9.30%

The inflation component used to create the table above was 2.20% and represents the WSIB's most recent long-term estimate of broad economic inflation.

For additional information and background on OSA's development of the long-term rate of return assumption, please see the *2017 Report on Financial Condition and Economic Study* located on the OSA website. The selection of this assumption and economic experience studies are further detailed in the Actuarial Certification Letter.

Discount Rate: The discount rate used to measure the total pension liability was 7.40%. To determine the discount rate, an asset sufficiency test was completed to test whether the pension plan's fiduciary net position was sufficient to make all projected future benefit payments of current plan members. Consistent with current law, the completed asset sufficiency test included an assumed 7.50% long-term discount rate to determine funding liabilities for calculating future contribution rate requirements. Consistent with the long-term expected rate of return, a 7.40% future investment rate of return on invested assets was assumed for the test.

Contributions from plan members and employers were assumed to continue being made at contractually required rates. Based on those assumptions, the pension plan's fiduciary net position was projected to be available to make all projected future benefit payments of current plan members. Therefore, the long-

Notes to the Financial Statements (cont.)

term expected rate of return of 7.40% on pension plan investments was applied to determine the total pension liability.

Sensitivity of the Net Pension Liability to Changes in the Discount Rate: The following table presents the net pension liability of the employers calculated using the discount rate of 7.40% as well as what the employers' net pension liability would be if it were calculated using a discount rate that is 1 percentage point lower (6.40%) or 1 percentage point higher (8.40%) than the current rate.

TRS Plan 2/3 Dollars in Thousands			
	1% Decrease (6.40%)	Current Discount Rate (7.40%)	1% Increase (8.40%)
Employers' Net Pension Liability	\$ 3,283,747	\$ 602,534	\$ (1,577,475)

TRS Plan 3

As of June 30, 2019, 314 employers were participating in TRS Plan 3.

Plan Membership: As of June 30, 2019, TRS Plan 3 membership consisted of the following:

TRS Plan 3	
Inactive Plan Members or Beneficiaries Currently Receiving Benefits	13,745
Inactive Plan Members Entitled to But Not Yet Receiving Benefits	8,675
Active Plan Members	55,733
Total Membership	78,153

Vesting: TRS Plan 3 members are immediately vested in the defined contribution portion of their plan.

Benefits Provided: TRS Plan 3 defined contribution benefits are totally dependent on employee contributions and investment earnings on those contributions.

Contributions: As established by Chapter 41.34 RCW, the Plan 3 defined contribution rates are set at a minimum of 5% and a maximum of 15%. TRS Plan 3 members choose their contribution rate from six options

when joining membership and can change rates only when changing employers. Employers do not contribute to the defined contribution benefits.

Law Enforcement Officers' and Fire Fighters' Retirement System (LEOFF)

Administration: LEOFF was established in 1970, and its retirement benefit provisions are contained in Chapter 41.26 RCW. LEOFF membership includes all of the state's full-time, fully compensated, local law enforcement commissioned officers, fire fighters and, as of July 24, 2005, emergency medical technicians.

LEOFF is a cost-sharing, multiple-employer retirement system composed of two separate pension plans for both membership and accounting purposes. Both LEOFF plans are defined benefit plans.

LEOFF Plan 1

As of June 30, 2019, 16 employers were participating in LEOFF Plan 1. The plan is closed to new entrants.

Plan Membership: As of June 30, 2019, LEOFF Plan 1 membership consisted of the following:

LEOFF Plan 1	
Inactive Plan Members or Beneficiaries Currently Receiving Benefits	6,954
Inactive Plan Members Entitled to But Not Yet Receiving Benefits	1
Active Plan Members	20
Total Membership	6,975

Vesting: LEOFF Plan 1 members became vested after the completion of five years of eligible service.

Benefits Provided: LEOFF Plan 1 provides retirement, disability and death benefits. Retirement benefits are determined per year of service and are calculated as a percent of Final Average Salary (FAS) as follows:

LEOFF Plan 1	
Years of Service	% of FAS
20+	2.0%
10-19	1.5%
5-9	1.0%

FAS is the basic monthly salary received at the time of

Notes to the Financial Statements (cont.)

retirement, provided a member has held the same position or rank for 12 months preceding the date of retirement. Otherwise, it is the average of the consecutive highest-paid 24 months' salary within the last 10 years of service. Members are eligible for retirement at age 50 with five years of service.

Other benefits include a Cost-of-Living Adjustment (COLA).

Contributions: LEOFF Plan 1 had no required employer or employee contributions for fiscal year 2019. Employers paid only the administrative expense of 0.18% of covered payroll.

Investments

Investment Policy: The Washington State Investment Board (WSIB) has been authorized by statute (43.33A RCW) as having investment management responsibility for the pension funds. The WSIB manages retirement fund assets to maximize return at a prudent level of risk.

Retirement funds are invested in the Commingled Trust Fund (CTF). The CTF is a diversified pool of investments that consist of fixed income, public equity, private equity, real estate and tangible assets. Investment decisions are made within the framework of a Strategic Asset Allocation Policy and a series of WSIB-adopted investment policies for the various asset classes.

General information about the retirement funds' investments, valuation, classifications, concentrations and maturities can be found in "Note 1: Summary of Significant Accounting Policies and Plan Asset Matters."

Rate of Return: The money-weighted rates of return are provided by the Washington State Investment Board. For the fiscal year ended June 30, 2019, the annual money-weighted rate of return on LEOFF Plan 1 pension investments, net of pension plan investment expense, was 8.67%. This money-weighted rate of return expresses investment performance, net of pension plan investment expense, and reflects both the size and timing of cash flows.

Net Pension Liability of Participating

Employers

The components of the net pension liability of LEOFF Plan 1 employers as of June 30, 2019, were as follows:

LEOFF Plan 1 Dollars in Thousands	
Total Pension Liability	\$ 4,052,226
Plan Fiduciary Net Position	(6,028,837)
Participating Employers' Net Pension Liability (Asset)	\$ (1,976,611)
Plan Fiduciary Net Position as a Percentage of Total Pension Liability	148.78%

Actuarial Assumptions: The total pension liability was determined by an actuarial valuation as of June 30, 2018, with the results rolled forward to June 30, 2019, using the following actuarial assumptions, applied to all prior periods included in the measurement:

LEOFF Plan 1	
Inflation	2.75% total economic inflation, 3.50% salary inflation
Salary Increases	In addition to the base 3.50% salary inflation assumption, salaries are also expected to grow by promotions and longevity
Investment Rate of Return	7.40%

Mortality rates were based on the *RP-2000* report's "Combined Healthy Table" and "Combined Disabled Table," which the Society of Actuaries published. OSA applied offsets to the base table and recognized future improvements in mortality by projecting the mortality rates using 100% Scale BB. Mortality rates are applied on a generational basis, meaning members are assumed to receive additional mortality improvements in each future year throughout their lifetimes.

The actuarial assumptions used in the June 30, 2018, valuation were based on the results of the *2007-2012 Experience Study Report* and the *2017 Economic Experience Study*. Additional assumptions for subsequent events and law changes are current as of the 2018 actuarial valuation report.

OSA selected a 7.40% long-term expected rate of return on pension plan investments using a building-block method. In selecting this assumption, OSA reviewed the historical experience data, considered the

Notes to the Financial Statements (cont.)

historical conditions that produced past annual investment returns, and considered Capital Market Assumptions (CMAs) and simulated expected investment returns the WSIB provided.

The CMAs contain three pieces of information for each class of assets the WSIB currently invests in:

- Expected annual return
- Standard deviation of the annual return
- Correlations between the annual returns of each asset class with every other asset class

The WSIB uses the CMAs and their target asset allocation to simulate future investment returns over various time horizons.

The expected future rates of return (expected returns, net of pension plan investment expense, including inflation) are developed by the WSIB for each major asset class.

Best estimates of arithmetic real rates of return for each major asset class included in the pension plan's target asset allocation as of June 30, 2019, are summarized in the following table:

LEOFF Plan 1		
Asset Class	Target Allocation	Long-Term Expected Real Rate of Return
Fixed Income	20.00%	2.20%
Tangible Assets	7.00%	5.10%
Real Estate	18.00%	5.80%
Global Equity	32.00%	6.30%
Private Equity	23.00%	9.30%

The inflation component used to create the table above was 2.20% and represents the WSIB's most recent long-term estimate of broad economic inflation.

For additional information and background on OSA's development of the long-term rate of return assumption, please see the *2017 Report on Financial Condition and Economic Study* located on the OSA website. The selection of this assumption and economic experience studies are further detailed in the Actuarial Certification Letter.

Discount Rate: The discount rate used to measure the total pension liability was 7.40%. To determine the discount rate, an asset sufficiency test was completed to test whether the pension plan's fiduciary net position was sufficient to make all projected future benefit payments of current plan members. Consistent with current law, the completed asset sufficiency test included an assumed 7.50% long-term discount rate to determine funding liabilities for calculating future contribution rate requirements. Consistent with the long-term expected rate of return, a 7.40% future investment rate of return on invested assets was assumed for the test.

Contributions from plan members and employers were assumed to continue being made at contractually required rates. Based on those assumptions, the pension plan's fiduciary 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 of 7.40% on pension plan investments was applied to determine the total pension liability.

Sensitivity of the Net Pension Liability to Changes in the Discount Rate:

The following table presents the net pension liability of the employers calculated using the discount rate of 7.40% as well as what the employers' net pension liability would be if it were calculated using a discount rate that is 1 percentage point lower (6.40%) or 1 percentage point higher (8.40%) than the current rate.

LEOFF Plan 1 Dollars in Thousands			
	1% Decrease (6.40%)	Current Discount Rate (7.40%)	1% Increase (8.40%)
Employers' Net Pension Liability	\$ (1,616,973)	\$ (1,976,611)	\$ (2,287,124)

LEOFF Plan 2

As of June 30, 2019, 383 employers were participating in LEOFF Plan 2.

Notes to the Financial Statements (cont.)

Plan Membership: As of June 30, 2019, LEOFF Plan 2 membership consisted of the following:

LEOFF Plan 2	
Inactive Plan Members or Beneficiaries Currently Receiving Benefits	6,448
Inactive Plan Members Entitled to But Not Yet Receiving Benefits	980
Active Plan Members	18,544
Total Membership	25,972

Vesting: LEOFF Plan 2 members are vested after the completion of five years of eligible service.

Benefits Provided: LEOFF Plan 2 provides retirement, disability and death benefits. Retirement benefits are calculated using 2% of the member's Final Average Salary (FAS) times the member's years of service. FAS is the monthly average of the member's 60 consecutive highest-paid service credit months. Members are eligible for retirement with a full benefit at age 53 with at least five years of service credit. Members who retire before age 53 receive reduced benefits. If the member has at least 20 years of service and is age 50 to 52, the reduction is 3% for each year before age 53. Otherwise, the benefits are actuarially reduced for each year before age 53. LEOFF Plan 2 retirement benefits are actuarially reduced to reflect the choice of a survivor benefit.

Other LEOFF Plan 2 benefits include a Cost-of-Living Adjustment (COLA) based on the Consumer Price Index, capped at 3% annually.

Contributions: The LEOFF Plan 2 employer and employee contribution rates are developed by the Office of the State Actuary (OSA) to fully fund Plan 2. The rates are adopted by the LEOFF Plan 2 Retirement Board and are subject to change by the Legislature.

The LEOFF Plan 2 required contribution rates (expressed as a percentage of covered payroll) at the close of fiscal year 2019 were as follows:

LEOFF Plan 2		
Actual Contribution Rates	Employer	Employee
Local Governmental Units	5.43%	8.75%
Ports and Universities	8.93%	8.75%

Investments

Investment Policy: The Washington State Investment Board (WSIB) has been authorized by statute (43.33A RCW) as having investment management responsibility for the pension funds. The WSIB manages retirement fund assets to maximize return at a prudent level of risk.

Retirement funds are invested in the Commingled Trust Fund (CTF). The CTF is a diversified pool of investments that consist of fixed income, public equity, private equity, real estate and tangible assets. Investment decisions are made within the framework of a Strategic Asset Allocation Policy and a series of WSIB-adopted investment policies for the various asset classes.

General information about the retirement funds' investments, valuation, classifications, concentrations and maturities can be found in "Note 1: Summary of Significant Accounting Policies and Plan Asset Matters."

Rate of Return: The money-weighted rates of return are provided by the Washington State Investment Board. For the fiscal year ended June 30, 2019, the annual money-weighted rate of return on LEOFF Plan 2 pension investments, net of pension plan investment expense, was 8.89%. This money-weighted rate of return expresses investment performance, net of pension plan investment expense, and reflects both the size and timing of cash flows.

Notes to the Financial Statements (cont.)

Net Pension Liability of Participating Employers

The components of the net pension liability of participating LEOFF Plan 2 employers as of June 30, 2019, were as follows:

LEOFF Plan 2	
Dollars in Thousands	
Total Pension Liability	\$ 11,921,772
Plan Fiduciary Net Position	(14,238,465)
Participating Employers' Net Pension Liability (Asset)	\$ (2,316,693)
Plan Fiduciary Net Position as a Percentage of Total Pension Liability	119.43%

Actuarial Assumptions: The total pension liability was determined by an actuarial valuation as of June 30, 2018, with the results rolled forward to June 30, 2019, using the following actuarial assumptions, applied to all prior periods included in the measurement:

LEOFF Plan 2	
Inflation	2.75% total economic inflation, 3.50% salary inflation
Salary Increases	In addition to the base 3.50% salary inflation assumption, salaries are also expected to grow by promotions and longevity
Investment Rate of Return	7.40%

Mortality rates were based on the *RP-2000* report's "Combined Healthy Table" and "Combined Disabled Table," which the Society of Actuaries published. OSA applied offsets to the base table and recognized future improvements in mortality by projecting the mortality rates using 100% Scale BB. Mortality rates are applied on a generational basis, meaning members are assumed to receive additional mortality improvements in each future year throughout their lifetimes.

The actuarial assumptions used in the June 30, 2018, valuation were based on the results of the *2007-2012 Experience Study Report* and the *2017 Economic Experience Study*. Additional assumptions for subsequent events and law changes are current as of the 2018 actuarial valuation report.

OSA selected a 7.40% long-term expected rate of return on pension plan investments using a building-

block method. In selecting this assumption, OSA reviewed the historical experience data, considered the historical conditions that produced past annual investment returns, and considered Capital Market Assumptions (CMAs) and simulated expected investment returns the WSIB provided.

The CMAs contain three pieces of information for each class of assets the WSIB currently invests in:

- Expected annual return
- Standard deviation of the annual return
- Correlations between the annual returns of each asset class with every other asset class

The WSIB uses the CMAs and their target asset allocation to simulate future investment returns over various time horizons.

The expected future rates of return (expected returns, net of pension plan investment expense, including inflation) are developed by the WSIB for each major asset class.

Best estimates of arithmetic real rates of return for each major asset class included in the pension plan's target asset allocation as of June 30, 2019, are summarized in the following table:

LEOFF Plan 2		
Asset Class	Target Allocation	Long-Term Expected Real Rate of Return
Fixed Income	20.00%	2.20%
Tangible Assets	7.00%	5.10%
Real Estate	18.00%	5.80%
Global Equity	32.00%	6.30%
Private Equity	23.00%	9.30%

The inflation component used to create the table above was 2.20% and represents the WSIB's most recent long-term estimate of broad economic inflation.

For additional information and background on OSA's development of the long-term rate of return assumption, please see the *2017 Report on Financial Condition and Economic Study* located on the OSA website. The selection of this assumption and economic experience

Notes to the Financial Statements (cont.)

studies are further detailed in the Actuarial Certification Letter.

Discount Rate: The discount rate used to measure the total pension liability was 7.40%. To determine the discount rate, an asset sufficiency test was completed to test whether the pension plan's fiduciary net position was sufficient to make all projected future benefit payments of current plan members. Consistent with current law, the completed asset sufficiency test included an assumed 7.40% long-term discount rate to determine funding liabilities for calculating future contribution rate requirements. Consistent with the long-term expected rate of return, a 7.40% future investment rate of return on invested assets was assumed for the test.

Contributions from plan members and employers were assumed to continue being made at contractually required rates. Based on those assumptions, the pension plan's fiduciary 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 of 7.40% on pension plan investments was applied to determine the total pension liability.

Sensitivity of the Net Pension Liability to Changes in the Discount Rate: The following table presents the net pension liability of the employers calculated using the discount rate of 7.40% as well as what the employers' net pension liability would be if it were calculated using a discount rate that is 1 percentage point lower (6.40%) or 1 percentage point higher (8.40%) than the current rate.

LEOFF Plan 2 Dollars in Thousands			
	1% Decrease (6.40%)	Current Discount Rate (7.40%)	1% Increase (8.40%)
Employers' Net Pension Liability	\$ (430,771)	\$ (2,316,693)	\$ (3,856,037)

Washington State Patrol Retirement System (WSPRS)

Administration: WSPRS was established by the Legislature in 1947, and its retirement benefit provisions are contained in Chapter 43.43 RCW. WSPRS is a single-employer retirement system composed of two separate pension plans, and membership includes only commissioned employees of the Washington State Patrol.

WSPRS Plan 1 and WSPRS Plan 2 are defined benefit plans. The plans are combined for financial reporting and investment purposes in the same pension fund. All assets of this combined Plan 1/2 may legally be used to pay the defined benefits of any WSPRS members or beneficiaries.

WSPRS Plan 1/2

As of June 30, 2019, one employer was participating in WSPRS.

Plan Membership: As of June 30, 2019, membership consisted of the following:

WSPRS Plan 1/2		
	Plan 1	Plan 2
Inactive Plan Members or Beneficiaries		
Currently Receiving Benefits	1,181	0
Inactive Plan Members Entitled to But Not Yet Receiving Benefits	69	37
Active Plan Members	397	646
Total Membership	1,647	683

Vesting: Active WSPRS Plan 1 and Plan 2 members do not have to meet a vesting requirement. Inactive WSPRS members are vested after the completion of five years of eligible service.

Plan 1 is closed to new entrants. All new WSPRS members are enrolled in Plan 2.

Benefits Provided: WSPRS Plans 1 and 2 provide retirement, disability and death benefits. Retirement benefits are calculated using 2% of the member's Average Final Salary (AFS) times the member's years of service, capped at 75%. For Plan 1 members, AFS is

Notes to the Financial Statements (cont.)

based on the average of the member's 24 consecutive highest-paid service credit months. For Plan 2 members, AFS is based on the average of the member's 60 consecutive highest-paid service credit months.

Active members are eligible for retirement at age 55 with no minimum required service credit or at any age with 25 years of service credit. Members must retire no later than the first of the month following the month they reach age 65, unless the member is chief of the Washington State Patrol. WSPRS retirement benefits are actuarially reduced to reflect the choice of a survivor benefit.

Other benefits include a Cost-of-Living Adjustment (COLA), death benefits and a one-time, duty-related death benefit, if the Washington State Department of Labor & Industries finds the member eligible.

Contributions: The WSPRS Plans 1 and 2 employer and employee contribution rates are developed by the Office of the State Actuary (OSA) to fully fund WSPRS. The rates are adopted by the Pension Funding Council, and are subject to change by the Legislature.

The WSPRS required contribution rates (expressed as a percentage of covered payroll) at the close of fiscal year 2019 were as follows:

WSPRS Plan 1/2		
Actual Contribution Rates	Employer	Employee
State Agencies	13.34%	7.69%

Investments

Investment Policy: The Washington State Investment Board (WSIB) has been authorized by statute (43.33A RCW) as having investment management responsibility for the pension funds. The WSIB manages retirement fund assets to maximize return at a prudent level of risk.

Retirement funds are invested in the Commingled Trust Fund (CTF). The CTF is a diversified pool of investments that consist of fixed income, public equity, private equity, real estate and tangible assets. Investment decisions are made within the framework of a Strategic

Asset Allocation Policy and a series of WSIB-adopted investment policies for the various asset classes.

General information about the retirement funds' investments, valuation, classifications, concentrations and maturities can be found in "Note 1: Summary of Significant Accounting Policies and Plan Asset Matters."

Rate of Return: The money-weighted rates of return are provided by the Washington State Investment Board. For the fiscal year ended June 30, 2019, the annual money-weighted rate of return on WSPRS Plan 1/2 pension investments, net of pension plan investment expense, was 8.78%. This money-weighted rate of return expresses investment performance, net of pension plan investment expense, and reflects both the size and timing of cash flows.

Net Pension Liability of Participating Employers

The components of the net pension liability of WSPRS as of June 30, 2019, were as follows:

WSPRS Plan 1/2 Dollars in Thousands	
Total Pension Liability	\$ 1,373,918
Plan Fiduciary Net Position	(1,362,281)
Participating Employers' Net Pension Liability	\$ 11,637
Plan Fiduciary Net Position as a Percentage of Total Pension Liability	99.15%

Actuarial Assumptions: The total pension liability was determined by an actuarial valuation as of June 30, 2018, with the results rolled forward to June 30, 2019, using the following actuarial assumptions, applied to all prior periods included in the measurement:

WSPRS Plan 1/2	
Inflation	2.75% total economic inflation, 3.50% salary inflation
Salary Increases	In addition to the base 3.50% salary inflation assumption, salaries are also expected to grow by promotions and longevity
Investment Rate of Return	7.40%

Mortality rates were based on the *RP-2000* report's "Combined Healthy Table" and "Combined Disabled

Notes to the Financial Statements (cont.)

Table," which the Society of Actuaries published. OSA applied offsets to the base table and recognized future improvements in mortality by projecting the mortality rates using 100% Scale BB. Mortality rates are applied on a generational basis, meaning members are assumed to receive additional mortality improvements in each future year throughout their lifetimes.

The actuarial assumptions used in the June 30, 2018, valuation were based on the results of the *2007-2012 Experience Study Report* and the *2017 Economic Experience Study*. Additional assumptions for subsequent events and law changes are current as of the 2018 actuarial valuation report.

OSA selected a 7.40% long-term expected rate of return on pension plan investments using a building-block method. In selecting this assumption, OSA reviewed the historical experience data, considered the historical conditions that produced past annual investment returns, and considered Capital Market Assumptions (CMAs) and simulated expected investment returns the WSIB provided.

The CMAs contain three pieces of information for each class of assets the WSIB currently invests in:

- Expected annual return
- Standard deviation of the annual return
- Correlations between the annual returns of each asset class with every other asset class

The WSIB uses the CMAs and their target asset allocation to simulate future investment returns over various time horizons.

The expected future rates of return (expected returns, net of pension plan investment expense, including inflation) are developed by the WSIB for each major asset class.

Best estimates of arithmetic real rates of return for each major asset class included in the pension plan's target asset allocation as of June 30, 2019, are summarized in the following table:

WSPRS Plan 1/2		
Asset Class	Target Allocation	Long-Term Expected Real Rate of Return
Fixed Income	20.00%	2.20%
Tangible Assets	7.00%	5.10%
Real Estate	18.00%	5.80%
Global Equity	32.00%	6.30%
Private Equity	23.00%	9.30%

The inflation component used to create the table above was 2.20% and represents the WSIB's most recent long-term estimate of broad economic inflation.

For additional information and background on OSA's development of the long-term rate of return assumption, please see the *2017 Report on Financial Condition and Economic Study* located on the OSA website. The selection of this assumption and economic experience studies are further detailed in the Actuarial Certification Letter.

Discount Rate: The discount rate used to measure the total pension liability was 7.40%. To determine the discount rate, an asset sufficiency test was completed to test whether the pension plan's fiduciary net position was sufficient to make all projected future benefit payments of current plan members. Consistent with current law, the completed asset sufficiency test included an assumed 7.50% long-term discount rate to determine funding liabilities for calculating future contribution rate requirements. Consistent with the long-term expected rate of return, a 7.40% future investment rate of return on invested assets was assumed for the test.

Contributions from plan members and employers were assumed to continue being made at contractually required rates. Based on those assumptions, the pension plan's fiduciary net position was projected to be available to make all projected future benefit payments of current plan members. Therefore, the long-

Notes to the Financial Statements (cont.)

term expected rate of return of 7.40% on pension plan investments was applied to determine the total pension liability.

Sensitivity of the Net Pension Liability to Changes in the Discount Rate:

The following table presents the net pension liability of the employers calculated using the discount rate of 7.40% as well as what the employers' net pension liability would be if it were calculated using a discount rate that is 1 percentage point lower (6.40%) or 1 percentage point higher (8.40%) than the current rate.

WSPRS Plan 1/2 Dollars in Thousands				
	1% Decrease (6.40%)	Current Discount Rate (7.40%)	1% Increase (8.40%)	
Employers' Net Pension Liability	\$ 206,668	\$ 11,637	\$ (146,886)	

Judicial Retirement System (JRS)

Administration: JRS was established by the Legislature in 1971, and its retirement benefit provisions are contained in Chapter 2.10 RCW. JRS is a single-employer retirement system, and membership includes judges elected or appointed to the Supreme Court, Court of Appeals and superior courts on or after August 9, 1971.

JRS is composed of and reported as one plan for accounting purposes. JRS is closed to new entrants.

Plan Membership: As of June 30, 2019, JRS membership consisted of the following:

JRS	
Inactive Plan Members or Beneficiaries Currently Receiving Benefits	90
Inactive Plan Members Entitled to But Not Yet Receiving Benefits	0
Active Plan Members	0
Total Membership	90

Vesting: JRS members became vested after the completion of 15 years of service or 12 years if the member left office involuntarily.

Benefits Provided: JRS provides retirement, disability

and death benefits. Retirement benefits are calculated using 3.5% of the member's Final Average Salary (FAS) for members with 15 years of service and 3% of FAS for members with 10 to 14 years of service.

JRS members are eligible for retirement at age 60 with 15 years of service or with 12 years of service (if the member left office involuntarily and at least 15 years have passed from the beginning of judicial service).

Contributions: JRS had no active plan members during fiscal year 2019. Therefore, no employer or employee contributions were required. JRS retirement benefits are financed on a pay-as-you-go basis from a combination of investment earnings and funding from the state.

Investments

The Office of the State Treasurer (OST) manages all pension assets for JRS.

Investment Policy: The overall objective of the OST investment policy is to construct an investment portfolio that is optimal, or efficient. An optimal, or efficient, portfolio is one that provides the greatest expected return for a given expected level of risk, or the lowest expected risk for a given expected return.

Eligible investments are only those securities and deposits authorized by statute (Chapters 39.58, 39.59, 43.250 and 43.84 RCW) and include:

- Obligations of the U.S. government
- Obligations of U.S. government agencies or corporations wholly owned by the U.S. government
- Obligations of government-sponsored enterprises that are or might become eligible as collateral for advances to member banks as determined by the board of governors of the Federal Reserve
- U.S. dollar-denominated obligations of supranational institutions, provided that at the time of investment the institution has the United States.
- Commercial paper, as long as the OST adheres to policies and procedures of the WSIB

Notes to the Financial Statements (cont.)

- regarding commercial paper [RCW 43.84.080(7)]
- Corporate notes, provided that the OST adheres to the policies and procedures adopted by the State Investment Board (RCW 43.84.080(7)).
- Investment deposits with financial institutions qualified by the Washington Public Deposit Protection Commission (RCW 39.58.010(9)) and deposits made pursuant to RCW 39.58.080.
- The Local Government Investment Pool
- Obligations of Washington state or its political subdivisions

General information about the retirement funds' investments, valuation, classifications, concentrations and maturities can be found in "Note 1: Summary of Significant Accounting Policies and Plan Asset Matters."

Rate of Return: For the fiscal year ended June 30, 2019, the annual money-weighted rate of return on JRS pension investments, net of pension plan investment expense, was 1.78%. This money-weighted rate of return expresses investment performance, net of pension plan investment expense, and reflects both the size and timing of cash flows.

Net Pension Liability of Participating Employers

The components of the net pension liability of JRS as of June 30, 2019, were as follows:

JRS	
Dollars in Thousands	
Total Pension Liability	\$ 79,178
Plan Fiduciary Net Position	(8,460)
Participating Employers' Net Pension Liability	\$ 70,718
Plan Fiduciary Net Position as a Percentage of Total Pension Liability	10.68%

Actuarial Assumptions: The total pension liability was determined by an actuarial valuation as of June 30, 2018, with the results rolled forward to June 30, 2019, using the following actuarial assumptions, applied to all prior periods included in the measurement:

JRS	
Inflation	3.00% total economic inflation
Salary Increases	None; only inactive participants
Investment Rate of Return	3.50%

For JRS, mortality rates were set equal to those used for PERS. Mortality rates were based on the *RP-2000* report's "Combined Healthy Table" and "Combined Disabled Table," which the Society of Actuaries published. OSA applied offsets to the base table and recognized future improvements in mortality by projecting the mortality rates using 100% Scale BB. Mortality rates are applied on a generational basis, meaning members are assumed to receive additional mortality improvements in each future year throughout their lifetimes.

The actuarial assumptions used in the June 30, 2018, valuation were based on the results of the *2007-2012 Experience Study Report* and the *2017 Economic Experience Study*. Additional assumptions for subsequent events and law changes are current as of the 2018 actuarial valuation report.

JRS is operated on a pay-as-you-go basis; therefore, the long-term expected rate of return on pension plan investments is 3.5%, equal to the Municipal Bond Index.

JRS balances are split into two investment portfolios by OST, a liquidity pool and a core portfolio. The liquidity pool is managed like a money market fund. The core portfolio is invested like a short-term bond fund, with an average maturity of about 2.1 years. The core portfolio is invested in government, agency fixed-income products, corporate notes and supranational securities. The asset allocation between these two pools has generally been 40% liquidity pool and 60% core portfolio. Over time, as projections for cash needs

Notes to the Financial Statements (cont.)

dictate, money will flow between these two portfolios.

Discount Rate: Contributions are made to JRS to ensure cash is available to make benefit payments. Since this plan is operated on a pay-as-you-go basis, the discount rate used to measure the total pension liability was set equal to the Bond Buyer General Obligation 20-Bond Municipal Bond Index, or 3.5% for the June 30, 2019, measurement date.

Sensitivity of the Net Pension Liability to Changes in the Discount Rate: The following table presents the net pension liability of the employers calculated using the discount rate of 3.5% as well as what the employers' net pension liability would be if it were calculated using a discount rate that is 1 percentage point lower (2.5%) or 1 percentage point higher (4.5%) than the current rate.

JRS Dollars in Thousands			
	1% Decrease (2.5%)	Current Discount Rate (3.5%)	1% Increase (4.5%)
Employers' Net Pension Liability	\$ 77,420	\$ 70,718	\$ 64,900

Judges' Retirement Fund (JRF)

Administration: The Judges' Retirement Fund (JRF) was established in 1937, and its retirement benefit provisions are contained in Chapter 2.12 RCW. JRF is a single-employer retirement system composed of a single defined benefit plan. Members include judges of the Supreme Court, Court of Appeals and superior courts of Washington state. JRF has been closed to new entrants since 1971.

JRF is composed of and reported as one plan for accounting purposes.

Plan Membership: As of June 30, 2019, JRF membership consisted of the following:

JRF	
Inactive Plan Members or Beneficiaries Currently Receiving Benefits	10
Inactive Plan Members Entitled to But Not Yet Receiving Benefits	0
Active Plan Members	0
Total Membership	10

Vesting: JRF members became vested after the completion of 18 years of service at any age or 10 years of service at age 70.

Benefits Provided: JRF provides disability and retirement benefits.

Contributions: No active plan members were in JRF during fiscal year 2019. Therefore, no employer or employee contributions were required. JRF retirement benefits are financed on a pay-as-you-go basis from a combination of investment earnings and funding from the state.

Investments

The Office of the State Treasurer (OST) manages all pension assets for JRF.

Investment Policy: The overall objective of the OST investment policy is to construct an investment portfolio that is optimal, or efficient. An optimal, or efficient, portfolio is one that provides the greatest expected return for a given expected level of risk, or the lowest expected risk for a given expected return.

Eligible investments are only those securities and deposits authorized by statute (Chapters 39.58, 39.59, 43.250 and 43.84 RCW) and include:

- Obligations of the U.S. government
- Obligations of U.S. government agencies or corporations wholly owned by the U.S. government
- Obligations of government-sponsored enterprises that are or might become eligible as collateral for advances to member banks as determined by the board of governors of the

Notes to the Financial Statements (cont.)

- Federal Reserve
- U.S. dollar-denominated obligations of supranational institutions, provided that at the time of investment the institution has the United States.
- Commercial paper, as long as the OST adheres to policies and procedures of the WSIB regarding commercial paper [RCW 43.84.080(7)]
- Corporate notes, provided that the OST adheres to the policies and procedures adopted by the State Investment Board (RCW 43.84.080(7)).
- Investment deposits with financial institutions qualified by the Washington Public Deposit Protection Commission (RCW 39.58.010(9)) and deposits made pursuant to RCW 39.58.080.
- The Local Government Investment Pool
- Obligations of Washington state or its political subdivisions

General information about the retirement funds' investments, valuation, classifications, concentrations and maturities can be found in "Note 1: Summary of Significant Accounting Policies and Plan Asset Matters."

Rate of Return: For the fiscal year ended June 30, 2019, the annual money-weighted rate of return on JRF pension investments, net of pension plan investment expense, was 1.78%. This money-weighted rate of return expresses investment performance, net of pension plan investment expense, and reflects both the size and timing of cash flows.

Net Pension Liability of Participating Employers

The components of the net pension liability of JRF as of June 30, 2019, were as follows:

JRF Dollars in Thousands	
Total Pension Liability	\$ 2,427
Plan Fiduciary Net Position	(974)
Participating Employers' Net Pension Liability	\$ 1,453
Plan Fiduciary Net Position as a Percentage of Total Pension Liability	40.13%

Actuarial Assumptions: The total pension liability was determined by an actuarial valuation as of June 30, 2018, with the results rolled forward to June 30, 2019, using the following actuarial assumptions, applied to all prior periods included in the measurement:

JRF	
Inflation	3.00% total economic inflation
Salary Increases	None; only inactive participants
Investment Rate of Return	3.50%

For JRF, mortality rates were set equal to those used for PERS. Mortality rates were based on the *RP-2000* report's "Combined Healthy Table" and "Combined Disabled Table," which the Society of Actuaries published. OSA applied offsets to the base table and recognized future improvements in mortality by projecting the mortality rates using 100% Scale BB. Mortality rates are applied on a generational basis, meaning members are assumed to receive additional mortality improvements in each future year throughout their lifetimes.

The actuarial assumptions used in the June 30, 2018, valuation were based on the results of the *2007-2012 Experience Study Report* and the *2017 Economic Experience Study*. Additional assumptions for subsequent events and law changes are current as of the 2018 actuarial valuation report.

JRF is operated on a pay-as-you-go basis; therefore, the

Notes to the Financial Statements (cont.)

long-term expected rate of return on pension plan investments is 3.5%, equal to the Municipal Bond Index.

JRF balances are split into two investment portfolios by OST, a liquidity pool and a core portfolio. The liquidity pool is managed like a money market fund. The core portfolio is invested like a short-term bond fund, with an average maturity of about 2.1 years. The core portfolio is invested in government, agency fixed-income products, corporate notes and supranational securities. The asset allocation between these two pools has generally been 40% liquidity pool and 60% core portfolio. Over time, as projections for cash needs dictate, money will flow between these two portfolios.

Discount Rate: Contributions are made to JRF to ensure cash is available to make benefit payments. Since this plan is operated on a pay-as-you-go basis, the discount rate used to measure the total pension liability was set equal to the Bond Buyer General Obligation 20-Bond Municipal Bond Index, or 3.5% for the June 30, 2019, measurement date.

Sensitivity of the Net Pension Liability to Changes in the Discount Rate: The following table presents the net pension liability of the employers calculated using the discount rate of 3.5% as well as what the employers' net pension liability would be if it were calculated using a discount rate that is 1 percentage point lower (2.5%) or 1 percentage point higher (4.5%) than the current rate.

JRF Dollars in Thousands			
	1% Decrease (2.5%)	Current Discount Rate (3.5%)	1% Increase (4.5%)
Employers' Net Pension Liability	\$ 1,545	\$ 1,453	\$ 1,366

Notes to the Financial Statements (cont.)

Recent Legislation Affecting Pension Systems/Plans

DRS-Administered During Fiscal Year 2019

Arranged Chronologically by Effective Date — Page 1 of 3

Legal Reference	Effective Date	Systems/Plans Affected	Description
Chapter 75, Laws of 2015 (HB 1168)	7/24/2015	PERS 2 and 3	ESHB 1981 of the 2011 session modified the return-to-work rules for PERS retirees. This law corrects some unintended consequences of those statute changes to ensure: <ul style="list-style-type: none"> • PERS retirees who return to work in ineligible positions will not be subject to the 867-hour limitation • PERS Plans 2 and 3 retirees who return to work in eligible positions covered by other DRS-administered systems will be eligible to work up to 867 hours before their benefits are suspended
Chapter 111, Laws of 2015 (SB 5210)	7/24/2015	WSPRS	This law allows WSPRS members to use funds from certain tax-qualified plans to purchase life annuities from the WSPRS trust fund at the time of retirement.
Chapter 78, Laws of 2015 (HB 1194)	7/24/2015	LEOFF 2 and WSPRS	A surviving spouse of a LEOFF Plan 2 or WSPRS member who is killed in the line of duty is entitled to receive a monthly benefit of at least 60% of the member's wages from the state workers' compensation program. However, this benefit was terminated if the survivor remarries. This legislation allows the surviving spouse of a LEOFF Plan 2 or WSPRS member killed in the course of employment to remarry and continue receiving a survivor benefit.
Chapter 241, Laws of 2016 (SB 6194)	4/3/2016	TRS	This law allows charter school employees to be members of the state retirement systems as long as DRS receives determination from the Internal Revenue Service that the inclusion of those employees won't jeopardize the status of the systems as government plans.
Chapter 112, Laws of 2016 (SB 5435)	6/9/2016	All systems and plans	This law provides for the automatic enrollment of new state employees in the Washington State Deferred Compensation Program (DCP) with a default contribution rate of 3%. Employees have the opportunity to opt out or set their own contribution rates. The law also gives DRS the option to offer a 401(a) money-purchase retirement savings plan.
Chapter 211, Laws of 2016 (SB 6091)	6/9/2016	All systems and plans	This law clarifies the definition of "slayer" to include people found not guilty by reason of insanity. A slayer isn't entitled to receive a retirement benefit from the person he or she killed.
Chapter 236, Laws of 2016 (SB 6523)	6/9/2016	PERS	This law allows an employee providing emergency medical services to a consortium of local governments in Snohomish County to choose to establish service credit in PERS for service performed before July 23, 2003. The employee must pay both the employer and employee contributions, as DRS calculates, within five years of choosing to establish service credit.
Chapter 233, Laws of 2016 (SB 6455)	6/9/2016	TRS 2 and 3	This law allows TRS members who retired using the 2008 Early Retirement Factors (ERFs) to return to work as substitute teachers for up to 867 hours without suspending their benefits. This provision is in effect from June 9, 2016, through July 31, 2020.
Chapter 120, Laws of 2016 (SB 5873)	6/9/2016	LEOFF 1	This law gives a LEOFF Plan 1 retiree a chance to name as survivor a spouse he or she married after retiring. To qualify, the marriage needs to have spanned at least two years before Sept. 1, 2015.
Chapter 115, Laws of 2016 (SB 6263)	6/9/2016	LEOFF 2	This law impacts LEOFF Plan 2 members who are called into eligible federal service to respond to natural disasters or other federal emergencies. It provides them with benefit protections similar to the ones provided to members of the National Guard or military reserves who are called during a time of war.
Chapter 222, Laws of 2016 (SB 6264)	6/9/2016	LEOFF and WSPRS	This law allows retirees of LEOFF and WSPRS a six-month window to purchase annuities. The annuities could be purchased between January 1 and June 1, 2017.

Notes to the Financial Statements (cont.)

Recent Legislation Affecting Pension Systems/Plans

DRS-Administered During Fiscal Year 2019

Arranged Chronologically by Effective Date — Page 2 of 3

Legal Reference	Effective Date	Systems/Plans Affected	Description
Chapter 188, Laws of 2017 (SB 5661)	7/23/2017	LEOFF 2	This law instructs the Law Enforcement Officers' and Fire Fighters' Plan 2 Retirement Board to study the issue of interruptive military service credit for veterans who leave employment to serve in a specific conflict but who do not receive a campaign badge or medal.
Chapter 309, Laws of 2017 (HB 2202)	7/23/2017	LEOFF 2	This law changes the definition of "employer" for LEOFF Plan 2 to include public corporations that provide emergency medical services. It narrows the definition of "emergency medical technicians" in LEOFF Plan 2 to require they be physician-trained, advanced EMTs or paramedics whose duties include providing emergency medical services. The law allows EMTs meeting certain eligibility criteria to establish service credit in LEOFF Plan 2 for qualifying services provided between July 24, 2005, and the bill's effective date.
Chapter 181, Laws of 2017 (SB 5274)	7/23/2017	WSPRS	This law amends the definition of "salary" in WSPRS to include voluntary overtime earned after July 1, 2017. This results in voluntary overtime of 70 hours or less per year being considered earnable compensation, which is used when calculating a retiree's Average Final Salary and, therefore, his or her monthly benefit amount.
Chapter 143, Laws of 2017 (HB 1709)	7/23/2017	PERS and PSERS	This law allows PERS members who meet certain eligibility criteria to transfer their PERS service credit into PSERS as long as they pay the difference between the PERS and PSERS employee contribution rates for the affected service credit. Their employers would also have to pay the difference between the PERS and PSERS employer contribution rates.
Chapter 241, Laws of 2018 (HB 1558)	6/7/2018	PSERS	This law adds the Department of Veterans Affairs and the Department of Social and Health Services as PSERS employers and modifies eligibility for the plan to include employees who provide regular nursing care to or who ensure the custody and safety of offender, adult probationary, or patient populations at certain state and local governmental institutions. This law also allows current eligible employees the option to remain members of PERS or to join PSERS and become dual members.
Chapter 61, Laws of 2018 (HB 2701)	6/7/2018	All Systems and Plans	This law amends the definition of veteran as it relates to determining eligibility for certain pension-related military service benefits for members.
Chapter 230, Laws of 2018 (SB 2786)	6/7/2018	LEOFF 2	This law adds Department of Social and Health Services and Department of Corrections to the list of eligible LEOFF Plan 2 employers when employing firefighters serving at a prison or civil commitment center on an island. This law also allows current employees the option to remain members of PERS, become dual members, or transfer prior PERS service credit to LEOFF.
Chapter 257, Laws of 2018 (SB 6210)	6/7/2018	TRS and SERS	This law allows any school qualified to participate in a state-tribal education compact the option of participating in TRS, SERS, or both.
Chapter 264, Laws of 2018 (SB 6214)	6/7/2018	All Systems and Plans	This law creates a presumption, with regard to firefighters and law enforcement officers who are covered under the state industrial insurance act, that post-traumatic stress disorder (PTSD) is an occupational disease.
Chapter 151, Laws of 2018 (SB 6340)	7/1/2018	TRS 1 and PERS 1	This law provides retirees of TRS and PERS Plans 1 who were receiving a monthly benefit on July 1, 2017, a one-time benefit adjustment of one and one-half percent multiplied by their monthly benefit, not to exceed \$62.50, effective July 1, 2018.
Chapter 295, Laws of 2019 (HB 1139)	5/8/2019	TRS and SERS	This bill allows TRS and SERS retirees who retired under the 2008 Early Retirement Factors to use certain post-retirement employment options in K-12 prior to reaching age 65 without suspension of benefits.

Notes to the Financial Statements (cont.)

Recent Legislation Affecting Pension Systems/Plans

DRS-Administered During Fiscal Year 2019

Arranged Chronologically by Effective Date — Page 3 of 3

Legal Reference	Effective Date	Systems/Plans Affected	Description
Chapter 102, Laws of 2019 (HB 1408)	7/28/2019	All Systems and Plans	Written spousal consent for a survivorship selection will be required only in instances where retiring members choose to have no survivor benefit go to their spouse or domestic partner.
Chapter 47, Laws of 2019 (SB 5355)	7/28/2019	LEOFF 2	This bill will allow law enforcement officers or firefighters who meet specific criteria to restore service credit withdrawn from PERS to LEOFF Plan 2. Qualifying individuals are required to pay all member contributions owed by taking an actuarial reduction to their ongoing benefit or by making a lump sum payment. This option is only available until July 1, 2020.
Chapter 313, Laws of 2019 (SB 5360)	7/1/2020	PERS, SERS and TRS	This bill will establish Plan 2 of PERS, TRS and SERS as the default for new members who do not make a plan choice selection within 90 days of hire. The current default is Plan 3.
Chapter 189, Laws of 2019 (SB 5350)	1/1/2020	PERS, PSERS and SERS	This bill will allow members of PERS, PSERS and SERS to purchase a lifetime annuity benefit at retirement. The minimum purchase price is \$5,000.

Notes to the Financial Statements (cont.)

C. Funding Policy

All employers are required to contribute at the level the Legislature established. Plan-specific tables presented in [Note 2, Section B](#), provide the required contribution rates for each plan at the close of fiscal year 2019.

PERS: Each biennium, the Pension Funding Council adopts Plan 1 employer contribution rates, Plan 2 employer and employee contribution rates, and Plan 3 employer contribution rates. Employee contribution rates for Plan 1 are established by statute at 6%. The contribution rates for Plan 2 and the employer contribution rate for Plan 3 are developed by the Office of the State Actuary to fully fund Plan 2 and the defined benefit portion of Plan 3. Under Plan 3, employer contributions finance the defined benefit portion of the plan, and member contributions finance the defined contribution portion. The Plan 3 employee contribution rates range between 5% and 15%.

The methods used to determine PERS contribution requirements are established under state statute in accordance with Chapters 41.40 and 41.45 RCW.

SERS: Each biennium, the Pension Funding Council adopts Plan 2 employer and employee contribution rates and Plan 3 employer contribution rates. The contribution rates for Plan 2 and the employer contribution rate for Plan 3 are developed by the Office of the State Actuary to fully fund Plan 2 and the defined benefit portion of Plan 3. Under Plan 3, employer contributions finance the defined benefit portion of the plan, and member contributions finance the defined contribution portion. The Plan 3 employee contribution rates range between 5% and 15%.

The methods used to determine SERS contribution requirements are established under state statute in accordance with Chapters 41.35 and 41.45 RCW.

PSERS: Each biennium, the Pension Funding Council adopts Plan 2 employer and employee contribution rates. The rates are developed by the Office of the State Actuary to fully fund Plan 2.

The methods used to determine PSERS contribution requirements are established under state statute in accordance with Chapters 41.37 and 41.45 RCW.

TRS: Each biennium, the Pension Funding Council adopts Plan 1 employer contribution rates, Plan 2 employer and employee contribution rates, and Plan 3 employer contribution rates. Employee contribution rates for Plan 1 are established by statute at 6%. The contribution rates for Plan 2 and the employer contribution rate for Plan 3 are developed by the Office of the State Actuary to fully fund Plan 2 and the defined benefit portion of Plan 3. Under Plan 3, employer contributions finance the defined benefit portion of the plan and member contributions finance the defined contribution portion. The Plan 3 employee contribution rates range between 5% and 15%.

The methods used to determine the TRS contribution requirements are established under state statute in accordance with Chapters 41.32 and 41.45 RCW.

LEOFF: Employer and employee contribution rates are developed by the Office of the State Actuary to fully fund the plans. Since July 1, 2000, Plan 1 employers and employees contribute 0%, as long as the plan remains fully funded. Plan 2 employers and employees pay at the rate the LEOFF Plan 2 Retirement Board adopts.

The Legislature, by means of a special funding arrangement, appropriates money from the state General Fund to supplement the current service liability of Plan 2 in accordance with the recommendations of the Office of the State Actuary and the LEOFF Plan 2 Retirement Board.

This special funding situation is not mandated by the state Constitution and could be changed by statute. For fiscal year 2019, the state contributed \$73 million to LEOFF Plan 2.

The methods used to determine the contribution requirements are established under state statute in

Notes to the Financial Statements (cont.)

accordance with Chapters 41.26 and 41.45 RCW.

WSPRS: Each biennium, the state Pension Funding Council adopts the employee and state contribution rates, subject to revision by the Legislature. The rates are developed by the Office of the State Actuary to fully fund the plans.

The methods used to determine the contribution requirements are established under state statute in accordance with Chapters 43.43 and 41.45 RCW.

JRS: The Judicial Retirement System has no active members. The state guarantees the solvency of JRS on a pay-as-you-go basis. Each biennium, the Legislature, through appropriations from the state General Fund, contributes amounts sufficient to meet benefit payment requirements. For fiscal year 2019, the state contributed \$8.4 million.

JRF: The Judges' Retirement Fund has no active members. The state guarantees the solvency of JRF on a pay-as-you-go basis. Each biennium, the Legislature, through appropriations from the state General Fund, contributes amounts sufficient to meet benefit payment requirements. For fiscal year 2019, the state contributed \$0.5 million

D. Judicial Retirement Account

The Judicial Retirement Account (JRA) was established by the Legislature in 1988 to provide supplemental retirement benefits. It is a defined contribution plan the state of Washington Administrative Office of the Courts administers under the direction of the Board for Judicial Administration. Membership includes judges elected or appointed to the Supreme Court, Court of Appeals and superior courts who are members of PERS for their services as a judge. Vesting is full and immediate.

Since January 1, 2007, any newly elected or appointed Supreme Court justice, Court of Appeals judge or superior court judge can no longer participate in JRA. As of June 30, 2019, two active members and 108 inactive members were in JRA. The state is the sole

participating employer in JRA.

JRA plan members are required to contribute 2.5% of covered salary. The state, as employer, contributes an equal amount on a monthly basis. The employer and employee obligations to contribute are established in Chapter 2.14 RCW. Plan provisions and contribution requirements are established in state statute, and can only be amended by the state Legislature.

A JRA member who separates from service for any reason is entitled to receive a lump sum distribution of accumulated contributions. At death, the amount of accumulated contributions standing to the member's credit is paid to the member's estate or designated beneficiary.

The administrator of JRA has entered into an agreement for services with DRS and the Washington State Investment Board (WSIB). Under this agreement, DRS is responsible for all recordkeeping, accounting and reporting of member accounts. WSIB is granted the full power to establish investment policy, develop participant investment options and manage the investment funds for the JRA plan, consistent with the provisions of RCW 2.14.080 and 43.84.150.

E. Deferred Compensation Program

The state of Washington offers participation to its employees and employees of those political subdivisions that elect to participate in the Deferred Compensation Program (DCP), pursuant to RCW 41.50.770, in accordance with Internal Revenue Code Section 457. The deferred compensation is not available to employees until termination, retirement, disability, death or unforeseeable financial emergency. DRS administers DCP.

The intent of the program is to provide additional income upon retirement. By deferring part of their income, participants can reduce their taxable income. Investments remain tax-free until they are withdrawn. The program provides participants with a means to easily save money and help supplement their other

Notes to the Financial Statements (cont.)

retirement income.

Employers of active participants can contribute to the participant's DCP account, but the participant and employer combined contributions cannot exceed the annual contribution limit set within Internal Revenue Code Section 457.

The state's DCP does not allow for loans to participants from their DCP accounts. However, as of June 30, 2019, DCP assets included a small receivable balance for loan payments because of new employers joining DCP and transferring their former plan's assets to the state's program.

Employees participating in DCP self-direct their investments through options the WSIB provides. The WSIB has the full power to invest DCP monies in accordance with RCW 43.84.150, 43.33A.140 and 41.50.770.

DCP participants can adjust or suspend their participation in the program at any time. When leaving employment, DCP participants can withdraw some or all of the balances in their accounts or leave their investments in place to continue to be influenced by market fluctuations.

The IRS requires a DCP participant to begin receiving account distributions at retirement or by April of the year after the participant turns 70½, whichever comes later.

The WSIB holds in trust all amounts of compensation deferred through the program, all property and rights purchased with those amounts, and all income attributable to those amounts, as set forth under RCW 43.33A.030, for the exclusive benefit of DCP participants and their beneficiaries. Neither a participant nor the participant's beneficiaries, nor any other designee, has any right to commute, sell, assign, transfer or otherwise convey the right to receive any payments from the program. These payments and rights are nonassignable and nontransferable.

Required Supplementary Information

PERS Plan 1: Schedule of Changes in Net Pension Liability						
Dollars in Thousands						
	6/30/2019	6/30/2018	6/30/2017	6/30/2016	6/30/2015	6/30/2014
Total Pension Liability						
Service Cost	\$ 16,303	\$ 19,848	\$ 24,727	\$ 28,936	\$ 28,685	\$ 37,503
Interest	856,110	875,702	896,682	914,606	933,977	945,296
Changes of Benefit Terms	50	104,600	—	—	—	—
Differences Between Expected and Actual Experience	(122,600)	(2,687)	22,964	3,713	27,130	—
Changes in Assumptions	6,157	97,162	(28)	(36,416)	23,339	—
Benefit Payments, Including Refunds of Member Contributions	(1,202,798)	(1,193,211)	(1,199,219)	(1,203,209)	(1,202,994)	(1,193,715)
Net Change in Total Pension Liability	(446,778)	(98,586)	(254,874)	(292,370)	(189,863)	(210,916)
Total Pension Liability — Beginning	12,143,412	12,241,998	12,496,872	12,789,242	12,979,104	13,190,019
Total Pension Liability — Ending (a)	\$ 11,696,634	\$ 12,143,412	\$ 12,241,998	\$ 12,496,872	\$ 12,789,241	\$ 12,979,103
Plan Fiduciary Net Position¹						
Contributions — Employer	\$ 726,385	\$ 674,784	\$ 609,287	\$ 595,982	\$ 462,100	\$ 448,895
Contributions — Member	9,827	12,789	15,430	18,457	21,617	28,087
Net Investment Income	640,736	686,502	945,300	157,070	336,310	1,311,995
Benefit Payments, Including Refunds of Member Contributions	(1,202,798)	(1,193,211)	(1,199,219)	(1,203,209)	(1,202,994)	(1,193,715)
Administrative Expense	(253)	(257)	(258)	(301)	(269)	(506)
Other	4	(149)	(21)	90	(9)	36
Net Change in Plan Fiduciary Net Position	173,901	180,458	370,519	(431,911)	(383,245)	594,792
Plan Fiduciary Net Position — Beginning	7,677,378	7,496,920	7,126,401	7,558,312	7,941,557	7,346,765
Plan Fiduciary Net Position — Ending (b)	\$ 7,851,279	\$ 7,677,378	\$ 7,496,920	\$ 7,126,401	\$ 7,558,312	\$ 7,941,557
Plan's Net Pension Liability (Asset) — Ending (a) – (b)	\$ 3,845,355	\$ 4,466,034	\$ 4,745,078	\$ 5,370,471	\$ 5,230,929	\$ 5,037,546

¹ Plan fiduciary net position does not include the administrative fund allocations to the trust funds noted in Note 1, Section G, of the Financial Section.

These schedules will be built prospectively until they contain 10 years of data. Before 2015, interest on service cost was included in the service cost category.

Required Supplementary Information (cont.)

PERS Plan 2/3: Schedule of Changes in Net Pension Liability						
Dollars in Thousands						
	6/30/2019	6/30/2018	6/30/2017	6/30/2016	6/30/2015	6/30/2014
Total Pension Liability						
Service Cost	\$ 1,016,588	\$ 942,453	\$ 944,842	\$ 893,404	\$ 864,319	\$ 934,401
Interest	3,028,150	2,916,713	2,717,410	2,506,824	2,302,453	2,057,556
Changes of Benefit Terms	—	(26,700)	(1,379)	—	—	—
Differences Between Expected and Actual Experience	168,478	(274,769)	226,712	(218,153)	491,528	—
Changes in Assumptions	24,227	(564,289)	1,798	62,968	7,450	—
Benefit Payments, Including Refunds of Member Contributions	(1,254,875)	(1,076,005)	(931,603)	(812,514)	(700,905)	(600,862)
Net Change in Total Pension Liability	2,982,568	1,917,403	2,957,780	2,432,529	2,964,845	2,391,095
Total Pension Liability — Beginning¹	40,520,600	38,475,325	35,517,545	33,085,016	30,120,170	27,729,076
Total Pension Liability — Ending (a)	\$ 43,503,168	\$ 40,392,728	\$ 38,475,325	\$ 35,517,545	\$ 33,085,015	\$ 30,120,171
Plan Fiduciary Net Position²						
Contributions — Employer	\$ 820,188	\$ 778,525	\$ 621,927	\$ 563,328	\$ 446,127	\$ 430,345
Contributions — Member	668,736	636,407	518,566	497,274	374,825	368,251
Net Investment Income	3,453,045	3,350,127	4,312,919	725,439	1,295,301	4,444,930
Benefit Payments, Including Refunds of Member Contributions	(1,254,875)	(1,076,005)	(931,603)	(812,514)	(700,905)	(600,862)
Administrative Expense	(651)	(679)	(491)	(759)	(581)	(617)
Other	28,338	(3,861)	(3,139)	(2,103)	(1,617)	(2,299)
Net Change in Plan Fiduciary Net Position	3,714,781	3,684,514	4,518,179	970,665	1,413,150	4,639,748
Plan Fiduciary Net Position — Beginning³	38,817,047	35,000,803	30,482,624	29,511,959	28,098,809	23,459,061
Plan Fiduciary Net Position — Ending (b)	\$ 42,531,828	\$ 38,685,317	\$ 35,000,803	\$ 30,482,624	\$ 29,511,959	\$ 28,098,809
Plan's Net Pension Liability (Asset) — Ending (a) – (b)	\$ 971,340	\$ 1,707,411	\$ 3,474,522	\$ 5,034,921	\$ 3,573,056	\$ 2,021,362

¹ The June 30, 2019 Total Pension Liability - Beginning includes the liability from the PERS Plan 3 Washington State Investment Board (WSIB) Total Allocation Portfolio (TAP) Annuity. OSA received PERS Plan 3 WSIB TAP Annuity data from DRS and processed the liability consistent with calculations for the 2018 Actuarial Valuation Report. OSA adjusted these calculations to account for PERS Plan 3 WSIB TAP Annuity provisions, such as differences in COLA growth and payment timing.

² Plan fiduciary net position does not include the administrative fund allocations to the trust funds noted in Note 1, Section G, of the Financial Section.

³ June 30, 2019 Plan Fiduciary Net Position - Beginning has been restated to include the PERS Plan 3 WSIB TAP Annuity balance. See Note 1, Section R, of the Financial Section.

These schedules will be built prospectively until they contain 10 years of data. Before 2015, interest on service cost was included in the service cost category.

Required Supplementary Information (cont.)

SERS Plan 2/3: Schedule of Changes in Net Pension Liability

Dollars in Thousands

	6/30/2019	6/30/2018	6/30/2017	6/30/2016	6/30/2015	6/30/2014
Total Pension Liability						
Service Cost	\$ 178,538	\$ 160,165	\$ 154,925	\$ 139,744	\$ 128,806	\$ 138,228
Interest	436,618	408,075	378,480	343,917	311,044	277,012
Changes of Benefit Terms	—	—	—	—	—	—
Differences Between Expected and Actual Experience	103,102	22,493	86,086	18,707	66,049	—
Changes in Assumptions	8,555	(72,971)	4	10,258	600	—
Benefit Payments, Including Refunds of Member Contributions	(187,998)	(155,197)	(133,266)	(115,248)	(99,075)	(83,948)
Net Change in Total Pension Liability	538,815	362,565	486,229	397,378	407,424	331,292
Total Pension Liability — Beginning¹	5,814,028	5,357,035	4,870,806	4,473,428	4,066,004	3,734,712
Total Pension Liability — Ending (a)	\$ 6,352,843	\$ 5,719,600	\$ 5,357,035	\$ 4,870,806	\$ 4,473,428	\$ 4,066,004
Plan Fiduciary Net Position²						
Contributions — Employer	\$ 200,604	\$ 176,539	\$ 134,727	\$ 115,480	\$ 97,386	\$ 88,783
Contributions — Member	80,637	70,761	52,401	47,155	35,445	31,856
Net Investment Income	495,094	466,360	597,913	100,201	178,038	607,982
Benefit Payments, Including Refunds of Member Contributions	(187,998)	(155,197)	(133,266)	(115,248)	(99,075)	(83,948)
Administrative Expense	(26)	(30)	(21)	(21)	(20)	(30)
Other	19,268	(1,455)	(2,233)	(806)	(580)	(462)
Net Change in Plan Fiduciary Net Position	607,579	556,978	649,521	146,762	211,194	644,181
Plan Fiduciary Net Position — Beginning³	5,510,766	4,863,560	4,214,039	4,067,277	3,856,083	3,211,902
Plan Fiduciary Net Position — Ending (b)	\$ 6,118,345	\$ 5,420,538	\$ 4,863,560	\$ 4,214,039	\$ 4,067,277	\$ 3,856,083
Plan's Net Pension Liability (Asset) — Ending (a) – (b)	\$ 234,498	\$ 299,062	\$ 493,475	\$ 656,767	\$ 406,151	\$ 209,921

¹ The June 30, 2019 Total Pension Liability - Beginning includes the liability from the SERS Plan 3 Washington State Investment Board (WSIB) Total Allocation Portfolio (TAP) Annuity. OSA received SERS Plan 3 WSIB TAP Annuity data from DRS and processed the liability consistent with calculations for the 2018 Actuarial Valuation Report. OSA adjusted these calculations to account for SERS Plan 3 WSIB TAP Annuity provisions, such as differences in COLA growth and payment timing.

² Plan fiduciary net position does not include the administrative fund allocations to the trust funds noted in Note 1, Section G, of the Financial Section.

³ June 30, 2019 Plan Fiduciary Net Position - Beginning has been restated to include the SERS Plan 3 WSIB TAP Annuity balance. See Note 1, Section R, of the Financial Section.

These schedules will be built prospectively until they contain 10 years of data. Before 2015, interest on service cost was included in the service cost category.

Required Supplementary Information (cont.)

PSERS Plan 2: Schedule of Changes in Net Pension Liability						
Dollars in Thousands						
	6/30/2019	6/30/2018	6/30/2017	6/30/2016	6/30/2015	6/30/2014
Total Pension Liability						
Service Cost	\$ 54,915	\$ 49,127	\$ 47,292	\$ 44,090	\$ 40,546	\$ 42,679
Interest	48,400	42,749	36,641	31,038	24,554	17,264
Changes of Benefit Terms	—	—	1,379	—	—	—
Differences Between Expected and Actual Experience	5,150	534	(1,513)	266	19,950	—
Changes in Assumptions	7	(8,346)	35	84	131	—
Benefit Payments, Including Refunds of Member Contributions	(6,674)	(4,920)	(3,778)	(3,277)	(3,056)	(2,450)
Net Change in Total Pension Liability	101,798	79,144	80,056	72,201	82,125	57,493
Total Pension Liability — Beginning	602,414	523,270	443,214	371,013	288,888	231,395
Total Pension Liability — Ending (a)	\$ 704,212	\$ 602,414	\$ 523,270	\$ 443,214	\$ 371,013	\$ 288,888
Plan Fiduciary Net Position¹						
Contributions — Employer	\$ 32,468	\$ 26,033	\$ 23,238	\$ 20,058	\$ 18,704	\$ 17,124
Contributions — Member	33,198	26,514	23,698	21,148	18,664	17,446
Net Investment Income	57,064	49,840	59,852	10,096	15,081	45,143
Benefit Payments, Including Refunds of Member Contributions	(6,674)	(4,920)	(3,778)	(3,277)	(3,056)	(2,450)
Administrative Expense	(15)	(18)	(5)	(9)	(2)	(8)
Other	—	49	(44)	(61)	1	5
Net Change in Plan Fiduciary Net Position	116,041	97,498	102,961	47,955	49,392	77,260
Plan Fiduciary Net Position — Beginning	601,175	503,677	400,716	352,761	303,369	226,109
Plan Fiduciary Net Position — Ending (b)	\$ 717,216	\$ 601,175	\$ 503,677	\$ 400,716	\$ 352,761	\$ 303,369
Plan's Net Pension Liability (Asset) — Ending (a) – (b)	\$ (13,004)	\$ 1,239	\$ 19,593	\$ 42,498	\$ 18,252	\$ (14,481)

¹ Plan fiduciary net position does not include the administrative fund allocations to the trust funds noted in Note 1, Section G, of the Financial Section.

These schedules will be built prospectively until they contain 10 years of data. Before 2015, interest on service cost was included in the service cost category.

Required Supplementary Information (cont.)

TRS Plan 1: Schedule of Changes in Net Pension Liability						
Dollars in Thousands						
	6/30/2019	6/30/2018	6/30/2017	6/30/2016	6/30/2015	6/30/2014
Total Pension Liability						
Service Cost	\$ 5,361	\$ 6,792	\$ 9,370	\$ 12,608	\$ 15,630	\$ 21,933
Interest	612,930	625,902	645,151	660,865	676,915	690,297
Changes of Benefit Terms	—	96,500	—	—	—	—
Differences Between Expected and Actual Experience	(90,666)	36,644	39,299	25,314	23,516	—
Changes in Assumptions	11,521	78,582	(2)	(9,700)	6,552	—
Benefit Payments, Including Refunds of Member Contributions	(906,089)	(904,742)	(912,314)	(925,560)	(928,571)	(928,237)
Net Change in Total Pension Liability	(366,943)	(60,322)	(218,496)	(236,473)	(205,958)	(216,007)
Total Pension Liability — Beginning	8,722,439	8,782,761	9,001,257	9,237,730	9,443,688	9,659,695
Total Pension Liability — Ending (a)	\$ 8,355,496	\$ 8,722,439	\$ 8,782,761	\$ 9,001,257	\$ 9,237,730	\$ 9,443,688
Plan Fiduciary Net Position¹						
Contributions — Employer	\$ 500,822	\$ 420,540	\$ 348,968	\$ 315,934	\$ 223,886	\$ 200,674
Contributions — Member	2,856	4,287	6,907	8,802	10,324	14,626
Net Investment Income	480,313	522,377	728,988	118,296	269,742	1,079,804
Benefit Payments, Including Refunds of Member Contributions	(906,089)	(904,742)	(912,314)	(925,560)	(928,571)	(928,237)
Administrative Expense	(76)	(108)	(76)	(41)	(28)	(143)
Other	20	—	—	—	1	51
Net Change in Plan Fiduciary Net Position	77,846	42,354	172,473	(482,568)	(424,646)	366,775
Plan Fiduciary Net Position — Beginning	5,801,847	5,759,493	5,587,020	6,069,588	6,494,234	6,127,459
Plan Fiduciary Net Position — Ending (b)	\$ 5,879,693	\$ 5,801,847	\$ 5,759,493	\$ 5,587,020	\$ 6,069,588	\$ 6,494,234
Plan's Net Pension Liability (Asset) — Ending (a) – (b)	\$ 2,475,803	\$ 2,920,592	\$ 3,023,268	\$ 3,414,237	\$ 3,168,142	\$ 2,949,454

¹ Plan fiduciary net position does not include the administrative fund allocations to the trust funds noted in Note 1, Section G, of the Financial Section.

These schedules will be built prospectively until they contain 10 years of data. Before 2015, interest on service cost was included in the service cost category.

Required Supplementary Information (cont.)

TRS Plan 2/3: Schedule of Changes in Net Pension Liability						
Dollars in Thousands						
	6/30/2019	6/30/2018	6/30/2017	6/30/2016	6/30/2015	6/30/2014
Total Pension Liability						
Service Cost	\$ 498,667	\$ 419,931	\$ 410,975	\$ 373,617	\$ 352,316	\$ 374,258
Interest	1,116,550	1,028,827	947,283	857,073	776,944	684,861
Changes of Benefit Terms	—	—	—	—	—	—
Differences Between Expected and Actual Experience	288,157	32,080	173,667	(74,782)	163,251	—
Changes in Assumptions	248,622	(201,676)	115	16,463	896	—
Benefit Payments, Including Refunds of Member Contributions	(386,410)	(303,008)	(257,731)	(220,982)	(186,052)	(151,510)
Net Change in Total Pension Liability	1,765,586	976,154	1,274,309	951,389	1,107,355	907,609
Total Pension Liability — Beginning¹	14,779,608	13,446,531	12,172,222	11,220,833	10,113,479	9,205,870
Total Pension Liability — Ending (a)	\$ 16,545,194	\$ 14,422,685	\$ 13,446,531	\$ 12,172,222	\$ 11,220,834	\$ 10,113,479
Plan Fiduciary Net Position²						
Contributions — Employer	\$ 523,733	\$ 446,275	\$ 364,106	\$ 316,022	\$ 267,038	\$ 249,342
Contributions — Member	124,672	103,172	81,378	68,587	52,713	44,012
Net Investment Income	1,290,598	1,203,551	1,539,461	258,942	453,524	1,539,895
Benefit Payments, Including Refunds of Member Contributions	(386,410)	(303,008)	(257,731)	(220,982)	(186,052)	(151,510)
Administrative Expense	(196)	(88)	(93)	(67)	(64)	(76)
Other	82,285	(919)	(2,458)	(608)	(618)	(401)
Net Change in Plan Fiduciary Net Position	1,634,682	1,448,983	1,724,663	421,894	586,541	1,681,262
Plan Fiduciary Net Position — Beginning³	14,307,978	12,523,588	10,798,925	10,377,031	9,790,490	8,109,228
Plan Fiduciary Net Position — Ending (b)	\$ 15,942,660	\$ 13,972,571	\$ 12,523,588	\$ 10,798,925	\$ 10,377,031	\$ 9,790,490
Plan's Net Pension Liability (Asset) — Ending (a) – (b)	\$ 602,534	\$ 450,114	\$ 922,943	\$ 1,373,297	\$ 843,803	\$ 322,989

¹ The June 30, 2019 Total Pension Liability - Beginning includes the liability from the TRS Plan 3 Washington State Investment Board (WSIB) Total Allocation Portfolio (TAP) Annuity. OSA received TRS Plan 3 WSIB TAP Annuity data from DRS and processed the liability consistent with calculations for the 2018 Actuarial Valuation Report. OSA adjusted these calculations to account for TRS Plan 3 WSIB TAP Annuity provisions, such as differences in COLA growth and payment timing.

² Plan fiduciary net position does not include the administrative fund allocations to the trust funds noted in Note 1, Section G, of the Financial Section.

³ June 30, 2019 Plan Fiduciary Net Position - Beginning has been restated to include the TRS Plan 3 WSIB TAP Annuity balance. See Note 1, Section R, of the Financial Section.

These schedules will be built prospectively until they contain 10 years of data. Before 2015, interest on service cost was included in the service cost category.

Required Supplementary Information (cont.)

LEOFF Plan 1: Schedule of Changes in Net Pension Liability						
Dollars in Thousands						
	6/30/2019	6/30/2018	6/30/2017	6/30/2016	6/30/2015	6/30/2014
Total Pension Liability						
Service Cost	\$ 509	\$ 953	\$ 1,600	\$ 2,238	\$ 3,269	\$ 4,279
Interest	289,081	303,112	307,156	315,653	319,945	326,717
Changes of Benefit Terms	—	—	—	—	—	—
Differences Between Expected and Actual Experience	44,475	(14,235)	(69,993)	(21,215)	(65,557)	—
Changes in Assumptions	—	(57,835)	—	—	—	—
Benefit Payments, Including Refunds of Member Contributions	(369,070)	(364,041)	(360,068)	(361,022)	(358,745)	(355,988)
Net Change in Total Pension Liability	(35,005)	(132,046)	(121,305)	(64,346)	(101,088)	(24,992)
Total Pension Liability — Beginning	4,087,231	4,219,277	4,340,582	4,404,928	4,506,015	4,531,007
Total Pension Liability — Ending (a)	\$ 4,052,226	\$ 4,087,231	\$ 4,219,277	\$ 4,340,582	\$ 4,404,927	\$ 4,506,015
Plan Fiduciary Net Position¹						
Contributions — Employer	\$ 3	\$ 1	\$ —	\$ —	\$ 60	\$ 98
Contributions — Member	146	426	1,908	837	1,016	844
Net Investment Income	495,120	529,895	723,820	120,945	248,793	934,123
Benefit Payments, Including Refunds of Member Contributions	(369,070)	(364,041)	(360,068)	(361,022)	(358,745)	(355,988)
Administrative Expense	(94)	(45)	(31)	(41)	(18)	(44)
Other	(1)	—	—	—	237	—
Net Change in Plan Fiduciary Net Position	126,104	166,236	365,629	(239,281)	(108,657)	579,033
Plan Fiduciary Net Position — Beginning	5,902,733	5,736,497	5,370,868	5,610,149	5,718,806	5,139,773
Plan Fiduciary Net Position — Ending (b)	\$ 6,028,837	\$ 5,902,733	\$ 5,736,497	\$ 5,370,868	\$ 5,610,149	\$ 5,718,806
Plan's Net Pension Liability (Asset) — Ending (a) – (b)	\$ (1,976,611)	\$ (1,815,502)	\$ (1,517,220)	\$ (1,030,286)	\$ (1,205,222)	\$ (1,212,791)

¹ Plan fiduciary net position does not include the administrative fund allocations to the trust funds noted in Note 1, Section G, of the Financial Section.

These schedules will be built prospectively until they contain 10 years of data. Before 2015, interest on service cost was included in the service cost category.

Required Supplementary Information (cont.)

LEOFF Plan 2: Schedule of Changes in Net Pension Liability						
Dollars in Thousands						
	6/30/2019	6/30/2018	6/30/2017	6/30/2016	6/30/2015	6/30/2014
Total Pension Liability						
Service Cost	\$ 337,416	\$ 310,377	\$ 311,736	\$ 302,652	\$ 286,031	\$ 301,625
Interest	825,734	792,538	732,837	678,563	609,818	536,534
Changes of Benefit Terms	1,160	700	—	25,205	34,746	—
Differences Between Expected and Actual Experience	92,558	73,470	(58,105)	8,409	107,309	—
Changes in Assumptions	3,529	(322,043)	—	4	3,232	—
Benefit Payments, Including Refunds of Member Contributions	(313,959)	(268,159)	(227,007)	(190,712)	(160,027)	(133,949)
Net Change in Total Pension Liability	946,438	586,883	759,461	824,121	881,109	704,210
Total Pension Liability — Beginning	10,975,334	10,388,451	9,628,990	8,804,869	7,923,759	7,219,549
Total Pension Liability — Ending (a)	\$ 11,921,772	\$ 10,975,334	\$ 10,388,451	\$ 9,628,990	\$ 8,804,868	\$ 7,923,759
Plan Fiduciary Net Position¹						
Contributions — Employer	\$ 115,882	\$ 106,424	\$ 95,920	\$ 92,049	\$ 89,122	\$ 85,532
Contributions — State	72,960	68,152	62,155	60,375	58,339	55,551
Contributions — Member	204,384	197,230	187,978	173,871	165,772	151,041
Net Investment Income	1,155,521	1,127,022	1,448,376	244,028	430,403	1,456,267
Benefit Payments, Including Refunds of Member Contributions	(313,959)	(268,159)	(227,007)	(190,712)	(160,027)	(133,949)
Administrative Expense	(2,078)	(1,861)	(1,920)	(1,683)	(1,504)	(1,268)
Other	203	617	5	23	(238)	241
Net Change in Plan Fiduciary Net Position	1,232,913	1,229,425	1,565,507	377,951	581,867	1,613,415
Plan Fiduciary Net Position — Beginning	13,005,552	11,776,127	10,210,620	9,832,669	9,250,802	7,637,387
Plan Fiduciary Net Position — Ending (b)	\$ 14,238,465	\$ 13,005,552	\$ 11,776,127	\$ 10,210,620	\$ 9,832,669	\$ 9,250,802
Plan's Net Pension Liability (Asset) — Ending (a) – (b)	\$ (2,316,693)	\$ (2,030,218)	\$ (1,387,676)	\$ (581,630)	\$ (1,027,801)	\$ (1,327,043)

¹ Plan fiduciary net position does not include the administrative fund allocations to the trust funds noted in Note 1, Section G, of the Financial Section.

These schedules will be built prospectively until they contain 10 years of data. Before 2015, interest on service cost was included in the service cost category.

Required Supplementary Information (cont.)

WSPRS Plan 1/2: Schedule of Changes in Net Pension Liability						
Dollars in Thousands						
	6/30/2019	6/30/2018	6/30/2017	6/30/2016	6/30/2015	6/30/2014
Total Pension Liability						
Service Cost	\$ 22,671	\$ 21,083	\$ 18,474	\$ 16,534	\$ 16,633	\$ 18,041
Interest	96,629	94,569	90,560	83,373	80,037	75,249
Changes of Benefit Terms	—	—	4,830	1,947	2,258	—
Differences Between Expected and Actual Experience	4,254	13,974	23,702	(10,430)	8,883	—
Changes in Assumptions	—	(24,367)	20,921	2	17	—
Benefit Payments, Including Refunds of Member Contributions	(64,370)	(59,634)	(56,821)	(54,160)	(50,075)	(47,510)
Net Change in Total Pension Liability	59,184	45,625	101,666	37,266	57,753	45,780
Total Pension Liability — Beginning	1,314,734	1,269,109	1,167,443	1,130,177	1,072,424	1,026,644
Total Pension Liability — Ending (a)	\$ 1,373,918	\$ 1,314,734	\$ 1,269,109	\$ 1,167,443	\$ 1,130,177	\$ 1,072,424
Plan Fiduciary Net Position¹						
Contributions — Employer	\$ 14,700	\$ 14,203	\$ 7,587	\$ 7,044	\$ 6,679	\$ 6,587
Contributions — Member	10,744	9,922	10,454	8,895	6,323	6,555
Net Investment Income	111,123	113,597	151,021	25,352	49,046	176,856
Benefit Payments, Including Refunds of Member Contributions	(64,370)	(59,634)	(56,821)	(54,160)	(50,075)	(47,510)
Administrative Expense	(131)	(131)	(53)	(60)	(67)	(84)
Other	769	650	524	429	293	509
Net Change in Plan Fiduciary Net Position	72,835	78,607	112,712	(12,499)	12,199	142,913
Plan Fiduciary Net Position — Beginning	1,289,446	1,210,839	1,098,127	1,110,626	1,098,427	955,514
Plan Fiduciary Net Position — Ending (b)	\$ 1,362,281	\$ 1,289,446	\$ 1,210,839	\$ 1,098,127	\$ 1,110,626	\$ 1,098,427
Plan's Net Pension Liability (Asset) — Ending (a) – (b)	\$ 11,637	\$ 25,288	\$ 58,270	\$ 69,316	\$ 19,551	\$ (26,003)

¹ Plan fiduciary net position does not include the administrative fund allocations to the trust funds noted in Note 1, Section G, of the Financial Section.

These schedules will be built prospectively until they contain 10 years of data. Before 2015, interest on service cost was included in the service cost category.

Required Supplementary Information (cont.)

JRS: Schedule of Changes in Net Pension Liability						
Dollars in Thousands						
	6/30/2019	6/30/2018	6/30/2017	6/30/2016	6/30/2015	6/30/2014
Total Pension Liability						
Service Cost	\$ —	\$ —	\$ —	\$ —	\$ —	\$ —
Interest	3,078	3,200	2,874	3,704	4,382	4,319
Changes of Benefit Terms	—	—	—	—	—	—
Differences Between Expected and Actual Experience	(1,793)	(2,844)	1,047	20	1,590	—
Changes in Assumptions	2,372	(2,063)	(6,329)	8,737	4,334	—
Benefit Payments, Including Refunds of Member Contributions	(7,958)	(8,325)	(8,723)	(9,131)	(9,336)	(9,480)
Net Change in Total Pension Liability	(4,301)	(10,032)	(11,131)	3,330	970	(5,161)
Total Pension Liability — Beginning	83,479	93,511	104,642	101,312	100,341	105,502
Total Pension Liability — Ending (a)	\$ 79,178	\$ 83,479	\$ 93,511	\$ 104,642	\$ 101,311	\$ 100,341
Plan Fiduciary Net Position¹						
Contributions — Employer	\$ —	\$ —	\$ —	\$ —	\$ —	\$ —
Contributions — State	8,400	8,700	9,300	9,500	10,600	10,600
Contributions — Member	—	—	—	—	—	—
Net Investment Income	166	80	45	74	38	25
Benefit Payments, Including Refunds of Member Contributions	(7,958)	(8,325)	(8,723)	(9,131)	(9,336)	(9,480)
Administrative Expense	—	—	—	(1)	—	—
Other	—	—	—	—	—	—
Net Change in Plan Fiduciary Net Position	608	455	622	442	1,302	1,145
Plan Fiduciary Net Position — Beginning	7,852	7,397	6,775	6,333	5,031	3,886
Plan Fiduciary Net Position — Ending (b)	\$ 8,460	\$ 7,852	\$ 7,397	\$ 6,775	\$ 6,333	\$ 5,031
Plan's Net Pension Liability (Asset) — Ending (a) – (b)	\$ 70,718	\$ 75,627	\$ 86,114	\$ 97,867	\$ 94,978	\$ 95,310

¹ Plan fiduciary net position does not include the administrative fund allocations to the trust funds noted in Note 1, Section G, of the Financial Section.

These schedules will be built prospectively until they contain 10 years of data. Before 2015, interest on service cost was included in the service cost category.

Required Supplementary Information (cont.)

JRF: Schedule of Changes in Net Pension Liability						
Dollars in Thousands						
	6/30/2019	6/30/2018	6/30/2017	6/30/2016	6/30/2015	6/30/2014
Total Pension Liability						
Service Cost	\$ —	\$ —	\$ —	\$ —	\$ —	\$ —
Interest	89	95	88	116	138	137
Changes of Benefit Terms	—	—	—	—	—	—
Differences Between Expected and Actual Experience	161	(39)	194	123	182	—
Changes in Assumptions	50	(43)	(129)	181	95	—
Benefit Payments, Including Refunds of Member Contributions	(338)	(396)	(402)	(440)	(444)	(444)
Net Change in Total Pension Liability	(38)	(383)	(249)	(20)	(29)	(307)
Total Pension Liability — Beginning	2,465	2,848	3,097	3,117	3,146	3,453
Total Pension Liability — Ending (a)	\$ 2,427	\$ 2,465	\$ 2,848	\$ 3,097	\$ 3,117	\$ 3,146
Plan Fiduciary Net Position¹						
Contributions — Employer	\$ —	\$ —	\$ —	\$ —	\$ —	\$ —
Contributions — State	500	500	499	501	—	—
Contributions — Member	—	—	—	—	—	—
Net Investment Income	17	8	4	6	4	7
Benefit Payments, Including Refunds of Member Contributions	(338)	(396)	(402)	(440)	(444)	(444)
Administrative Expense	—	—	—	—	—	—
Other	—	—	—	—	—	—
Net Change in Plan Fiduciary Net Position	179	112	101	67	(440)	(437)
Plan Fiduciary Net Position — Beginning	795	683	582	515	955	1,392
Plan Fiduciary Net Position — Ending (b)	\$ 974	\$ 795	\$ 683	\$ 582	\$ 515	\$ 955
Plan's Net Pension Liability (Asset) — Ending (a) – (b)	\$ 1,453	\$ 1,670	\$ 2,165	\$ 2,515	\$ 2,602	\$ 2,191

¹ Plan fiduciary net position does not include the administrative fund allocations to the trust funds noted in Note 1, Section G, of the Financial Section.

These schedules will be built prospectively until they contain 10 years of data. Before 2015, interest on service cost was included in the service cost category.

Required Supplementary Information (cont.)

PERS Plan 1: Schedule of Net Pension Liability						
Dollars in Thousands						
	6/30/2019	6/30/2018	6/30/2017	6/30/2016	6/30/2015	6/30/2014
Total Pension Liability	\$ 11,696,634	\$ 12,143,412	\$ 12,241,998	\$ 12,496,872	\$ 12,789,241	\$ 12,979,103
Plan Fiduciary Net Position ¹	7,851,279	7,677,378	7,496,920	7,126,401	7,558,312	7,941,557
Plan Net Pension Liability (Asset)	\$ 3,845,355	\$ 4,466,034	\$ 4,745,078	\$ 5,370,471	\$ 5,230,929	\$ 5,037,546
Plan Fiduciary Net Position as a Percentage of Total Pension Liability	67.12%	63.22%	61.24%	57.03%	59.10%	61.19%
Covered Payroll	\$ 13,984,498	\$ 13,176,225	\$ 12,435,701	\$ 11,744,250	\$ 11,151,288	\$ 10,803,971
Plan Net Pension Liability (Asset) as a Percentage of Covered Payroll	27.50%	33.89%	38.16%	45.73%	46.91%	46.63%

PERS Plan 2/3: Schedule of Net Pension Liability						
Dollars in Thousands						
	6/30/2019	6/30/2018	6/30/2017	6/30/2016	6/30/2015	6/30/2014
Total Pension Liability	\$ 43,503,168	\$ 40,392,728	\$ 38,475,325	\$ 35,517,545	\$ 33,085,015	\$ 30,120,171
Plan Fiduciary Net Position ¹	42,531,828	38,685,317	35,000,803	30,482,624	29,511,959	28,098,809
Plan Net Pension Liability (Asset)	\$ 971,340	\$ 1,707,411	\$ 3,474,522	\$ 5,034,921	\$ 3,573,056	\$ 2,021,362
Plan Fiduciary Net Position as a Percentage of Total Pension Liability	97.77%	95.77%	90.97%	85.82%	89.20%	93.29%
Covered Payroll	\$ 10,960,712	\$ 10,419,078	\$ 9,856,106	\$ 9,323,463	\$ 8,876,898	\$ 8,607,757
Plan Net Pension Liability (Asset) as a Percentage of Covered Payroll	8.86%	16.39%	35.25%	54.00%	40.25%	23.48%

¹ Plan fiduciary net position does not include the administrative fund allocations to the trust funds noted in Note 1, Section G, of the Financial Section.

These schedules will be built prospectively until they contain 10 years of data.

Required Supplementary Information (cont.)

SERS Plan 2/3: Schedule of Net Pension Liability

Dollars in Thousands

	6/30/2019	6/30/2018	6/30/2017	6/30/2016	6/30/2015	6/30/2014
Total Pension Liability	\$ 6,352,843	\$ 5,719,600	\$ 5,357,035	\$ 4,870,806	\$ 4,473,428	\$ 4,066,004
Plan Fiduciary Net Position ¹	6,118,345	5,420,538	4,863,560	4,214,039	4,067,277	3,856,083
Plan Net Pension Liability (Asset)	\$ 234,498	\$ 299,062	\$ 493,475	\$ 656,767	\$ 406,151	\$ 209,921
Plan Fiduciary Net Position as a Percentage of Total Pension Liability	96.31%	94.77%	90.79%	86.52%	90.92%	94.84%
Covered Payroll	\$ 2,435,061	\$ 2,213,471	\$ 2,040,005	\$ 1,877,908	\$ 1,720,489	\$ 1,616,447
Plan Net Pension Liability (Asset) as a Percentage of Covered Payroll	9.63%	13.51%	24.19%	34.97%	23.61%	12.99%

PSERS Plan 2: Schedule of Net Pension Liability

Dollars in Thousands

	6/30/2019	6/30/2018	6/30/2017	6/30/2016	6/30/2015	6/30/2014
Total Pension Liability	\$ 704,212	\$ 602,414	\$ 523,270	\$ 443,214	\$ 371,013	\$ 288,888
Plan Fiduciary Net Position ¹	717,216	601,175	503,677	400,716	352,761	303,369
Plan Net Pension Liability (Asset)	\$ (13,004)	\$ 1,239	\$ 19,593	\$ 42,498	\$ 18,252	\$ (14,481)
Plan Fiduciary Net Position as a Percentage of Total Pension Liability	101.85%	99.79%	96.26%	90.41%	95.08%	105.01%
Covered Payroll	\$ 469,267	\$ 392,849	\$ 357,285	\$ 324,850	\$ 293,007	\$ 270,102
Plan Net Pension Liability (Asset) as a Percentage of Covered Payroll	(2.77)%	.32%	5.48%	13.08%	6.23%	(5.36)%

¹ Plan fiduciary net position does not include the administrative fund allocations to the trust funds noted in Note 1, Section G, of the Financial Section.

These schedules will be built prospectively until they contain 10 years of data.

Required Supplementary Information (cont.)

TRS Plan 1: Schedule of Net Pension Liability						
Dollars in Thousands						
	6/30/2019	6/30/2018	6/30/2017	6/30/2016	6/30/2015	6/30/2014
Total Pension Liability	\$ 8,355,496	\$ 8,722,439	\$ 8,782,761	\$ 9,001,257	\$ 9,237,730	\$ 9,443,688
Plan Fiduciary Net Position ¹	5,879,693	5,801,847	5,759,493	5,587,020	6,069,588	6,494,234
Plan Net Pension Liability (Asset)	\$ 2,475,803	\$ 2,920,592	\$ 3,023,268	\$ 3,414,237	\$ 3,168,142	\$ 2,949,454
Plan Fiduciary Net Position as a Percentage of Total Pension Liability	70.37%	66.52%	65.58%	62.07%	65.70%	68.77%
Covered Payroll	\$ 6,758,331	\$ 5,939,270	\$ 5,530,315	\$ 5,138,262	\$ 4,794,824	\$ 4,585,022
Plan Net Pension Liability (Asset) as a Percentage of Covered Payroll	36.63%	49.17%	54.67%	66.45%	66.07%	64.33%

TRS Plan 2/3: Schedule of Net Pension Liability						
Dollars in Thousands						
	6/30/2019	6/30/2018	6/30/2017	6/30/2016	6/30/2015	6/30/2014
Total Pension Liability	\$ 16,545,194	\$ 14,422,685	\$ 13,446,531	\$ 12,172,222	\$ 11,220,834	\$ 10,113,479
Plan Fiduciary Net Position ¹	15,942,660	13,972,571	12,523,588	10,798,925	10,377,031	9,790,490
Plan Net Pension Liability (Asset)	\$ 602,534	\$ 450,114	\$ 922,943	\$ 1,373,297	\$ 843,803	\$ 322,989
Plan Fiduciary Net Position as a Percentage of Total Pension Liability	96.36%	96.88%	93.14%	88.72%	92.48%	96.81%
Covered Payroll	\$ 6,721,600	\$ 5,891,871	\$ 5,466,408	\$ 5,054,070	\$ 4,681,511	\$ 4,436,592
Plan Net Pension Liability (Asset) as a Percentage of Covered Payroll	8.96%	7.64%	16.88%	27.17%	18.02%	7.28%

¹ Plan fiduciary net position does not include the administrative fund allocations to the trust funds noted in Note 1, Section G, of the Financial Section.

These schedules will be built prospectively until they contain 10 years of data.

Required Supplementary Information (cont.)

LEOFF Plan 1: Schedule of Net Pension Liability						
Dollars in Thousands						
	6/30/2019	6/30/2018	6/30/2017	6/30/2016	6/30/2015	6/30/2014
Total Pension Liability	\$ 4,052,226	\$ 4,087,231	\$ 4,219,277	\$ 4,340,582	\$ 4,404,927	\$ 4,506,015
Plan Fiduciary Net Position ¹	6,028,837	5,902,733	5,736,497	5,370,868	5,610,149	5,718,806
Plan Net Pension Liability (Asset)	\$ (1,976,611)	\$ (1,815,502)	\$ (1,517,220)	\$ (1,030,286)	\$ (1,205,222)	\$ (1,212,791)
Plan Fiduciary Net Position as a Percentage of Total Pension Liability	148.78%	144.42%	135.96%	123.74%	127.36%	126.91%
Covered Payroll	\$ 2,487	\$ 3,536	\$ 5,438	\$ 7,932	\$ 10,583	\$ 13,888
Plan Net Pension Liability (Asset) as a Percentage of Covered Payroll	(79,477.72)%	(51,343.38)%	(27,900.33)%	(12,988.98)%	(11,388.27)%	(8,732.65)%

LEOFF Plan 2: Schedule of Net Pension Liability						
Dollars in Thousands						
	6/30/2019	6/30/2018	6/30/2017	6/30/2016	6/30/2015	6/30/2014
Total Pension Liability	\$ 11,921,772	\$ 10,975,334	\$ 10,388,451	\$ 9,628,990	\$ 8,804,868	\$ 7,923,759
Plan Fiduciary Net Position ¹	14,238,465	13,005,552	11,776,127	10,210,620	9,832,669	9,250,802
Plan Net Pension Liability (Asset)	\$ (2,316,693)	\$ (2,030,218)	\$ (1,387,676)	\$ (581,630)	\$ (1,027,801)	\$ (1,327,043)
Plan Fiduciary Net Position as a Percentage of Total Pension Liability	119.43%	118.50%	113.36%	106.04%	111.67%	116.75%
Covered Payroll	\$ 2,150,705	\$ 1,989,096	\$ 1,882,667	\$ 1,804,024	\$ 1,744,180	\$ 1,674,432
Plan Net Pension Liability (Asset) as a Percentage of Covered Payroll	(107.72)%	(102.07)%	(73.71)%	(32.24)%	(58.93)%	(79.25)%

¹ Plan fiduciary net position does not include the administrative fund allocations to the trust funds noted in Note 1, Section G, of the Financial Section.

These schedules will be built prospectively until they contain 10 years of data.

Required Supplementary Information (cont.)

WSPRS Plan 1/2: Schedule of Net Pension Liability

Dollars in Thousands

	6/30/2019	6/30/2018	6/30/2017	6/30/2016	6/30/2015	6/30/2014
Total Pension Liability	\$ 1,373,918	\$ 1,314,734	\$ 1,269,109	\$ 1,167,443	\$ 1,130,177	\$ 1,072,424
Plan Fiduciary Net Position ¹	1,362,281	1,289,446	1,210,839	1,098,127	1,110,626	1,098,427
Plan Net Pension Liability (Asset)	\$ 11,637	\$ 25,288	\$ 58,270	\$ 69,316	\$ 19,551	\$ (26,003)
Plan Fiduciary Net Position as a Percentage of Total Pension Liability	99.15%	98.08%	95.41%	94.06%	98.27%	102.42%
Covered Payroll	\$ 111,612	\$ 109,242	\$ 93,053	\$ 86,669	\$ 84,379	\$ 83,282
Plan Net Pension Liability (Asset) as a Percentage of Covered Payroll	10.43%	23.15%	62.62%	79.98%	23.17%	(31.22)%

JRS: Schedule of Net Pension Liability

Dollars in Thousands

	6/30/2019	6/30/2018	6/30/2017	6/30/2016	6/30/2015	6/30/2014
Total Pension Liability	\$ 79,178	\$ 83,479	\$ 93,511	\$ 104,642	\$ 101,311	\$ 100,341
Plan Fiduciary Net Position ¹	8,460	7,852	7,397	6,775	6,333	5,031
Plan Net Pension Liability (Asset)	\$ 70,718	\$ 75,627	\$ 86,114	\$ 97,867	\$ 94,978	\$ 95,310
Plan Fiduciary Net Position as a Percentage of Total Pension Liability	10.68%	9.41%	7.91%	6.47%	6.25%	5.01%
Covered Payroll	\$ —	\$ —	\$ —	\$ —	\$ —	\$ —
Plan Net Pension Liability (Asset) as a Percentage of Covered Payroll	n/a	n/a	n/a	n/a	n/a	n/a

¹ Plan fiduciary net position does not include the administrative fund allocations to the trust funds noted in Note 1, Section G, of the Financial Section.

These schedules will be built prospectively until they contain 10 years of data.

Required Supplementary Information (cont.)

JRF: Schedule of Net Pension Liability						
Dollars in Thousands						
	6/30/2019	6/30/2018	6/30/2017	6/30/2016	6/30/2015	6/30/2014
Total Pension Liability	\$ 2,427	\$ 2,465	\$ 2,848	\$ 3,097	\$ 3,117	\$ 3,146
Plan Fiduciary Net Position ¹	974	795	683	582	515	955
Plan Net Pension Liability (Asset)	\$ 1,453	\$ 1,670	\$ 2,165	\$ 2,515	\$ 2,602	\$ 2,191
Plan Fiduciary Net Position as a Percentage of Total Pension Liability	40.13%	32.25%	23.98%	18.79%	16.52%	30.36%
Covered Payroll	\$ —	\$ —	\$ —	\$ —	\$ —	\$ —
Plan Net Pension Liability (Asset) as a Percentage of Covered Payroll	n/a	n/a	n/a	n/a	n/a	n/a

¹ Plan fiduciary net position does not include the administrative fund allocations to the trust funds noted in Note 1, Section G, of the Financial Section.

These schedules will be built prospectively until they contain 10 years of data.

Required Supplementary Information (cont.)

PERS Plan 1: Schedule of Employer Contributions										
Dollars in Thousands										
	6/30/2019	6/30/2018	6/30/2017	6/30/2016	6/30/2015	6/30/2014	6/30/2013	6/30/2012	6/30/2011	6/30/2010
Contractually Required Contributions (CRC)¹	\$ 726,388	\$ 674,061	\$ 604,541	\$ 573,784	\$ —	\$ —	\$ —	\$ —	\$ —	\$ —
Actuarially Determined Contributions (ADC)²	753,414	699,732	656,655	623,404	454,010	439,067	534,200	508,000	439,300	627,800
Employer Contributions PERS Plan 1	23,683	24,402	27,300	33,777	26,173	33,864	31,884	31,833	30,827	34,921
Employer Plan 1 UAAL Contributions³										
PERS Plan 2/3	555,506	520,964	467,648	461,048	355,512	343,790	194,740	185,185	93,015	93,993
SERS Plan 2/3	123,680	109,736	97,441	85,835	68,719	60,431	33,726	34,810	19,092	22,429
PSERS Plan 2	23,515	19,682	16,898	15,322	11,696	10,810	5,920	5,369	2,651	2,680
Contributions in Relation to ADC	726,384	674,784	609,287	595,982	462,100	448,895	266,270	257,197	145,585	154,023
Contribution Deficiency (Excess)	\$ 27,030	\$ 24,948	\$ 47,368	\$ 27,422	\$ (8,090)	\$ (9,828)	\$ 267,930	\$ 250,803	\$ 293,715	\$ 473,777
Covered Payroll										
PERS Plan 1	\$ 119,458	\$ 150,827	\$ 182,305	\$ 218,029	\$ 260,894	\$ 309,665	\$ 352,909	\$ 399,564	\$ 493,559	\$ 571,969
PERS Plan 2/3	10,960,712	10,419,078	9,856,106	9,323,463	8,876,898	8,607,757	8,265,361	8,125,656	8,139,901	8,151,255
SERS Plan 2/3	2,435,061	2,213,471	2,040,005	1,877,908	1,720,489	1,616,447	1,549,224	1,638,675	1,650,375	1,619,245
PSERS Plan 2	469,267	392,849	357,285	324,850	293,007	270,102	249,022	236,495	232,044	232,826
Covered Payroll⁴	\$ 13,984,498	\$ 13,176,225	\$ 12,435,701	\$ 11,744,250	\$ 11,151,288	\$ 10,803,971	\$ 10,416,516	\$ 10,400,390	\$ 10,515,879	\$ 10,575,295
Contributions as a Percentage of Covered Payroll	5.19%	5.12%	4.90%	5.07%	4.14%	4.15%	2.56%	2.47%	1.38%	1.46%

Portions of the above contributions were assessed on the covered payrolls of PERS Plan 2/3, SERS Plan 2/3 and PSERS Plan 2.

¹ See the "Notes to Required Supplementary Information" on page 113 for an explanation of how the CRC and ADC were calculated. The CRC was the same as the ADC in years when no data for the CRC is displayed.

² Prior to 2014, the annual required contribution (ARC) amounts were presented for the actuarially determined contributions. The ARC changes each year with the experience of the plans. Factors influencing the experience include changes in funding methods, assumptions, plan provisions, and economic and demographic gains and losses.

³ DRS collects portions of the employer retirement contributions of PERS Plan 2/3, SERS Plan 2/3 and PSERS Plan 2 and applies them toward the Unfunded Actuarial Accrued Liability of PERS Plan 1.

⁴ "Covered payroll" includes employee compensation, as defined by statute, that employers reported to DRS. Employer-reported employee compensation is also used to calculate retirement contributions due to the retirement systems. Total salary or wages employers pay to employees eligible for retirement-system coverage might not be reportable to DRS.

Required Supplementary Information (cont.)

PERS Plan 2/3: Schedule of Employer Contributions										
Dollars in Thousands										
	6/30/2019	6/30/2018	6/30/2017	6/30/2016	6/30/2015	6/30/2014	6/30/2013	6/30/2012	6/30/2011	6/30/2010
Contractually Required Contributions (CRC)¹	\$ 824,246	\$ 780,389	\$ 614,035	\$ 580,852	\$ —	\$ —	\$ —	\$ —	\$ —	\$ —
Actuarially Determined Contributions (ADC)²	883,433	836,652	700,769	662,898	462,098	441,677	408,300	407,700	408,600	383,100
Contributions in Relation to ADC	820,188	778,525	621,927	563,328	446,127	430,345	389,020	385,253	328,258	327,460
Contribution Deficiency (Excess)	\$ 63,245	\$ 58,127	\$ 78,842	\$ 99,570	\$ 15,971	\$ 11,332	\$ 19,280	\$ 22,447	\$ 80,342	\$ 55,640
Covered Payroll³	\$ 10,960,712	\$ 10,419,078	\$ 9,856,106	\$ 9,323,463	\$ 8,876,898	\$ 8,607,757	\$ 8,265,361	\$ 8,125,656	\$ 8,139,901	\$ 8,151,255
Contributions as a Percentage of Covered Payroll	7.48%	7.47%	6.31%	6.04%	5.03%	5.00%	4.71%	4.74%	4.03%	4.02%

SERS Plan 2/3: Schedule of Employer Contributions										
Dollars in Thousands										
	6/30/2019	6/30/2018	6/30/2017	6/30/2016	6/30/2015	6/30/2014	6/30/2013	6/30/2012	6/30/2011	6/30/2010
Contractually Required Contributions (CRC)¹	\$ 201,380	\$ 183,054	\$ 135,252	\$ 124,505	\$ —	\$ —	\$ —	\$ —	\$ —	\$ —
Actuarially Determined Contributions (ADC)²	214,285	194,785	157,080	144,599	94,736	90,064	86,600	85,200	88,600	82,300
Contributions in Relation to ADC	200,604	176,539	134,727	115,480	97,386	88,783	78,400	74,640	62,316	62,090
Contribution Deficiency (Excess)	\$ 13,681	\$ 18,246	\$ 22,353	\$ 29,119	\$ (2,650)	\$ 1,281	\$ 8,200	\$ 10,560	\$ 26,284	\$ 20,210
Covered Payroll³	\$ 2,435,061	\$ 2,213,471	\$ 2,040,005	\$ 1,877,908	\$ 1,720,489	\$ 1,616,447	\$ 1,549,224	\$ 1,638,675	\$ 1,650,375	\$ 1,619,245
Contributions as a Percentage of Covered Payroll	8.24%	7.98%	6.60%	6.15%	5.66%	5.49%	5.06%	4.55%	3.78%	3.83%

¹ See the "Notes to Required Supplementary Information" on page 113 for an explanation of how the CRC and ADC were calculated. The CRC was the same as the ADC in years when no data for the CRC is displayed.

² Prior to 2014, the annual required contribution (ARC) amounts were presented for the actuarially determined contributions. The ARC changes each year with the experience of the plans. Factors influencing the experience include changes in funding methods, assumptions, plan provisions, and economic and demographic gains and losses.

³ "Covered payroll" includes employee compensation, as defined by statute, that employers reported to DRS. Employer-reported employee compensation is also used to calculate retirement contributions due to the retirement systems. Total salary or wages employers pay to employees eligible for retirement-system coverage might not be reportable to DRS.

Required Supplementary Information (cont.)

PSERS Plan 2: Schedule of Employer Contributions										
Dollars in Thousands										
	6/30/2019	6/30/2018	6/30/2017	6/30/2016	6/30/2015	6/30/2014	6/30/2013	6/30/2012	6/30/2011	6/30/2010
Contractually Required Contributions (CRC)¹	\$ 33,177	\$ 26,439	\$ 23,545	\$ 21,408	\$ —	\$ —	\$ —	\$ —	\$ —	\$ —
Actuarially Determined Contributions (ADC)²	34,331	27,444	24,617	22,382	18,545	17,053	15,100	14,700	14,700	14,800
Contributions in Relation to ADC	32,468	26,033	23,238	20,058	18,704	17,124	15,650	15,285	15,591	15,238
Contribution Deficiency (Excess)	\$ 1,863	\$ 1,411	\$ 1,379	\$ 2,324	\$ (159)	\$ (71)	\$ (550)	\$ (585)	\$ (891)	\$ (438)
Covered Payroll³	\$ 469,267	\$ 392,849	\$ 357,285	\$ 324,850	\$ 293,007	\$ 270,102	\$ 249,022	\$ 236,495	\$ 232,044	\$ 232,826
Contributions as a Percentage of Covered Payroll	6.92%	6.63%	6.50%	6.17%	6.38%	6.34%	6.28%	6.46%	6.72%	6.54%

¹ See the "Notes to Required Supplementary Information" on page 113 for an explanation of how the CRC and ADC were calculated. The CRC was the same as the ADC in years when no data for the CRC is displayed.

² Prior to 2014, the annual required contribution (ARC) amounts were presented for the actuarially determined contributions. The ARC changes each year with the experience of the plans. Factors influencing the experience include changes in funding methods, assumptions, plan provisions, and economic and demographic gains and losses.

³ "Covered payroll" includes employee compensation, as defined by statute, that employers reported to DRS. Employer-reported employee compensation is also used to calculate retirement contributions due to the retirement systems. Total salary or wages employers pay to employees eligible for retirement-system coverage might not be reportable to DRS.

Required Supplementary Information (cont.)

TRS Plan 1: Schedule of Employer Contributions										
Dollars in Thousands										
	6/30/2019	6/30/2018	6/30/2017	6/30/2016	6/30/2015	6/30/2014	6/30/2013	6/30/2012	6/30/2011	6/30/2010
Contractually Required Contributions (CRC)¹	\$ 502,993	\$ 430,745	\$ 348,833	\$ 325,771	\$ —	\$ —	\$ —	\$ —	\$ —	\$ —
Actuarially Determined Contributions (ADC)²	531,110	455,518	387,043	361,481	218,542	208,119	275,400	254,000	205,900	406,100
Employer Contributions TRS Plan 1	9,819	11,597	7,444	22,417	11,864	17,306	17,518	16,706	18,470	24,826
Employer Plan 1 UAAL Contributions³										
TRS Plan 2/3	491,003	408,943	341,524	293,517	212,022	183,368	101,051	95,231	78,333	87,905
Contributions in Relation to ADC	500,822	420,540	348,968	315,934	223,886	200,674	118,569	111,937	96,803	112,731
Contribution Deficiency (Excess)	\$ 30,288	\$ 34,978	\$ 38,075	\$ 45,547	\$ (5,344)	\$ 7,445	\$ 156,831	\$ 142,063	\$ 109,097	\$ 293,369
Covered Payroll										
TRS Plan 1	\$ 36,731	\$ 47,399	\$ 63,907	\$ 84,192	\$ 113,313	\$ 148,430	\$ 192,532	\$ 280,366	\$ 349,660	\$ 418,353
TRS Plan 2/3	6,721,600	5,891,871	5,466,408	5,054,070	4,681,511	4,436,592	4,203,893	4,162,779	4,171,447	4,056,271
Covered Payroll⁴	\$ 6,758,331	\$ 5,939,270	\$ 5,530,315	\$ 5,138,262	\$ 4,794,824	\$ 4,585,022	\$ 4,396,425	\$ 4,443,145	\$ 4,521,107	\$ 4,474,624
Contributions as a Percentage of Covered Payroll	7.41%	7.08%	6.31%	6.15%	4.67%	4.38%	2.70%	2.52%	2.14%	2.52%

Portions of the above contributions were assessed on the covered payrolls of TRS Plan 2/3.

¹ See the "Notes to Required Supplementary Information" on page 113 for an explanation of how the CRC and ADC were calculated. The CRC was the same as the ADC in years when no data for the CRC is displayed.

² Prior to 2014, the annual required contribution (ARC) amounts were presented for the actuarially determined contributions. The ARC changes each year with the experience of the plans. Factors influencing the experience include changes in funding methods, assumptions, plan provisions, and economic and demographic gains and losses.

³ DRS collects a portion of the employer retirement contributions of TRS Plan 2/3 and applies it toward the Unfunded Actuarial Accrued Liability of TRS Plan 1.

⁴ "Covered payroll" includes employee compensation, as defined by statute, that employers reported to DRS. Employer-reported employee compensation is also used to calculate retirement contributions due to the retirement systems. Total salary or wages employers pay to employees eligible for retirement-system coverage might not be reportable to DRS.

Required Supplementary Information (cont.)

TRS Plan 2/3: Schedule of Employer Contributions

Dollars in Thousands

	6/30/2019	6/30/2018	6/30/2017	6/30/2016	6/30/2015	6/30/2014	6/30/2013	6/30/2012	6/30/2011	6/30/2010
Contractually Required Contributions (CRC)¹	\$ 526,301	\$ 461,334	\$ 367,343	\$ 339,634	\$ —	\$ —	\$ —	\$ —	\$ —	\$ —
Actuarially Determined Contributions (ADC)²	554,532	486,079	413,260	382,088	269,160	255,277	231,600	232,200	232,300	221,100
Contributions in Relation to ADC	523,733	446,275	364,106	316,022	267,038	249,341	228,974	213,852	168,264	164,959
Contribution Deficiency (Excess)	\$ 30,799	\$ 39,804	\$ 49,154	\$ 66,066	\$ 2,122	\$ 5,936	\$ 2,626	\$ 18,348	\$ 64,036	\$ 56,141
Covered Payroll³	\$ 6,721,600	\$ 5,891,871	\$ 5,466,408	\$ 5,054,070	\$ 4,681,511	\$ 4,436,592	\$ 4,203,893	\$ 4,162,779	\$ 4,171,447	\$ 4,056,271
Contributions as a Percentage of Covered Payroll	7.79%	7.57%	6.66%	6.25%	5.70%	5.62%	5.45%	5.14%	4.03%	4.07%

LEOFF Plan 1: Schedule of Employer Contributions

Dollars in Thousands

	6/30/2019	6/30/2018	6/30/2017	6/30/2016	6/30/2015	6/30/2014	6/30/2013	6/30/2012	6/30/2011	6/30/2010
Contractually Required Contributions (CRC)¹	\$ —	\$ —	\$ —	\$ —	\$ —	\$ —	\$ —	\$ —	\$ —	\$ —
Actuarially Determined Contributions (ADC)²	—	—	—	—	—	—	—	—	—	—
Contributions in Relation to ADC	3	1	—	—	60	98	555	2	3	49
Contribution Deficiency (Excess)	\$ (3)	\$ (1)	\$ —	\$ —	\$ (60)	\$ (98)	\$ (555)	\$ (2)	\$ (3)	\$ (49)
Covered Payroll³	\$ 2,487	\$ 3,536	\$ 5,438	\$ 7,932	\$ 10,583	\$ 13,888	\$ 16,521	\$ 21,456	\$ 27,171	\$ 32,110
Contributions as a Percentage of Covered Payroll	0.12%	0.03%	0.00%	0.00%	0.57%	0.71%	3.36%	0.01%	0.01%	0.15%

¹ See the "Notes to Required Supplementary Information" on page 113 for an explanation of how the CRC and ADC were calculated. The CRC was the same as the ADC in years when no data for the CRC is displayed.

² Prior to 2014, the annual required contribution (ARC) amounts were presented for the actuarially determined contributions. The ARC changes each year with the experience of the plans. Factors influencing the experience include changes in funding methods, assumptions, plan provisions, and economic and demographic gains and losses.

³ "Covered payroll" includes employee compensation, as defined by statute, that employers reported to DRS. Employer-reported employee compensation is also used to calculate retirement contributions due to the retirement systems. Total salary or wages employers pay to employees eligible for retirement-system coverage might not be reportable to DRS.

Required Supplementary Information (cont.)

LEOFF Plan 2: Schedule of Employer Contributions										
Dollars in Thousands										
	6/30/2019	6/30/2018	6/30/2017	6/30/2016	6/30/2015	6/30/2014	6/30/2013	6/30/2012	6/30/2011	6/30/2010
Contractually Required Contributions (CRC)¹	\$ 188,187	\$ 174,046	\$ 158,332	\$ —	\$ —	\$ —	\$ —	\$ —	\$ —	\$ —
Actuarially Determined Contributions (ADC)²	170,551	156,741	150,049	151,718	147,438	141,696	94,700	97,300	84,000	112,200
Contributions in Relation to ADC	188,841	174,576	158,075	152,424	147,461	141,082	136,643	133,250	131,757	128,374
Contribution Deficiency (Excess)	\$ (18,290)	\$ (17,835)	\$ (8,026)	\$ (706)	\$ (23)	\$ 614	\$ (41,943)	\$ (35,950)	\$ (47,757)	\$ (16,174)
Covered Payroll³	\$ 2,150,705	\$ 1,989,096	\$ 1,882,667	\$ 1,804,024	\$ 1,744,180	\$ 1,674,432	\$ 1,605,364	\$ 1,569,051	\$ 1,542,269	\$ 1,515,925
Contributions as a Percentage of Covered Payroll	8.78%	8.78%	8.40%	8.45%	8.45%	8.43%	8.51%	8.49%	8.54%	8.47%

¹ See the "Notes to Required Supplementary Information" on page 113 for an explanation of how the CRC and ADC were calculated. The CRC was the same as the ADC in years when no data for the CRC is displayed. OSA modified the methodology for calculating the LEOFF 2 CRC starting in FY 2017 to reflect the actual contribution rates adopted by the Leoff Plan 2 Retirement Board.

² Prior to 2014, the annual required contribution (ARC) amounts were presented for the actuarially determined contributions. The ARC changes each year with the experience of the plans. Factors influencing the experience include changes in funding methods, assumptions, plan provisions, and economic and demographic gains and losses.

³ "Covered payroll" includes employee compensation, as defined by statute, that employers reported to DRS. Employer-reported employee compensation is also used to calculate retirement contributions due to the retirement systems. Total salary or wages employers pay to employees eligible for retirement-system coverage might not be reportable to DRS.

Required Supplementary Information (cont.)

WSPRS Plan 1/2: Schedule of Employer Contributions										
Dollars in Thousands										
	6/30/2019	6/30/2018	6/30/2017	6/30/2016	6/30/2015	6/30/2014	6/30/2013	6/30/2012	6/30/2011	6/30/2010
Contractually Required Contributions (CRC)¹	\$ —	\$ —	\$ —	\$ —	\$ —	\$ —	\$ —	\$ —	\$ —	\$ —
Actuarially Determined Contributions (ADC)²	17,020	16,648	8,179	7,618	6,810	6,677	2,500	2,900	2,300	6,600
Contributions in Relation to ADC	14,700	14,203	7,587	7,044	6,679	6,587	6,478	6,454	5,251	5,271
Contribution Deficiency (Excess)	<u>\$ 2,320</u>	<u>\$ 2,445</u>	<u>\$ 592</u>	<u>\$ 574</u>	<u>\$ 131</u>	<u>\$ 90</u>	<u>\$ (3,978)</u>	<u>\$ (3,554)</u>	<u>\$ (2,951)</u>	<u>\$ 1,329</u>
Covered Payroll³	\$ 111,612	\$ 109,242	\$ 93,053	\$ 86,669	\$ 84,379	\$ 83,282	\$ 81,895	\$ 81,578	\$ 81,882	\$ 82,764
Contributions as a Percentage of Covered Payroll	13.17%	13.00%	8.15%	8.13%	7.92%	7.91%	7.91%	7.91%	6.41%	6.37%

JRS: Schedule of Employer Contributions										
Dollars in Thousands										
	6/30/2019	6/30/2018	6/30/2017	6/30/2016	6/30/2015	6/30/2014	6/30/2013	6/30/2012	6/30/2011	6/30/2010
Contractually Required Contributions (CRC)¹	\$ —	\$ —	\$ —	\$ —	\$ —	\$ —	\$ —	\$ —	\$ —	\$ —
Actuarially Determined Contributions (ADC)²	7,914	8,317	8,761	8,999	9,132	9,205	21,700	22,600	18,600	20,400
Contributions in Relation to ADC	8,400	8,700	9,300	9,500	10,600	10,600	10,112	8,131	10,906	11,649
Contribution Deficiency (Excess)	<u>\$ (486)</u>	<u>\$ (383)</u>	<u>\$ (539)</u>	<u>\$ (501)</u>	<u>\$ (1,468)</u>	<u>\$ (1,395)</u>	<u>\$ 11,588</u>	<u>\$ 14,469</u>	<u>\$ 7,694</u>	<u>\$ 8,751</u>
Covered Payroll³	—	—	—	—	—	\$ —	\$ 160	\$ 407	\$ 611	\$ 1,053
Contributions as a Percentage of Covered Payroll	n/a	n/a	n/a	n/a	n/a	n/a	6,320.00%	1,997.79%	1,784.94%	1,106.27%

¹ See the "Notes to Required Supplementary Information" on page 113 for an explanation of how the CRC and ADC were calculated. The CRC was the same as the ADC in years when no data for the CRC is displayed.

² Prior to 2014, the annual required contribution (ARC) amounts were presented for the actuarially determined contributions. The ARC changes each year with the experience of the plans. Factors influencing the experience include changes in funding methods, assumptions, plan provisions, and economic and demographic gains and losses.

³ "Covered payroll" includes employee compensation, as defined by statute, that employers reported to DRS. Employer-reported employee compensation is also used to calculate retirement contributions due to the retirement systems. Total salary or wages employers pay to employees eligible for retirement-system coverage might not be reportable to DRS.

Required Supplementary Information (cont.)

JRF: Schedule of Employer Contributions										
Dollars in Thousands										
	6/30/2019	6/30/2018	6/30/2017	6/30/2016	6/30/2015	6/30/2014	6/30/2013	6/30/2012	6/30/2011	6/30/2010
Contractually Required Contributions (CRC)¹	\$ —	\$ —	\$ —	\$ —	\$ —	\$ —	\$ —	\$ —	\$ —	\$ —
Actuarially Determined Contributions (ADC)²	395	395	439	444	539	425	400	300	100	—
Contributions in Relation to ADC	500	500	499	501	—	—	—	—	—	—
Contribution Deficiency (Excess)	\$ (105)	\$ (105)	\$ (60)	\$ (57)	\$ 539	\$ 425	\$ 400	\$ 300	\$ 100	\$ —
Covered Payroll³	—	—	—	—	—	—	—	—	—	—
Contributions as a Percentage of Covered Payroll	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a

¹ See the “Notes to Required Supplementary Information” on page 113 for an explanation of how the CRC and ADC were calculated. The CRC was the same as the ADC in years when no data for the CRC is displayed.

² Prior to 2014, the annual required contribution (ARC) amounts were presented for the actuarially determined contributions. The ARC changes each year with the experience of the plans. Factors influencing the experience include changes in funding methods, assumptions, plan provisions, and economic and demographic gains and losses.

³ “Covered payroll” includes employee compensation, as defined by statute, that employers reported to DRS. Employer-reported employee compensation is also used to calculate retirement contributions due to the retirement systems. Total salary or wages employers pay to employees eligible for retirement-system coverage might not be reportable to DRS.

Required Supplementary Information (cont.)

Schedule of Investment Returns

Annual Money-Weighted Rates of Return Net of Investment Expenses

Plan	6/30/2019	6/30/2018	6/30/2017	6/30/2016	6/30/2015	6/30/2014
PERS Plan 1	8.68%	9.55%	13.84%	2.19%	4.45%	18.76%
PERS Plan 2/3	8.89%	9.56%	14.11%	2.47%	4.63%	18.94%
SERS Plan 2/3	8.93%	9.57%	14.13%	2.49%	4.64%	18.96%
PSERS Plan 2	9.12%	9.51%	14.14%	2.75%	4.76%	18.91%
TRS Plan 1	8.65%	9.54%	14.45%	2.09%	4.41%	18.73%
TRS Plan 2/3	8.93%	9.57%	14.10%	2.51%	4.65%	18.96%
LEOFF Plan 1	8.67%	9.56%	13.95%	2.25%	4.51%	18.82%
LEOFF Plan 2	8.89%	9.56%	14.14%	2.48%	4.64%	18.93%
WSPRS Plan 1/2	8.78%	9.55%	14.03%	2.34%	4.56%	18.87%
JRS	1.78%	1.11%	0.71%	0.62%	0.40%	0.16%
JRF	1.78%	1.11%	0.71%	0.62%	0.40%	0.16%

This schedule will be built prospectively until it contains 10 years of data.

Notes to Pension Required Supplementary Information

Methods and Assumptions Used in Calculations of Actuarially Determined Contributions for PERS, PSERS, SERS, TRS, LEOFF and WSPRS: The Office of the State Actuary (OSA) calculates the actuarially determined contributions (ADC) based on the results of an actuarial valuation consistent with the state's funding policy defined in Chapter 41.45 RCW.

Consistent with the state's contribution-rate adoption process, the results of an actuarial valuation with an odd-numbered year valuation date determine the ADC for the biennium that ensues two years later. The actuarial valuation with a June 30, 2015 valuation date, completed in the Fall of 2016, determines the ADC for the period beginning July 1, 2017 and ending June 30, 2019.

Methods and Assumptions Used in Calculations of Actuarially Determined Contributions for JRS and JRF: OSA calculates the actuarially determined contributions (ADC) based on the results of an actuarial valuation and sets it equal to the expected benefit payments from the plan. Consistent with the state's funding policy defined in Chapters 2.10.90 and 2.12.60 RCW, the Legislature makes biennial appropriations to ensure the fund is solvent so it can make the necessary benefit payments.

Additional Considerations on ADC for All Plans: OSA calculates the ADC consistent with the methods described above. Adopted contribution rates could be different pending the actions of the governing bodies. For the period beginning July 1, 2017, and ending June 30, 2019, the contribution rates the Pension Funding Council adopted, which the Legislature did not change, reflect a phasing in of the increase to contribution rates that resulted from a change to the mortality assumption. This is the second of three biennia over which this increase is expected to be phased-in for PERS 1, PERS 2/3, TRS 1, TRS 2/3, SERS 2/3, PSERS 2, and WSPRS 1/2.

CRC for All Cost-Sharing Plans (All Plans Other Than WSPRS 1/2, JRS and JRF): For cost-sharing plans, OSA calculates the contractually required contributions (CRC) using the same assumptions and methods as the ADC, except the CRC reflect the adopted contribution rates for the time period shown, which might differ from the contribution rates produced for the ADC.

Additional plan-specific actuarial method and assumption information is located in [Note 2, Section B](#), of the Financial Section.

Supporting Schedules

Schedule of Administrative Expenses

For the Year Ended June 30, 2019 — Dollars in Thousands

	Retirement Pension Trust Funds	Deferred Compensation Pension Trust Fund	Total Administrative Expenses
Current Personnel			
Salaries and Wages	\$ 14,950	\$ 1,049	\$ 15,999
Employee Benefits	5,597	401	5,998
Personal Service Contracts	5,035	179	5,214
Total Personnel Expenses	25,582	1,629	27,211
Goods and Services			
Actuary Services	2,490	—	2,490
Archives and Records Management	34	3	37
Attorney General Services	111	12	123
Audit Services	256	—	256
Bad Debts Expense	60	—	60
Collections	154	—	154
Communications	403	15	418
Data Processing Services	2,309	145	2,454
Employee Professional Development and Training	344	10	354
Facilities and Services	372	5	377
Insurance	19	1	20
Legal Fees ¹	1,986	—	1,986
LEOFF 2 Board Governance	1,255	—	1,255
Medical Consultant Services	282	—	282
Other Contractual Services	132	70	202
Other Goods and Services	65	4	69
Printing and Reproduction	119	3	122
Rental and Leases	1,544	110	1,654
Repairs and Alterations	114	6	120
Supplies and Materials	51	3	54
Utilities	111	10	121
Total Goods and Services	12,211	397	12,608
Miscellaneous Expenses			
Noncapitalized Equipment	1,637	49	1,686
Travel	137	31	168
Total Miscellaneous Expenses	1,774	80	1,854
Total Current Expenses	39,567	2,106	41,673
Capital Outlays			
Furnishings, Equipment and Software	30	—	30
Total Capital Outlays	30	—	30
Depreciation and Loss — Capital Assets	35	—	35
Total Administrative Expenses	\$ 39,632	\$ 2,106	\$ 41,738

¹ Includes specific salaries and related expenses as well as Legal costs from the Schedule of Payments to Consultants on page 116.

Supporting Schedules (cont.)

Schedule of Investment Expenses — Pension Trust Funds

For the Year Ended June 30, 2019 — Dollars in Thousands

	Fees Paid	Netted Fees ¹	Total Fees and Expenses
Equity Securities			
Public Equity Active Management	\$ 55,936	\$ 311	\$ 56,247
Public Equity Passive Management	2,964	1,042	4,006
Alternative Investments			
Private Equity	265,617	112,741	378,358
Real Estate	297,921	96,777	394,698
Tangible Assets	86,081	20,952	107,033
Cash Management	2,639	—	2,639
Debt Securities			—
Other Fees			
Consultants and Accounting	966	—	966
Legal Fees	1,496	—	1,496
Research Services	2,374	—	2,374
Securities Lending Rebates and Fees	19,713	—	19,713
Miscellaneous Fees	261	—	261
DCP Management Fees	6,555		6,555
JRA Management Fees	12		12
PERS Plan 3 Management Fees	1,424		1,424
SERS Plan 3 Management Fees	578		578
TRS Plan 3 Management Fees	3,877		3,877
WSIB Operating Costs	18,868		18,868
Total Investment Expenses	\$ 767,282	\$ 231,823	\$ 999,105

¹ Netted fees are included in unrealized gains (losses) in the accompanying Statement of Changes in Fiduciary Net Position

Supporting Schedules (cont.)

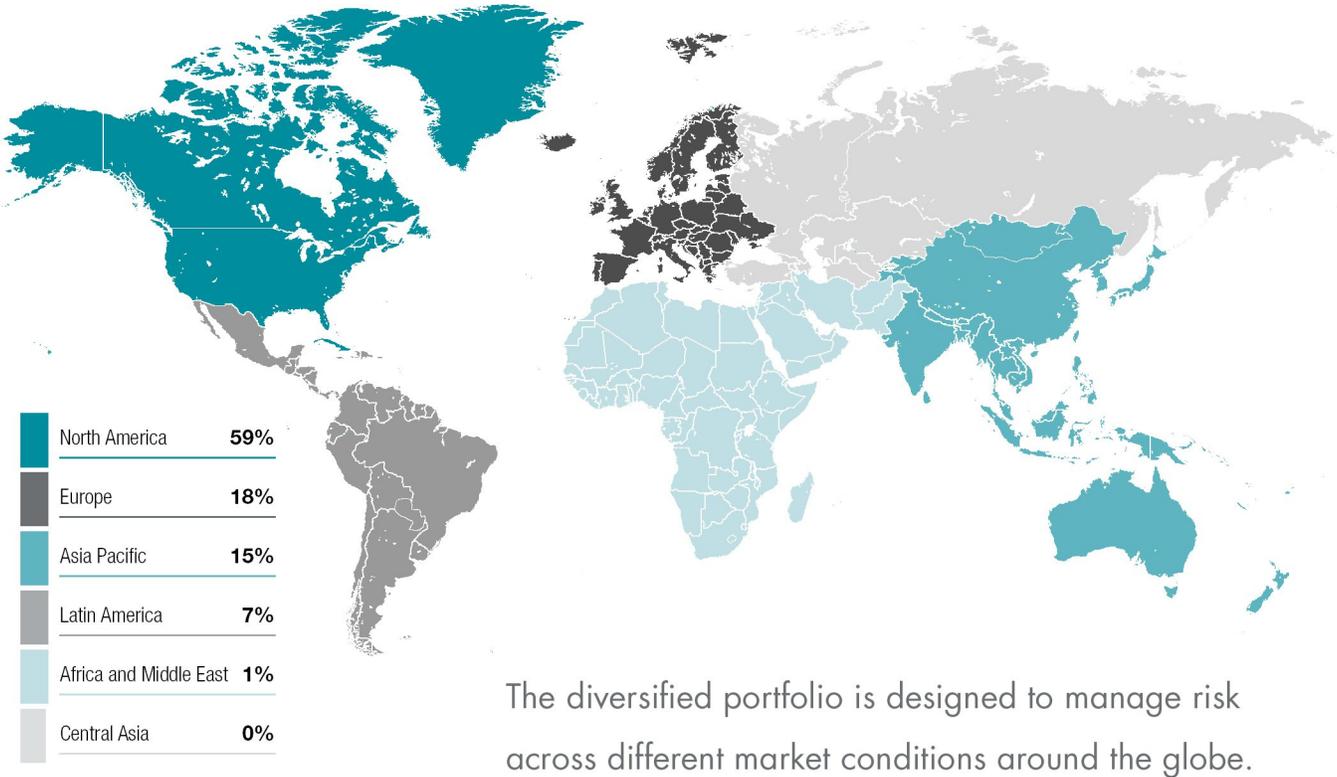
Schedule of Payments to Consultants	
For the Year Ended June 30, 2019 — Dollars in Thousands	
	Commission/Fee
Computer/Technology	
Aetea Information Technology Inc.	\$ 179
Bizagi Corp	591
Integrated Solutions Group LLC	84
Martin Analysis & Programming Inc.	480
Total Computer/Technology	1,334
Legal	
Freimund Jackson Tardif & Benedict Garratt PLLC	58
Gallitano & O'Connor LLP	7
Ice Miller LLP	57
K&L Gates LLP	98
Total Legal	220
Management	
CEM Benchmarking Inc.	45
Charles W. Cammack Associates Inc.	193
CliftonLarsonAllen LLP	229
The Caughlin Group	3
Total Management	470
Recordkeeping	
Great-West Life & Annuity (Empower Retirement)	3,834
Total Recordkeeping	3,834
Total Payments to Consultants	\$ 5,858

For fees paid to investment professionals, refer to the Investment Section of this report.

INVESTMENTS by the Numbers

Commingled Trust Fund (CTF) Diversification

This chart illustrates where the Washington State Investment Board (WSIB) invests monies pooled in the CTF. As of June 30, 2019, DRS' investment in the CTF was valued at \$109.7 billion.

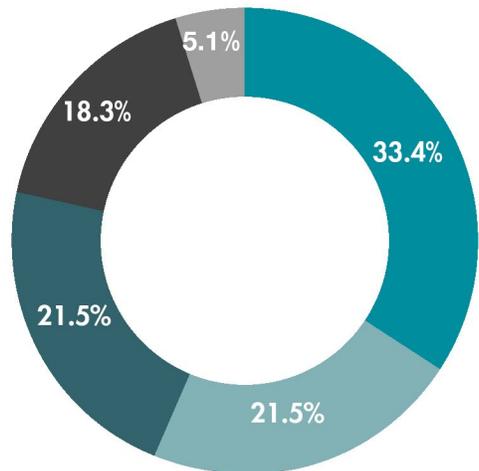


\$110.0 BILLION IN INVESTMENTS

8.4% CTF RETURN IN FISCAL YEAR 2019

99.8% OF CTF COMPOSED OF RETIREMENT FUNDS FROM DRS SYSTEMS

Current CTF Asset Allocation As of June 30, 2019



Public Equity 33.4% Real Estate 18.3%
 Fixed Income 21.5% Tangibles 5.1%
 Private Equity 21.5% Cash and Innovation are <0.1% each

Investment Section

Report on Investment Activity

Prepared by the Washington State Investment Board

Overview

The Washington State Investment Board (WSIB) manages retirement fund assets to maximize return at a prudent level of risk (RCW 43.33A.110). Investment decisions are made within the framework of a Strategic Asset Allocation Policy and a series of written WSIB-adopted investment policies for the various asset classes in which the WSIB invests.

The retirement funds, collectively called the Commingled Trust Fund (CTF), increased in value by \$8.4 billion to \$110.0 billion during fiscal year 2019. The CTF return was 8.36% for the fiscal year.

Established on July 1, 1992, the CTF is a diversified pool of investments that is invested in fixed income, public equity, private equity, real estate and tangible assets. Additional general information about the CTF includes:

- **Participant Concentration:** The DRS retirement funds make up 99.8% of the CTF. Their respective concentrations are:
 - PERS 1 (7.1%)
 - PERS 2/3 defined benefit (DB) and defined contribution (DC) plans (40.2%)
 - SERS 2/3 DB and DC plans (7.0%)
 - PSERS 2 (0.7%)
 - TRS 1 (5.3%)
 - TRS 2/3 DB and DC plans (19.7%)
 - WSPRS 1/2 (1.3%)
 - LEOFF 1 (5.5%)
 - LEOFF 2 (12.9%)
- **External Managers:** The WSIB engages approximately 131 partnerships and external managers to assist in the management of the CTF's investments.
- **Risk:** The various risks of the CTF portfolio include interest rate risk, credit risk, concentration risk and foreign currency risk, as described in [Note 1 of the Financial Section](#) of this report. The WSIB has not created a total fund risk profile for the CTF.

- **Leverage:** The WSIB does not leverage the CTF portfolio as a whole. Individual securities within the CTF do employ varying degrees of leverage; however, the WSIB does not capture this information on a total basis.
- **Earnings:** The CTF does not distribute earnings directly to the owner funds. The retirement fund plans are allowed to purchase or sell units in the pool, based on the fair value of the underlying assets, on the first business day of each month. The net asset value includes interest and dividend income, which is recognized on a trade-date basis, and purchases and sales of investments, which are recorded on a trade-date basis.
- **Expense:** The CTF's expense ratio for the year ended June 30, 2019, was 0.88195%.
- **Yield:** The CTF's fixed income portfolio has a yield of 3.48%.
- **Weighted Average Maturity:** The CTF fixed income portfolio has a weighted average maturity of 8.23 years. Additional maturity information is available in [Note 1 of the Financial Section](#) of this report.

Basis of Presentation of Investment Data

Investments are reported at fair value. Unrealized gains and losses are included as investment income.

The net investments of the retirement funds are valued on a monthly basis using publicly traded securities, limited partnerships, private equity limited partnerships and real estate limited partnerships.

Publicly Traded Securities (Corporate Stock, Commingled Funds, Investment Derivatives and Fixed Income): Fair values are based on published market prices, quotations from national security exchanges and security pricing services as of each month-end closing of the New York Stock Exchange.

Limited Partnerships: The fair value of investments that are organized as limited partnerships and have no

Report on Investment Activity (cont.)

readily ascertainable fair value (such as private equity, real estate and tangible assets) has been determined by management. Those determinations are based on the individual investment's capital account balance, reported at fair value by the general partner, at the closest available reporting period, adjusted for subsequent contributions, distributions, management fees, changes in value of foreign currency and published market prices for certain securities. Independent auditors audit the limited partnerships' annual financial statements.

Private Equity Limited Partnerships: The fair value of individual capital account balances is based on the valuations private equity partnerships report using the following methodologies to value the underlying portfolio companies:

- Valuations of publicly traded portfolio companies are based on active exchanges using quoted market prices as of the close of trading for each month end.
- When a portfolio company investment does not have a readily available market price but has a return that is determined by reference to an asset for which a market price is readily available, valuations are based on the closing market price of the reference asset on the valuation date, adjusted for factors that affect the fair value of the investment held.
- When the portfolio company investments are private holdings and are not traded on active security exchanges, valuation methodologies rely on income and market approaches. The income approach involves a discounted cash-flow analysis based on portfolio companies' projections. The market approach involves valuing a company at a multiple of a specified financial measure (generally EBITDA, or earnings before interest, taxes, depreciation and amortization) based on multiples at which comparable companies trade.

Real Estate Limited Partnerships: Real estate partnerships provide quarterly valuations, based on the most recent capital account balance, to WSIB management. Individual properties are valued by the partnerships at least annually and are adjusted as frequently as quarterly if material market or operational changes have occurred.

Properties are generally externally valued every one to five years, depending on the partnership. Structured finance investments receive quarterly value adjustments by the partners, generally applying the assumption that all such positions will be held to maturity.

Annual audits of most partnerships include a review of compliance with the partnership's valuation policies.

Interest and dividend income is recognized when earned. Capital gains and losses are recognized on a trade-date basis. Purchases and sales of investments are also recorded on a trade-date basis. The investment results reported for these asset classes in the Investment Section reflect these practices.

Report on Investment Activity (cont.)

Returns for the CTF Based on Total Fund and Asset Class

Periods Ending June 30, 2019

	1-Year	3-Year	5-Year	10-Year
Total Fund	8.36%	10.65 %	7.85 %	10.31%
Passive Benchmark	6.19%	9.07 %	5.52 %	8.88%
Fixed Income	9.20%	3.81 %	3.29 %	4.82%
Barclays Capital Universal	8.07%	2.84 %	3.18 %	4.37%
Tangible	3.11%	7.72 %	5.15 %	4.74%
CPI Lagged One Quarter + 400 bp	5.87%	6.21 %	5.49 %	5.81%
Real Estate	8.66%	11.18 %	11.64 %	10.68%
8% Return Over Rolling 10 Years	n/a	n/a	n/a	8.00%
NCREIF Lagged One Quarter (for Comparison Purposes)	6.83%	7.07 %	9.13 %	8.50%
Public Equity	5.98%	11.99 %	6.76 %	11.01%
Dow Jones Wilshire Global Index	4.89%	11.76 %	6.36 %	10.64%
Private Equity	12.26%	15.23 %	12.24 %	14.69%
Russell 3000 Lagged One Quarter + 300 bp	5.20%	13.92 %	9.66 %	15.60%
Innovation	20.47%	(16.65)%	(13.16)%	1.40%
Custom Benchmark	6.52%	7.35 %	1.41 %	4.91%
Cash	2.43%	1.57 %	1.02 %	0.59%
90-Day T-Bills	2.33%	1.40 %	0.89 %	0.50%

Performance

The chart above shows the time-weighted rates of return for the CTF on a total fund basis as well as by asset class. Appropriate benchmark returns are provided for comparison purposes.

Performance information is compiled by the custodian, State Street Bank. Performance numbers are reported net of management fees and are prepared using a time-weighted rate of return based on the current market value.

Asset Allocation

Investment performance is a result of two primary factors: individual asset selection and the allocation of the portfolio among asset classes (for example, stocks, fixed income and real estate). Studies suggest that more than 90% of investment performance can be explained by asset allocation decisions.

Accordingly, the WSIB sets a specific, long-term target asset mix and adopts tight ranges around those targets to control the overall risk and return of the CTF. On a daily basis, the WSIB reviews the asset allocation in relation to the established ranges. Its staff shifts assets

whenever the allocation range for an asset exceeds the approved range or when cash is needed elsewhere.

The WSIB reviews changes to the overall asset mix every three to four years.

The chart below shows the CTF's asset allocation as of June 30, 2019, as well as the long-term target allocations.

Current Asset Allocation and Long-Term Target Allocations — As of June 30, 2019		
Asset Type	Target Allocation	Actual Allocation
Fixed Income	20.00%	21.50%
Tangible Assets	7.00%	5.13%
Real Estate	18.00%	18.25%
Public Equity	32.00%	33.36%
Private Equity	23.00%	21.49%
Innovation	0.00%	0.14%
Cash	0.00%	0.13%
Total	100.00%	100.00%

Public Equity

The public equity program uses a global benchmark, the Morgan Stanley All Country World with USA Gross Investable Market Index, reflecting the globalization of capital markets. Since many U.S. companies like Coca-

Report on Investment Activity (cont.)

Cola get much of their revenue from overseas and many so-called foreign companies serve mainly the U.S., distinctions between “U.S. stocks” and “international stocks” have become increasingly blurred. The WSIB believes the future success of the program depends on investment managers finding the most attractive opportunities wherever they are in the world.

Because U.S. equity markets are generally efficient and international equity markets are increasingly efficient, most of the WSIB’s public equity investments are in lower-cost, broad-based passive index funds.

The WSIB employs both passive U.S. equity and passive international equity to maintain policy weights in both areas. All the global equity mandates in which investment firms can pick the most attractive stocks wherever they are in the world (U.S. or international) and all the emerging markets equity mandates are actively managed.

**Retirement Funds’ 10 Largest Public Equities
June 30, 2019**

	Holdings	Exposure by Country	
Microsoft Corp.	1.71%	United States	58.46%
Apple Inc.	1.62%	United Kingdom	6.26%
Alphabet Inc.	1.25%	Japan	5.79%
Facebook Inc.	1.03%	Germany	3.43%
Amazon.com Inc.	1.01%	China	2.98%
Visa Inc.	0.95%	France	2.72%
Mastercard Inc.	0.89%	Switzerland	2.51%
Oracle Corp.	0.85%	Canada	2.04%
HCA Holding Inc.	0.74%	Hong Kong	1.40%
UnitedHealth Group Inc.	0.69%	Australia	1.35%

U.S. Equity

The U.S. equity portfolio is structured to capture the returns of the broad U.S. equity market as measured by the MSCI U.S. Investable Market Index (IMI). The index is composed of U.S. domiciled common equities for which pricing information is readily available and currently represents about 2,437 companies. The portfolio is managed externally using a passive management strategy that tracks the index.

Non-U.S. Equity

The non-U.S. equity portfolio is benchmarked to a broad non-U.S. equity benchmark, currently the MSCI All Country World Index (ACWI) IMI ex U.S. Investable Market Index. About 32% of the public equity portfolio is invested in non-U.S. markets, 72% of which is invested in developed markets with the remaining portion invested in emerging markets. Portfolios are managed by external managers employing primarily a passive approach in developed markets and solely active strategies in emerging markets.

Global Equity

The global equity portfolio is benchmarked to a broad global equity benchmark, currently the MSCI ACWI IMI with U.S. Gross. About 29% of the public equity portfolio is invested in global equity strategies, which includes U.S. and non-U.S. markets. External managers employing active strategies manage these strategies.

Fixed Income

WSIB staff members internally manage the fixed income portfolio using Barclays Capital Universal Index as the performance benchmark. The management strategy is primarily one of sector selection.

The portfolio is structured to be over- or under-weighted relative to the benchmark’s sectors: primarily treasuries, agencies, credit, mortgage-backed securities and asset-backed securities. The duration of the portfolio is slightly shorter than that of the Barclays Capital Universal Index.

**Retirement Funds’ Fixed Income Sector Distribution
As of June 30, 2019**

Investment Type	WSIB Fixed Income	Barclays Capital Universal Index
Cash	0.11%	0.00%
Treasury Inflation Protected Securities (TIPS)	0.00%	0.00%
U.S. Treasury	30.12%	33.10%
U.S. Agency	0.00%	1.02%
U.S. Credit	64.08%	40.60%
Pass-Through Mortgages	4.54%	23.04%
Collateral Mortgage Obligations (CMO)	0.78%	0.00%
Commercial Mortgage-Backed Securities (CMBS)	0.37%	1.84%
Asset-Backed Securities (ABS)	0.00%	0.41%

Report on Investment Activity (cont.)

Private Equity

The private equity portfolio, originated in 1981, is primarily invested in partnerships that acquire or create ongoing businesses or operating companies. The WSIB has investments in all stages of the business cycle, from private startup technology companies to large multinational public concerns. These are long-term investments, typically spanning at least 10 to 12 years. They are expected to generate investment returns well in excess of public equity securities.

Real Estate

The real estate portfolio is invested in a diversified group of properties, including office buildings, retail facilities, apartments, warehouses and specialty properties. The majority of these investments have been made in partnerships with operating management groups. The WSIB invests in real estate opportunities globally.

Tangible Assets

The board added tangible assets to its asset allocation in November 2007 and adopted an investment policy for the new assets class in January 2008.

The long-term allocation target is 7%, plus or minus 2%, and the benchmark is the Consumer Price Index (CPI) lagged one quarter plus 400 basis points. The categories of investments in this asset class include agriculture, commodities, infrastructure, natural resource rights and timber.

Portfolio Holdings

A complete list of portfolio holdings is available by contacting:

Washington State Investment Board
2100 Evergreen Park Drive SW
PO Box 40916
Olympia, WA 98504-0916
360-956-4600

Summary of Investment Policies

The Washington State Investment Board (WSIB), as authorized by statute, has the investment management responsibility for the pension funds. The WSIB manages retirement fund assets to maximize return at a prudent level of risk (RCW 43.33A.110).

Retirement Fund Asset Allocation

The WSIB establishes asset allocation targets that must be considered at all times when making investment decisions. The asset mix might deviate from the target.

Deviations greater than predetermined, acceptable levels require rebalancing back to the target. If an asset class exceeds its range, the goal of rebalancing is to meet the target allocation within consideration of the other remaining asset classes.

Retirement funds are invested in the Commingled Trust Funds (CTF). The CTF's performance benchmark objective is to exceed the return of a policy benchmark consisting of public market indices weighted according to asset allocation targets. The asset allocation for the CTF is formally reviewed every three or four years.

The WSIB periodically reviews the asset allocation in relation to the established ranges.

Public Markets Equity

The Public Markets equity program seeks to:

- Achieve the highest return possible from active management with passive as the default consistent with prudent risk management and the desire for downside protection
- Maintain liquidity and transparency in public equity, given the WSIB's allocation to illiquid markets and investment structures in other strategies and/or asset classes
- Provide diversification to the WSIB's overall investment program

The public markets equity portion of the retirement funds invests in publicly traded equities globally, including equity securities in the U.S., developed non-U.S. and emerging markets. The program has a global

benchmark, currently the MSCI All Country World Investable Market Index with U.S. Gross (MSCI ACWI IMI w/ U.S. Gross).

Fixed Income

The WSIB's fixed income investments are actively managed with the goal of exceeding the return of the Barclays Capital Universal Index over the long term. The major permissible investments include U.S. treasuries and government agencies, Treasury Inflation Protection Securities (TIPS), mortgage-backed securities, asset-backed securities, and credit bonds, both investment grade in quality and below investment grade.

Policy constrains the portfolio from investing more than 1% of the portfolio's par holdings in any single issuer with a quality rating below investment grade and from having a duration (the sensitivity of the portfolio's market value to changes in the level of interest rates) that is more than 20% different from the duration of the Universal Index. In addition, the major sector allocations are limited to the following ranges:

Range Limitations of Major Sector Allocations	
U.S. Treasuries and Government Agencies	10-45%
Credit Bonds	10-80%
Asset-Backed Securities	0-10%
Commercial Mortgage-Backed Securities	0-10%
Mortgage-Backed Securities	5-45%

Private Equity Investing

The WSIB can invest in any appropriate private equity investment opportunity that has the potential for returns superior to traditional investment opportunities and that is not prohibited by law or the WSIB's policies.

These investment types are divided into venture capital investments, corporate finance (including leveraged, management and employee buyouts), distressed, international and mezzanine investments. Private equity investments are made through limited partnership vehicles.

To meet the return and plan objectives, the private

Summary of Investment Policies (cont.)

equity portfolio has diversified investments in companies in a variety of stages of growth. The portfolio also includes a broad cross-section of opportunities in different industries and geographic regions.

Real Estate Program

The WSIB's real estate program is an externally managed pool of selected partnership investments, intended to provide alternative portfolio characteristics when compared to traditional stock and bond investments.

The majority of the WSIB's partnerships invest in institutional-quality real estate assets that are leased to third parties. Income generated from bond-like lease payments coupled with the hard asset qualities of real estate combine to generate returns that are expected to fall between the return expectations for fixed income and equities.

The real estate portfolio is managed to deliver risk-adjusted returns that are consistent with the board's long-term return expectations for the asset class. The WSIB's real estate partnerships typically invest in private real estate assets that are held for long-term income and appreciation.

Many of the WSIB's investment partnerships do not involve co-investment with other financial entities, thereby providing the WSIB with control provisions related to liquidation, acquisition and ongoing operational decisions for annual capital expenditures.

Volatility within the real estate portfolio is minimized through a combination of factors. First, the majority of the WSIB's partners own real estate assets in a private investment form, which is not subject to public market volatility. Second, real estate capital is diversified among a host of partners with varying investment styles. Third, partnership assets are invested in numerous economic regions, across the globe, and in various property types. Fourth, the WSIB's partners invest at different points within the properties' capital structures

and life cycles.

The WSIB's current benchmark for real estate is an 8% return over a rolling 10 years. The National Council of Real Estate Investment Fiduciaries (NCREIF) property index lagged one quarter is still used for comparison purposes but is no longer the policy benchmark.

Tangible Assets

The WSIB can invest in any tangible asset investment opportunity that demonstrates acceptable risk-adjusted returns as long as law and board policy do not prohibit such opportunities. The WSIB seeks a prudent and disciplined approach to achieving a well-diversified portfolio of tangible asset investments targeting appropriate risk-adjusted returns for the asset class. Staff members make best efforts to obtain significant co-investment from their investment partners to improve alignment of interests.

Staff members prudently seek to diversify the portfolio cognizant of each partner's strategy and business plan. Investments are not made solely to achieve product type or geographic diversification.

Investment Professionals

For the Year Ended June 30, 2019 — Page 1 of 2

The investment professionals below provided services for the retirement funds during fiscal year 2019.

Private Equity Partners

Actis	Kohlberg Kravis Roberts & Co.
Advent International	KSL Capital Partners
Affinity Equity Partners	Leonard Green & Partners
Alta Communications	Madison Dearborn Partners
Apax Partners	MatlinPatterson Global Advisors
Apex Investment Partners	Menlo Ventures
Austin Ventures	Mobius Venture Capital
Banc Funds	New Enterprise Associates
Battery Ventures	New Mountain Capital
BC Partners	Nordic Capital
BGH Capital	Oak Investment Partners
Blackstone Group	Oaktree Capital Management
Bridgepoint Capital	OVP Venture Partners
Canaan Partners	PAG Asia Capital
Carlyle Group	PAI Partners
CDH Investments	Palamon Capital Partners
Centurium Capital	Permira
Charterhouse Capital Partners	Polaris Venture Partners
Cinven Ltd.	Providence Equity Partners
Denham Capital	Rhone Capital
Edgewater Funds	Roark Capital Group
EIG Global Energy Partners	Searchlight Capital Partners
El Dorado Ventures	Sequoia Capital
Endeavour Capital	Silver Lake Partners
Essex Woodlands	Southern Cross Group
First Reserve Corp.	Spark Management Partners
Fisher Lynch Capital	Stone Point Capital
Fortress Investment Group	TA Associates
FountainVest Partners	Tailwind Capital Partners
Francisco Partners	Technology Crossover Ventures
Frazier & Co.	The Riverside Co.
Friedman Fleischer & Lowe	TowerBrook Capital Partners
GI Partners	TPG Partners
GTCR	Trident Capital Partners
H.I.G. Ventures	Triton Partners
HarbourVest Partners	U.S. Venture Partners
Hellman & Friedman	Union Square Ventures
Insight Venture Partners	Unitas Capital
Intersouth Partners	VantagePoint Venture Partners
	Vestar Capital Partners
	Vivo Ventures

Investment Professionals (cont.)

For the Year Ended June 30, 2019 — Page 2 of 2

Private Equity Partners (cont.)

Warburg Pincus
Wellspring Capital Management

Real Estate Partners

Aevitas Property Partners
Calzada Capital Partners
Cherokee
Crane Capital
Emerging Markets Fund of Funds
Evergreen Investment Advisors
Fillmore Capital Partners
Global Co-Investment
Hemisferio Sul
Hudson Advisors
Morgan Stanley
Pacific Realty
Principal Enterprise Capital
Proprium
Warburg Pincus

Tangible Partners

Agriculture Capital Management
Alinda Capital Partners
Arable Capital
Barings
EnerVest Ltd.
Geronimo Energy
Global Infrastructure Partners
Homestead Capital
I Squared Capital
International Farming Corp.
KKR & Co.
Laguna Bay Pastoral Co.
Lime Rock Resource
Oaktree Capital Management
Orion Resource Partners
Prostar Capital
Reservoir Resource Partners
Sheridan Production Partners
Silver Creek Advisory Partners
Stonepeak Advisors

Teays River Investments
UBS Farmland Investors
Warwick Management Co.

Public Equity Fund Managers

AQR Capital Management
Arrowstreet Capital LP
BlackRock Institutional Trust Co.
Brandes Investment Partners
D.E. Shaw Investment Management
Lazard Asset Management LLC
Longview Partners
Magellan Asset Management Ltd.
Mondrian Investment Partners Ltd.
State Street Global Advisors
William Blair & Co.

Schedule of Investment Management Fees and Commissions

For the Year Ended June 30, 2019

Dollars in Thousands

	Fees Paid	Netted Fees ¹	Total Fees and Expenses	Net Assets Under Management
Equity Securities				
Public Equity Active Management	\$ 55,936	\$ 311	\$ 56,247	\$ 16,940,008
Public Equity Passive Management	2,964	1,042	4,006	18,378,431
Alternative Investments				
Private Equity	265,617	112,741	378,358	24,343,801
Real Estate	297,921	96,777	394,698	20,239,449
Tangible Assets	86,081	20,952	107,033	5,626,475
Cash Management	2,639	—	2,639	1,296,851
Debt Securities	—	—	—	22,831,857
Other Fees				
Consultants and Accounting	966	—	966	—
Legal Fees	1,496	—	1,496	—
Research Services	2,374	—	2,374	—
Securities Lending Rebates and Fees	19,713	—	19,713	—
Miscellaneous Fees	261	—	261	—
DCP Management Fees	6,555	—	6,555	—
JRA Management Fees	12	—	12	—
PERS Plan 3 Management Fees	1,424	—	1,424	—
SERS Plan 3 Management Fees	578	—	578	—
TRS Plan 3 Management Fees	3,877	—	3,877	—
WSIB Operating Costs	18,868	—	18,868	—
Total Investment Expenses	\$ 767,282	\$ 231,823	\$ 999,105	\$ 109,656,872

¹ Netted fees are included in unrealized gains (losses) in the accompanying Statement of Changes in Fiduciary Net Position.

Schedule of Broker Volume and Equity Commissions Paid

For the Year Ended June 30, 2019

Dollars in Thousands — Page 1 of 5

Broker	Equity				Fixed Income	
	Volume Transacted	Buy Cost	Proceeds	Commission	Long-Term Volume Transacted	Short-Term Volume Transacted
ABG Securities Ltd.	\$ 184	\$ —	\$ 288	\$ 1	\$ —	\$ —
Arqaam Capital South Africa Pty.	1,086	—	37,064	43	—	—
B.Riley & Co. LLC	1,406	3,117	2,930	6	—	—
Banco Itau SA	1,092	—	1,444	3	—	—
Banco Pactual SA	—	—	—	—	2,993	—
Banco Santander Central Hispano	10	147	—	—	—	—
Bank of America Corp.	—	—	—	—	2,635,945	—
Bank of America Intl. NY United States	683	24,758	14,370	3	—	—
Bank of America Merrill Lynch Secur Inc.	1,261	19,956	—	—	—	—
Bank of America NYC	27,316	621,604	631,510	201	—	—
Bank of America Securities, Inc.	—	—	—	—	252,448	—
Bank of America Securities, Inc. / Fixed Income	—	—	—	—	39,913	—
Bank of New York	—	—	—	—	54,880	—
Bank of New York/Barclays London	86	—	85	—	—	—
Bank of Nova Scotia	—	—	—	—	951,552	—
Barclays Bank PLC	—	—	—	—	58,871	—
Barclays Bank PLC London Branch	370	1,168	17,073	4	114,749	—
Barclays Capital	—	—	—	—	2,993	—
Barclays Capital BBPLC London Branch	45	85	—	—	49,891	—
Barclays Capital Inc.	12,094	361,431	356,999	2	—	—
Barclays Capital Inc./LE	—	—	—	—	27,939	—
BBVA Securities Inc.	—	—	—	—	894,045	—
BBVA/Securities NY	2	—	10	—	—	—
Bloomberg Tradebook LLC	—	—	—	—	149,673	—
BMO Capital Markets	63	1,723	—	1	—	—
BMO Capital Markets Corp. Bonds	—	—	—	—	147,658	—
BMO Nesbitt Burns Trading Corp. SA	—	—	—	—	34,924	—
BNP Paribas Securities (Asia) Ltd.	5,656	34,982	28,579	21	—	—
BNP Paribas Securities Bond	215	2,917	1,869	3	—	—
BNP Paribas Securities Corp./Fixed Income	14,866	9,587	5,579	9	—	—
BNP Paribas Securities India Pvt. Ltd.	—	—	—	—	149,673	—
BNP Paribas Securities Services	—	—	—	—	997,818	—
BNP Paribas Securities Services Australia	6,305	12,586	30,088	22	—	—
BNP Paribas Securities Services France	—	—	—	—	87,309	—
BNP Paribas Securities Services SA	313	—	2,292	2	—	—
BNP Paribas U.S.A New York Branch	731	—	15,981	16	—	—
Bony/Toronto Dominion Securities Inc.	99	—	28	—	—	—
Bradesco SA CTVM	601	4,818	—	11	—	—
Bradesco Securities	282	589	—	—	—	—
Brown Brothers Harriman & Co.	543	6,392	2,721	6	—	—
BTG Pactual Chile SA Corredores de Bolsa	—	—	—	—	374	—
BTIG LLC	16,114	26,614	7,999	14	—	—
Canaccord Genuity Ltd.	—	—	—	—	18,959	—

Schedule of Broker Volume and Equity Commissions Paid (cont.)

For the Year Ended June 30, 2019

Dollars in Thousands — Page 2 of 5

Broker	Equity				Fixed Income	
	Volume Transacted	Buy Cost	Proceeds	Commission	Long-Term Volume Transacted	Short-Term Volume Transacted
Canadian Imperial Bank of Commerce	\$ 122	\$ 337	\$ 40	\$ —	\$ —	\$ —
Cantor Fitzgerald & Co.	—	—	—	—	4,989	—
Cantor Fitzgerald (Hong Kong)	488	22,144	19,416	30	—	—
Cantor Fitzgerald Europe	503	1,738	1,729	1	—	—
Carnegie Investment Bank AB	32,908	368,764	347,041	145	369,049	—
CDS RBC Dominion Securities Inc.	—	—	—	—	955,411	—
China Intl. Capital Co.	1,563	5,407	475	5	—	—
CIBC World Markets Inc.	68,249	117,132	140,711	83	—	—
CIMB Securities USA Inc.	4,964	5,747	7,875	9	—	—
CIMB-GK Securities Pte. Ltd.	3,053	1,269	3,135	3	—	—
Citibank Mexico	134	2,364	24,556	1	—	—
Citibank N.A.	1,449	13,252	18,808	8	—	—
Citibank of Colombia	307	4,144	8,033	7	—	—
Citigroup Global Market Korea Securities Ltd.	19,757	69,347	85,991	47	—	—
Citigroup Global Markets Australia Pty.	19,847	311,106	243,848	123	—	—
Citigroup Global Markets Inc.	19,348	11,188	12,253	14	—	—
Citigroup Global Markets Inc. Salomon Brothers	2,202	12,289	4,141	11	—	—
Citigroup Global Markets India	—	—	—	—	44,612	—
Citigroup Global Markets Ltd.	38,529	30,351	27,431	16	—	—
Citigroup Global Markets Taiwan	1,908	26,958	33,290	17	—	—
CI Securities Taiwan Company Ltd.	577	329	4,999	9	—	—
CLSA Americas	3,914	75,641	27,045	53	—	—
CLSA Australia Pty. Ltd.	103	—	2,036	5	—	—
CLSA Securities Korea Ltd.	228,472	261,694	251,942	132	1,512,623	—
CLSA Singapore Pte. Ltd.	229	37	126	—	—	—
Concordia SA CVMCC	671	1,454	13,055	9	—	—
Convencao SA Corretora de Valores	—	—	670	1	—	—
Corpcapital Corredores de Bolsa SA	91	—	313	—	—	—
Cowen & Co. LLC	6,047	54,532	38,707	14	—	—
Cowen Execution Services LLC	48,126	85,396	84,551	37	232,492	—
Credit Lyonnais Securities (Asia)	36,967	39,945	39,010	69	—	—
Credit Lyonnais Securities India	31	—	409	—	—	—
Credit Suisse Ag-New York Branch/Dtc I.D	17,567	166,031	120,404	82	—	—
Credit Suisse First Boston	3	—	21	—	—	—
Credit Suisse First Boston (Europe)	1,139,760	1,446,371	1,337,233	223	316,711,413	—
Credit Suisse First Boston SA CTVM	5,955	35,280	42,244	27	—	—
Credit Suisse Securities (Europe) Ltd.	1,255	3,728	5,139	10	—	—
Credit Suisse Securities (India) Pte. Ltd.	141	1,190	505	1	—	—
Credit Suisse Securities (USA) LLC	471	—	2,659	1	—	—
CSFB Australia Equities Ltd.	25,522	39,130	83,691	55	—	—
Daiwa SBCM Europe	82	—	409	—	—	—
Daiwa Securities (Hong Kong) Ltd.	44	—	1,167	1	—	—
Daiwa Securities America Inc.	186	4,302	8,562	9	—	—

Schedule of Broker Volume and Equity Commissions Paid (cont.)

For the Year Ended June 30, 2019

Dollars in Thousands — Page 3 of 5

Broker	Equity				Fixed Income	
	Volume Transacted	Buy Cost	Proceeds	Commission	Long-Term Volume Transacted	Short-Term Volume Transacted
Daiwa Securities Co. Ltd.	\$ 44,585	\$ 142,833	\$ 106,669	\$ 71	\$ —	\$ —
Daiwa Securities SB Capital Markets	5,044	124,430	117,023	37	—	—
Danske Bank AS	1,818	1,059	1,509	2	—	—
Davy Stockbrokers	71,514	254,877	148,684	104	29,935	—
DBS Vickers Securities (Singapore)	—	—	—	—	56,876	—
DBTC America/PNC Bank NA Securities Co.	—	—	—	—	176,614	—
Deutsche Bank AG London	708	955	3,271	8	—	—
Deutsche Bank Securities Inc.	6,901	15,995	4,162	10	—	—
Deutsche Equities India Pvt. Ltd. DB	29	20	302	—	—	—
Deutsche Securities Asia Ltd.	6,098	50,226	35,622	21	—	—
DSP Merrill Lynch Ltd.	19,436	306,376	326,635	109	—	—
Edelweiss Securities Pvt. Ltd.	26,878	15,136	24,430	16	—	—
Euroclear Bank SA NV	139	—	980	—	—	—
Exane SA	22,637	208,258	228,384	120	—	—
Flow Corretora de Mercadorias Ltd.	12,508	405,227	467,050	58	—	—
Goldman Sachs & Co.	57,071	327,093	167,554	89	—	—
Goldman Sachs (Asia) LLC	130	988	—	3	—	—
Goldman Sachs (India)	18,668	92,250	105,973	27	—	—
Goldman Sachs Australia Pty. Ltd.	721	4,883	3,849	2	—	—
Goldman Sachs do Brasil Corretora	85	51	—	—	—	—
Goldman Sachs Intl.	1,985	60,982	64,535	17	51,138	—
Goodbody Stockbrokers	242	431	—	—	—	—
Hanwha Securities Seoul	108	—	259	—	—	—
Hongkong & Shanghai Banking Corp.	11,929	37,911	20,336	25	—	—
HSBC Bank PLC	159	—	3,315	6	—	—
HSBC Brokerage (USA) Inc.	867	—	22,751	26	—	—
HSBC Securities	—	—	—	—	498,519	—
HSBC Securities (USA) Inc.	—	—	—	—	34,924	—
HSBC Securities (USA) Inc. (Fixed Income)	6,415	146,237	183,192	48	—	—
HSBC Securities Inc.	176	1,046	—	1	—	—
HSBC Securities India Holdings	64,419	38,309	58,620	66	—	—
ICICI Brokerage Services	123	11,297	4,744	9	—	—
IM Trust SA Corredores de Bolsa	4,423	6,254	1,130	4	—	—
India Infoline Ltd.	959	5,334	10,351	4	—	—
Instinet	7,007	23,586	16,045	27	—	—
Instinet Australia Clearing Services Pty. Ltd.	4,548	104,843	102,106	45	790,272	—
Instinet Canada	27,842	165,763	181,286	113	9,978	—
Instinet LLC	1,560	—	896	1	—	—
Instinet Pacific Ltd.	117	679	868	1	—	—
Instinet Singapore Services Pte.	1,945	612	—	1	—	—
Instinet UK Ltd.	50	—	1,529	1	—	—
Investec Bank PLC	5,012	179,104	156,044	65	—	—
Investec Securities Ltd.	2,192	37,566	21,013	12	—	—

Schedule of Broker Volume and Equity Commissions Paid (cont.)

For the Year Ended June 30, 2019

Dollars in Thousands — Page 4 of 5

Broker	Equity				Fixed Income	
	Volume Transacted	Buy Cost	Proceeds	Commission	Long-Term Volume Transacted	Short-Term Volume Transacted
Investment Technology Group Inc.	\$ 1,869	\$ 51,824	\$ 104,696	\$ 8	\$ —	\$ —
Investment Technology Group Ltd.	47,698	91,286	130,782	57	—	—
ISI Group Inc.	86	2,620	—	2	—	—
ITG Australia Ltd.	681	962	1,660	2	—	—
ITG Canada	12	255	32	—	—	—
ITG Inc.	172	68	8	—	—	—
ITG Securities (Hong Kong) Ltd.	778	—	29,789	28	—	—
Jefferies & Co. Inc.	660	13,996	13,142	—	—	—
Jefferies Hong Kong Ltd.	223,701	395,170	385,540	269	—	—
Jefferies India Private Ltd.	5,422	124,070	49,753	23	—	—
Jefferies Intl. Ltd.	383	374	3,562	1	—	—
JMP Securities	14	216	328	1	—	—
Joh. Berenberg, Gossler & Co.	—	—	—	—	52,884	—
JonesTrading Institutional Services LLC	6	1,018	—	—	—	—
JPMorgan Chase Bank	7,242	70,506	83,433	24	—	—
JPMorgan Chase Bank/Euroclear Bank	68,372	97,135	84,270	87	1,901,025	—
JPMorgan Chase Bank/HSBC SI	599	2,101	569	1	—	—
JPMorgan Chase Bank/RBS Securities Inc.	206	—	12,040	9	—	—
JPMorgan Chase/JPMorgan Intl.	110	—	195	—	—	—
JPMorgan Clearing Corp.	99	681	—	1	—	—
JPMorgan India Pte. Ltd.	—	—	—	—	37,917	—
JPMorgan Securities (Asia Pacific) Ltd.	—	—	—	—	123,554	—
JPMorgan Securities (Far East) Ltd. Seoul	6	—	398	—	—	—
JPMorgan Securities (Taiwan) Ltd.	—	—	—	—	171,284	—
JPMorgan Securities Australia Ltd.	—	—	—	—	99,782	—
JPMorgan Securities Inc.	131	2,923	—	2	—	—
JPMorgan Securities Ltd.	250	5,214	929	1	—	—
JPMorgan Securities PLC	4,367	92,405	79,245	34	—	—
JPMorgan Securities Singapore	7,765	175,254	228,020	79	134,739	—
Kepler Equities Paris	1,344	62,035	6,254	6	—	—
Kotak Securities Ltd.	33	657	—	—	93,795	—
Larrain Vial	228	650	2,437	1	—	—
Leerink Partners LLC	—	—	—	—	548,800	—
Liquidnet Canada Inc.	279	12,300	—	9	—	—
Liquidnet Europe Ltd.	170	2,741	2,786	4	—	—
Liquidnet Inc.	—	—	—	—	299,346	—
Loop Capital Markets	25,774	661,619	677,508	164	—	—
Luminex Trading & Analytics LLC	51,074	276,650	201,906	130	—	—
Macquarie Bank Ltd.	1,271	3,399	24,536	9	—	—
Macquarie Capital (Europe) Ltd.	11,478	267,749	292,413	80	—	—
Macquarie Securities (India) Pvt. Ltd.	1,332	2,388	2,685	3	—	—
Macquarie Securities (NZ) Ltd.	1,688	801	4,030	2	—	—
Macquarie Securities (USA) Inc.	16,799	49,515	84,247	37	—	—

Schedule of Broker Volume and Equity Commissions Paid (cont.)

For the Year Ended June 30, 2019

Dollars in Thousands — Page 5 of 5

Broker	Equity				Fixed Income	
	Volume Transacted	Buy Cost	Proceeds	Commission	Long-Term Volume Transacted	Short-Term Volume Transacted
Macquarie Securities Korea Ltd.	\$ 1,438	\$ 34,508	\$ 1,855	\$ 15	\$ —	\$ —
Macquarie Securities Ltd.	—	—	—	—	80,574	—
Maxim Group	17	5,934	—	4	—	—
Merrill Lynch Canada Inc.	4,440	36,713	23,606	14	—	—
Merrill Lynch Intl.	24,758	100,324	68,031	63	—	—
Merrill Lynch, Pierce, Fenner & Smith Inc.	—	—	—	—	9,978	—
Mirabaud Securities LLP	—	—	—	—	3,991,274	—
Mirae Asset Daewoo Co. Ltd.	—	—	—	—	12,972	—
Mitsubishi UFJ Securities (USA) Inc.	—	—	—	—	—	24,843,389
Mizuho Intl. PLC	679	8,885	—	—	—	—
Mizuho Securities USA Inc.	43	868	—	—	—	—
Mizuho Securities USA/Fixed Income	—	—	—	—	100,355	—
Morgan Stanley & Co. Intl.	16,536	112,506	99,123	55	14,967	—
Morgan Stanley Co. Inc.	2,255	67,645	5,832	18	—	—
Morgan Stanley DW Australia	66	1,456	—	—	—	—
Morgan Stanley DW Inc.	14,554	80,762	38,580	38	—	—
Morgan Stanley India Co. Pvt. Ltd.	18,117	34,724	16,638	21	—	—
Morgan Stanley Taiwan Ltd.	129	2,002	—	1	—	—
National Financial Services Corp.	241	—	2,544	2	—	—
Nesbitt Burns	6,779	126,691	149,540	36	36,919	—
NH Investment & Securities Co. Ltd.	968	179	5,727	5	—	—
Nomura Financial Advisory & Securities India	49	2,426	3,473	6	—	—
Nomura Securities Intl. Inc.	378	823	616	—	—	—
Nomura Securities/Fixed Income	461	602	11,850	14	—	—
Numis Securities Ltd.	10,331	217,056	236,260	83	—	—
Panmure Gordon & Co. Ltd.	—	—	—	—	472,975	—
Pavilion Global Markets Ltd.	261	1,725	1,053	5	209,873	—
Peel Hunt LLP	1	193	—	—	—	—
Penserra Securities LLC	3,679	11,043	21,136	21	—	—
Total	\$ 2,848,295	\$ 10,437,329	\$ 9,984,753	\$ 4,250	\$ 336,544,465	\$ 24,843,389

Summary of Investments Owned — Pension Trust Funds

Schedule of Investments Owned as of June 30, 2019

Dollars in Thousands — Page 1 of 7

Description	Rate	Maturity	Market Value	% of Total Market Value
Residential Mortgage-Backed Securities				
FNMA Pool MA3155	3.00	10/1/2032	\$ 242,679	0.20 %
FNMA Pool BH5704	3.00	10/1/2032	83,449	0.07 %
FNMA TBA 15 YR 2.5	2.50	7/18/2034	55,718	0.05 %
GNMA II TBA 30 YR 3.5	3.50	7/22/2049	47,981	0.04 %
FNMA Pool BH4101	3.50	10/1/2047	45,726	0.04 %
FNMA Pool MA3489	3.50	10/1/2033	45,141	0.04 %
FNMA Pool AS9937	3.00	7/1/2047	42,686	0.04 %
FNMA Pool AS8276	3.00	11/1/2046	41,141	0.03 %
FNMA Pool AL5255	2.50	7/1/2028	39,885	0.03 %
FED HM LN PC Pool G08721	3.00	9/1/2046	39,767	0.03 %
Other	—	—	524,541	0.44 %
Total Residential Mortgage-Backed Securities			1,208,714	1.01 %
Commercial Mortgage-Backed Securities				
Freddie Mac	3.50	11/25/2028	87,615	0.07 %
Freddie Mac	2.50	4/15/2047	60,690	0.05 %
GS Mortgage Securities Trust	3.57	5/10/2052	21,271	0.02 %
Wells Fargo Commercial Mortgage	3.47	11/15/2050	21,018	0.02 %
Freddie Mac	3.00	10/15/2040	15,276	0.01 %
Fannie Mae	2.50	7/25/2028	13,748	0.01 %
Morgan Stanley BAML Trust	3.33	5/15/2049	11,979	0.01 %
Wells Fargo Commercial Mortgage	3.17	2/15/2048	10,311	0.01 %
UBS Barclays Commercial Mortgage	3.09	8/10/2049	10,213	0.01 %
GS Mortgage Securities Trust	3.52	6/10/2047	9,441	0.01 %
Other	—	—	1,642	0.00 %
Total Commercial Mortgage-Backed Securities			263,204	0.22 %
Corporate Bonds — Domestic Dollar Denominated				
JPMorgan Chase & Co.	3.96	11/15/2048	58,012	0.05 %
Reliance Holdings USA	4.50	10/19/2020	56,152	0.05 %
Walmart Inc.	3.70	6/26/2028	54,430	0.05 %
Southwestern Electric Power	4.10	9/15/2028	53,884	0.04 %
Morgan Stanley	3.77	1/24/2029	52,568	0.04 %
Apple Inc.	3.75	11/13/2047	52,359	0.04 %
Citigroup Inc.	3.52	10/27/2028	51,487	0.04 %
Anheuser Busch InBev Worldwide	6.88	11/15/2019	50,712	0.04 %
Citigroup Inc.	2.70	10/27/2022	50,270	0.04 %
Apple Inc.	1.80	11/13/2019	48,805	0.04 %
Other	—	—	2,636,103	2.19 %
Total Corporate Bonds — Domestic Dollar Denominated			3,164,782	2.62 %

Summary of Investments Owned — Pension Trust Funds (cont.)

Schedule of Investments Owned as of June 30, 2019

Dollars in Thousands — Page 2 of 7

Description	Rate	Maturity	Market Value	% of Total Market Value
Corporate Bonds — Foreign Nondollar Denominated				
SACI Falabella	6.50	4/30/2023	\$ 27,356	0.02 %
America Movil SAB de CV	8.46	12/18/2036	19,035	0.02 %
Empresas Public Medellin	7.63	9/10/2024	15,266	0.01 %
Emgesa SA ESP	8.75	1/25/2021	9,096	0.01 %
Empresas Public Medellin	8.38	2/1/2021	3,185	— %
Total Corporate Bonds — Foreign Nondollar Denominated			73,938	0.06 %
Corporate Bonds — Foreign Dollar Denominated				
Banco de Bogota SA	6.25	5/12/2026	88,122	0.07 %
Perusahaan Gas Negara	5.13	5/16/2024	80,559	0.07 %
Klabn Austria GMBH	5.75	4/3/2029	79,556	0.07 %
Proven Honour Capital	4.13	5/6/2026	69,861	0.06 %
Toronto Dominion Bank	1.90	10/24/2019	69,745	0.06 %
Petrobras Glocal Finance	6.00	1/27/2028	68,886	0.06 %
APT Pipelines Ltd.	4.20	3/23/2025	62,776	0.05 %
Vale SA	5.63	9/11/2042	61,024	0.05 %
Alibaba Group Holding	3.40	12/6/2027	60,778	0.05 %
Banco Bradesco (Caymen)	5.75	3/1/2022	55,987	0.05 %
Other	—	—	8,451,807	7.02 %
Total Corporate Bonds — Foreign Dollar Denominated			9,149,101	7.61 %
U.S. Government Treasuries				
U.S. Treasury N/B	2.38	8/15/2024	446,734	0.37 %
U.S. Treasury N/B	2.88	8/15/2028	428,937	0.36 %
U.S. Treasury N/B	1.38	9/30/2019	398,332	0.33 %
U.S. Treasury N/B	2.00	8/15/2025	327,382	0.27 %
U.S. Treasury N/B	2.75	8/15/2047	312,395	0.26 %
U.S. Treasury N/B	3.38	11/15/2048	311,274	0.26 %
U.S. Treasury N/B	1.50	10/31/2019	298,738	0.25 %
U.S. Treasury N/B	3.13	11/15/2028	262,676	0.22 %
U.S. Treasury N/B	1.75	9/30/2019	249,201	0.21 %
U.S. Treasury N/B	3.00	8/15/2048	246,223	0.20 %
Other	—	—	3,560,698	2.96 %
Total U.S. Government Treasuries			6,842,590	5.69 %

Summary of Investments Owned — Pension Trust Funds (cont.)

Schedule of Investments Owned as of June 30, 2019

Dollars in Thousands — Page 3 of 7

Description	Rate	Maturity	Market Value	% of Total Market Value
Foreign Government and Agencies — Dollar Denominated				
Ontario Teachers Finance Trust	2.13	9/19/2022	\$ 75,263	0.06 %
Republic of Finland	1.50	9/21/2020	74,485	0.06 %
Republic of Indonesia	5.38	10/17/2023	54,715	0.05 %
Provincia de Buenos Aires	7.88	6/15/2027	51,734	0.04 %
CPPIB Capital Inc.	3.13	9/25/2023	51,182	0.04 %
Socialist Republic of Vietnam	4.80	11/19/2024	51,034	0.04 %
Province of Alberta	2.95	1/23/2024	50,866	0.04 %
Municipality Finance PLC	2.75	6/8/2021	45,615	0.04 %
Japan Bank for International Cooperation	2.38	11/16/2022	45,408	0.04 %
Japan Bank for International Cooperation	2.13	11/16/2020	39,952	0.03 %
Other	—	—	1,034,330	0.86 %
Total Foreign Government and Agencies — Dollar Denominated			1,574,584	1.30 %
Foreign Government and Agencies — Nondollar Denominated				
Republica Orient Uruguay	4.38	12/15/2028	48,018	0.04 %
Nota do Tesouro Nacional	10.00	1/1/2023	43,000	0.04 %
Queensland Treasury Corp.	4.25	7/21/2023	39,107	0.03 %
Republic of Colombia	4.38	3/21/2023	37,797	0.03 %
Republic of Chile	5.50	8/5/2020	34,117	0.03 %
Federal Republic of Brazil	10.25	1/10/2028	32,898	0.03 %
New S. Wales Treasury Corp.	5.00	8/20/2024	20,696	0.02 %
Federal Republic of Brazil	8.50	1/5/2024	19,363	0.02 %
Mex Bonos Desarr Fix Rt	6.50	6/9/2022	17,753	0.01 %
Nota do Tesouro Nacional	6.00	5/15/2021	15,238	0.01 %
Other	—	—	105,212	0.09 %
Total Foreign Government and Agencies — Nondollar Denominated			413,199	0.35 %
Supranational — Nondollar Denominated				
International Bank for Reconstruction & Development	5.75	10/21/2019	35,482	0.03 %
International Finance Corp.	8.25	6/10/2021	22,266	0.02 %
International Finance Corp.	8.00	10/20/2019	21,750	0.02 %
International American Development Bank	6.50	8/20/2019	21,153	0.02 %
Asian Development Bank	2.85	10/21/2020	13,053	0.01 %
Total Supranational — Nondollar Denominated			113,704	0.10 %

Summary of Investments Owned — Pension Trust Funds (cont.)

Schedule of Investments Owned as of June 30, 2019

Dollars in Thousands — Page 4 of 7

Description	Market Value	% of Total Market Value
Equity Securities — Domestic Dollar Denominated		
HCA Healthcare Inc.	\$ 247,606	0.21 %
Oracle Corp.	246,430	0.20 %
Microsoft Corp.	226,449	0.19 %
Mastercard Inc.	221,351	0.18 %
Visa Inc. Class A Shares	219,321	0.18 %
Apple Inc.	210,037	0.17 %
Starbucks Corp.	191,905	0.16 %
Facebook Inc.	187,251	0.16 %
UnitedHealth Group Inc.	152,094	0.13 %
Wells Fargo & Co.	150,272	0.12 %
Other	5,818,433	4.83 %
Total Equity Securities — Domestic Dollar Denominated	7,871,149	6.53 %
Equity Securities — Domestic Nondollar Denominated		
ResMed Inc. CDI	1,101	0.00 %
Autoliv Inc.	99	0.00 %
Veoneer Inc.	18	0.00 %
Total Equity Securities — Domestic Nondollar Denominated	1,218	0.00 %
Equity Securities — Foreign Nondollar Denominated		
Novartis AG-Reg	220,423	0.18 %
Nestle SA-Reg	214,670	0.18 %
Sanofi	184,198	0.15 %
SAP SE	175,549	0.15 %
Lloyds Banking Group PLC	164,213	0.14 %
Roche Holding AG Genussschein	159,191	0.13 %
Compass Group PLC	149,650	0.12 %
Continental AG	142,751	0.12 %
Enel SpA	123,941	0.10 %
Samsung Electronics Co. Ltd.	122,755	0.10 %
Other	11,215,993	9.31 %
Total Equity Securities — Foreign Nondollar Denominated	12,873,334	10.68 %
Equity Securities — Foreign Dollar Denominated		
Allergan PLC	114,022	0.09 %
Willis Towers Watson PLC	110,310	0.09 %
Aon PLC	110,056	0.09 %
Medtronic PLC	80,507	0.07 %
Alibaba Group Holding SP ADR	73,789	0.06 %
Gazprom Pao	45,261	0.04 %
Embraer SA	39,811	0.03 %
Taiwan Semiconductor SP ADR	39,306	0.03 %
Lukoil PJSC	33,743	0.03 %
Sberbank PJSC	24,280	0.02 %
Other	696,309	0.58 %
Total Equity Securities — Foreign Dollar Denominated	1,367,394	1.13 %

Summary of Investments Owned — Pension Trust Funds (cont.)

Schedule of Investments Owned as of June 30, 2019

Dollars in Thousands — Page 5 of 7

Description	Market Value	% of Total Market Value
Commingled Index Funds — Domestic		
BlackRock MSCI U.S. IMI	\$ 11,473,322	9.52 %
Total Commingled Index Funds — Domestic	11,473,322	9.52 %
Commingled Index Funds — Foreign		
BlackRock MSCI EM IMI Index Fund	709,757	0.59 %
Lazard Freres Capital Management	502,292	0.42 %
SPDR S&P 500 ETF Trust	2,383	0.00 %
P2P Global Investments PLC	361	0.00 %
Total Commingled Index Funds — Foreign	1,214,793	1.01 %
Cash and Money Market		
State Street Bank & Trust	1,556,488	1.29 %
BlackRock Liquidity Funds	58,976	0.05 %
U.S. Dollar	20,270	0.02 %
BGI Money Market Fund	—	0.00 %
Total Cash and Money Market	1,635,734	1.36 %
Private Equity		
Fisher Lynch Co-Investment Partnership III LP	732,771	0.61 %
Warburg Pincus Private Equity XI LP	684,950	0.57 %
Hellman & Friedman Capital Partners VIII LP	642,060	0.53 %
Warburg Pincus Private Equity XII LP	637,349	0.53 %
TPG Partners VII LP	583,817	0.48 %
Hellman & Friedman Capital Partners VII LP	579,286	0.48 %
Silver Lake Partners IV LP	560,398	0.47 %
Advent International GPE VIII-B LP	516,540	0.43 %
Permira V LP	504,761	0.42 %
KKR North America Fund XI LP	498,669	0.41 %
Other	18,381,166	15.25 %
Total Private Equity	24,321,767	20.18 %
Real Estate		
Partners Enterprise Capital Holdings	5,374,002	4.46 %
Evergreen Real Estate Partners LP	4,829,264	4.01 %
Calzada Capital Partners LLC	4,730,580	3.93 %
Aevitas Property Partners LLC	1,373,723	1.14 %
Fillmore Strategic Investors	960,720	0.80 %
Union Square LP	685,537	0.57 %
Zocalo Special Situations LLC	652,601	0.54 %
PacTrust Realty Association	401,721	0.33 %
Crane Capital Partners LLC	317,107	0.26 %
Emerging Market Fund of Funds II	257,407	0.21 %
Other	648,025	0.54 %
Total Real Estate	20,230,687	16.79 %

Summary of Investments Owned — Pension Trust Funds (cont.)

Schedule of Investments Owned as of June 30, 2019

Dollars in Thousands — Page 6 of 7

Description	Market Value	% of Total Market Value
Tangible Asset		
Teays River Investments LLC	\$ 430,897	0.36 %
Global Infrastructure Partners III LP	405,798	0.34 %
Twin Creeks Timber	360,859	0.30 %
Global Infrastructure Partners Cascade I LP	357,474	0.30 %
Stonepeak Infrastructure Fund II LP	335,728	0.28 %
Global Infrastructure Partners II LP	296,522	0.25 %
Geronimo Renewable Infrastructure Partners LP	269,073	0.22 %
Stonepeak Infrastructure Fund III LP	248,041	0.21 %
U.S. Farming Realty Trust III LP	224,953	0.19 %
Orion Mine Finance Fund II	180,020	0.15 %
Other	2,521,694	2.09 %
Total Tangible Asset	5,631,059	4.69 %
Foreign Currency		
Euro Currency	21,532	0.02 %
Canadian Dollar	10,393	0.01 %
Japanese Yen	10,302	0.01 %
Australian Dollar	7,326	0.01 %
Pound Sterling	7,057	0.01 %
South Korean Won	5,165	0.00 %
Hong Kong Dollar	4,978	0.00 %
Yuan Renminbi Offshore	3,179	0.00 %
New Taiwan Dollar	2,638	0.00 %
Singapore Dollar	1,988	0.00 %
Other	12,079	0.01 %
Total Foreign Currency	86,637	0.07 %
Return Swap Contracts		
Total Return Swap Contracts	927	0.00 %
Total Return Swap Contracts	927	0.00 %
In Plan 3 Defined Contribution and Deferred Compensation Program:		
Retirement Strategy Funds (Target Date Funds)		
Retirement Strategy 2025	1,108,139	0.92 %
Retirement Strategy 2020	1,006,137	0.84 %
Retirement Strategy 2030	798,852	0.66 %
Retirement Strategy 2035	591,104	0.49 %
Retirement Strategy 2015	476,034	0.40 %
Retirement Strategy 2040	357,862	0.30 %
Retirement Strategy 2045	231,323	0.19 %
Retirement Strategy 2010	177,957	0.15 %
Retirement Strategy 2050	149,180	0.12 %
Other	271,556	0.22 %
Total Retirement Strategy Funds (Target Date Funds)	5,168,144	4.29 %

Summary of Investments Owned — Pension Trust Funds (cont.)

Schedule of Investments Owned as of June 30, 2019

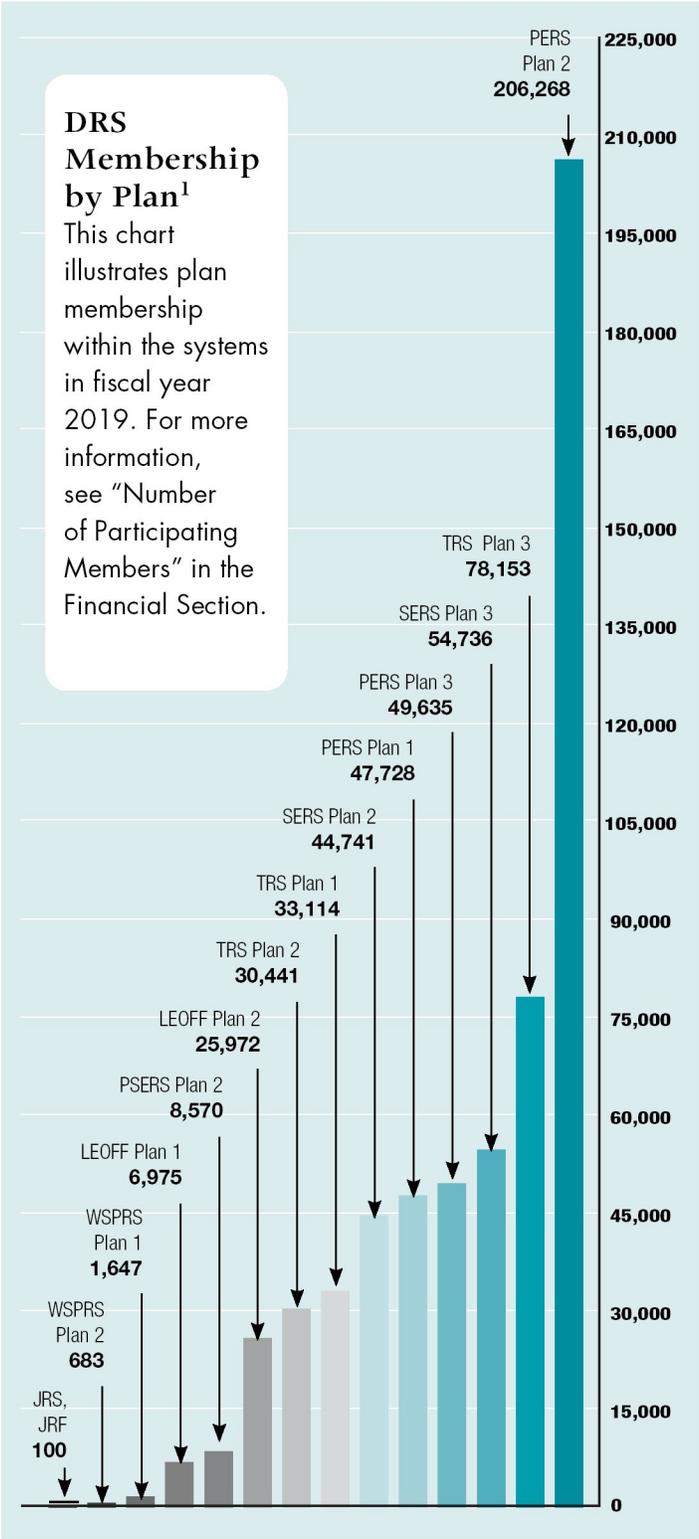
Dollars in Thousands — Page 7 of 7

Description	Market Value	% of Total Market Value
Equity Index Funds		
U.S. Large Cap Equity Index	\$ 1,640,827	1.36 %
U.S. Small Cap Value Equity Index	459,637	0.38 %
Global Equity Index	369,833	0.31 %
Emerging Market Index	159,061	0.13 %
Total Equity Index Funds	2,629,358	2.18 %
Guaranteed Investment Contracts		
Savings Pool	888,271	0.74 %
Total Guaranteed Investment Contracts	888,271	0.74 %
Bond Funds		
Washington State Bond Fund	689,506	0.57 %
U.S. Socially Responsible Fund	316,389	0.26 %
Total Bond Funds	1,005,895	0.83 %
Short-Term Investment Funds (in Defined Contribution Plans)		
WSIB Short-Term Investment Fund	522,250	0.43 %
Short-Term Contribution Interest Fund	222	0.00 %
Total Short-Term Investment Funds (in Defined Contribution Plans)	522,472	0.43 %
Securities Under Lending Agreements		
Collateral Held Under Securities Lending Agreements	736,785	0.61 %
Total Securities Under Lending Agreements	736,785	0.61 %
Total Investments	\$ 120,462,762	100.00 %

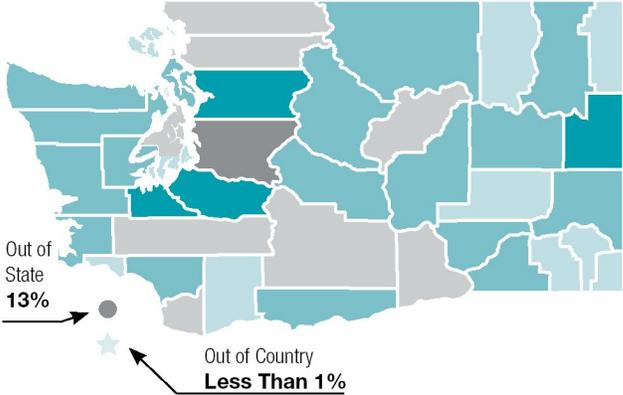
811,000 PUBLIC EMPLOYEES ARE BEING SERVED IN WASHINGTON

CURRENT AND FORMER

DRS Membership by Plan¹
 This chart illustrates plan membership within the systems in fiscal year 2019. For more information, see "Number of Participating Members" in the Financial Section.



Membership Density by County²
 This map illustrates the counties in which retired members and beneficiaries lived in fiscal year 2019.



Category	County	Percentage	
Less Than 1%	Adams	0%	
	Asotin	0%	
	Columbia	0%	
	Ferry	0%	
	Garfield	0%	
	Pend Orielle	0%	
	San Juan	0%	
	Skamania	0%	
	Wahkiakum	0%	
	1%	Chelan	1%
		Clallam	1%
		Cowlitz	1%
		Franklin	1%
		Grant	1%
Grays Harbor		1%	
Island		1%	
Jefferson		1%	
Kittitas		1%	
Klickitat		1%	
Lincoln	1%		
Mason	1%		
Okanogan	1%		
Pacific	1%		
Stevens	1%		
Walla Walla	1%		
Whitman	1%		
2%-5%	Benton	2%	
	Douglas	2%	
	Lewis	2%	
	Skagit	2%	
	Kitsap	3%	
6%-10%	Whatcom	3%	
	Yakima	3%	
	Clark	4%	
11%+	King	18%	
	Pierce	9%	
	Spokane	6%	
Out of State		13%	
	Out of Country	Less Than 1%	

¹ Excludes inactive, nonvested members

² Due to rounding, combined total membership might not equal 100%.

Actuarial Section



Office of the State Actuary

"Supporting financial security for generations."

October 2, 2019

Ms. Tracy Guerin
Director
Department of Retirement Systems
PO Box 48380
Olympia, Washington 98504-8380

SUBJECT: ACTUARIAL CERTIFICATION LETTER

Dear Ms. Guerin:

At your request, we prepared the following information for inclusion in the *2019 Comprehensive Annual Financial Report (CAFR)*:

1. Introductory Section.
 - ❖ Financial Information – Funding Paragraph.
2. Financial Section.
 - ❖ Components for the Schedule of Changes in Net Pension Liability (NPL).
 - Service Cost; Interest; Changes of Benefit Terms; Differences between Expected and Actual Experience; Changes in Assumptions.
 - ❖ Total Pension Liability (TPL) component for the Schedule of NPL.
 - ❖ Actuarially Determined Contributions and Contractually Required Contributions components for the Schedule of Contributions.
 - ❖ Note 2B: Actuarial components of the Governmental Accounting Standards Board (GASB) Statement Number 67 requirements.
 - Including the TPL component of the Sensitivity of the NPL to Changes in the Discount Rate.
 - ❖ GASB 67 Notes for Required Supplementary Information.
 - Methods and Assumptions.
3. Actuarial Section.
 - ❖ Summary of Actuarial Assumptions and Methods.

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Phone: 360.786.6140 | Fax: 360.586.8135 | TDD: 711

State Actuary's Certification Letter (cont.)



Actuarial Certification Letter Page 2 of 4

- ❖ Schedules of Active Member Valuation Data.
 - ❖ Schedules of Retirees and Beneficiaries Added to and Removed from Rolls.
 - ❖ Solvency Tests.
 - ❖ Analysis of Financial Experience.
 - ❖ Schedules of Funding Progress.
 - ❖ Funded Status and Funding Progress (one year).
 - ❖ Additional Information for the Defined Benefit Plans.
4. Statistical Section.
- ❖ Distribution of Membership by System and Plan.
 - ❖ Schedule of Benefit Recipients by Type of Benefit.
 - ❖ Schedule of Average Benefit Payments to Service Retirees in Year of Retirement.

The primary purpose of this information is to satisfy the actuarial reporting requirements of GASB and the Government Finance Officers Association (GFOA). Readers should not use this information for other purposes. Please replace this information with more recent information from next year's CAFR when available.

We also prepare annual actuarial valuations for determining contribution requirements and funding progress (a "funding" valuation) consistent with the state's funding policy. The funding valuations serve a different purpose from accounting valuations or measurements, and the results of the funding valuations may not match these accounting disclosures.

We performed the most recent actuarial valuation in 2019 with a valuation date of June 30, 2018. The TPL was calculated as of that valuation date and projected to the measurement date of June 30, 2019. Plan liabilities were rolled forward from June 30, 2018, to June 30, 2019, reflecting each plan's service cost (using the Entry Age cost method), assumed interest, and actual benefit payments.

This year's analysis also reflects the first year of incorporating the liability and assets from the Plan 3 Total Allocation Portfolio (TAP) annuities for the Public Employees' Retirement System (PERS), the Teachers' Retirement System (TRS), and the School Employees' Retirement System (SERS). This year's beginning and ending TPL incorporate this addition.

GASB 67 requires an "asset sufficiency test" to determine whether (or how long) we can use the long-term expected rate of return on assets to measure the present value of accrued plan liabilities for accounting purposes. For this test, we made the following assumptions to determine projected employee and employer contributions:

- ❖ A 7.5 percent long-term discount rate to determine funding liabilities consistent with current law for calculating future contribution rate requirements for all plans, except the Law Enforcement Officers' and Fire Fighters' Plan 2 which uses a 7.4 percent assumption.

State Actuary's Certification Letter (cont.)



Actuarial Certification Letter Page 3 of 4

- The Judicial Retirement System (JRS) and Judges are funded on a “pay-as-you-go” basis.
- ❖ We reflected actual asset returns through June 30, 2019, and assumed a 7.4 percent rate of investment return on invested assets thereafter, consistent with the long-term expected rate of return (for all plans except JRS and Judges). Please see the [2017 Report on Financial Condition and Economic Experience Study](#) on the Office of the State Actuary's website for additional background on how we selected this assumption.
- ❖ With the exception of determining future Plan 1 Unfunded Actuarial Accrued Liability (UAAL) contributions from employers of PERS, TRS, SERS, and the Public Safety Employees' Retirement System (PSERS), we assumed no new entrants for purposes of the asset sufficiency test.
- ❖ Consistent with current law, employers of PERS, TRS, SERS, and PSERS would continue to pay the minimum Plan 1 UAAL contribution rate until the applicable Plan 1 is fully funded.

The asset sufficiency test requires the application of a closed-group funding policy that does not currently exist for our open pension plans. Where necessary, we applied our professional judgment to determine the projected contributions that would result in our open plans under the hypothetical funding policy required for this test. Lastly, we reviewed the resulting contribution projections for all plans in relation to projected budget dollars available to fund pensions and found them to be reasonable for purposes of performing this test.

With the exception of the data for Plan 3 TAP annuities, we otherwise used the same data, assumptions, and methods for the asset sufficiency test as we disclosed in our [2018 Actuarial Valuation Report](#) (AVR). The demographic assumptions used for this analysis come from our [2007-2012 Demographic Experience Study](#).

As of this measurement, all plans—with the exception of JRS and Judges (“pay-as-you-go” plans)—are expected to retain sufficient assets to pay all future benefits for current members using current assumptions, current plan provisions, and assuming the continuation of current state funding policy in [Chapter 41.45 RCW](#) (the actuarial funding chapter).

We relied on participant data provided by your department to perform the latest actuarial valuation. The Washington State Investment Board, your department, and the Office of the State Treasurer provided financial and asset information. We reviewed the data and the assets for reasonableness as appropriate based on the purpose of the valuation. We relied on all the information provided as complete and accurate. In our opinion, this information is adequate and substantially complete for purposes of this valuation. Please see the Actuarial Certification Letter in the 2018 AVR for additional information on the certification of the latest actuarial valuation results.

We prepared the required accounting disclosures in accordance with GASB Statement 67. Please see the Department of Retirement Systems' [2019 Participating Employer Financial Information Report](#) for our actuarial certification of disclosures that are unique to GASB 68.

State Actuary's Certification Letter (cont.)



Actuarial Certification Letter
Page 4 of 4

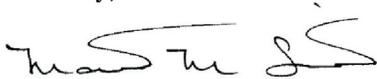
We relied on the same participant data, assumptions, and methods for the GASB 67 disclosures as we did for the GASB 68 disclosures.

At your request, we also prepared accounting disclosures under GASB Statements 25, 27, and 50. We prepared all the financial reporting disclosures outlined in this letter in accordance with generally accepted actuarial principles and Actuarial Standards of Practice as of the date of this letter.

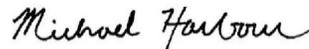
We certify, to the best of our knowledge, that the actuarial submissions in the 2019 CAFR meet the GFOA standards for actuarial reporting as of the date of this letter.

The undersigned, with actuarial credentials, meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinions contained herein. We are available to provide extra advice and explanations as needed.

Sincerely,



Matthew M. Smith, FCA, EA, MAAA
State Actuary



Michael T. Harbour, ASA, MAAA
Actuary

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Summary of Plan Provisions

A narrative summary of retirement plans DRS manages is provided in Section B of Note 2 in the Financial Section of this CAFR. A tabular summary of key plan provisions as of June 30, 2019, is provided below.

As of June 30, 2019 — Page 1 of 2				
Plan	Membership Eligibility	Vesting	Retirement Eligibility	Benefit
PERS Plan 1	State employees, elected officials, employees of local governments, legislative committee employees, community/technical college employees, classified employees of school districts, district/municipal court judges, and some employees of the Supreme Court, Court of Appeals and superior courts (by 9/30/1977)	After five years of eligible service	After 30 years of service, at age 60 with five years of service or at age 55 with 25 years of service	2% of Average Final Compensation (AFC) per year of service, capped at 60% of AFC Judicial Benefit Multiplier (JBM) participants: 3.5% of AFC per year of service, capped at 75% of AFC
PERS Plan 2	New members who met the same employer membership eligibility requirements as PERS Plan 1 and were hired on or after 10/1/77, new state agency and higher education members hired on or after 3/1/2002 who chose Plan 2, and new members for all other employers hired on or after 9/1/2002 who chose Plan 2 PERS Plan 2 excludes classified employees of school districts.	After five years of eligible service	At age 65 with five years of service or an actuarially reduced benefit at age 55 with 20 years of service	2% of AFC per year of service JBM participants: 3.5% of AFC per year of service, capped at 75% of AFC
PERS Plan 3¹	New members who met the same employer membership eligibility requirements as PERS Plan 2, new state agency and higher education members hired on or after 3/1/2002 who chose Plan 3, new members for all other employers hired on or after 9/1/2002 who chose Plan 3, and PERS Plan 2 members hired on or after 10/1/1977 who met transfer eligibility requirements and made a permanent choice to transfer to PERS Plan 3	Varies	At age 65 if vested or an actuarially reduced benefit at age 55 with 10 years of service (defined benefit portion)	1% of AFC per year of service (defined benefit portion) JBM participants: 1.6% of AFC per year of service, capped at 37.5% of AFC The defined contribution portion depends on the member's contribution level and on investment performance.
SERS Plan 2	All classified employees of school districts or educational service districts (by 8/31/2000 and employees on or after 7/1/2007 with no past PERS Plan 2 service who chose Plan 2)	After five years of eligible service	After age 65 with five years of service or an actuarially reduced benefit at age 55 with 20 years of service	2% of AFC per year of service
SERS Plan 3¹	All classified employees of school districts or educational service districts (on or after 9/1/2000 and employees on or after 7/1/2007 with no past PERS Plan 2 service who chose Plan 3)	Varies	At age 65 if vested or an actuarially reduced benefit at age 55 with 10 years of service (defined benefit portion)	1% of AFC per year of service (defined benefit portion) The defined contribution portion depends on the member's contribution level and on investment performance.
PSERS Plan 2	All full-time public safety officers at select state agencies, counties and cities except the cities of Seattle, Spokane and Tacoma (on or after 7/1/2006)	After five years of eligible service	At age 65 with five years of service, at age 60 with 10 years of PSERS service or at age 53 with 20 years of service reduced 3% for each year younger than age 60	2% of AFC per year of service
TRS Plan 1	All certificated public school employees who worked in an instructional, administrative or supervisory capacity (by 9/30/1977)	After five years of eligible service	After 30 years of service, at age 60 with five years of service or at age 55 with 25 years of service	2% of AFC per year of service, capped at 60% of AFC JBM participants: 3.5% of AFC per year of service, capped at 75% of AFC

Summary of Plan Provisions (cont.)

As of June 30, 2019 — Page 2 of 2				
Plan	Membership Eligibility	Vesting	Retirement Eligibility	Benefit
TRS Plan 2	All certificated public school employees who worked in an instructional, administrative or supervisory capacity (on or after 10/1/1977 and by 6/30/1996 and employees on or after 7/1/2007 who chose Plan 2)	After five years of eligible service	At age 65 with five years of service or an actuarially reduced benefit at age 55 with 20 years of service	2% of AFC per year of service
TRS Plan 3¹	All certificated public school employees who worked in an instructional, administrative or supervisory capacity (on or after 7/1/1996 and employees on or after 7/1/2007 who chose Plan 3)	Varies	At age 65 if vested or an actuarially reduced benefit at age 55 with 10 years of service (defined benefit portion)	1% of AFC per year of service (defined benefit portion) The defined contribution portion depends on the member's contribution level and on investment performance.
LEOFF Plan 1	All full-time, fully compensated law enforcement officers and fire fighters (by 9/30/1977)	After five years of eligible service	At age 50 with five years of service	20 or more years of service: 2% of Final Average Salary (FAS) per year of service 10-19 years of service: 1.5% of FAS per year of service 5-9 years of service: 1% of FAS per year of service
LEOFF Plan 2	All full-time, fully compensated law enforcement officers, fire fighters and emergency medical technicians (on or after 10/1/1977)	After five years of eligible service	At age 53 with five years of service or a benefit at age 50 with 20 years of service reduced 3% for each year younger than age 53	2% of FAS per year of service
WSPRS Plan 1	Commissioned employees of the Washington State Patrol (on or after 8/1/1947 and by 12/31/2002)	No requirement for active members; after five years of eligible service for inactive members	At age 55 or after 25 years of service	2% of Average Final Salary (AFS) per year of service, capped at 75% of AFS
WSPRS Plan 2	Commissioned employees of the Washington State Patrol (on or after 1/1/2003)	No requirement for active members; after five years of eligible service for inactive members	At age 55 or after 25 years of service	2% of AFS per year of service, capped at 75% of AFS
JRS	Judges elected or appointed to the Supreme Court, Court of Appeals and superior courts (on or after 8/9/1971 and by 6/30/1988; new judges on or after 7/1/1988 join PERS)	After 15 years of service	At age 60	15 years of service: 3.5% of FAS per year of service, capped at 75% of FAS 10-14 years of service: 3% of FAS per year of service, capped at 75% of FAS
JRF	Judges elected or appointed to the Supreme Court, Court of Appeals and superior courts (by 8/8/1971)	After 12 years of service	At age 70 with 10 years of service or any age with 18 years of service	Half the monthly salary

¹ Members who are eligible to choose PERS, SERS or TRS Plan 2 or Plan 3 who do not make a plan choice within 90 days of hire default into PERS, SERS or TRS Plan 3.

DRS publishes handbooks describing the rights and benefits for each system and plan, including disability and survivor benefits. They are available on the DRS website at www.drs.wa.gov.

Summary of Actuarial Assumptions and Methods

1. Actuarial Assumptions and Method Selection

Economic Assumptions and Methods: These were developed in accordance with Washington state law, the Pension Funding Council, and the LEOFF 2 Board. For additional information see the Washington State Office of the State Actuary’s 2017 Economic Experience Study.

Demographic Assumptions and Methods: These were derived from Washington’s Office of the State Actuary and are based on the 2007-2012 Experience Study (adopted July 2014). Additional assumptions for subsequent events and law changes are current as of the 2018 Actuarial Valuation Report.

2. Investment Return

The assumed investment return is 7.5% per annum for all systems except LEOFF Plan 2 (7.4%) and JRS/JRF (3.50%).

3. Mortality Tables

Mortality rates are based on the *RP-2000* report’s Combined Healthy Table and Combined Disabled Table (except LEOFF Plan 1), which the Society of Actuaries publishes. JRS uses the PERS mortality rates.

The healthy and disabled mortality rates displayed by system have been projected to the valuation date for illustrative purposes only. We use the *RP-2000* report’s mortality rates combined with 100% of Scale BB on a generational basis in the valuation.

Age	RP-2000 Mortality Rates				100% Scale BB	
	Combined Healthy		Disabled		Male	Female
	Male	Female	Male	Female		
20	0.0345%	0.0191%	2.2571%	0.7450%	0.3000%	0.3000%
25	0.0376%	0.0207%	2.2571%	0.7450%	0.3000%	0.3000%
30	0.0444%	0.0264%	2.2571%	0.7450%	0.3000%	0.3000%
35	0.0773%	0.0475%	2.2571%	0.7450%	0.3000%	0.3000%
40	0.1079%	0.0706%	2.2571%	0.7450%	0.3000%	0.3000%
45	0.1508%	0.1124%	2.2571%	0.7450%	0.3000%	0.3000%
50	0.2138%	0.1676%	2.8975%	1.1535%	0.3000%	0.3000%
55	0.3624%	0.2717%	3.5442%	1.6544%	0.3000%	0.5000%
60	0.6747%	0.5055%	4.2042%	2.1839%	0.7000%	1.0000%
65	1.2737%	0.9706%	5.0174%	2.8026%	1.2000%	1.2000%
70	2.2206%	1.6742%	6.2583%	3.7635%	1.5000%	1.2000%
75	3.7834%	2.8106%	8.2067%	5.2230%	1.5000%	1.2000%
80	6.4368%	4.5879%	10.9372%	7.2312%	1.5000%	1.2000%
85	11.0757%	7.7446%	14.1603%	10.0203%	1.5000%	1.2000%
90	18.3408%	13.1682%	18.3408%	14.0049%	1.1000%	1.1000%
95	26.7491%	19.4509%	26.7491%	19.4509%	0.6000%	0.6000%
100	34.4556%	23.7467%	34.4556%	23.7467%	0.3000%	0.3000%
105	39.7886%	29.3116%	39.7886%	29.3116%	0.0000%	0.0000%
110	40.0000%	36.4617%	40.0000%	36.4617%	0.0000%	0.0000%
115	40.0000%	40.0000%	40.0000%	40.0000%	0.0000%	0.0000%
120	100.0000%	100.0000%	100.0000%	100.0000%	0.0000%	0.0000%

Summary of Actuarial Assumptions and Methods (cont.)

3. Mortality Tables (cont.)

Healthy Mortality Projected to 2018							
Offsets	PERS, SERS, PSERS Plans		TRS Plans		LEOFF, WSPRS Plans		
	-1	-1	-3	-2	-1	1	
Age	Male	Female	Male	Female	Male	Female	
20	0.0314%	0.0180%	0.0285%	0.0178%	0.0314%	0.0182%	
25	0.0356%	0.0190%	0.0347%	0.0187%	0.0356%	0.0203%	
30	0.0390%	0.0235%	0.0362%	0.0223%	0.0390%	0.0291%	
35	0.0665%	0.0412%	0.0532%	0.0373%	0.0665%	0.0487%	
40	0.0967%	0.0614%	0.0856%	0.0567%	0.0967%	0.0733%	
45	0.1323%	0.0975%	0.1151%	0.0888%	0.1323%	0.1159%	
50	0.1890%	0.1468%	0.1643%	0.1359%	0.1890%	0.1755%	
55	0.3028%	0.2215%	0.2527%	0.2017%	0.3028%	0.2823%	
60	0.5239%	0.3706%	0.4136%	0.3274%	0.5239%	0.4852%	
65	0.9077%	0.6936%	0.7047%	0.6154%	0.9077%	0.8815%	
70	1.5086%	1.1958%	1.2246%	1.0819%	1.5086%	1.4950%	
75	2.5826%	2.0486%	2.0783%	1.8484%	2.5826%	2.4918%	
80	4.4130%	3.3399%	3.5734%	3.0252%	4.4130%	4.0862%	
85	7.6014%	5.5939%	6.1316%	5.0298%	7.6014%	6.9505%	
90	13.6376%	9.7643%	11.1483%	8.7932%	13.6376%	11.8499%	
95	22.4956%	16.4032%	19.4367%	15.2936%	22.4956%	18.4294%	
100	31.2823%	21.9206%	28.4066%	21.2157%	31.2823%	23.1945%	
105	39.2003%	27.9055%	37.1685%	26.6044%	39.2003%	30.7811%	
110	40.0000%	35.1544%	40.0000%	33.7441%	40.0000%	37.6246%	
115	40.0000%	39.8308%	40.0000%	39.3507%	40.0000%	40.0000%	
120	100.0000%	100.0000%	100.0000%	100.0000%	100.0000%	100.0000%	

Disabled Mortality Projected to 2018				
Offsets	All Plans Except LEOFF Plan 1		LEOFF Plan 1 ¹	
	0	0	2	2
Age	Male	Female	Male	Female
20	2.1383%	0.7058%	0.0347%	0.0184%
25	2.1383%	0.7058%	0.0362%	0.0211%
30	2.1383%	0.7058%	0.0532%	0.0332%
35	2.1383%	0.7058%	0.0856%	0.0525%
40	2.1383%	0.7058%	0.1151%	0.0807%
45	2.1383%	0.7058%	0.1643%	0.1256%
50	2.7450%	1.0928%	0.2527%	0.1912%
55	3.3576%	1.5117%	0.4446%	0.3178%
60	3.7048%	1.8225%	0.7717%	0.5555%
65	4.0374%	2.2552%	1.2935%	0.9787%
70	4.7677%	3.0284%	2.0783%	1.6629%
75	6.2520%	4.2029%	3.5734%	2.7444%
80	8.3322%	5.8188%	6.1316%	4.5299%
85	10.7876%	8.0632%	10.3640%	7.7521%
90	15.0297%	11.4766%	17.7501%	12.9163%
95	24.0029%	17.4540%	26.9068%	19.3143%
100	32.6417%	22.4966%	35.2118%	24.1100%
105	39.7886%	29.3116%	40.0000%	32.2725%
110	40.0000%	36.4617%	40.0000%	38.6015%
115	40.0000%	40.0000%	40.0000%	40.0000%
120	100.0000%	100.0000%	100.0000%	100.0000%

¹ LEOFF Plan 1 uses the *RP-2000* healthy mortality table.

Summary of Actuarial Assumptions and Methods (cont.)

4. Retirement

Probability of Service Retirement — Members Hired Before May 1, 2013													
Age	PERS Plan 1		PERS Plan 2/3				SERS Plan 2/3				PSERS Plan 2		
	Male	Female	Service Less Than 30 Years		Service Greater Than or Equal to 30 Years		Service Less Than 30 Years		Service Greater Than or Equal to 30 Years		Male	Female	
			Male	Female	Male	Female	Male	Female	Male	Female			
45	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
46	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
47	46%	54%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
48	55%	46%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
49	50%	38%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
50	45%	30%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
51	40%	30%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
52	40%	30%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
53	40%	30%	0%	0%	0%	0%	0%	0%	0%	0%	0%	2%	2%
54	40%	40%	0%	0%	0%	0%	0%	0%	0%	0%	0%	2%	2%
55	17%	28%	2%	2%	12%	12%	1%	2%	12%	12%	2%	2%	2%
56	17%	16%	3%	2%	12%	12%	2%	2%	12%	12%	5%	4%	4%
57	17%	16%	4%	2%	12%	12%	3%	2%	12%	12%	8%	6%	6%
58	17%	16%	5%	2%	12%	12%	4%	3%	12%	12%	11%	8%	8%
59	20%	30%	6%	4%	16%	24%	5%	4%	16%	25%	14%	10%	10%
60	16%	16%	7%	6%	12%	12%	6%	5%	12%	12%	30%	34%	34%
61	23%	21%	8%	13%	20%	20%	15%	13%	21%	20%	26%	26%	26%
62	30%	26%	24%	20%	28%	28%	24%	21%	30%	28%	30%	34%	34%
63	22%	20%	22%	18%	26%	26%	22%	20%	28%	26%	50%	52%	52%
64	28%	28%	56%	56%	56%	56%	56%	52%	57%	48%	70%	70%	70%
65	34%	36%	40%	40%	40%	40%	39%	36%	39%	36%	50%	35%	35%
66	30%	22%	24%	24%	24%	24%	22%	24%	22%	24%	30%	35%	35%
67	26%	22%	24%	24%	24%	24%	22%	23%	22%	23%	30%	35%	35%
68	22%	22%	24%	24%	24%	24%	22%	22%	22%	22%	30%	35%	35%
69	22%	22%	24%	24%	24%	24%	22%	21%	22%	21%	30%	35%	35%
70	22%	22%	24%	24%	24%	24%	22%	20%	22%	20%	100%	100%	100%
71	22%	22%	24%	24%	24%	24%	20%	19%	20%	19%	100%	100%	100%
72	22%	22%	24%	24%	24%	24%	18%	18%	18%	18%	100%	100%	100%
73	22%	22%	24%	24%	24%	24%	16%	17%	16%	17%	100%	100%	100%
74	22%	22%	24%	24%	24%	24%	16%	17%	16%	17%	100%	100%	100%
75	22%	22%	24%	24%	24%	24%	16%	17%	16%	17%	100%	100%	100%
76	22%	22%	24%	24%	24%	24%	16%	17%	16%	17%	100%	100%	100%
77	22%	22%	24%	24%	24%	24%	16%	17%	16%	17%	100%	100%	100%
78	22%	22%	24%	24%	24%	24%	16%	17%	16%	17%	100%	100%	100%
79	22%	22%	24%	24%	24%	24%	16%	17%	16%	17%	100%	100%	100%
80	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%

Summary of Actuarial Assumptions and Methods (cont.)

4. Retirement (cont.)

Probability of Service Retirement — Members Hired Before May 1, 2013															
Age	TRS Plan 1				TRS Plan 2/3						LEOFF Plan 1		LEOFF Plan 2	WSPRS Plan 1/2	
	Service Not Equal to 30 Years		Service Equal to 30 Years		Service Less Than 30 Years		Service Equal to 30 Years		Service Greater Than 30 Years		Service Less Than 30 Years	Service Greater Than or Equal to 30 Years			
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male & Female	Male & Female	Male & Female	Male & Female	
45	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	50%	
46	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	33%	
47	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	33%	
48	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	33%	
49	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	30%	
50	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	7%	12%	3%	27%	
51	0%	0%	0%	30%	0%	0%	0%	0%	0%	0%	7%	12%	4%	24%	
52	0%	20%	36%	30%	0%	0%	0%	0%	0%	0%	7%	12%	5%	24%	
53	22%	20%	36%	30%	0%	0%	0%	0%	0%	0%	7%	12%	10%	24%	
54	22%	20%	36%	30%	0%	0%	0%	0%	0%	0%	10%	16%	10%	24%	
55	22%	20%	36%	30%	2%	2%	22%	19%	13%	12%	10%	20%	10%	20%	
56	22%	20%	36%	30%	2%	3%	22%	21%	15%	14%	10%	20%	10%	20%	
57	22%	20%	36%	30%	2%	4%	22%	23%	17%	16%	13%	20%	10%	20%	
58	22%	20%	39%	30%	2%	5%	28%	25%	19%	18%	13%	20%	15%	20%	
59	22%	26%	42%	30%	4%	6%	34%	27%	21%	22%	13%	20%	15%	33%	
60	22%	20%	42%	30%	6%	7%	41%	29%	23%	20%	23%	25%	15%	33%	
61	22%	23%	42%	40%	14%	15%	48%	41%	25%	22%	23%	25%	19%	33%	
62	35%	26%	56%	50%	22%	23%	55%	53%	36%	32%	23%	25%	23%	33%	
63	30%	22%	48%	46%	20%	21%	50%	49%	33%	30%	23%	25%	20%	33%	
64	25%	29%	40%	46%	55%	48%	55%	53%	55%	49%	23%	25%	20%	33%	
65	36%	36%	70%	55%	48%	40%	48%	40%	48%	40%	23%	25%	25%	100%	
66	36%	36%	70%	55%	41%	32%	41%	32%	41%	32%	23%	25%	25%	100%	
67	32%	28%	70%	55%	34%	24%	34%	24%	34%	24%	23%	25%	25%	100%	
68	28%	28%	70%	55%	27%	24%	27%	24%	27%	24%	23%	25%	25%	100%	
69	28%	28%	70%	55%	27%	42%	27%	42%	27%	42%	23%	25%	25%	100%	
70	22%	28%	100%	55%	27%	30%	27%	30%	27%	30%	100%	100%	100%	100%	
71	22%	28%	100%	55%	41%	30%	41%	30%	41%	30%	100%	100%	100%	100%	
72	22%	21%	100%	100%	55%	30%	55%	30%	55%	30%	100%	100%	100%	100%	
73	22%	21%	100%	100%	55%	30%	55%	30%	55%	30%	100%	100%	100%	100%	
74	22%	21%	100%	100%	55%	30%	55%	30%	55%	30%	100%	100%	100%	100%	
75	22%	21%	100%	100%	55%	30%	55%	30%	55%	30%	100%	100%	100%	100%	
76	22%	21%	100%	100%	55%	30%	55%	30%	55%	30%	100%	100%	100%	100%	
77	22%	21%	100%	100%	55%	30%	55%	30%	55%	30%	100%	100%	100%	100%	
78	22%	21%	100%	100%	55%	30%	55%	30%	55%	30%	100%	100%	100%	100%	
79	22%	21%	100%	100%	55%	30%	55%	30%	55%	30%	100%	100%	100%	100%	
80	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	

Summary of Actuarial Assumptions and Methods (cont.)

4. Retirement (cont.)

Probability of Service Retirement — Members Hired on or After May 1, 2013															
Age	PERS Plan 2/3				SERS Plan 2/3				TRS Plan 2/3						
	Service Less Than 30 Years		Service Greater Than or Equal to 30 Years		Service Less Than 30 Years		Service Greater Than or Equal to 30 Years		Service Less Than 30 Years		Service Equal to 30 Years		Service Greater Than 30 Years		
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male
45	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
46	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
47	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
48	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
49	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
50	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
51	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
52	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
53	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
54	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
55	2%	2%	9%	9%	1%	2%	8%	9%	2%	2%	16%	14%	9%	9%	
56	3%	2%	9%	8%	2%	2%	8%	8%	2%	3%	15%	15%	10%	10%	
57	4%	2%	9%	8%	3%	2%	9%	8%	2%	4%	14%	16%	11%	11%	
58	5%	2%	9%	8%	4%	3%	9%	8%	2%	5%	17%	17%	12%	13%	
59	6%	4%	12%	15%	5%	4%	11%	16%	4%	6%	21%	18%	14%	15%	
60	7%	6%	10%	9%	6%	5%	9%	9%	6%	7%	25%	19%	15%	14%	
61	8%	13%	15%	17%	15%	13%	18%	17%	14%	15%	33%	29%	20%	19%	
62	24%	20%	26%	24%	24%	21%	27%	25%	22%	23%	40%	39%	30%	28%	
63	22%	18%	24%	22%	22%	20%	25%	23%	20%	21%	35%	35%	27%	26%	
64	56%	56%	56%	56%	56%	52%	56%	50%	55%	48%	55%	50%	55%	48%	
65	40%	40%	40%	40%	39%	36%	39%	36%	48%	40%	48%	40%	48%	40%	
66	24%	24%	24%	24%	22%	24%	22%	24%	41%	32%	41%	32%	41%	32%	
67	24%	24%	24%	24%	22%	23%	22%	23%	34%	24%	34%	24%	34%	24%	
68	24%	24%	24%	24%	22%	22%	22%	22%	27%	24%	27%	24%	27%	24%	
69	24%	24%	24%	24%	22%	21%	22%	21%	27%	42%	27%	42%	27%	42%	
70	24%	24%	24%	24%	22%	20%	22%	20%	27%	30%	27%	30%	27%	30%	
71	24%	24%	24%	24%	20%	19%	20%	19%	41%	30%	41%	30%	41%	30%	
72	24%	24%	24%	24%	18%	18%	18%	18%	55%	30%	55%	30%	55%	30%	
73	24%	24%	24%	24%	16%	17%	16%	17%	55%	30%	55%	30%	55%	30%	
74	24%	24%	24%	24%	16%	17%	16%	17%	55%	30%	55%	30%	55%	30%	
75	24%	24%	24%	24%	16%	17%	16%	17%	55%	30%	55%	30%	55%	30%	
76	24%	24%	24%	24%	16%	17%	16%	17%	55%	30%	55%	30%	55%	30%	
77	24%	24%	24%	24%	16%	17%	16%	17%	55%	30%	55%	30%	55%	30%	
78	24%	24%	24%	24%	16%	17%	16%	17%	55%	30%	55%	30%	55%	30%	
79	24%	24%	24%	24%	16%	17%	16%	17%	55%	30%	55%	30%	55%	30%	
80	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%

Summary of Actuarial Assumptions and Methods (cont.)

5. Disablement

Probability of Disablement — Table 1 of 2										
Age	PERS Plan 1 ¹		PERS Plan 2/3		SERS Plan 2/3		PSERS Plan 2			
	Male	Female	Male	Female	Male	Female	Service Less Than 10 Years		Service Greater Than 10 Years	
							Male	Female	Male	Female
20	0.0000%	0.0000%	0.0000%	0.0000%	0.0000%	0.0000%	0.0000%	0.0000%	0.0000%	0.0000%
25	0.0000%	0.0000%	0.0100%	0.0000%	0.0000%	0.0000%	0.0100%	0.0000%	0.0100%	0.0000%
30	0.0000%	0.0000%	0.0100%	0.0100%	0.0000%	0.0000%	0.0100%	0.0100%	0.0100%	0.0100%
35	0.0300%	0.0300%	0.0200%	0.0200%	0.0100%	0.0200%	0.0200%	0.0200%	0.0200%	0.0200%
40	0.0800%	0.0700%	0.0200%	0.0300%	0.0300%	0.0200%	0.0200%	0.0300%	0.0300%	0.0300%
45	0.1500%	0.1400%	0.0500%	0.0500%	0.0500%	0.0200%	0.0500%	0.0500%	0.0600%	0.0600%
50	0.2500%	0.3000%	0.0900%	0.1000%	0.1200%	0.0600%	0.0900%	0.1000%	0.1200%	0.1300%
55	0.8200%	0.6400%	0.2600%	0.2800%	0.2800%	0.1700%	0.2600%	0.2800%	0.3400%	0.3600%
60	0.7500%	0.3500%	0.7900%	0.7700%	0.6400%	0.5000%	0.7900%	0.7700%	0.0000%	0.0000%
65	0.2200%	0.0400%	0.6100%	0.5300%	0.5900%	0.4100%	0.6100%	0.5300%	0.0000%	0.0000%
70	0.0600%	0.0000%	0.1400%	0.1300%	0.1300%	0.1800%	0.0000%	0.0000%	0.0000%	0.0000%
75	0.0200%	0.0000%	0.0300%	0.0300%	0.0300%	0.0800%	0.0000%	0.0000%	0.0000%	0.0000%
80	0.0000%	0.0000%	0.0000%	0.0000%	0.0000%	0.0000%	0.0000%	0.0000%	0.0000%	0.0000%

¹ 10% of all PERS Plan 1 disabilities are assumed to be duty related.

Probability of Disablement — Table 2 of 2							
Age	TRS Plan 1		TRS Plan 2/3		LEOFF Plan 1	LEOFF Plan 2	WSPRS Plan 1/2
	Male	Female	Male	Female	Male & Female	Male & Female	Male & Female
					Male & Female	Male & Female	Male & Female
20	0.0000%	0.0000%	0.0000%	0.0000%	0.1000%	0.0100%	0.0100%
25	0.0100%	0.0100%	0.0000%	0.0000%	0.1000%	0.0200%	0.0100%
30	0.0200%	0.0200%	0.0000%	0.0000%	0.8000%	0.0500%	0.0200%
35	0.0300%	0.0300%	0.0100%	0.0100%	1.4900%	0.0800%	0.0300%
40	0.0400%	0.0400%	0.0100%	0.0100%	2.3500%	0.1400%	0.0600%
45	0.0900%	0.1000%	0.0200%	0.0200%	4.0000%	0.1800%	0.1000%
50	0.1600%	0.1700%	0.0400%	0.0300%	7.0000%	0.3200%	0.1800%
55	0.3300%	0.3400%	0.1100%	0.0800%	9.0000%	0.5500%	0.3200%
60	0.4700%	0.4800%	0.2500%	0.1900%	10.0000%	0.9500%	0.0600%
65	0.5600%	0.5700%	0.2400%	0.1600%	10.0000%	1.6200%	0.0000%
70	0.1500%	0.1500%	0.0300%	0.0300%	0.0000%	0.0000%	0.0000%
75	0.0400%	0.0400%	0.0000%	0.0100%	0.0000%	0.0000%	0.0000%
80	0.0000%	0.0000%	0.0000%	0.0000%	0.0000%	0.0000%	0.0000%

Rates have been rounded for display purposes.

Summary of Actuarial Assumptions and Methods (cont.)

6. Other Terminations of Employment

Probability of Termination										
Years of Service	PERS		SERS		PSERS		TRS		LEOFF	WSPRS
	Male	Female	Male	Female	Male	Female	Male	Female	Male & Female	Male & Female
0	26.2400%	26.2400%	24.4800%	19.9000%	26.2400%	26.2400%	11.1000%	11.1300%	10.7000%	4.2300%
1	15.4500%	16.7700%	15.8800%	13.1300%	15.4500%	16.7700%	9.0300%	9.4600%	4.8100%	2.0000%
2	10.0700%	11.7000%	11.6900%	10.2900%	10.0700%	11.7000%	5.9800%	7.1700%	2.4500%	2.0000%
3	7.5200%	9.2900%	9.9500%	7.8600%	7.5200%	9.2900%	4.5100%	6.1300%	1.9400%	2.0000%
4	6.3100%	7.6000%	8.1100%	6.7600%	6.3100%	7.6000%	4.1400%	5.3100%	1.8700%	2.0000%
5	5.4400%	6.6500%	6.6400%	6.2400%	5.4400%	6.6500%	3.6800%	4.7100%	1.8100%	2.0000%
6	4.4900%	5.7900%	6.0800%	5.5600%	4.4900%	5.7900%	2.9500%	4.0900%	1.7400%	1.9000%
7	4.1800%	5.3300%	5.5600%	5.2600%	4.1800%	5.3300%	2.7200%	3.6700%	1.6800%	1.7000%
8	3.8900%	4.9100%	5.0900%	4.9700%	3.8900%	4.9100%	2.5100%	3.3000%	1.6100%	1.6000%
9	3.6200%	4.5200%	4.6500%	4.7500%	3.6200%	4.5200%	2.3100%	2.9600%	1.5500%	1.5100%
10	3.3700%	4.1700%	4.2600%	4.5700%	3.3700%	4.1700%	2.1300%	2.6600%	1.4800%	1.3400%
11	3.1400%	3.8400%	3.8900%	4.4800%	3.1400%	3.8400%	1.9700%	2.3900%	1.4200%	1.2000%
12	2.9200%	3.5400%	3.5600%	4.4200%	2.9200%	3.5400%	1.8200%	2.1400%	1.3500%	1.0800%
13	2.7200%	3.2600%	3.2600%	4.4000%	2.7200%	3.2600%	1.6700%	1.9300%	1.2900%	0.9700%
14	2.5300%	3.0000%	2.9800%	4.2600%	2.5300%	3.0000%	1.5400%	1.7300%	1.2200%	0.8700%
15	2.3600%	2.7700%	2.7300%	4.2700%	2.3600%	2.7700%	1.4200%	1.6000%	1.1600%	0.7800%
16	2.2000%	2.5500%	2.5000%	3.9200%	2.2000%	2.5500%	1.3100%	1.5500%	1.0900%	0.7000%
17	2.0400%	2.3500%	2.4500%	3.6400%	2.0400%	2.3500%	1.2100%	1.5000%	1.0300%	0.6300%
18	1.9000%	2.1600%	2.4000%	3.4600%	1.9000%	2.1600%	1.1500%	1.4500%	0.9600%	0.5600%
19	1.7700%	1.9900%	2.3500%	3.2200%	1.7700%	1.9900%	1.1300%	1.4000%	0.9000%	0.5000%
20	1.5300%	1.8000%	2.3000%	3.0000%	1.5300%	1.8000%	1.0000%	1.3000%	0.8300%	0.4400%
21	1.3200%	1.5800%	2.2500%	2.8000%	1.3200%	1.5800%	0.9500%	1.2600%	0.7700%	0.3800%
22	1.1500%	1.3900%	2.2000%	2.7000%	1.1500%	1.3900%	0.9300%	1.1800%	0.7000%	0.3300%
23	0.9900%	1.2200%	2.0900%	2.6000%	0.9900%	1.2200%	0.9000%	1.1100%	0.6400%	0.2800%
24	0.8600%	1.0700%	1.8200%	2.4800%	0.8600%	1.0700%	0.8800%	1.0400%	0.5700%	0.2300%
25	0.7400%	0.9400%	1.5900%	2.2500%	0.7400%	0.9400%	0.8200%	0.9800%	0.5100%	0.0000%
26	0.6400%	0.8300%	1.3800%	2.0500%	0.6400%	0.8300%	0.7700%	0.9200%	0.4400%	0.0000%
27	0.5500%	0.7200%	1.2100%	1.8700%	0.5500%	0.7200%	0.7100%	0.8600%	0.3800%	0.0000%
28	0.4800%	0.6400%	1.0500%	1.7000%	0.4800%	0.6400%	0.6700%	0.8100%	0.3100%	0.0000%
29	0.4200%	0.5600%	0.9200%	1.5500%	0.4200%	0.5600%	0.6200%	0.7600%	0.2500%	0.0000%
30+	0.3600%	0.4900%	0.8000%	1.4100%	0.3600%	0.4900%	0.5800%	0.7200%	0.1800%	0.0000%

Rates have been rounded for display purposes.

Summary of Actuarial Assumptions and Methods (cont.)

7. Future Salaries

The following tables indicate the scale of relative salary values used to estimate future salaries for valuation purposes. In addition to increases in salary due to

promotions and longevity, there is an assumed 3.50% per annum rate of increase in the general salary level of the membership. The salary ratio describes the final salary over the current salary.

Step Salary Increases												
Years of Service	PERS		SERS		PSERS		TRS		LEOFF		WSPRS	
	% Increase	Salary Ratio										
0	6.00%	1.367	6.60%	1.382	6.00%	1.367	5.10%	1.573	10.70%	1.827	10.70%	1.827
1	6.00%	1.290	6.60%	1.297	6.00%	1.290	5.10%	1.496	10.70%	1.650	10.70%	1.650
2	4.70%	1.217	3.90%	1.217	4.70%	1.217	3.90%	1.424	7.50%	1.491	7.50%	1.491
3	3.60%	1.162	2.80%	1.171	3.60%	1.162	3.90%	1.370	5.90%	1.387	5.90%	1.387
4	2.90%	1.122	2.30%	1.139	2.90%	1.122	3.50%	1.319	3.70%	1.310	3.70%	1.310
5	2.20%	1.090	2.10%	1.113	2.20%	1.090	3.00%	1.274	2.60%	1.263	2.60%	1.263
6	1.50%	1.067	1.60%	1.090	1.50%	1.067	2.70%	1.237	1.80%	1.231	1.80%	1.231
7	1.20%	1.051	1.20%	1.073	1.20%	1.051	2.70%	1.205	1.40%	1.209	1.40%	1.209
8	0.90%	1.039	1.20%	1.061	0.90%	1.039	2.60%	1.173	1.30%	1.192	1.30%	1.192
9	0.70%	1.029	0.90%	1.048	0.70%	1.029	2.40%	1.143	1.20%	1.177	1.20%	1.177
10	0.50%	1.022	0.90%	1.039	0.50%	1.022	2.20%	1.116	1.70%	1.163	1.70%	1.163
11	0.40%	1.017	0.70%	1.029	0.40%	1.017	2.00%	1.092	1.20%	1.144	1.20%	1.144
12	0.30%	1.013	0.50%	1.022	0.30%	1.013	1.80%	1.071	1.20%	1.130	1.20%	1.130
13	0.30%	1.010	0.40%	1.017	0.30%	1.010	1.50%	1.052	1.20%	1.117	1.20%	1.117
14	0.20%	1.007	0.30%	1.013	0.20%	1.007	1.20%	1.037	1.20%	1.104	1.20%	1.104
15	0.20%	1.005	0.20%	1.010	0.20%	1.005	0.90%	1.024	1.20%	1.090	1.20%	1.090
16	0.20%	1.003	0.20%	1.008	0.20%	1.003	0.50%	1.015	1.00%	1.078	1.00%	1.078
17	0.10%	1.001	0.20%	1.006	0.10%	1.001	0.20%	1.010	1.00%	1.067	1.00%	1.067
18	0.00%	1.000	0.20%	1.004	0.00%	1.000	0.10%	1.008	1.00%	1.056	1.00%	1.056
19	0.00%	1.000	0.10%	1.002	0.00%	1.000	0.10%	1.007	1.00%	1.046	1.00%	1.046
20	0.00%	1.000	0.10%	1.001	0.00%	1.000	0.10%	1.006	1.00%	1.036	1.00%	1.036
21	0.00%	1.000	0.00%	1.000	0.00%	1.000	0.10%	1.005	0.50%	1.025	0.50%	1.025
22	0.00%	1.000	0.00%	1.000	0.00%	1.000	0.10%	1.004	0.50%	1.020	0.50%	1.020
23	0.00%	1.000	0.00%	1.000	0.00%	1.000	0.10%	1.003	0.50%	1.015	0.50%	1.015
24	0.00%	1.000	0.00%	1.000	0.00%	1.000	0.10%	1.002	0.50%	1.010	0.50%	1.010
25	0.00%	1.000	0.00%	1.000	0.00%	1.000	0.10%	1.001	0.50%	1.005	0.50%	1.005
26	0.00%	1.000	0.00%	1.000	0.00%	1.000	0.00%	1.000	0.00%	1.000	0.00%	1.000
27	0.00%	1.000	0.00%	1.000	0.00%	1.000	0.00%	1.000	0.00%	1.000	0.00%	1.000
28	0.00%	1.000	0.00%	1.000	0.00%	1.000	0.00%	1.000	0.00%	1.000	0.00%	1.000
29	0.00%	1.000	0.00%	1.000	0.00%	1.000	0.00%	1.000	0.00%	1.000	0.00%	1.000
30+	0.00%	1.000	0.00%	1.000	0.00%	1.000	0.00%	1.000	0.00%	1.000	0.00%	1.000

Summary of Actuarial Assumptions and Methods (cont.)

7. Future Salaries (cont.)

Relative Salary Values				
	PERS, SERS, PSERS	TRS	LEOFF	WSPRS
Annual % Increase	4.48%	4.79%	4.79%	4.48%
Attributed to Growth in Active Group Size	0.95%	1.25%	1.25%	0.95%
Attributed to Effects of Inflation on Salaries	3.50%	3.50%	3.50%	3.50%

8. Other Specific Assumptions That Have a Material Impact on Valuation Results

Information on other specific assumptions that have a material impact on results can be obtained from the 2018 Actuarial Valuation Report and on the Office of the State Actuary website (leg.ws.gov/osa).

9. Change in Assumptions

Assumption Changes: For all active members in TRS, we increased our assumed salary growth for 2018 from 3.5 percent to 8.0 percent. This was done to reflect recent increases in state funding for basic education which resulted in short-term salary increases for members of TRS.

Method Changes: We updated our modeling to reflect providing benefit payments to the date of initial retirement eligibility for terminated vested members who delay application for retirement benefits.

We updated our Cost-of-Living Adjustment (COLA) programming to reflect legislation signed during the 2018 Legislative Session (C151 L18). This law provides PERS and TRS Plan 1 annuitants who are not receiving a basic minimum, alternate minimum, or temporary disability benefit with a one-time permanent 1.5 percent increase to their monthly retirement benefit, not to exceed a maximum of \$62.50 per month.

10. Actuarial Cost Method

Valuation assets are at market value with annual gains and losses recognized on a graded scale over an eight-year period. Additionally, the actuarial value of assets may not exceed 130% nor drop below 70% of the market value of assets. JRS and JRF use the market value of assets for valuation assets.

PERS Plan 1, TRS Plan 1, LEOFF Plan 1, JRS and JRF Funding (Actual Contributions):

A variation of the Entry Age Normal (EAN) cost method is used for PERS Plan 1 and TRS Plan 1. The contribution toward the Unfunded Actuarially Accrued Liability (UAAL) has been developed in the valuation as a level percentage of expected future covered payrolls, which will amortize the UAAL over a rolling 10-year period. PERS Plan 1 amortizes the UAAL over all PERS, SERS and PSERS payrolls, including projected system growth. TRS Plan 1 amortizes the UAAL over all TRS payroll, including projected system growth. PERS Plan 1 has a minimum UAAL rate of 3.50%, and TRS Plan 1 has a minimum UAAL rate of 5.75%. No contributions for LEOFF Plan 1 are required when it is fully funded. JRS and JRF are funded on a pay-as-you-go basis.

PERS Plan 2/3, SERS Plan 2/3, TRS Plan 2/3, PSERS Plan 2, LEOFF Plan 2 and WSPRS Plan 1/2:

The aggregate actuarial cost method is used to calculate contribution rates.

Under this method, the unfunded actuarial present value of fully projected benefits is amortized over the projected earnings of the active group. The entire contribution is normal cost, and no UAAL exists. All gains and losses are amortized over future salaries of current active members.

PERS Plan 2/3, TRS Plan 2/3, SERS Plan 2/3 and PSERS Plan 2 minimum contribution rates are based on 80% of the entry age normal cost rate (EANC). WSPRS Plan 1/2 minimum contribution rates are based on 70% of the EANC. Similarly, LEOFF Plan 2 minimum contribution rates are based on 100% of the EANC.

Summary of Actuarial Assumptions and Methods (cont.)

11. Change in Funding Policy

During the 2019 Session, legislation (C366, L19) was passed which transferred \$300 million from the LEOFF Plan 2 trust fund to the LEOFF 2 Benefit Improvement Account on July 1, 2019. To account for this in our June 30, 2018 valuation, we reduced the assets in the LEOFF 2 trust fund by \$300 million with one year of interest discounting at 7.4 percent.

12. Material Changes in Benefit Provisions and Contribution Rates

The contribution rates for the 2019-21 biennium are based on the actuarial valuations as of June 30, 2017.

The following laws enacted in 2019 had an impact on the latest actuarial valuation (that is, legislation that produced supplemental contribution rate impacts):

- **Occupational Disease Presumption (C133, L19):**
This bill expands the statutory list of presumptive occupational diseases for fire fighters. It also adds some law enforcement, publicly employed EMTs, and fire investigators to the list of workers covered by the occupational disease presumption.

Schedules of Active Member Valuation Data

PERS Plan 1					
Valuation Date	Active Members	Annual Payroll in Millions	Average Annual Pay	Annualized % Increase in Average Pay	
6/30/2018	2,011	\$ 131.3	\$ 65,269	4.2%	
6/30/2017	2,597	162.6	62,610	2.4%	
6/30/2016	3,227	197.4	61,171	4.1%	
6/30/2015	3,927	230.7	58,748	1.5%	
6/30/2014	4,782	276.8	57,884	3.0%	
6/30/2013	5,653	317.8	56,224	0.6%	
6/30/2012	6,635	370.8	55,878	0.1%	
6/30/2011	7,733	431.8	55,842	(0.9)%	
6/30/2010	9,007	507.3	56,324	0.5%	
6/30/2009	10,354	580.2	56,034	2.4%	

PERS Plan 2					
Valuation Date	Active Members	Annual Payroll in Millions	Average Annual Pay	Annualized % Increase in Average Pay	
6/30/2018	122,165	\$ 8,251.8	\$ 67,547	3.9%	
6/30/2017	121,934	7,926.0	65,002	2.8%	
6/30/2016	119,677	7,569.5	63,249	3.4%	
6/30/2015	117,768	7,204.6	61,176	1.9%	
6/30/2014	116,985	7,023.3	60,036	2.8%	
6/30/2013	115,751	6,758.5	58,388	1.2%	
6/30/2012	115,877	6,688.2	57,718	1.2%	
6/30/2011	117,096	6,679.4	57,042	1.3%	
6/30/2010	119,826	6,748.3	56,317	2.0%	
6/30/2009	121,800	6,723.9	55,204	4.1%	

PERS Plan 3					
Valuation Date	Active Members	Annual Payroll in Millions	Average Annual Pay	Annualized % Increase in Average Pay	
6/30/2018	36,707	\$ 2,278.0	\$ 62,058	3.8%	
6/30/2017	34,943	2,089.9	59,809	2.9%	
6/30/2016	33,240	1,931.6	58,110	3.2%	
6/30/2015	31,602	1,779.8	56,320	2.0%	
6/30/2014	30,694	1,695.4	55,235	2.4%	
6/30/2013	29,302	1,580.8	53,948	0.7%	
6/30/2012	28,078	1,504.4	53,579	0.6%	
6/30/2011	27,588	1,468.9	53,245	1.1%	
6/30/2010	27,693	1,458.0	52,647	1.2%	
6/30/2009	27,081	1,408.4	52,006	4.3%	

Schedules of Active Member Valuation Data (cont.)

SERS Plan 2

Valuation Date	Active Members	Annual Payroll in Millions	Average Annual Pay	Annualized % Increase in Average Pay
6/30/2018	27,431	\$ 959.9	\$ 34,994	5.6%
6/30/2017	26,697	885.1	33,153	5.3%
6/30/2016	25,950	817.2	31,493	5.0%
6/30/2015	24,479	734.3	29,998	2.8%
6/30/2014	22,950	670.0	29,195	2.0%
6/30/2013	21,760	622.8	28,620	0.4%
6/30/2012	20,846	594.0	28,494	0.1%
6/30/2011	20,784	591.4	28,453	0.6%
6/30/2010	20,358	576.0	28,293	0.8%
6/30/2009	20,197	567.0	28,072	3.5%

SERS Plan 3

Valuation Date	Active Members	Annual Payroll in Millions	Average Annual Pay	Annualized % Increase in Average Pay
6/30/2018	34,781	\$ 1,218.6	\$ 35,037	4.8%
6/30/2017	33,715	1,127.3	33,436	3.6%
6/30/2016	32,314	1,042.8	32,269	5.0%
6/30/2015	31,326	962.5	30,725	2.9%
6/30/2014	30,832	920.7	29,861	2.3%
6/30/2013	30,535	891.5	29,195	1.3%
6/30/2012	30,712	884.8	28,810	1.1%
6/30/2011	31,548	898.6	28,483	1.3%
6/30/2010	31,981	899.0	28,110	0.9%
6/30/2009	32,277	899.5	27,869	5.7%

PSERS Plan 2

Valuation Date	Active Members	Annual Payroll in Millions	Average Annual Pay	Annualized % Increase in Average Pay
6/30/2018	6,180	\$ 399.3	\$ 64,619	3.8%
6/30/2017	5,822	362.4	62,247	4.3%
6/30/2016	5,483	327.3	59,700	2.7%
6/30/2015	5,202	302.3	58,115	1.8%
6/30/2014	4,820	275.3	57,115	1.9%
6/30/2013	4,513	253.1	56,075	0.1%
6/30/2012	4,250	238.0	55,999	0.7%
6/30/2011	4,187	232.8	55,597	3.0%
6/30/2010	4,210	227.4	54,003	4.9%
6/30/2009	4,340	223.4	51,476	2.5%

Schedules of Active Member Valuation Data (cont.)

TRS Plan 1					
Valuation Date	Active Members	Annual Payroll in Millions	Average Annual Pay	Annualized % Increase in Average Pay	
6/30/2018	491	\$ 45.0	\$ 91,688	4.9%	
6/30/2017	698	61.0	87,446	4.8%	
6/30/2016	967	80.7	83,405	4.8%	
6/30/2015	1,353	107.7	79,603	1.3%	
6/30/2014	1,824	143.3	78,549	2.6%	
6/30/2013	2,393	183.2	76,549	1.1%	
6/30/2012	3,019	228.5	75,681	(0.4)%	
6/30/2011	3,740	284.2	75,994	1.4%	
6/30/2010	4,591	344.0	74,930	0.3%	
6/30/2009	5,204	388.8	74,707	4.7%	

TRS Plan 2					
Valuation Date	Active Members	Annual Payroll in Millions	Average Annual Pay	Annualized % Increase in Average Pay	
6/30/2018	20,096	\$ 1,406.5	\$ 69,990	5.4%	
6/30/2017	18,747	1,244.3	66,374	3.6%	
6/30/2016	17,242	1,104.4	64,055	4.0%	
6/30/2015	15,342	945.2	61,610	0.1%	
6/30/2014	13,632	838.9	61,538	0.4%	
6/30/2013	12,071	740.2	61,320	(0.5)%	
6/30/2012	10,849	668.8	61,648	(2.2)%	
6/30/2011	10,285	648.2	63,025	(0.6)%	
6/30/2010	9,442	598.8	63,423	(1.3)%	
6/30/2009	9,174	589.3	64,239	1.9%	

TRS Plan 3					
Valuation Date	Active Members	Annual Payroll in Millions	Average Annual Pay	Annualized % Increase in Average Pay	
6/30/2018	54,432	\$ 4,472.6	\$ 82,168	5.3%	
6/30/2017	53,780	4,196.1	78,023	4.2%	
6/30/2016	52,706	3,947.3	74,892	4.9%	
6/30/2015	52,125	3,721.9	71,403	2.5%	
6/30/2014	51,837	3,611.5	69,670	3.0%	
6/30/2013	51,471	3,482.7	67,664	2.2%	
6/30/2012	51,489	3,408.1	66,191	0.5%	
6/30/2011	52,178	3,436.7	65,866	2.3%	
6/30/2010	52,292	3,366.7	64,382	1.3%	
6/30/2009	53,010	3,367.9	63,534	6.9%	

Schedules of Active Member Valuation Data (cont.)

LEOFF Plan 1

Valuation Date	Active Members	Annual Payroll in Millions	Average Annual Pay	Annualized % Increase in Average Pay
6/30/2018	26	\$ 2.8	\$ 108,832	(4.6)%
6/30/2017	40	4.6	114,135	5.6%
6/30/2016	62	6.7	108,061	1.3%
6/30/2015	82	8.7	106,683	1.2%
6/30/2014	120	12.6	105,385	2.0%
6/30/2013	143	14.8	103,362	2.5%
6/30/2012	186	18.8	100,828	2.8%
6/30/2011	250	24.5	98,078	1.4%
6/30/2010	301	29.1	96,686	3.2%
6/30/2009	356	33.3	93,679	6.4%

LEOFF Plan 2

Valuation Date	Active Members	Annual Payroll in Millions	Average Annual Pay	Annualized % Increase in Average Pay
6/30/2018	18,130	\$ 1,981.9	\$ 109,319	3.0%
6/30/2017	17,694	1,878.5	106,169	2.1%
6/30/2016	17,186	1,786.4	103,947	1.5%
6/30/2015	17,019	1,742.9	102,411	3.4%
6/30/2014	16,773	1,661.3	99,048	3.5%
6/30/2013	16,687	1,596.8	95,694	2.6%
6/30/2012	16,720	1,560.1	93,308	2.2%
6/30/2011	16,805	1,534.7	91,322	2.8%
6/30/2010	16,775	1,490.1	88,828	4.4%
6/30/2009	16,951	1,442.5	85,097	5.2%

WSPRS Plan 1

Valuation Date	Active Members	Annual Payroll in Millions	Average Annual Pay	Annualized % Increase in Average Pay
6/30/2018	444	\$ 51.8	\$ 116,625	13.6%
6/30/2017	464	47.6	102,624	9.9%
6/30/2016	498	46.5	93,338	7.9%
6/30/2015	560	48.5	86,535	2.0%
6/30/2014	609	51.6	84,804	4.1%
6/30/2013	657	53.5	81,465	1.5%
6/30/2012	712	57.1	80,263	0.4%
6/30/2011	767	61.3	79,983	(0.3)%
6/30/2010	806	64.6	80,197	0.1%
6/30/2009	830	66.5	80,115	4.4%

Schedules of Active Member Valuation Data (cont.)

WSPRS Plan 2

Valuation Date	Active Members	Annual Payroll in Millions	Average Annual Pay	Annualized % Increase in Average Pay
6/30/2018	597	\$ 55.0	\$ 92,066	11.1%
6/30/2017	546	45.2	82,863	7.1%
6/30/2016	470	36.4	77,349	10.1%
6/30/2015	475	33.4	70,238	1.5%
6/30/2014	435	30.1	69,226	6.4%
6/30/2013	409	26.6	65,058	(0.2)%
6/30/2012	354	23.1	65,165	1.7%
6/30/2011	315	20.2	64,103	0.7%
6/30/2010	281	17.9	63,660	1.7%
6/30/2009	264	16.5	62,583	9.3%

JRS

Valuation Date	Active Members	Annual Payroll in Millions	Average Annual Pay	Annualized % Increase in Average Pay
6/30/2018	—	\$ —	\$ —	n/a
6/30/2017	—	—	—	n/a
6/30/2016	—	—	—	n/a
6/30/2015	—	—	—	n/a
6/30/2014	—	—	—	n/a
6/30/2013	—	—	—	(100.0)%
6/30/2012	2	0.3	148,832	(3.3)%
6/30/2011	3	0.5	153,962	1.4%
6/30/2010	5	0.8	151,908	0.7%
6/30/2009	9	1.4	150,870	6.0%

Averages are based on actual amounts, not rounded amounts.

Source: Office of the State Actuary

Schedules of Retirees and Beneficiaries Added to and Removed from Rolls

PERS Plan 1									
Valuation Date	Added to Rolls		Removed from Rolls		Rolls — End of Year		Average Annual Allowance	% Increase in Annual Allowance	
	Number	Annual Allowances	Number	Annual Allowances	Number	Annual Allowances			
6/30/2018	1,064	\$ 27,079,475	2,295	\$ 42,511,150	46,880	\$ 1,176,056,579	\$ 25,087	(0.5)%	
6/30/2017	1,157	29,173,258	2,314	41,783,003	48,111	1,182,116,311	24,571	(0.4)%	
6/30/2016	1,269	31,328,241	2,271	38,944,553	49,268	1,186,959,021	24,092	0.0%	
6/30/2015	1,427	34,495,824	2,227	36,970,754	50,270	1,186,941,835	23,611	0.3%	
6/30/2014	1,446	36,218,524	2,236	36,578,459	51,070	1,183,089,117	23,166	0.5%	
6/30/2013	1,596	40,451,809	2,408	38,081,771	51,860	1,177,115,047	22,698	0.7%	
6/30/2012	1,643	42,344,185	2,235	33,066,677	52,672	1,169,187,194	22,198	1.5%	
6/30/2011	1,829	49,678,585	2,307	31,131,283	53,264	1,151,599,650	21,621	3.6%	
6/30/2010	1,891	48,714,779	2,296	30,635,880	53,742	1,112,108,596	20,693	3.5%	
6/30/2009	1,824	47,679,971	2,258	28,065,463	54,147	1,073,997,138	19,835	3.7%	

PERS Plan 2									
Valuation Date	Added to Rolls		Removed from Rolls		Rolls — End of Year		Average Annual Allowance	% Increase in Annual Allowance	
	Number	Annual Allowances	Number	Annual Allowances	Number	Annual Allowances			
6/30/2018	5,236	\$ 127,142,615	1,109	\$ 15,810,509	50,664	\$ 1,018,698,643	\$ 20,107	14.6%	
6/30/2017	4,899	119,219,311	953	12,828,139	46,537	889,036,122	19,104	14.7%	
6/30/2016	4,746	107,212,926	848	11,025,471	42,591	775,137,400	18,200	16.3%	
6/30/2015	4,388	96,222,376	837	10,807,578	38,693	666,289,799	17,220	16.2%	
6/30/2014	4,500	98,401,222	687	8,476,109	35,142	573,268,436	16,313	21.5%	
6/30/2013	4,167	82,479,614	658	7,214,843	31,329	472,011,858	15,066	22.1%	
6/30/2012	3,685	67,895,490	576	5,893,503	27,820	386,547,451	13,895	20.6%	
6/30/2011	3,206	59,754,016	538	5,248,298	24,711	320,615,736	12,975	23.2%	
6/30/2010	2,732	45,416,589	479	4,302,408	22,043	260,152,502	11,802	21.8%	
6/30/2009	2,461	37,668,755	469	3,848,756	19,790	213,544,944	10,791	22.0%	

PERS Plan 3									
Valuation Date	Added to Rolls		Removed from Rolls		Rolls — End of Year		Average Annual Allowance	% Increase in Annual Allowance	
	Number	Annual Allowances	Number	Annual Allowances	Number	Annual Allowances			
6/30/2018	760	\$ 10,183,950	57	\$ 522,312	4,965	\$ 56,138,161	\$ 11,307	23.3%	
6/30/2017	635	7,368,171	57	523,055	4,262	45,529,344	10,683	18.8%	
6/30/2016	549	6,749,974	51	472,466	3,684	38,310,147	10,399	21.8%	
6/30/2015	581	6,525,449	29	179,408	3,186	31,459,343	9,874	26.8%	
6/30/2014	527	5,973,884	32	179,191	2,634	24,801,688	9,416	33.6%	
6/30/2013	414	4,231,693	25	175,440	2,139	18,566,461	8,680	31.1%	
6/30/2012	377	3,768,015	15	95,645	1,750	14,165,571	8,095	36.6%	
6/30/2011	289	2,750,573	15	115,610	1,388	10,366,918	7,469	36.8%	
6/30/2010	211	1,847,618	17	105,335	1,114	7,575,590	6,800	33.1%	
6/30/2009	188	1,431,296	11	68,324	920	5,691,504	6,186	34.6%	

Schedules of Retirees and Beneficiaries Added to and Removed from Rolls (cont.)

SERS Plan 2									
Valuation Date	Added to Rolls		Removed from Rolls		Rolls — End of Year		Average Annual Allowance	% Increase in Annual Allowance	
	Number	Annual Allowances	Number	Annual Allowances	Number	Annual Allowances			
6/30/2018	1,079	\$ 12,353,771	138	\$ 1,408,130	9,157	\$ 99,489,379	\$ 10,865	14.8%	
6/30/2017	981	11,144,019	145	1,285,195	8,216	86,679,206	10,550	13.9%	
6/30/2016	951	10,196,114	133	1,208,588	7,380	76,081,031	10,309	15.6%	
6/30/2015	865	9,200,978	99	851,704	6,562	65,840,085	10,034	16.1%	
6/30/2014	796	8,658,343	84	710,331	5,796	56,703,435	9,783	19.2%	
6/30/2013	729	7,922,612	82	669,493	5,084	47,586,513	9,360	21.1%	
6/30/2012	685	7,196,654	71	556,280	4,437	39,304,032	8,858	22.0%	
6/30/2011	560	5,481,726	48	331,627	3,823	32,224,861	8,429	21.8%	
6/30/2010	482	4,325,732	41	339,774	3,311	26,455,961	7,990	20.9%	
6/30/2009	454	3,836,380	32	197,969	2,870	21,890,772	7,627	23.0%	

SERS Plan 3									
Valuation Date	Added to Rolls		Removed from Rolls		Rolls — End of Year		Average Annual Allowance	% Increase in Annual Allowance	
	Number	Annual Allowances	Number	Annual Allowances	Number	Annual Allowances			
6/30/2018	1,227	\$ 8,264,566	102	\$ 466,904	8,850	\$ 53,241,154	\$ 6,016	19.6%	
6/30/2017	1,107	6,932,099	90	427,741	7,725	44,505,909	5,761	18.3%	
6/30/2016	1,020	6,004,617	62	332,298	6,708	37,605,743	5,606	20.0%	
6/30/2015	981	6,027,951	56	226,130	5,750	31,328,571	5,448	24.4%	
6/30/2014	875	5,235,885	45	185,272	4,825	25,178,188	5,218	28.1%	
6/30/2013	803	4,385,800	22	91,177	3,995	19,657,323	4,920	31.1%	
6/30/2012	636	3,285,871	27	105,484	3,214	14,992,908	4,665	28.5%	
6/30/2011	553	3,038,825	21	73,455	2,605	11,667,747	4,479	37.2%	
6/30/2010	332	1,614,718	18	51,140	2,073	8,504,426	4,102	25.6%	
6/30/2009	346	1,552,969	12	36,518	1,759	6,768,866	3,848	31.9%	

PSERS Plan 2									
Valuation Date	Added to Rolls		Removed from Rolls		Rolls — End of Year		Average Annual Allowance	% Increase in Annual Allowance	
	Number	Annual Allowances	Number	Annual Allowances	Number	Annual Allowances			
6/30/2018	65	\$ 756,436	1	\$ 2,049	231	\$ 2,273,090	\$ 9,840	52.2%	
6/30/2017	60	731,960	1	2,662	167	1,493,188	8,941	97.2%	
6/30/2016	29	292,170	1	8,993	108	757,267	7,012	62.4%	
6/30/2015	19	141,388	1	4,020	80	466,218	5,828	43.2%	
6/30/2014	19	137,777	—	—	62	325,492	5,250	76.0%	
6/30/2013	16	98,050	—	—	43	184,938	4,301	116.0%	
6/30/2012	12	46,142	—	—	27	85,628	3,171	117.6%	
6/30/2011	8	25,844	—	—	15	39,355	2,624	192.3%	
6/30/2010	5	10,383	—	—	7	13,645	1,924	339.7%	
6/30/2009	1	2,409	—	—	2	3,062	1,531	368.9%	

Schedules of Retirees and Beneficiaries Added to and Removed from Rolls (cont.)

TRS Plan 1									
Valuation Date	Added to Rolls		Removed from Rolls		Rolls — End of Year		Average Annual Allowance	% Increase in Annual Allowance	
	Number	Annual Allowances	Number	Annual Allowances	Number	Annual Allowances			
6/30/2018	415	\$ 12,542,186	1,181	\$ 24,809,661	33,385	\$ 882,369,797	\$ 26,430	(1.1)%	
6/30/2017	507	15,521,132	1,143	22,683,502	34,151	892,397,120	26,131	(0.6)%	
6/30/2016	646	20,261,374	1,098	22,164,314	34,787	897,662,583	25,805	0.0%	
6/30/2015	745	23,336,449	1,145	22,271,095	35,239	897,354,684	25,465	0.3%	
6/30/2014	834	27,345,364	1,107	21,680,225	35,639	894,749,810	25,106	0.8%	
6/30/2013	889	28,516,769	1,031	19,814,149	35,912	887,718,032	24,719	1.2%	
6/30/2012	1,007	32,011,915	1,071	19,959,639	36,054	877,408,017	24,336	1.6%	
6/30/2011	1,161	37,444,310	1,058	18,622,578	36,118	863,605,633	23,911	4.0%	
6/30/2010	947	27,363,548	964	16,376,709	36,015	829,998,363	23,046	3.2%	
6/30/2009	1,193	33,860,034	1,040	16,463,852	36,032	804,572,786	22,329	3.9%	

TRS Plan 2									
Valuation Date	Added to Rolls		Removed from Rolls		Rolls — End of Year		Average Annual Allowance	% Increase in Annual Allowance	
	Number	Annual Allowances	Number	Annual Allowances	Number	Annual Allowances			
6/30/2018	449	\$ 12,512,286	73	\$ 1,370,188	5,436	\$ 130,592,485	\$ 24,024	11.8%	
6/30/2017	443	12,236,147	70	1,222,920	5,060	116,829,889	23,089	11.5%	
6/30/2016	444	11,780,089	62	1,099,744	4,687	104,820,736	22,364	13.6%	
6/30/2015	452	11,891,498	41	703,305	4,305	92,291,775	21,438	15.4%	
6/30/2014	493	12,353,083	44	699,410	3,894	79,974,743	20,538	20.0%	
6/30/2013	422	10,037,156	37	626,458	3,445	66,622,927	19,339	19.6%	
6/30/2012	424	9,371,702	21	336,553	3,060	55,682,494	18,197	20.8%	
6/30/2011	362	7,470,573	25	307,667	2,657	46,085,043	17,345	21.3%	
6/30/2010	249	5,208,999	33	383,886	2,320	37,984,977	16,373	17.7%	
6/30/2009	246	4,939,050	21	265,215	2,104	32,273,082	15,339	20.2%	

TRS Plan 3									
Valuation Date	Added to Rolls		Removed from Rolls		Rolls — End of Year		Average Annual Allowance	% Increase in Annual Allowance	
	Number	Annual Allowances	Number	Annual Allowances	Number	Annual Allowances			
6/30/2018	1,736	\$ 29,434,230	75	\$ 925,142	11,925	\$ 171,767,574	\$ 14,404	22.5%	
6/30/2017	1,487	23,877,322	66	717,229	10,264	140,243,092	13,664	21.0%	
6/30/2016	1,452	21,733,070	62	710,943	8,843	115,928,937	13,110	24.5%	
6/30/2015	1,411	20,685,113	52	518,497	7,453	93,089,105	12,490	29.4%	
6/30/2014	1,271	18,346,307	40	361,104	6,094	71,957,258	11,808	36.5%	
6/30/2013	1,083	13,777,247	24	234,999	4,863	52,704,816	10,838	38.0%	
6/30/2012	896	10,668,293	26	207,788	3,804	38,191,899	10,040	39.3%	
6/30/2011	714	8,168,048	15	132,216	2,934	27,425,422	9,347	44.5%	
6/30/2010	454	4,632,283	10	73,282	2,235	18,983,833	8,494	34.9%	
6/30/2009	408	4,058,520	9	60,319	1,791	14,073,479	7,858	43.2%	

Schedules of Retirees and Beneficiaries Added to and Removed from Rolls (cont.)

LEOFF Plan 1									
Valuation Date	Added to Rolls		Removed from Rolls		Rolls — End of Year		Average Annual Allowance	% Increase in Annual Allowance	
	Number	Annual Allowances	Number	Annual Allowances	Number	Annual Allowances			
6/30/2018	128	\$ 6,921,347	282	\$ 12,692,982	7,074	\$ 368,563,427	\$ 52,101	1.6%	
6/30/2017	129	7,252,592	279	11,953,943	7,228	362,660,957	50,174	0.8%	
6/30/2016	132	7,074,185	261	11,649,210	7,378	359,684,499	48,751	(0.4)%	
6/30/2015	153	8,756,563	251	10,586,867	7,507	361,094,205	48,101	1.4%	
6/30/2014	124	6,809,466	248	10,922,714	7,605	356,280,207	46,848	0.0%	
6/30/2013	146	7,890,561	262	10,485,897	7,729	356,229,923	46,090	1.7%	
6/30/2012	162	9,325,170	249	9,732,437	7,845	350,199,616	44,640	3.0%	
6/30/2011	136	7,331,503	212	8,121,870	7,932	340,160,704	42,885	0.5%	
6/30/2010	167	9,065,821	246	9,545,410	8,008	338,503,613	42,271	0.3%	
6/30/2009	156	8,226,656	203	7,267,042	8,087	337,505,287	41,734	4.7%	

LEOFF Plan 2									
Valuation Date	Added to Rolls		Removed from Rolls		Rolls — End of Year		Average Annual Allowance	% Increase in Annual Allowance	
	Number	Annual Allowances	Number	Annual Allowances	Number	Annual Allowances			
6/30/2018	627	\$ 35,477,394	42	\$ 1,461,425	5,436	\$ 265,509,226	\$ 48,843	17.1%	
6/30/2017	627	35,094,355	35	1,278,043	4,851	226,672,138	46,727	19.0%	
6/30/2016	586	31,191,906	37	1,239,165	4,259	190,425,480	44,711	21.2%	
6/30/2015	497	25,745,170	22	891,857	3,710	157,094,929	42,344	20.4%	
6/30/2014	478	23,448,749	25	779,746	3,235	130,428,517	40,318	24.0%	
6/30/2013	457	21,512,439	19	571,580	2,782	105,193,996	37,812	28.5%	
6/30/2012	355	16,447,618	26	705,284	2,344	81,874,896	34,930	25.1%	
6/30/2011	389	15,718,562	13	333,059	2,015	65,459,659	32,486	33.8%	
6/30/2010	285	10,278,954	13	332,332	1,639	48,926,257	29,851	29.2%	
6/30/2009	243	8,478,268	10	216,179	1,367	37,876,404	27,708	31.0%	

WSPRS Plan 1									
Valuation Date	Added to Rolls		Removed from Rolls		Rolls — End of Year		Average Annual Allowance	% Increase in Annual Allowance	
	Number	Annual Allowances	Number	Annual Allowances	Number	Annual Allowances			
6/30/2018	41	\$ 2,386,374	18	\$ 791,692	1,136	\$ 60,174,528	\$ 52,971	5.1%	
6/30/2017	54	2,725,385	19	888,471	1,113	57,262,228	51,449	5.0%	
6/30/2016	69	3,646,614	24	922,612	1,078	54,523,333	50,578	7.6%	
6/30/2015	60	2,780,816	23	781,775	1,033	50,674,128	49,055	5.9%	
6/30/2014	51	2,304,665	19	597,779	996	47,829,447	48,022	6.5%	
6/30/2013	67	3,124,867	18	587,613	964	44,897,586	46,574	9.1%	
6/30/2012	59	2,674,231	19	715,514	915	41,147,922	44,970	6.6%	
6/30/2011	42	1,918,898	18	476,475	875	38,597,849	44,112	5.1%	
6/30/2010	33	1,549,594	16	489,562	851	36,718,045	43,147	6.0%	
6/30/2009	15	710,502	12	377,080	834	34,636,899	41,531	4.0%	

Schedules of Retirees and Beneficiaries Added to and Removed from Rolls (cont.)

JRS								
Valuation Date	Added to Rolls		Removed from Rolls		Rolls — End of Year		Average Annual Allowance	% Increase in Annual Allowance
	Number	Annual Allowances	Number	Annual Allowances	Number	Annual Allowances		
6/30/2018	2	\$ 87,882	8	\$ 578,916	93	\$ 8,088,944	\$ 86,978	(4.9)%
6/30/2017	2	108,002	7	524,965	99	8,501,724	85,876	(5.0)%
6/30/2016	4	227,622	6	591,387	104	8,952,238	86,079	(2.5)%
6/30/2015	3	166,803	5	414,930	106	9,185,874	86,659	(1.3)%
6/30/2014	—	—	6	366,825	108	9,308,919	86,194	(1.4)%
6/30/2013	7	476,184	12	877,160	114	9,440,927	82,815	(1.5)%
6/30/2012	4	317,799	9	670,577	119	9,584,381	80,541	(1.7)%
6/30/2011	4	285,689	5	400,572	124	9,745,840	78,595	0.1%
6/30/2010	10	700,776	9	626,362	125	9,733,805	77,870	3.5%
6/30/2009	4	276,433	7	497,241	124	9,401,392	75,818	0.4%

JRF								
Valuation Date	Added to Rolls		Removed from Rolls		Rolls — End of Year		Average Annual Allowance	% Increase in Annual Allowance
	Number	Annual Allowances	Number	Annual Allowances	Number	Annual Allowances		
6/30/2018	—	\$ —	—	\$ —	11	\$ 394,572	\$ 35,870	0.0%
6/30/2017	1	44,310	1	88,621	11	394,572	35,870	(10.1)%
6/30/2016	—	—	1	5,397	11	438,882	39,898	(1.2)%
6/30/2015	—	—	—	—	12	444,282	37,024	0.0%
6/30/2014	—	—	—	—	12	444,282	37,024	0.0%
6/30/2013	—	—	—	—	12	444,282	37,024	(7.7)%
6/30/2012	—	—	1	18,329	12	481,389	40,116	(3.7)%
6/30/2011	—	—	—	—	13	499,719	38,440	0.0%
6/30/2010	—	—	—	—	13	499,719	38,440	0.0%
6/30/2009	—	—	—	—	13	499,719	38,440	0.0%

Source: Office of the State Actuary

Solvency Tests

PERS Plan 1

Dollars in Millions

Accrued Liabilities (Entry Age Normal Cost Method)					Portion of Accrued Liabilities Covered by Assets				
Valuation Date	(1) Active Member Contributions ¹	(2) Retired/Vested Members ²	(3) Active Members (employer-financed portion)	(1+2+3) Total Accrued Liability	Valuation Assets	(1) Active Member Contributions	(2) Inactive Member Liability	(3) Excess Accrued Liability	
6/30/2018	\$ 313.6	\$ 11,305.2	\$ 323.4	\$ 11,942.2	\$ 7,193.4	100%	61%	0%	
6/30/2017	373.9	11,446.2	520.5	12,340.5	7,042.0	100%	58%	0%	
6/30/2016	443.8	11,378.5	501.0	12,323.2	6,958.2	100%	57%	0%	
6/30/2015	513.7	11,439.9	599.9	12,553.5	7,314.9	100%	59%	0%	
6/30/2014	589.2	11,387.8	743.3	12,720.4	7,761.5	100%	63%	0%	
6/30/2013	662.6	11,371.1	613.4	12,647.1	8,053.1	100%	65%	0%	
6/30/2012	740.8	10,685.6	707.0	12,133.4	8,520.6	100%	73%	0%	
6/30/2011	818.7	10,677.5	852.1	12,348.4	8,883.4	100%	76%	0%	
6/30/2010	912.6	10,232.0	1,096.0	12,240.7	9,293.0	100%	82%	0%	
6/30/2009	989.9	11,269.4	1,703.2	13,962.6	9,775.6	100%	78%	0%	

PERS Plan 2/3

Dollars in Millions

Accrued Liabilities (Aggregate Cost Method)					Portion of Accrued Liabilities Covered by Assets				
Valuation Date	(1) Active Member Contributions ¹	(2) Retired/Vested Members ²	(3) Active Members (employer-financed portion)	(1+2+3) Total Accrued Liability	Valuation Assets	(1) Active Member Contributions	(2) Inactive Member Liability	(3) Excess Accrued Liability	
6/30/2018	\$ 5,960.0	\$ 16,577.6	\$ 14,063.4	\$ 36,601.0	\$ 36,601.0	100%	100%	100%	
6/30/2017	5,262.7	14,857.4	13,071.4	33,191.5	33,191.5	100%	100%	100%	
6/30/2016	4,932.6	13,186.4	12,143.6	30,262.5	30,262.5	100%	100%	100%	
6/30/2015	4,596.6	11,541.9	12,153.8	28,282.3	28,292.3	100%	100%	100%	
6/30/2014	4,357.1	9,925.2	12,104.0	26,386.3	26,386.3	100%	100%	100%	
6/30/2013	4,121.6	8,388.8	11,824.2	24,334.6	24,334.6	100%	100%	100%	
6/30/2012	3,878.2	6,710.3	12,064.0	22,652.6	22,652.6	100%	100%	100%	
6/30/2011	3,605.7	5,756.8	11,634.2	20,996.7	20,996.7	100%	100%	100%	
6/30/2010	3,388.0	4,753.4	11,332.7	19,474.1	19,474.1	100%	100%	100%	
6/30/2009	3,132.0	4,038.0	11,090.4	18,260.4	18,260.4	100%	100%	100%	

SERS Plan 2/3

Dollars in Millions

Accrued Liabilities (Aggregate Cost Method)					Portion of Accrued Liabilities Covered by Assets				
Valuation Date	(1) Active Member Contributions ¹	(2) Retired/Vested Members ²	(3) Active Members (employer-financed portion)	(1+2+3) Total Accrued Liability	Valuation Assets	(1) Active Member Contributions	(2) Inactive Member Liability	(3) Excess Accrued Liability	
6/30/2018	\$ 711.7	\$ 5,179.4	\$ 7,341.4	\$ 13,232.5	\$ 13,232.5	100%	100%	100%	
6/30/2017	408.4	2,272.2	1,932.2	4,612.8	4,612.8	100%	100%	100%	
6/30/2016	377.0	2,011.1	1,793.1	4,181.2	4,181.2	100%	100%	100%	
6/30/2015	347.4	1,751.4	1,801.8	3,900.6	3,900.6	100%	100%	100%	
6/30/2014	328.0	1,492.9	1,803.0	3,623.8	3,623.8	100%	100%	100%	
6/30/2013	309.2	1,267.1	1,758.3	3,334.6	3,334.6	100%	100%	100%	
6/30/2012	295.3	1,018.0	1,787.0	3,100.3	3,100.3	100%	100%	100%	
6/30/2011	279.8	862.1	1,730.3	2,872.1	2,872.1	100%	100%	100%	
6/30/2010	266.2	713.8	1,684.1	2,664.1	2,664.1	100%	100%	100%	
6/30/2009	251.5	613.7	1,637.9	2,503.2	2,503.2	100%	100%	100%	

Solvency Tests (cont.)

PSERS Plan 2

Dollars in Millions

Accrued Liabilities (Aggregate Cost Method)					Portion of Accrued Liabilities Covered by Assets				
Valuation Date	(1) Active Member Contributions ¹	(2) Retired/Vested Members ²	(3) Active Members (employer-financed portion)	(1+2+3) Total Accrued Liability	Valuation Assets	(1) Active Member Contributions	(2) Inactive Member Liability	(3) Excess Accrued Liability	
6/30/2018	\$ 208.9	\$ 69.6	\$ 293.7	\$ 572.2	\$ 572.2	100%	100%	100%	
6/30/2017	169.3	63.5	247.6	480.4	480.4	100%	100%	100%	
6/30/2016	147.9	43.1	210.6	401.6	401.6	100%	100%	100%	
6/30/2015	128.4	29.5	180.1	337.9	337.9	100%	100%	100%	
6/30/2014	109.5	21.5	147.2	278.2	278.2	100%	100%	100%	
6/30/2013	92.5	14.7	117.1	224.2	224.2	100%	100%	100%	
6/30/2012	76.5	9.2	94.8	180.5	180.5	100%	100%	100%	
6/30/2011	62.0	6.1	72.6	140.7	140.7	100%	100%	100%	
6/30/2010	46.9	4.2	51.7	102.9	102.9	100%	100%	100%	
6/30/2009	32.4	2.0	34.8	69.2	69.2	100%	100%	100%	

TRS Plan 1

Dollars in Millions

Accrued Liabilities (Entry Age Normal Cost Method)					Portion of Accrued Liabilities Covered by Assets				
Valuation Date	(1) Active Member Contributions ¹	(2) Retired/Vested Members ²	(3) Active Members (employer-financed portion)	(1+2+3) Total Accrued Liability	Valuation Assets	(1) Active Member Contributions	(2) Inactive Member Liability	(3) Excess Accrued Liability	
6/30/2018	\$ 124.0	\$ 8,349.9	\$ 108.6	\$ 8,582.5	\$ 5,399.1	100%	63%	0%	
6/30/2017	161.2	8,513.9	242.6	8,917.7	5,370.6	100%	61%	0%	
6/30/2016	209.6	8,494.7	195.7	8,900.0	5,439.6	100%	62%	0%	
6/30/2015	277.0	8,562.6	268.0	9,107.5	5,870.5	100%	65%	0%	
6/30/2014	347.4	8,530.4	372.3	9,250.1	6,352.8	100%	70%	0%	
6/30/2013	433.7	8,511.5	441.0	9,386.1	6,717.1	100%	74%	0%	
6/30/2012	509.9	7,952.4	534.4	8,996.7	7,144.5	100%	83%	0%	
6/30/2011	598.1	7,934.2	662.4	9,194.7	7,485.0	100%	87%	0%	
6/30/2010	663.6	7,586.5	870.0	9,120.0	7,791.3	100%	94%	0%	
6/30/2009	725.6	8,821.7	1,264.8	10,812.1	8,146.2	100%	84%	0%	

TRS Plan 2/3

Dollars in Millions

Accrued Liabilities (Aggregate Cost Method)					Portion of Accrued Liabilities Covered by Assets				
Valuation Date	(1) Active Member Contributions ¹	(2) Retired/Vested Members ²	(3) Active Members (employer-financed portion)	(1+2+3) Total Accrued Liability	Valuation Assets	(1) Active Member Contributions	(2) Inactive Member Liability	(3) Excess Accrued Liability	
6/30/2018	\$ 711.7	\$ 5,179.4	\$ 7,341.4	\$ 13,232.5	\$ 13,232.5	100%	100%	100%	
6/30/2017	577.2	4,545.5	6,762.4	11,885.1	11,885.1	100%	100%	100%	
6/30/2016	522.9	4,019.4	6,179.5	10,721.8	10,721.8	100%	100%	100%	
6/30/2015	474.6	3,443.8	6,034.4	9,952.8	9,952.8	100%	100%	100%	
6/30/2014	448.5	2,858.6	5,885.9	9,193.0	9,193.0	100%	100%	100%	
6/30/2013	424.4	2,335.8	5,645.8	8,406.1	8,406.1	100%	100%	100%	
6/30/2012	402.9	1,831.7	5,523.4	7,757.9	7,757.9	100%	100%	100%	
6/30/2011	382.6	1,516.3	5,241.7	7,140.6	7,140.6	100%	100%	100%	
6/30/2010	366.3	1,224.5	5,002.5	6,593.3	6,593.3	100%	100%	100%	
6/30/2009	349.7	1,032.2	4,778.1	6,160.0	6,160.0	100%	100%	100%	

Solvency Tests (cont.)

LEOFF Plan 1

Dollars in Millions

Accrued Liabilities (Entry Age Cost Method)					Portion of Accrued Liabilities Covered by Assets				
Valuation Date	(1) Active Member Contributions ¹	(2) Retired/Vested Members ²	(3) Active Members (employer-financed portion)	(1+2+3) Total Accrued Liability	Valuation Assets	(1) Active Member Contributions	(2) Inactive Member Liability	(3) Excess Accrued Liability	
6/30/2018	\$ 6.1	\$ 4,062.4	\$ 26.2	\$ 4,094.7	\$ 5,538.3	100%	100%	100%	
6/30/2017	8.6	4,070.6	41.8	4,121.0	5,403.3	100%	100%	100%	
6/30/2016	13.0	4,123.4	61.0	4,197.4	5,275.0	100%	100%	100%	
6/30/2015	16.8	4,212.1	78.2	4,307.1	5,403.6	100%	100%	100%	
6/30/2014	23.4	4,188.6	110.6	4,322.6	5,499.3	100%	100%	100%	
6/30/2013	27.1	4,254.5	119.4	4,401.0	5,516.4	100%	100%	100%	
6/30/2012	33.5	3,945.9	134.5	4,113.9	5,561.6	100%	100%	100%	
6/30/2011	43.3	3,898.6	196.2	4,138.0	5,565.3	100%	100%	100%	
6/30/2010	49.5	4,090.6	245.9	4,386.0	5,560.9	100%	100%	100%	
6/30/2009	55.4	4,149.8	281.2	4,486.5	5,612.1	100%	100%	100%	

LEOFF Plan 2

Dollars in Millions

Accrued Liabilities (Aggregate Cost Method)					Portion of Accrued Liabilities Covered by Assets				
Valuation Date	(1) Active Member Contributions ¹	(2) Retired/Vested Members ²	(3) Active Members (employer-financed portion)	(1+2+3) Total Accrued Liability	Valuation Assets ³	(1) Active Member Contributions	(2) Inactive Member Liability	(3) Excess Accrued Liability	
6/30/2018	\$ 2,653.7	\$ 4,408.1	\$ 4,909.8	\$ 11,971.6	\$ 11,971.6	100%	100%	100%	
6/30/2017	2,522.7	3,798.9	4,715.9	11,037.5	11,037.5	100%	100%	100%	
6/30/2016	2,392.2	3,365.0	4,264.0	10,021.3	10,021.3	100%	100%	100%	
6/30/2015	2,311.3	2,746.8	4,262.0	9,320.2	9,320.2	100%	100%	100%	
6/30/2014	2,179.6	2,287.3	4,171.1	8,637.9	8,637.9	100%	100%	100%	
6/30/2013	2,054.4	1,862.4	3,945.5	7,862.3	7,862.3	100%	100%	100%	
6/30/2012	1,925.9	1,427.7	3,868.3	7,221.9	7,221.9	100%	100%	100%	
6/30/2011	1,782.2	1,166.1	3,672.3	6,620.7	6,620.7	100%	100%	100%	
6/30/2010	1,615.0	924.7	3,503.0	6,042.7	6,042.7	100%	100%	100%	
6/30/2009	1,479.5	682.5	3,402.1	5,564.2	5,564.2	100%	100%	100%	

WSPRS Plan 1/2

Dollars in Millions

Accrued Liabilities (Aggregate Cost Method)					Portion of Accrued Liabilities Covered by Assets				
Valuation Date	(1) Active Member Contributions ¹	(2) Retired/Vested Members ²	(3) Active Members (employer-financed portion)	(1+2+3) Total Accrued Liability	Valuation Assets	(1) Active Member Contributions	(2) Inactive Member Liability	(3) Excess Accrued Liability	
6/30/2018	\$ 87.5	\$ 871.9	\$ 255.5	\$ 1,214.9	\$ 1,214.9	100%	100%	100%	
6/30/2017	79.7	837.1	227.6	1,144.4	1,144.4	100%	100%	100%	
6/30/2016	75.0	811.2	197.7	1,084.0	1,084.0	100%	100%	100%	
6/30/2015	75.5	752.0	239.6	1,067.1	1,067.1	100%	100%	100%	
6/30/2014	74.1	703.2	266.9	1,044.2	1,044.2	100%	100%	100%	
6/30/2013	71.6	663.3	274.4	1,009.4	1,009.4	100%	100%	100%	
6/30/2012	70.8	576.1	334.9	981.7	981.7	100%	100%	100%	
6/30/2011	69.0	541.2	339.3	949.5	949.5	100%	100%	100%	
6/30/2010	66.4	496.5	356.7	919.6	919.6	100%	100%	100%	
6/30/2009	62.4	474.5	363.5	900.4	900.4	100%	100%	100%	

Solvency Tests (cont.)

JRS⁴

Dollars in Millions

Valuation Date	Accrued Liabilities (Entry Age Cost Method)				Portion of Accrued Liabilities Covered by Assets			
	(1) Active Member Contributions ¹	(2) Retired/Vested Members ²	(3) Active Members (employer-financed portion)	(1+2+3) Total Accrued Liability	Valuation Assets	(1) Active Member Contributions	(2) Inactive Member Liability	(3) Excess Accrued Liability
6/30/2018	\$ —	\$ 84.3	\$ —	\$ 84.3	\$ 7.9	n/a	9%	n/a
6/30/2017	—	91.2	—	91.2	7.4	n/a	8%	n/a
6/30/2016	—	97.5	—	97.5	6.8	n/a	7%	n/a
6/30/2015	—	100.3	—	100.3	6.3	n/a	6%	n/a
6/30/2014	—	105.0	—	105.0	5.0	n/a	5%	n/a
6/30/2013	0.0	108.2	0.0	108.2	3.9	n/a	4%	n/a
6/30/2012	1.0	100.4	2.5	103.9	3.5	100%	2%	0%
6/30/2011	1.5	104.3	3.6	109.3	5.1	100%	3%	0%
6/30/2010	2.2	78.5	3.1	83.8	3.8	100%	2%	0%
6/30/2009	3.7	76.1	9.5	89.3	1.8	50%	0%	0%

JRF⁴

Dollars in Millions

Valuation Date	Accrued Liabilities (Entry Age Cost Method)				Portion of Accrued Liabilities Covered by Assets			
	(1) Active Member Contributions ¹	(2) Retired/Vested Members ²	(3) Active Members (employer-financed portion)	(1+2+3) Total Accrued Liability	Valuation Assets	(1) Active Member Contributions	(2) Inactive Member Liability	(3) Excess Accrued Liability
6/30/2018	\$ —	\$ 2.6	\$ —	\$ 2.6	\$ 0.8	n/a	30%	n/a
6/30/2017	—	2.8	—	2.8	0.7	n/a	25%	n/a
6/30/2016	—	3.0	—	3.0	0.6	n/a	19%	n/a
6/30/2015	—	3.1	—	3.1	0.5	n/a	16%	n/a
6/30/2014	—	3.3	—	3.3	1.0	n/a	29%	n/a
6/30/2013	—	3.5	—	3.5	1.4	n/a	40%	n/a
6/30/2012	—	3.6	—	3.6	1.9	n/a	52%	n/a
6/30/2011	—	3.9	—	3.9	2.3	n/a	61%	n/a
6/30/2010	—	3.2	—	3.2	2.8	n/a	87%	n/a
6/30/2009	—	3.4	—	3.4	3.3	n/a	97%	n/a

¹ Includes prior contributions made by terminated non-vested members which remain in the trust fund.

² Includes inactive liabilities from beneficiaries, members on disability retirement, and legal order payees.

³ LEOFF Plan 2 Actuarial Value of Assets excludes \$20.2 Million held in the LEOFF 2 Benefit Improvement Account (BIA). The plans assets for 2018 have also been reduced by \$300 Million payable to the BIA effective 7/1/19 (C 366 L 19). This reduction is \$279.3 million as of the 6/30/2018 valuation date, after discounting by the plans interest rate of 7.4%.

⁴ JRS and JRF are financed on a pay-as-you-go basis from a combination of investment earnings and funding from the state. We discount future benefit payments based upon our expected investment rate of return for assets with the Office of the State Treasurer.

Totals might not agree due to rounding, and percentages are based on actual, not rounded, totals.

PERS Plan 2/3, SERS Plan 2/3, PSERS Plan 2, TRS Plan 2/3, LEOFF Plan 2 and WSPRS Plan 1/2: The Actuarial Accrued Liability (AAL) presented in these charts reflects the actual actuarial valuation method (Aggregate Cost) used to calculate the annual required contributions for these plans. This aggregate actuarial cost method does not separately amortize unfunded actuarial liabilities and, by definition, sets the accrued liabilities equal to the assets. Therefore, the funded status is always 100%. These AAL amounts differ from those presented in the schedules of funded status and funding progress included within the Actuarial Section, where a different valuation method (Entry Age Normal) is used as a surrogate.

Source: Office of the State Actuary

Analysis of Financial Experience

PERS Plan 1										
Dollars in Millions										
Type of Activity	6/30/2018	6/30/2017	6/30/2016	6/30/2015	6/30/2014	6/30/2013	6/30/2012	6/30/2011	6/30/2010	6/30/2009
Investment Returns ¹	\$ 211.1	\$ 118.4	\$ (339.8)	\$ (447.8)	\$ (308.7)	\$ (417.4)	\$ (340.4)	\$ (397.7)	\$ (668.0)	\$ (298.2)
Salary Growth	(3.9)	2.5	(6.2)	10.5	(1.4)	25.8	47.9	59.9	54.2	10.9
Termination of Employment	(0.5)	(0.7)	(0.4)	0.2	(0.3)	1.1	0.5	0.1	1.2	(0.2)
Return to Work from Terminated Status	(2.5)	(3.0)	(4.8)	(2.6)	(3.9)	(2.8)	(3.2)	(6.4)	(8.0)	(9.7)
Gain (or Loss) During Year from Selected Experience	\$ 204.2	\$ 117.2	\$ (351.2)	\$ (439.7)	\$ (314.3)	\$ (393.3)	\$ (295.2)	\$ (344.1)	\$ (620.6)	\$ (297.2)

PERS Plan 2/3										
Dollars in Millions										
Type of Activity	6/30/2018	6/30/2017	6/30/2016	6/30/2015	6/30/2014	6/30/2013	6/30/2012	6/30/2011	6/30/2010	6/30/2009
Investment Returns ¹	\$ 616.5	\$ 151.4	\$ (700.3)	\$ (591.8)	\$ (323.2)	\$ (302.6)	\$ (295.6)	\$ (404.3)	\$ (619.2)	\$ (134.3)
Salary Growth	(112.5)	157.4	(61.2)	331.5	60.7	481.1	663.9	731.7	577.8	185.9
Termination of Employment	169.9	115.9	162.3	192.2	116.6	131.8	129.3	118.3	18.0	21.1
Return to Work from Terminated Status	(70.5)	(72.0)	(98.1)	(68.1)	(64.7)	(66.3)	(58.3)	(44.1)	(50.2)	(47.8)
Gain (or Loss) During Year from Selected Experience	\$ 603.4	\$ 352.7	\$ (697.3)	\$ (136.2)	\$ (210.6)	\$ 244.0	\$ 439.3	\$ 401.6	\$ (73.6)	\$ 24.9

SERS Plan 2/3										
Dollars in Millions										
Type of Activity	6/30/2018	6/30/2017	6/30/2016	6/30/2015	6/30/2014	6/30/2013	6/30/2012	6/30/2011	6/30/2010	6/30/2009
Investment Returns ¹	\$ 79.2	\$ 4.9	\$ (126.3)	\$ (96.2)	\$ (64.0)	\$ (66.4)	\$ (69.6)	\$ (80.5)	\$ (115.1)	\$ (33.2)
Salary Growth	(109.7)	(60.4)	(93.5)	(7.1)	9.1	53.1	94.1	75.1	84.5	(27.4)
Termination of Employment	46.7	41.8	28.1	30.9	27.0	18.0	20.3	8.3	3.1	5.8
Return to Work from Terminated Status	(8.2)	(6.3)	(5.9)	(8.9)	(6.5)	(4.7)	(3.5)	(5.2)	(5.5)	(6.2)
Gain (or Loss) During Year from Selected Experience	\$ 8.0	\$ (20.0)	\$ (197.6)	\$ (81.3)	\$ (34.4)	\$ —	\$ 41.3	\$ (2.3)	\$ (33.0)	\$ (61.0)

¹ Actuarial value of assets

Analysis of Financial Experience (cont.)

PSERS Plan 2										
Dollars in Millions										
Type of Activity	6/30/2018	6/30/2017	6/30/2016	6/30/2015	6/30/2014	6/30/2013	6/30/2012	6/30/2011	6/30/2010	6/30/2009
Investment Returns ¹	\$ 9.3	\$ 4.1	\$ (3.9)	\$ 0.8	\$ 1.3	\$ 0.8	\$ (0.4)	\$ 0.4	\$ (1.2)	\$ 0.4
Salary Growth	(7.5)	(8.2)	3.9	5.3	6.1	14.1	17.7	14.9	10.3	8.5
Termination of Employment	11.9	11.7	16.4	9.8	6.9	3.7	7.7	4.2	4.7	(7.4)
Return to Work from Terminated Status	(2.4)	(3.2)	(3.5)	(2.5)	(0.5)	(0.9)	—	—	—	—
Gain (or Loss) During Year from Selected Experience	\$ 11.3	\$ 4.4	\$ 12.9	\$ 13.4	\$ 13.8	\$ 17.7	\$ 25.0	\$ 19.5	\$ 13.8	\$ 1.5

TRS Plan 1										
Dollars in Millions										
Type of Activity	6/30/2018	6/30/2017	6/30/2016	6/30/2015	6/30/2014	6/30/2013	6/30/2012	6/30/2011	6/30/2010	6/30/2009
Investment Returns ¹	\$ 130.1	\$ 20.9	\$ (355.6)	\$ (414.5)	\$ (311.3)	\$ (324.0)	\$ (262.3)	\$ (247.3)	\$ (502.1)	\$ (287.8)
Salary Growth	(3.7)	(1.4)	(5.7)	11.4	4.4	20.6	45.5	36.5	60.7	(17.4)
Termination of Employment	—	—	0.0	(0.3)	(0.2)	0.3	(0.3)	0.2	0.9	1.5
Return to Work from Terminated Status	(0.7)	(0.5)	(1.2)	(1.0)	(0.9)	(1.6)	(2.2)	(4.4)	(7.3)	(6.0)
Gain (or Loss) During Year from Selected Experience	\$ 125.7	\$ 19.0	\$ (362.5)	\$ (404.4)	\$ (308.0)	\$ (304.7)	\$ (219.3)	\$ (215.0)	\$ (447.8)	\$ (309.7)

TRS Plan 2/3										
Dollars in Millions										
Type of Activity	6/30/2018	6/30/2017	6/30/2016	6/30/2015	6/30/2014	6/30/2013	6/30/2012	6/30/2011	6/30/2010	6/30/2009
Investment Returns ¹	\$ 223.4	\$ 85.3	\$ (259.5)	\$ (200.8)	\$ (120.4)	\$ (122.3)	\$ (142.0)	\$ (180.6)	\$ (266.8)	\$ (120.1)
Salary Growth	(168.5)	23.9	(72.2)	234.4	148.9	226.6	389.0	252.6	341.3	(67.3)
Termination of Employment	216.3	214.3	209.9	201.4	152.6	120.7	130.0	85.5	92.9	71.7
Return to Work from Terminated Status	(142.2)	(139.7)	(122.1)	(94.3)	(78.0)	(56.5)	(39.9)	(43.7)	(37.5)	(63.0)
Gain (or Loss) During Year from Selected Experience	\$ 129.0	\$ 183.8	\$ (243.9)	\$ 140.7	\$ 103.1	\$ 168.5	\$ 337.1	\$ 113.8	\$ 129.9	\$ (178.7)

¹ Actuarial value of assets

Analysis of Financial Experience (cont.)

LEOFF Plan 1										
Dollars in Millions										
Type of Activity	6/30/2018	6/30/2017	6/30/2016	6/30/2015	6/30/2014	6/30/2013	6/30/2012	6/30/2011	6/30/2010	6/30/2009
Investment Returns ¹	\$ 105.8	\$ 96.1	\$ (169.2)	\$ (153.1)	\$ (75.9)	\$ (118.6)	\$ (86.9)	\$ (84.2)	\$ (144.8)	\$ (88.1)
Salary Growth	2.6	(1.8)	3.5	0.9	4.0	3.5	4.3	6.2	1.9	(4.5)
Termination of Employment	(0.1)	—	(0.1)	0.0	(0.2)	(0.1)	0.0	(0.1)	(0.1)	0.1
Return to Work from Terminated Status	0.0	(0.1)	0.3	0.3	(1.2)	—	0.0	(0.2)	0.5	(4.3)
Gain (or Loss) During Year from Selected Experience	\$ 108.3	\$ 94.2	\$ (165.5)	\$ (151.9)	\$ (73.3)	\$ (115.2)	\$ (82.6)	\$ (78.3)	\$ (142.5)	\$ (96.8)

LEOFF Plan 2										
Dollars in Millions										
Type of Activity	6/30/2018	6/30/2017	6/30/2016	6/30/2015	6/30/2014	6/30/2013	6/30/2012	6/30/2011	6/30/2010	6/30/2009
Investment Returns ¹	\$ 140.5	\$ 216.2	\$ (74.8)	\$ (43.6)	\$ 88.0	\$ 16.7	\$ (4.5)	\$ (1.9)	\$ (68.7)	\$ 19.4
Salary Growth	(14.2)	92.2	154.7	(2.2)	6.9	117.5	186.3	164.7	91.1	6.5
Termination of Employment	10.0	3.6	28.3	7.6	6.5	3.4	9.0	2.5	25.8	11.8
Return to Work from Terminated Status	(2.4)	(25.5)	(3.2)	(4.5)	(5.4)	(6.6)	(4.5)	(16.8)	(12.6)	(7.9)
Gain (or Loss) During Year from Selected Experience	\$ 133.9	\$ 286.5	\$ 105.0	\$ (42.7)	\$ 96.0	\$ 131.0	\$ 186.3	\$ 148.5	\$ 35.6	\$ 29.8

WSPRS Plan 1/2										
Dollars in Millions										
Type of Activity	6/30/2018	6/30/2017	6/30/2016	6/30/2015	6/30/2014	6/30/2013	6/30/2012	6/30/2011	6/30/2010	6/30/2009
Investment Returns ¹	\$ 13.9	\$ 7.7	\$ (30.7)	\$ (23.3)	\$ (10.0)	\$ (10.2)	\$ (6.7)	\$ (8.5)	\$ (20.5)	\$ (6.2)
Salary Growth	1.5	(22.8)	(20.3)	7.2	(1.3)	8.6	12.5	18.8	19.0	(0.7)
Termination of Employment	0.9	(0.5)	7.2	5.7	2.8	(0.3)	2.5	0.1	(1.0)	1.2
Return to Work from Terminated Status	—	0.0	(0.2)	(0.5)	0.0	(0.4)	(0.3)	(0.2)	(0.5)	(0.5)
Gain (or Loss) During Year from Selected Experience	\$ 16.3	\$ (15.6)	\$ (44.0)	\$ (10.9)	\$ (8.5)	\$ (2.3)	\$ 8.0	\$ 10.2	\$ (3.0)	\$ (6.2)

¹ Actuarial value of assets

Totals are a result of differences between assumed experience and actual experience.

Source: Office of the State Actuary

Schedules of Funding Progress

The Schedules of Funding Progress present multiyear trend information about whether the actuarial values of plan assets are increasing or decreasing over time relative to the Actuarial Accrued Liabilities for benefits.

PERS Plan 1										
Dollars in Millions										
Actuarial Valuation Date	6/30/2018	6/30/2017	6/30/2016	6/30/2015	6/30/2014	6/30/2013	6/30/2012	6/30/2011	6/30/2010	6/30/2009
Actuarial Value of Plan Assets	\$ 7,193	\$ 7,042	\$ 6,958	\$ 7,315	\$ 7,761	\$ 8,053	\$ 8,521	\$ 8,883	\$ 9,293	\$ 9,776
Actuarial Accrued Liability	\$ 11,942	\$ 12,341	\$ 12,323	\$ 12,553	\$ 12,720	\$ 12,874	\$ 12,360	\$ 12,571	\$ 12,538	\$ 13,984
Unfunded Actuarial Liability	\$ 4,749	\$ 5,299	\$ 5,365	\$ 5,239	\$ 4,959	\$ 4,821	\$ 3,839	\$ 3,688	\$ 3,245	\$ 4,209
Percentage Funded	60%	57%	56%	58%	61%	63%	69%	71%	74%	70%
Covered Payroll ¹	\$ 13,176	\$ 12,436	\$ 11,744	\$ 11,151	\$ 10,804	\$ 10,417	\$ 10,400	\$ 10,516	\$ 10,575	\$ 10,571
Unfunded Actuarial Liability as a Percentage of Covered Payroll	36%	43%	46%	47%	46%	46%	37%	35%	31%	40%

¹ Portions of the above covered payroll include the covered payrolls of PERS Plan 2/3, SERS Plan 2/3 and PSERS Plan 2. Refer to "Required Supplementary Information" in the Financial Section for the covered payroll detail by system plan.

PERS Plan 2/3										
Dollars in Millions										
Actuarial Valuation Date	6/30/2018	6/30/2017	6/30/2016	6/30/2015	6/30/2014	6/30/2013	6/30/2012	6/30/2011	6/30/2010	6/30/2009
Actuarial Value of Plan Assets	\$ 36,601	\$ 33,191	\$ 30,262	\$ 28,292	\$ 26,386	\$ 24,335	\$ 22,653	\$ 20,997	\$ 19,474	\$ 18,260
Actuarial Accrued Liability	\$ 40,024	\$ 37,166	\$ 34,759	\$ 32,008	\$ 29,321	\$ 26,540	\$ 22,780	\$ 21,627	\$ 20,029	\$ 18,398
Unfunded Actuarial Liability	\$ 3,423	\$ 3,975	\$ 4,497	\$ 3,715	\$ 2,935	\$ 2,205	\$ 127	\$ 630	\$ 555	\$ 137
Percentage Funded	91%	89%	87%	88%	90%	92%	99%	97%	97%	99%
Covered Payroll	\$ 10,419	\$ 9,856	\$ 9,323	\$ 8,877	\$ 8,608	\$ 8,265	\$ 8,126	\$ 8,140	\$ 8,151	\$ 8,108
Unfunded Actuarial Liability as a Percentage of Covered Payroll	33%	40%	48%	42%	34%	27%	2%	8%	7%	2%

SERS Plan 2/3										
Dollars in Millions										
Actuarial Valuation Date	6/30/2018	6/30/2017	6/30/2016	6/30/2015	6/30/2014	6/30/2013	6/30/2012	6/30/2011	6/30/2010	6/30/2009
Actuarial Value of Plan Assets	\$ 5,131	\$ 4,613	\$ 4,181	\$ 3,901	\$ 3,624	\$ 3,335	\$ 3,100	\$ 2,872	\$ 2,664	\$ 2,503
Actuarial Accrued Liability	\$ 5,748	\$ 5,242	\$ 4,826	\$ 4,381	\$ 3,965	\$ 3,581	\$ 3,103	\$ 2,956	\$ 2,706	\$ 2,493
Unfunded Actuarial Liability	\$ 617	\$ 629	\$ 644	\$ 481	\$ 341	\$ 247	\$ 3	\$ 84	\$ 41	\$ (10)
Percentage Funded	89%	88%	87%	89%	91%	93%	100%	97%	98%	100%
Covered Payroll	\$ 2,213	\$ 2,040	\$ 1,878	\$ 1,720	\$ 1,616	\$ 1,549	\$ 1,639	\$ 1,650	\$ 1,619	\$ 1,586
Unfunded Actuarial Liability as a Percentage of Covered Payroll	28%	31%	34%	28%	21%	16%	0%	5%	3%	(1)%

Schedules of Funding Progress (cont.)

PSERS Plan 2										
Dollars in Millions										
Actuarial Valuation Date	6/30/2018	6/30/2017	6/30/2016	6/30/2015	6/30/2014	6/30/2013	6/30/2012	6/30/2011	6/30/2010	6/30/2009
Actuarial Value of Plan Assets	\$ 572	\$ 480	\$ 402	\$ 338	\$ 278	\$ 224	\$ 180	\$ 141	\$ 103	\$ 69
Actuarial Accrued Liability	\$ 596	\$ 506	\$ 425	\$ 357	\$ 291	\$ 218	\$ 159	\$ 126	\$ 94	\$ 64
Unfunded Actuarial Liability	\$ 24	\$ 25	\$ 24	\$ 19	\$ 13	\$ (7)	\$ (22)	\$ (14)	\$ (9)	\$ (5)
Percentage Funded	96%	95%	94%	95%	96%	103%	114%	111%	109%	108%
Covered Payroll	\$ 393	\$ 357	\$ 325	\$ 293	\$ 270	\$ 249	\$ 236	\$ 232	\$ 233	\$ 222
Unfunded Actuarial Liability as a Percentage of Covered Payroll	6%	7%	7%	6%	5%	(3)%	(9)%	(6)%	(4)%	(2)%

TRS Plan 1										
Dollars in Millions										
Actuarial Valuation Date	6/30/2018	6/30/2017	6/30/2016	6/30/2015	6/30/2014	6/30/2013	6/30/2012	6/30/2011	6/30/2010	6/30/2009
Actuarial Value of Plan Assets	\$ 5,399	\$ 5,371	\$ 5,440	\$ 5,870	\$ 6,353	\$ 6,717	\$ 7,145	\$ 7,485	\$ 7,791	\$ 8,146
Actuarial Accrued Liability	\$ 8,583	\$ 8,918	\$ 8,900	\$ 9,107	\$ 9,250	\$ 9,429	\$ 9,038	\$ 9,232	\$ 9,201	\$ 10,820
Unfunded Actuarial Liability	\$ 3,183	\$ 3,547	\$ 3,460	\$ 3,237	\$ 2,897	\$ 2,712	\$ 1,894	\$ 1,747	\$ 1,410	\$ 2,674
Percentage Funded	63%	60%	61%	64%	69%	71%	79%	81%	85%	75%
Covered Payroll ¹	\$ 5,939	\$ 5,530	\$ 5,138	\$ 4,795	\$ 4,585	\$ 4,396	\$ 4,443	\$ 4,521	\$ 4,475	\$ 4,430
Unfunded Actuarial Liability as a Percentage of Covered Payroll	54%	64%	67%	68%	63%	62%	43%	39%	32%	60%

¹ Portions of the above covered payroll include the covered payrolls of TRS Plan 2/3. Refer to "Required Supplementary Information" in the Financial Section for the covered payroll detail by system plan.

TRS Plan 2/3										
Dollars in Millions										
Actuarial Valuation Date	6/30/2018	6/30/2017	6/30/2016	6/30/2015	6/30/2014	6/30/2013	6/30/2012	6/30/2011	6/30/2010	6/30/2009
Actuarial Value of Plan Assets	\$ 13,232	\$ 11,885	\$ 10,722	\$ 9,953	\$ 9,193	\$ 8,406	\$ 7,758	\$ 7,141	\$ 6,593	\$ 6,160
Actuarial Accrued Liability	\$ 14,705	\$ 13,095	\$ 11,983	\$ 10,831	\$ 9,819	\$ 8,794	\$ 7,478	\$ 7,194	\$ 6,558	\$ 6,048
Unfunded Actuarial Liability	\$ 1,473	\$ 1,210	\$ 1,261	\$ 879	\$ 626	\$ 388	\$ (280)	\$ 53	\$ (36)	\$ (112)
Percentage Funded	90%	91%	89%	92%	94%	96%	104%	99%	101%	102%
Covered Payroll	\$ 5,892	\$ 5,466	\$ 5,054	\$ 4,682	\$ 4,437	\$ 4,204	\$ 4,163	\$ 4,171	\$ 4,056	\$ 3,950
Unfunded Actuarial Liability as a Percentage of Covered Payroll	25%	22%	25%	19%	14%	9%	(7)%	1%	(1)%	(3)%

Schedules of Funding Progress (cont.)

LEOFF Plan 1										
Dollars in Millions										
Actuarial Valuation Date	6/30/2018	6/30/2017	6/30/2016	6/30/2015	6/30/2014	6/30/2013	6/30/2012	6/30/2011	6/30/2010	6/30/2009
Actuarial Value of Plan Assets	\$ 5,538	\$ 5,403	\$ 5,275	\$ 5,404	\$ 5,499	\$ 5,516	\$ 5,562	\$ 5,565	\$ 5,561	\$ 5,612
Actuarial Accrued Liability	\$ 4,095	\$ 4,121	\$ 4,197	\$ 4,307	\$ 4,323	\$ 4,409	\$ 4,120	\$ 4,145	\$ 4,393	\$ 4,492
Unfunded Actuarial Liability	\$ (1,444)	\$ (1,282)	\$ (1,078)	\$ (1,097)	\$ (1,177)	\$ (1,108)	\$ (1,441)	\$ (1,421)	\$ (1,168)	\$ (1,120)
Percentage Funded	135%	131%	126%	125%	127%	125%	135%	134%	127%	125%
Covered Payroll	\$ 4	\$ 5	\$ 8	\$ 11	\$ 14	\$ 17	\$ 21	\$ 27	\$ 32	\$ 41
Unfunded Actuarial Liability as a Percentage of Covered Payroll	(36,100)%	(25,640)%	(13,475)%	(9,973)%	(8,407)%	(6,518)%	(6,862)%	(5,263)%	(3,650)%	(2,732)%

LEOFF Plan 2										
Dollars in Millions										
Actuarial Valuation Date	6/30/2018	6/30/2017	6/30/2016	6/30/2015	6/30/2014	6/30/2013	6/30/2012	6/30/2011	6/30/2010	6/30/2009
Actuarial Value of Plan Assets	\$ 11,972	\$ 11,037	\$ 10,021	\$ 9,320	\$ 8,638	\$ 7,862	\$ 7,222	\$ 6,621	\$ 6,043	\$ 5,564
Actuarial Accrued Liability	\$ 11,066	\$ 10,160	\$ 9,571	\$ 8,838	\$ 8,069	\$ 7,220	\$ 6,353	\$ 5,941	\$ 5,164	\$ 4,641
Unfunded Actuarial Liability	\$ (906)	\$ (878)	\$ (450)	\$ (482)	\$ (569)	\$ (643)	\$ (869)	\$ (679)	\$ (879)	\$ (923)
Percentage Funded	108%	109%	105%	105%	107%	109%	114%	111%	117%	120%
Covered Payroll	\$ 1,989	\$ 1,883	\$ 1,804	\$ 1,744	\$ 1,674	\$ 1,605	\$ 1,569	\$ 1,542	\$ 1,516	\$ 1,456
Unfunded Actuarial Liability as a Percentage of Covered Payroll	(46)%	(47)%	(25)%	(28)%	(34)%	(40)%	(55)%	(44)%	(58)%	(63)%

WSPRS Plan 1/2										
Dollars in Millions										
Actuarial Valuation Date	6/30/2018	6/30/2017	6/30/2016	6/30/2015	6/30/2014	6/30/2013	6/30/2012	6/30/2011	6/30/2010	6/30/2009
Actuarial Value of Plan Assets	\$ 1,215	\$ 1,144	\$ 1,084	\$ 1,067	\$ 1,044	\$ 1,009	\$ 982	\$ 949	\$ 920	\$ 900
Actuarial Accrued Liability	\$ 1,302	\$ 1,244	\$ 1,186	\$ 1,093	\$ 1,042	\$ 987	\$ 884	\$ 859	\$ 812	\$ 790
Unfunded Actuarial Liability	\$ 87	\$ 100	\$ 102	\$ 26	\$ (2)	\$ (22)	\$ (97)	\$ (90)	\$ (107)	\$ (110)
Percentage Funded	93%	92%	91%	98%	100%	102%	111%	110%	113%	114%
Covered Payroll	\$ 109	\$ 93	\$ 87	\$ 84	\$ 83	\$ 82	\$ 82	\$ 82	\$ 83	\$ 83
Unfunded Actuarial Liability as a Percentage of Covered Payroll	80%	108%	117%	31%	(2)%	(27)%	(118)%	(110)%	(129)%	(133)%

Schedules of Funding Progress (cont.)

JRS										
Dollars in Millions										
Actuarial Valuation Date	6/30/2018	6/30/2017	6/30/2016	6/30/2015	6/30/2014	6/30/2013	6/30/2012	6/30/2011	6/30/2010	6/30/2009
Actuarial Value of Plan Assets	\$ 8	\$ 7	\$ 7	\$ 6	\$ 5	\$ 4	\$ 3	\$ 5	\$ 4	\$ 2
Actuarial Accrued Liability	\$ 84	\$ 91	\$ 98	\$ 100	\$ 105	\$ 108	\$ 104	\$ 109	\$ 84	\$ 89
Unfunded Actuarial Liability	\$ 76	\$ 84	\$ 91	\$ 94	\$ 100	\$ 104	\$ 101	\$ 104	\$ 80	\$ 87
Percentage Funded	9%	8%	7%	6%	5%	4%	3%	5%	5%	2%
Covered Payroll	\$ —	\$ —	\$ —	\$ —	\$ —	\$ 0.2	\$ 0.4	\$ 0.6	\$ 1.0	\$ 1.4
Unfunded Actuarial Liability as a Percentage of Covered Payroll	n/a	n/a	n/a	n/a	n/a	52,000%	25,250%	17,333%	8,000%	6,214%

JRF										
Dollars in Millions										
Actuarial Valuation Date	6/30/2018	6/30/2017	6/30/2016	6/30/2015	6/30/2014	6/30/2013	6/30/2012	6/30/2011	6/30/2010	6/30/2009
Actuarial Value of Plan Assets	\$ 0.8	\$ 0.7	\$ 0.6	\$ 0.5	\$ 1.0	\$ 1.4	\$ 1.9	\$ 2.3	\$ 2.8	\$ 3.3
Actuarial Accrued Liability	\$ 2.6	\$ 2.8	\$ 3.0	\$ 3.1	\$ 3.3	\$ 3.5	\$ 3.6	\$ 3.9	\$ 3.2	\$ 3.4
Unfunded Actuarial Liability	\$ 1.8	\$ 2.1	\$ 2.5	\$ 2.6	\$ 2.3	\$ 2.1	\$ 1.7	\$ 1.5	\$ 0.4	\$ 0.1
Percentage Funded	30%	25%	19%	16%	29%	40%	52%	61%	87%	97%
Covered Payroll	\$ —	\$ —	\$ —	\$ —	\$ —	\$ —	\$ —	\$ —	\$ —	\$ —
Unfunded Actuarial Liability as a Percentage of Covered Payroll	n/a									

Liability amounts and ratios/percentages are based on actual, not rounded, figures.

PERS Plan 2/3, SERS Plan 2/3, PSERS Plan 2, TRS Plan 2/3, LEOFF Plan 2 and WSPRS Plan 1/2: These plans all use the aggregate actuarial cost method, which does not separately amortize Unfunded Actuarial Accrued Liabilities (UAALs) outside the normal cost. Instead, the entry age normal actuarial cost method was used to determine the UAAL. This method is intended to serve as a surrogate for the funded status of these plans.

Sources: Office of the State Actuary and Department of Retirement Systems

Ten-year schedules of actuarially determined and actual contributions are included in "Required Supplementary Information" in the Financial Section.

Funded Status and Funding Progress

Funded Status of Each Plan as of June 30, 2018, the Most Recent Actuarial Valuation Date

Dollars in Millions

Plan	Actuarial Value of Assets (a)	Actuarial Accrued Liability (AAL) Entry Age (b)	Unfunded AAL (UAAL) (b-a)	Funded Ratio (a/b)	Covered Payroll (c)	UAAL as a % of Covered Payroll [(b-a)/c]
PERS Plan 1 ¹	\$ 7,193.4	\$ 11,942.2	\$ 4,748.8	60%	\$ 13,176.2	36%
PERS Plan 2/3 ²	36,601.0	40,024.4	3,423.4	91%	10,419.1	33%
SERS Plan 2/3 ²	5,131.4	5,748.1	616.7	89%	2,213.5	28%
PSERS Plan 2 ²	572.2	595.8	23.6	96%	392.8	6%
TRS Plan 1 ³	5,399.1	8,582.5	3,183.4	63%	5,939.3	54%
TRS Plan 2/3 ²	13,232.5	14,705.2	1,472.8	90%	5,891.9	25%
LEOFF Plan 1	5,538.3	4,094.7	(1,443.6)	135%	3.5	(41,246)%
LEOFF Plan 2 ²	11,971.6	11,065.9	(905.7)	108%	1,989.1	(46)%
WSPRS Plan 1/2 ²	1,214.9	1,301.9	87.0	93%	109.2	80%
JRS	7.9	84.3	76.5	9%	n/a	n/a
JRF	0.8	2.6	1.8	30%	n/a	n/a
Total	\$ 86,863.1	\$ 98,147.6	\$ 11,284.7	89%	\$ 40,134.6	28%

¹ PERS Plan 1 includes the covered payrolls of PERS Plan 1 (\$150.8 million), PERS Plan 2/3 (\$10,419.1 million), SERS Plan 2/3 (\$2,213.5 million) and PSERS Plan 2 (\$392.8 million). A portion of the employer contributions reported in PERS Plan 1 is based on the covered payrolls of PERS Plan 2/3, SERS Plan 2/3 and PSERS Plan 2 to fund the Unfunded Actuarial Accrued Liability (UAAL) of PERS Plan 1.

² These plans use the aggregate actuarial cost method, which does not separately amortize UAALs outside the normal cost. Instead, the Entry Age Normal actuarial cost method was used to determine the UAAL. This method is intended to serve as a surrogate for the funded status of these plans.

³ TRS Plan 1 includes the covered payrolls of TRS Plan 1 (\$47.4 million) and TRS Plan 2/3 (\$5,891.8 million). A portion of the employer contributions reported in TRS Plan 1 is based on the covered payroll of TRS Plan 2/3 to fund the UAAL of TRS Plan 1.

Totals might not agree due to rounding. Percentages are calculated using unrounded totals.

Sources: Office of the State Actuary and Department of Retirement Systems

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Additional Information for the Defined Benefit Pension Plans

Additional Information						
For the Fiscal Year Ended June 30, 2019 — Page 1 of 2						
	PERS Plan 1	PERS Plan 2/3	TRS Plan 1	TRS Plan 2/3	SERS Plan 2/3	PSERS Plan 2
Valuation Date	6/30/2018	6/30/2018	6/30/2018	6/30/2018	6/30/2018	6/30/2018
Actuarial Cost Method	entry age normal ¹	aggregate ²	entry age normal ¹	aggregate ²	aggregate ²	aggregate ²
Amortization Method — Funding	level % ³	n/a	level % ³	n/a	n/a	n/a
Remaining Amortization Years (Closed)	10-year rolling	n/a	10-year rolling	n/a	n/a	n/a
Remaining Amortization Period (Closed)	n/a	n/a	n/a	n/a	n/a	n/a
Asset Valuation Method	8-year graded smoothed fair value ⁴					
Actuarial Assumptions						
Investment rate of return (beginning 7/1/2018) ⁵	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%
Projected Salary Increases (Salary Inflation at 3.50% Plus the Service-Based Salary Increase Described Below)						
Initial Increases (Grades Down to 0%)	6.00%	6.00%	5.10%	5.10%	6.60%	6.00%
Applied for X Years of Service	17 years	17 years	25 years	25 years	20 years	17 years
Includes Inflation at	n/a	2.75%	n/a	2.75%	2.75%	2.75%
Cost-of-Living Adjustments	Minimum COLA ⁶	CPI increase, maximum 3%	Minimum COLA ⁶	CPI increase, maximum 3%	CPI increase, maximum 3%	CPI increase, maximum 3%

Annual Gain/Loss ⁴		
Rate of Return	Smoothing Period	Annual Recognition
14.5% and up	8 years	12.50%
13.5%-14.5%	7 years	14.29%
12.5%-13.5%	6 years	16.67%
11.5%-12.5%	5 years	20.00%
10.5%-11.5%	4 years	25.00%
9.5%-10.5%	3 years	33.33%
8.5%-9.5%	2 years	50.00%
6.5%-8.5%	1 year	100.00%
5.5%-6.5%	2 years	50.00%
4.5%-5.5%	3 years	33.33%
3.5%-4.5%	4 years	25.00%
2.5%-3.5%	5 years	20.00%
1.5%-2.5%	6 years	16.67%
0.5%-1.5%	7 years	14.29%
0.5% and lower	8 years	12.50%

Source: Office of the State Actuary

Additional Information for the Defined Benefit Pension Plans (cont.)

Additional Information For the Fiscal Year Ended June 30, 2019 — Page 2 of 2					
	LEOFF Plan 1	LEOFF Plan 2	WSPRS Plan 1/2	JRS	JRF
Valuation Date	6/30/2018	6/30/2018	6/30/2018	6/30/2018	6/30/2018
Actuarial Cost Method	frozen initial liability ¹	aggregate ²	aggregate ²	n/a ⁷	n/a ⁷
Amortization Method — Funding	level % ³	n/a	n/a	n/a	n/a
Remaining Amortization Years (Closed)	6.00	n/a	n/a	n/a	n/a
Remaining Amortization Period (Closed)	6/30/2024	n/a	n/a	n/a	n/a
Asset Valuation Method	8-year graded smoothed fair value ⁴	8-year graded smoothed fair value ⁴	8-year graded smoothed fair value ⁴	market	market
Actuarial Assumptions					
Investment rate of return (beginning 7/1/2018) ⁵	7.50%	7.40%	7.50%	3.50%	3.50%
Projected Salary Increases (Salary Inflation at 3.50% Plus the Service-Based Salary Increase Described Below)					
Initial Increases (Grades Down to 0%)	10.70%	10.70%	10.70%	0.00%	0.00%
Applied for X Years of Service	25 years	25 years	25 years	n/a	n/a
Includes Inflation at	2.75%	2.75%	2.75%	2.75%	2.75%
Cost-of-Living Adjustments	CPI increase	CPI increase, maximum 3%	CPI increase, maximum 3%	CPI increase, maximum 3%	none

¹ PERS and TRS Plans 1 use a variation of the Entry Age Normal cost method, whereas LEOFF 1 uses a variation of the Frozen Initial Liability (FIL) cost method

² The aggregate cost method does not identify or separately amortize unfunded actuarial accrued liabilities

³ Level percent of system payroll, including assumed system growth.

⁴ Asset Valuation Method - 8 Year Smoothed Fair Value

The actuarial value of assets is calculated using an adjusted market value method by starting with the market value of assets. For subsequent years, the actuarial value of assets is determined by adjusting the market value of assets to reflect the difference between the actual investment return and the expected investment return during each of the past eight years - or, if fewer, the completed years since adoption - at the rates per year (annual recognition) shown above. We center LEOFF 2 around their 7.4% expected rate of return, as these were the return assumptions in place for the fiscal year ending on June 30, 2018.

⁵ The Legislature prescribes the assumed rate of investment return for all plans except Judicial and Judges

⁶ The PERS 1 and TRS 1 COLA

Qualifying retirees receive an increase in their monthly benefit once a year. The COLA on minimum benefit levels is calculated as the last unrounded COLA amount increased by 2.75%, rounded to the nearest penny. These are some historical monthly COLA amounts per year of service:

Historical Monthly COLA Amounts per Year of Service⁴		
Date	COLA Type	Amount
7/1/2019	Minimum	\$2.46
7/1/2018	Minimum	\$2.39
7/1/2017	Minimum	\$2.32
7/1/2016	Minimum	\$2.25
7/1/2015	Minimum	\$2.18
7/1/2014	Minimum	\$2.12
7/1/2013	Minimum	\$2.06
7/1/2012	Minimum	\$2.00
7/1/2011	Minimum	\$1.94
7/1/2010	Uniform	\$1.88

⁷ These plans are funded on a Pay As You Go basis. We discount future benefit payments based upon our expected investment rate of return for assets with the Office of the State Treasurer.

Required Contribution Rates

Required Contribution Rates						
Expressed as a Percentage of Current-Year Covered Payroll at the Close of Fiscal Year 2019						
	Employer Actual Contribution Rates ¹			Employee Actual Contribution Rates		
	Plan 1	Plan 2	Plan 3 ²	Plan 1	Plan 2	Plan 3
PERS³						
Members Not Participating in JBM						
State Agencies	12.83%	12.83%	12.83%	6.00%	7.41%	varies ⁴
Local Governmental Units	12.83%	12.83%	12.83%	6.00%	7.41%	varies ⁴
State Government Elected Officials	19.16%	12.83%	12.83%	7.50%	7.41%	varies ⁴
Members Participating in JBM						
State Agencies	15.33%	15.33%	15.33%	9.76%	16.03%	7.50% ⁵
Local Governmental Units	12.83%	12.83%	12.83%	12.26%	18.53%	7.50% ⁵
SERS³						
Local Governmental Units	n/a	13.58%	13.58%	n/a	7.27%	varies ⁴
PSERS³						
State Agencies	n/a	12.38%	n/a	n/a	7.07%	n/a
Local Governmental Units	n/a	12.38%	n/a	n/a	7.07%	n/a
TRS⁶						
Members Not Participating in JBM						
State Agencies	15.41%	15.41%	15.41%	6.00%	7.06%	varies ⁴
Local Governmental Units	15.41%	15.41%	15.41%	6.00%	7.06%	varies ⁴
State Government Elected Officials	15.41%	15.41%	15.41%	7.50%	7.06%	varies ⁴
Members Participating in JBM						
State Agencies	15.41%	n/a	n/a	9.76%	n/a	n/a
LEOFF						
Local Governmental Units	0.18%	5.43%	n/a	n/a	8.75%	n/a
Ports and Universities	n/a	8.93%	n/a	n/a	8.75%	n/a
State of Washington	n/a	3.50%	n/a	n/a	n/a	n/a
WSPRS						
State Agencies	13.34%	13.34%	n/a	7.69%	7.69%	n/a

¹ Employer rates include an administrative expense rate of 0.18%.

² Plan 3 defined benefit portion only

³ Employer rates include the rate to fund the Unfunded Actuarial Accrued Liability (UAAL) of PERS Plan 1.

⁴ Variable from 5% to 15% based on rate the member selects

⁵ Minimum rate

⁶ Employer rates include the rate to fund the UAAL of TRS Plan 1.

81,281

 TOTAL PARTICIPANTS

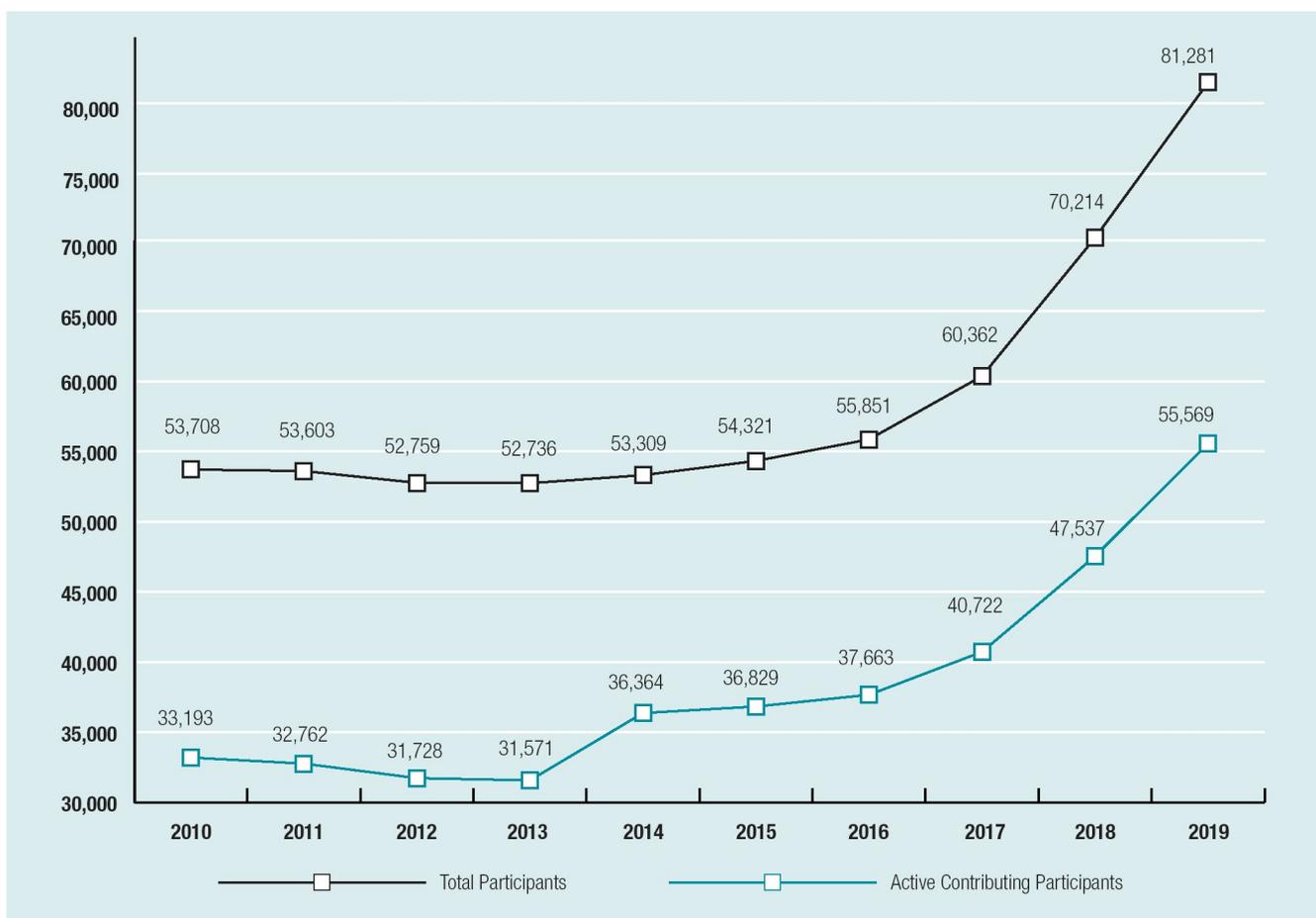
68% PARTICIPANTS ACTIVELY CONTRIBUTING

\$4.7 BILLION IN TOTAL ASSETS

17% INCREASE IN PARTICIPATION

DCP Participation

This chart illustrates participation in DCP for the fiscal years ended June 30, 2010-2019.



The Washington State Deferred Compensation Program (DCP) is a supplemental retirement savings program (an IRC Section 457 plan).

Statistical Section

Statistical Section Table of Contents

This section of the Department of Retirement Systems' *Comprehensive Annual Financial Report* presents detailed information that expands on the financial statements, note disclosures and required supplementary information that speak to the overall financial health of DRS.

FINANCIAL TRENDS

- 188 These schedules contain trend information about how the financial performance and well-being of DRS have changed over time.

DEMOGRAPHIC INFORMATION

- 204 These schedules contain demographic and historical information regarding membership and employer participation in the pension plans DRS offers.

OPERATING INFORMATION

- 232 These schedules contain detailed payment information about the benefit services DRS provides.

DEFERRED COMPENSATION INFORMATION

- 260 These schedules contain comprehensive information about the state's Deferred Compensation Program.

Sources: Unless otherwise noted, the information in this section's schedules comes from the *Comprehensive Annual Financial Reports* for the years being discussed.

Schedules of Changes in Fiduciary Net Position

PERS Plan 1										
Dollars in Thousands										
	6/30/2019	6/30/2018	6/30/2017	6/30/2016	6/30/2015	6/30/2014	6/30/2013	6/30/2012	6/30/2011	6/30/2010
Additions by Source										
Employer Contributions	\$ 726,385	\$ 674,784	\$ 609,287	\$ 595,982	\$ 462,100	\$ 448,895	\$ 266,270	\$ 257,197	\$ 145,585	\$ 154,023
Employee Contributions	7,240	8,315	11,092	13,663	15,806	18,797	21,362	24,317	28,767	33,152
Investment Income (Loss) ¹	640,755	686,500	945,298	157,083	336,316	1,312,000	863,182	86,377	1,523,415	980,360
Transfers	17	—	7	117	22	36	38	97	90	1
Miscellaneous ²	5,815	7,662	7,521	7,630	8,650	12,189	12,024	10,269	12,705	11,566
Total Additions	1,380,212	1,377,261	1,573,205	774,475	822,894	1,791,917	1,162,876	378,257	1,710,562	1,179,102
Deductions by Type										
Benefits	1,198,939	1,189,506	1,196,060	1,198,836	1,198,965	1,189,496	1,181,380	1,173,683	1,149,522	1,111,386
Refunds	3,859	3,705	3,159	4,373	4,029	4,219	3,998	4,554	3,470	4,946
Transfers	17	149	558	520	30	—	710	265	362	140
Administrative Expenses	3,067	3,005	3,342	2,819	2,707	3,016	4,773	3,522	3,213	3,885
Total Deductions	1,205,882	1,196,365	1,203,119	1,206,548	1,205,731	1,196,731	1,190,861	1,182,024	1,156,567	1,120,357
Total Changes in Fiduciary Net Position	\$ 174,330	\$ 180,896	\$ 370,086	\$ (432,073)	\$ (382,837)	\$ 595,186	\$ (27,985)	\$ (803,767)	\$ 553,995	\$ 58,745
Beginning of Year	7,679,987	7,499,091	7,129,005	7,561,078	7,943,915	7,348,729	7,376,714	8,180,481	7,626,486	7,567,741
End of Year	\$ 7,854,317	\$ 7,679,987	\$ 7,499,091	\$ 7,129,005	\$ 7,561,078	\$ 7,943,915	\$ 7,348,729	\$ 7,376,714	\$ 8,180,481	\$ 7,626,486
Employer Contributions: % of Covered Payroll	5.19%	5.12%	4.90%	5.07%	4.14%	4.15%	2.56%	2.47%	1.38%	1.46%

¹ "Investment income" reflects dividends, interest, realized capital gains, and unrealized gains and losses.

² "Miscellaneous" includes restorations of employee contributions.

Schedules of Changes in Fiduciary Net Position (cont.)

PERS Plan 2/3										
Dollars in Thousands										
	6/30/2019	6/30/2018	6/30/2017	6/30/2016	6/30/2015	6/30/2014	6/30/2013	6/30/2012	6/30/2011	6/30/2010
Additions by Source										
Employer Contributions	\$ 820,188	\$ 778,525	\$ 621,927	\$ 563,328	\$ 446,127	\$ 430,345	\$ 389,020	\$ 385,253	\$ 328,258	\$ 327,460
Employee Contributions	641,756	601,333	486,407	472,528	355,350	346,270	315,755	310,160	263,885	264,231
Investment Income (Loss) ¹	3,453,148	3,350,125	4,312,935	725,476	1,295,320	4,444,937	2,556,131	284,681	3,468,458	1,868,154
Transfers	32,589	834	385	360	206	141	293	270	4,036	11,611
Miscellaneous ²	43,657	50,386	46,347	37,477	31,176	32,830	29,922	24,765	26,818	15,749
Total Additions	4,991,338	4,781,203	5,468,001	1,799,169	2,128,179	5,254,523	3,291,121	1,005,129	4,091,455	2,487,205
Deductions by Type										
Benefits ³	1,207,093	1,033,728	894,229	776,213	665,408	565,660	460,074	376,999	310,943	251,765
Refunds	47,782	42,277	37,374	36,302	35,497	35,202	35,679	35,716	33,686	31,425
Transfers	4,251	4,695	5,999	4,740	1,823	2,441	5,538	2,180	8,528	5,407
Administrative Expenses	15,108	13,774	14,218	12,023	10,591	9,977	10,560	9,082	8,325	8,643
Total Deductions	1,274,234	1,094,474	951,820	829,278	713,319	613,280	511,851	423,977	361,482	297,240
Total Changes in Fiduciary Net Position	\$ 3,717,104	\$ 3,686,729	\$ 4,516,181	\$ 969,891	\$ 1,414,860	\$ 4,641,243	\$ 2,779,270	\$ 581,152	\$ 3,729,973	\$ 2,189,965
Fiduciary Net Position										
Beginning of Year ⁴	38,819,692	35,001,233	30,485,052	29,515,161	28,100,301	23,459,058	20,679,788	20,098,636	16,368,663	14,178,698
End of Year	\$ 42,536,796	\$ 38,687,962	\$ 35,001,233	\$ 30,485,052	\$ 29,515,161	\$ 28,100,301	\$ 23,459,058	\$ 20,679,788	\$ 20,098,636	\$ 16,368,663
Employer Contributions: % of Covered Payroll	7.48%	7.47%	6.31%	6.04%	5.03%	5.00%	4.71%	4.74%	4.03%	4.02%

¹ "Investment income" reflects dividends, interest, realized capital gains, and unrealized gains and losses.

² "Miscellaneous" includes restorations of employee contributions.

³ PERS Plan 2/3 "Benefits" include PERS Plan 3 Total Allocation Portfolio annuities. Prior to 6/30/19, PERS Plan 3 TAP annuities were presented in "Benefits" of PERS Plan 3.

⁴ June 30, 2019 Plan Fiduciary Net Position - Beginning has been restated to include the PERS Plan 3 Washington State Investment Board (WSIB) Total Allocation Portfolio (TAP) Annuity balance. See Note 1, Section R, of the Financial Section.

Schedules of Changes in Fiduciary Net Position (cont.)

PERS Plan 3										
Dollars in Thousands										
	6/30/2019	6/30/2018	6/30/2017	6/30/2016	6/30/2015	6/30/2014	6/30/2013	6/30/2012	6/30/2011	6/30/2010
Additions by Source										
Employer Contributions	\$ —	\$ —	\$ —	\$ —	\$ —	\$ —	\$ —	\$ —	\$ —	\$ —
Employee Contributions	154,982	142,804	129,969	119,988	110,936	105,183	99,007	95,172	94,129	92,665
Investment Income (Loss) ¹	220,324	260,646	337,067	37,196	80,538	338,668	202,907	5,375	279,224	135,026
Transfers	3,390	3,570	3,244	2,165	1,708	1,871	1,539	1,432	1,546	4,926
Miscellaneous ²	799	759	672	375	255	251	248	259	246	197
Total Additions	379,495	407,779	470,952	159,724	193,437	445,973	303,701	102,238	375,145	232,814
Deductions by Type										
Benefits ³	—	7,855	6,400	4,112	2,641	1,435	697	322	164	80
Refunds	117,315	115,453	98,499	92,444	92,086	81,924	68,671	66,245	59,143	41,723
Transfers	33,054	855	712	567	387	326	428	338	612	4,926
Administrative Expenses	799	759	673	375	255	251	248	258	246	197
Total Deductions	151,168	124,922	106,284	97,498	95,369	83,936	70,044	67,163	60,165	46,926
Total Changes in Fiduciary Net Position	\$ 228,327	\$ 282,857	\$ 364,668	\$ 62,226	\$ 98,068	\$ 362,037	\$ 233,657	\$ 35,075	\$ 314,980	\$ 185,888
Beginning of Year	2,996,210	2,845,083	2,480,415	2,418,189	2,320,121	1,958,084	1,724,427	1,689,352	1,374,372	1,188,484
End of Year	\$ 3,224,537	\$ 3,127,940	\$ 2,845,083	\$ 2,480,415	\$ 2,418,189	\$ 2,320,121	\$ 1,958,084	\$ 1,724,427	\$ 1,689,352	\$ 1,374,372
Employer Contributions: % of Covered Payroll	n/a									

¹ "Investment income" reflects dividends, interest, realized capital gains, and unrealized gains and losses.

² "Miscellaneous" includes restorations of employee contributions.

³ PERS Plan 2/3 "Benefits" include PERS Plan 3 Total Allocation Portfolio annuities. Prior to 6/30/19, PERS Plan 3 TAP annuities were presented in "Benefits" of PERS Plan 3.

Schedules of Changes in Fiduciary Net Position (cont.)

SERS Plan 2/3											
Dollars in Thousands											
	6/30/2019	6/30/2018	6/30/2017	6/30/2016	6/30/2015	6/30/2014	6/30/2013	6/30/2012	6/30/2011	6/30/2010	
Additions by Source											
Employer Contributions	\$ 200,604	\$ 176,539	\$ 134,727	\$ 115,480	\$ 97,386	\$ 88,783	\$ 78,400	\$ 74,640	\$ 62,316	\$ 62,090	
Employee Contributions	79,864	69,827	51,627	45,946	34,939	31,305	26,018	24,095	19,247	20,105	
Investment Income (Loss) ¹	495,109	466,359	597,914	100,211	178,042	607,984	348,956	38,452	473,113	255,525	
Transfers	21,251	317	29	27	49	42	6	11	413	431	
Miscellaneous ²	2,647	2,561	2,276	3,233	2,435	2,334	782	1,635	1,719	1,521	
Total Additions	799,475	715,603	786,573	264,897	312,851	730,448	454,162	138,833	556,808	339,672	
Deductions by Type											
Benefits ³	183,406	151,456	130,039	112,753	96,184	81,216	66,426	53,630	43,338	34,449	
Refunds	4,592	3,741	3,227	2,494	2,891	2,732	2,655	2,516	2,492	2,125	
Transfers	1,983	1,772	2,606	1,242	630	504	330	454	423	8,141	
Administrative Expenses	1,580	1,346	1,460	1,782	1,644	1,543	137	1,403	1,484	1,384	
Total Deductions	191,561	158,315	137,332	118,271	101,349	85,995	69,548	58,003	47,737	46,099	
Total Changes in Fiduciary Net Position	\$ 607,914	\$ 557,288	\$ 649,241	\$ 146,626	\$ 211,502	\$ 644,453	\$ 384,614	\$ 80,830	\$ 509,071	\$ 293,573	
Beginning of Year ⁴	5,511,238	4,863,722	4,214,481	4,067,855	3,856,353	3,211,900	2,827,286	2,746,456	2,237,385	1,943,812	
End of Year	\$ 6,119,152	\$ 5,421,010	\$ 4,863,722	\$ 4,214,481	\$ 4,067,855	\$ 3,856,353	\$ 3,211,900	\$ 2,827,286	\$ 2,746,456	\$ 2,237,385	
Employer Contributions: % of Covered Payroll	8.24%	7.98%	6.60%	6.15%	5.66%	5.49%	5.06%	4.55%	3.78%	3.83%	

¹ "Investment income" reflects dividends, interest, realized capital gains, and unrealized gains and losses.

² "Miscellaneous" includes restorations of employee contributions.

³ SERS Plan 2/3 "Benefits" include SERS Plan 3 Total Allocation Portfolio annuities. Prior to 6/30/19, SERS Plan 3 TAP annuities were presented in "Benefits" of SERS Plan 3.

⁴ June 30, 2019 Plan Fiduciary Net Position - Beginning has been restated to include the SERS Plan 3 Washington State Investment Board (WSIB) Total Allocation Portfolio (TAP) Annuity balance. See Note 1, Section R, of the Financial Section.

Schedules of Changes in Fiduciary Net Position (cont.)

SERS Plan 3										
Dollars in Thousands										
	6/30/2019	6/30/2018	6/30/2017	6/30/2016	6/30/2015	6/30/2014	6/30/2013	6/30/2012	6/30/2011	6/30/2010
Additions by Source										
Employer Contributions	\$ —	\$ —	\$ —	\$ —	\$ —	\$ —	\$ —	\$ —	\$ —	\$ —
Employee Contributions	86,755	79,858	71,737	67,713	62,645	60,766	59,257	59,021	60,313	60,328
Investment Income (Loss) ¹	154,130	172,598	225,696	32,171	62,821	245,336	147,193	10,372	209,367	108,480
Transfers	1,976	1,782	2,498	1,102	825	682	466	407	500	445
Miscellaneous ²	642	626	564	330	224	227	230	245	238	193
Total Additions	243,503	254,864	300,495	101,316	126,515	307,011	207,146	70,045	270,418	169,446
Deductions by Type										
Benefits ³	—	5,768	4,055	2,610	1,526	854	463	302	182	91
Refunds	105,108	100,672	85,577	85,019	86,293	73,826	65,643	60,929	53,242	33,916
Transfers	21,237	333	258	311	270	302	190	163	597	416
Administrative Expenses	642	626	564	330	224	227	230	245	237	193
Total Deductions	126,987	107,399	90,454	88,270	88,313	75,209	66,526	61,639	54,258	34,616
Total Changes in Fiduciary Net Position	\$ 116,516	\$ 147,465	\$ 210,041	\$ 13,046	\$ 38,202	\$ 231,802	\$ 140,620	\$ 8,406	\$ 216,160	\$ 134,830
Beginning of Year	1,968,796	1,911,559	1,701,518	1,688,472	1,650,270	1,418,468	1,277,848	1,269,442	1,053,282	918,452
End of Year	\$ 2,085,312	\$ 2,059,024	\$ 1,911,559	\$ 1,701,518	\$ 1,688,472	\$ 1,650,270	\$ 1,418,468	\$ 1,277,848	\$ 1,269,442	\$ 1,053,282
Employer Contributions: % of Covered Payroll	n/a									

¹ "Investment income" reflects dividends, interest, realized capital gains, and unrealized gains and losses.

² "Miscellaneous" includes restorations of employee contributions.

³ SERS Plan 2/3 "Benefits" include SERS Plan 3 Total Allocation Portfolio annuities. Prior to 6/30/19, SERS Plan 3 TAP annuities were presented in "Benefits" of SERS Plan 3.

Schedules of Changes in Fiduciary Net Position (cont.)

PSERS Plan 2										
Dollars in Thousands										
	6/30/2019	6/30/2018	6/30/2017	6/30/2016	6/30/2015	6/30/2014	6/30/2013	6/30/2012	6/30/2011	6/30/2010
Additions by Source										
Employer Contributions	\$ 32,468	\$ 26,033	\$ 23,238	\$ 20,058	\$ 18,704	\$ 17,124	\$ 15,650	\$ 15,285	\$ 15,591	\$ 15,238
Employee Contributions	32,934	26,280	23,409	21,134	18,650	17,344	15,798	15,228	15,353	15,213
Investment Income (Loss) ¹	57,066	49,840	59,852	10,097	15,082	45,144	22,468	2,778	21,255	7,358
Transfers	—	162	5	1	1	5	4	8	5	32
Miscellaneous ²	559	484	507	173	146	212	81	141	124	45
Total Additions	123,027	102,799	107,011	51,463	52,583	79,829	54,001	33,440	52,328	37,886
Deductions by Type										
Benefits	2,935	1,966	1,148	630	444	256	148	70	35	17
Refunds	3,739	2,954	2,630	2,647	2,612	2,194	2,186	1,921	1,780	928
Transfers	—	113	85	90	—	—	4	6	3	2
Administrative Expenses	272	234	212	150	116	104	1	70	82	50
Total Deductions	6,946	5,267	4,075	3,517	3,172	2,554	2,339	2,067	1,900	997
Total Changes in Fiduciary Net Position	\$ 116,081	\$ 97,532	\$ 102,936	\$ 47,946	\$ 49,411	\$ 77,275	\$ 51,662	\$ 31,373	\$ 50,428	\$ 36,889
Beginning of Year	601,209	503,677	400,741	352,795	303,384	226,109	174,447	143,074	92,646	55,757
End of Year	\$ 717,290	\$ 601,209	\$ 503,677	\$ 400,741	\$ 352,795	\$ 303,384	\$ 226,109	\$ 174,447	\$ 143,074	\$ 92,646
Employer Contributions: % of Covered Payroll	6.92%	6.63%	6.50%	6.17%	6.38%	6.34%	6.28%	6.46%	6.72%	6.54%

¹ "Investment income" reflects dividends, interest, realized capital gains, and unrealized gains and losses.

² "Miscellaneous" includes restorations of employee contributions.

Schedules of Changes in Fiduciary Net Position (cont.)

TRS Plan 1										
Dollars in Thousands										
	6/30/2019	6/30/2018	6/30/2017	6/30/2016	6/30/2015	6/30/2014	6/30/2013	6/30/2012	6/30/2011	6/30/2010
Additions by Source										
Employer Contributions	\$ 500,822	\$ 420,540	\$ 348,968	\$ 315,934	\$ 223,886	\$ 200,674	\$ 118,569	\$ 111,937	\$ 96,803	\$ 112,731
Employee Contributions	2,227	2,844	3,846	5,059	6,846	9,039	11,369	14,098	17,631	20,930
Investment Income (Loss) ¹	480,327	522,375	728,987	118,306	269,746	1,079,807	720,704	73,203	1,279,513	813,504
Transfers	17	—	—	—	—	51	—	38	1	5
Miscellaneous ²	3,047	3,853	5,507	5,966	5,758	7,956	8,207	6,228	10,792	6,827
Total Additions	986,440	949,612	1,087,308	445,265	506,236	1,297,527	858,849	205,504	1,404,740	953,997
Deductions by Type										
Benefits	905,079	903,078	911,058	924,377	927,015	925,975	914,610	913,864	899,819	859,250
Refunds	1,010	1,664	1,256	1,182	1,555	2,262	1,989	1,552	1,820	1,504
Transfers	—	—	407	386	—	—	578	223	159	118
Administrative Expenses	2,184	2,185	2,445	2,015	1,985	2,195	3,965	2,699	2,686	3,125
Total Deductions	908,273	906,927	915,166	927,960	930,555	930,432	921,142	918,338	904,484	863,997
Total Changes in Fiduciary Net Position	\$ 78,167	\$ 42,685	\$ 172,142	\$ (482,695)	\$ (424,319)	\$ 367,095	\$ (62,293)	\$ (712,834)	\$ 500,256	\$ 90,000
Beginning of Year	5,804,098	5,761,413	5,589,271	6,071,966	6,496,285	6,129,190	6,191,483	6,904,317	6,404,061	6,314,061
End of Year	\$ 5,882,265	\$ 5,804,098	\$ 5,761,413	\$ 5,589,271	\$ 6,071,966	\$ 6,496,285	\$ 6,129,190	\$ 6,191,483	\$ 6,904,317	\$ 6,404,061
Employer Contributions: % of Covered Payroll	7.41%	7.08%	6.31%	6.15%	4.67%	4.38%	2.70%	2.52%	2.14%	2.52%

¹ "Investment income" reflects dividends, interest, realized capital gains, and unrealized gains and losses.

² "Miscellaneous" includes restorations of employee contributions.

Schedules of Changes in Fiduciary Net Position (cont.)

TRS Plan 2/3										
Dollars in Thousands										
	6/30/2019	6/30/2018	6/30/2017	6/30/2016	6/30/2015	6/30/2014	6/30/2013	6/30/2012	6/30/2011	6/30/2010
Additions by Source										
Employer Contributions	\$ 523,733	\$ 446,275	\$ 364,106	\$ 316,022	\$ 267,038	\$ 249,342	\$ 228,974	\$ 213,852	\$ 168,264	\$ 164,959
Employee Contributions	119,844	97,753	75,481	64,263	47,206	41,081	34,494	29,829	21,881	21,126
Investment Income (Loss) ¹	1,290,637	1,203,549	1,539,464	258,964	453,535	1,539,901	877,562	96,411	1,175,293	629,396
Transfers	84,930	1,040	118	71	41	45	34	16	850	724
Miscellaneous ²	8,996	8,930	9,163	10,386	11,278	8,260	4,178	5,476	5,416	4,551
Total Additions	2,028,140	1,757,547	1,988,332	649,706	779,098	1,838,629	1,145,242	345,584	1,371,704	820,756
Deductions by Type										
Benefits ³	382,017	299,433	254,721	218,011	183,212	149,522	116,662	91,400	72,138	55,654
Refunds	4,393	3,575	3,010	2,971	2,840	1,988	2,914	2,169	2,281	2,868
Transfers	2,645	1,959	3,462	1,934	659	445	858	652	390	369
Administrative Expenses	3,530	2,797	3,192	5,321	4,909	4,585	2,830	4,020	4,273	3,932
Total Deductions	392,585	307,764	264,385	228,237	191,620	156,540	123,264	98,241	79,082	62,823
Total Changes in Fiduciary Net Position	\$ 1,635,555	\$ 1,449,783	\$ 1,723,947	\$ 421,469	\$ 587,478	\$ 1,682,089	\$ 1,021,978	\$ 247,343	\$ 1,292,622	\$ 757,933
Beginning of Year ⁴	14,309,397	12,524,207	10,800,260	10,378,791	9,791,313	8,109,224	7,087,246	6,839,903	5,547,281	4,789,348
End of Year	\$ 15,944,952	\$ 13,973,990	\$ 12,524,207	\$ 10,800,260	\$ 10,378,791	\$ 9,791,313	\$ 8,109,224	\$ 7,087,246	\$ 6,839,903	\$ 5,547,281
Employer Contributions: % of Covered Payroll	7.79%	7.57%	6.66%	6.25%	5.70%	5.62%	5.45%	5.14%	4.03%	4.07%

¹ "Investment income" reflects dividends, interest, realized capital gains, and unrealized gains and losses.

² "Miscellaneous" includes restorations of employee contributions.

³ TRS Plan 2/3 "Benefits" include TRS Plan 3 Total Allocation Portfolio annuities. Prior to 6/30/19, TRS Plan 3 TAP annuities were presented in "Benefits" of TRS Plan 3.

⁴ June 30, 2019 Plan Fiduciary Net Position - Beginning has been restated to include the TRS Plan 3 Washington State Investment Board (WSIB) Total Allocation Portfolio (TAP) Annuity balance. See Note 1, Section R, of the Financial Section.

Schedules of Changes in Fiduciary Net Position (cont.)

TRS Plan 3										
Dollars in Thousands										
	6/30/2019	6/30/2018	6/30/2017	6/30/2016	6/30/2015	6/30/2014	6/30/2013	6/30/2012	6/30/2011	6/30/2010
Additions by Source										
Employer Contributions	\$ —	\$ —	\$ —	\$ —	\$ —	\$ —	\$ —	\$ —	\$ —	\$ —
Employee Contributions	389,550	349,801	322,155	309,813	286,156	273,656	262,293	255,867	257,718	254,197
Investment Income (Loss) ¹	669,625	769,442	1,000,359	125,289	256,717	1,044,040	627,742	34,065	866,178	424,811
Transfers	3,004	1,991	3,542	1,585	1,372	1,115	839	618	650	598
Miscellaneous ²	2,394	2,300	2,054	1,159	789	784	775	811	767	610
Total Additions	1,064,573	1,123,534	1,328,110	437,846	545,034	1,319,595	891,649	291,361	1,125,313	680,216
Deductions by Type										
Benefits ³	—	20,864	14,687	10,034	5,924	3,084	1,569	1,149	542	257
Refunds	406,483	336,930	285,910	289,785	269,378	235,635	176,052	150,404	115,571	71,665
Transfers	84,958	1,087	948	938	717	721	522	520	1,368	1,084
Administrative Expenses	2,394	2,300	2,054	1,158	788	784	775	811	767	610
Total Deductions	493,835	361,181	303,599	301,915	276,807	240,224	178,918	152,884	118,248	73,616
Total Changes in Fiduciary Net Position	\$ 570,738	\$ 762,353	\$ 1,024,511	\$ 135,931	\$ 268,227	\$ 1,079,371	\$ 712,731	\$ 138,477	\$ 1,007,065	\$ 606,600
Beginning of Year	8,818,566	8,391,620	7,367,109	7,231,178	6,962,951	5,883,580	5,170,849	5,032,372	4,025,307	3,418,707
End of Year	\$ 9,389,304	\$ 9,153,973	\$ 8,391,620	\$ 7,367,109	\$ 7,231,178	\$ 6,962,951	\$ 5,883,580	\$ 5,170,849	\$ 5,032,372	\$ 4,025,307
Employer Contributions: % of Covered Payroll	n/a									

¹ "Investment income" reflects dividends, interest, realized capital gains, and unrealized gains and losses.

² "Miscellaneous" includes restorations of employee contributions.

³ TRS Plan 2/3 "Benefits" include TRS Plan 3 Total Allocation Portfolio annuities. Prior to 6/30/19, TRS Plan 3 TAP annuities were presented in "Benefits" of TRS Plan 3.

Schedules of Changes in Fiduciary Net Position (cont.)

LEOFF Plan 1										
Dollars in Thousands										
	6/30/2019	6/30/2018	6/30/2017	6/30/2016	6/30/2015	6/30/2014	6/30/2013	6/30/2012	6/30/2011	6/30/2010
Additions by Source										
Employer Contributions	\$ 3	\$ 1	\$ —	\$ —	\$ 60	\$ 98	\$ 555	\$ 2	\$ 3	\$ 49
Employee Contributions	—	—	—	—	47	—	—	—	—	1
Investment Income (Loss) ¹	495,135	529,894	723,823	120,952	248,796	934,125	586,475	61,152	937,507	566,844
Transfers	—	—	—	—	237	—	—	—	—	112
Miscellaneous ²	2,620	2,876	4,342	2,973	3,071	2,931	4,300	3,393	3,130	3,913
Total Additions	497,758	532,771	728,165	123,925	252,211	937,154	591,330	64,547	940,640	570,919
Deductions by Type										
Benefits	369,070	364,041	360,060	360,484	358,411	355,740	351,796	343,438	338,775	338,231
Refunds	—	—	8	538	334	248	14	435	48	14
Transfers	1	—	405	371	—	—	484	176	331	83
Administrative Expenses	2,254	2,157	2,391	1,938	1,822	1,851	2,882	2,064	1,891	2,146
Total Deductions	371,325	366,198	362,864	363,331	360,567	357,839	355,176	346,113	341,045	340,474
Total Changes in Fiduciary Net Position	\$ 126,433	\$ 166,573	\$ 365,301	\$ (239,406)	\$ (108,356)	\$ 579,315	\$ 236,154	\$ (281,566)	\$ 599,595	\$ 230,445
Beginning of Year	5,903,968	5,737,395	5,372,094	5,611,500	5,719,856	5,140,541	4,904,387	5,185,953	4,586,358	4,355,913
End of Year	\$ 6,030,401	\$ 5,903,968	\$ 5,737,395	\$ 5,372,094	\$ 5,611,500	\$ 5,719,856	\$ 5,140,541	\$ 4,904,387	\$ 5,185,953	\$ 4,586,358
Employer Contributions: % of Covered Payroll	0.12%	0.03%	0.00%	0.00%	0.57%	0.71%	3.36%	0.01%	0.01%	0.15%

¹ "Investment income" reflects dividends, interest, realized capital gains, and unrealized gains and losses.

² "Miscellaneous" includes restorations of employee contributions.

Schedules of Changes in Fiduciary Net Position (cont.)

LEOFF Plan 2										
Dollars in Thousands										
	6/30/2019	6/30/2018	6/30/2017	6/30/2016	6/30/2015	6/30/2014	6/30/2013	6/30/2012	6/30/2011	6/30/2010
Additions by Source										
Employer Contributions	\$ 115,882	\$ 106,424	\$ 95,920	\$ 92,049	\$ 89,122	\$ 85,532	\$ 82,397	\$ 80,480	\$ 79,733	\$ 76,998
Employee Contributions	188,113	173,993	158,316	151,659	146,679	140,921	135,797	132,584	131,252	128,154
State Contributions	72,960	68,152	62,155	60,375	58,339	55,551	54,246	52,770	52,024	51,376
Investment Income (Loss) ¹	1,155,555	1,127,021	1,448,382	244,054	430,410	1,456,269	825,071	92,867	1,084,240	568,518
Transfers	203	617	5	23	—	265	1,833	10	2,936	1,010
Miscellaneous ²	22,116	28,634	34,658	26,273	22,776	13,496	9,351	9,220	7,754	7,447
Total Additions	1,554,829	1,504,841	1,799,436	574,433	747,326	1,752,034	1,108,695	367,931	1,357,939	833,503
Deductions by Type										
Benefits	304,872	259,609	219,715	184,067	151,486	124,921	100,532	78,153	61,876	46,158
Refunds	9,087	8,550	7,292	6,645	8,541	9,028	8,677	11,214	8,181	10,947
Transfers	—	—	832	705	238	24	226	282	147	205
Administrative Expenses	7,180	6,514	6,759	5,305	4,668	4,192	2,566	3,672	3,309	3,416
Total Deductions	321,139	274,673	234,598	196,722	164,933	138,165	112,001	93,321	73,513	60,726
Total Changes in Fiduciary Net Position	\$ 1,233,690	\$ 1,230,168	\$ 1,564,838	\$ 377,711	\$ 582,393	\$ 1,613,869	\$ 996,694	\$ 274,610	\$ 1,284,426	\$ 772,777
Beginning of Year	13,006,366	11,776,198	10,211,360	9,833,649	9,251,256	7,637,387	6,640,693	6,366,083	5,081,657	4,308,880
End of Year	\$ 14,240,056	\$ 13,006,366	\$ 11,776,198	\$ 10,211,360	\$ 9,833,649	\$ 9,251,256	\$ 7,637,387	\$ 6,640,693	\$ 6,366,083	\$ 5,081,657
Employer Contributions: % of Covered Payroll	8.78%	8.78%	8.40%	8.45%	8.45%	8.43%	8.51%	8.49%	8.54%	8.47%

¹ "Investment income" reflects dividends, interest, realized capital gains, and unrealized gains and losses.

² "Miscellaneous" includes restorations of employee contributions.

Schedules of Changes in Fiduciary Net Position (cont.)

WSPRS Plan 1/2										
Dollars in Thousands										
	6/30/2019	6/30/2018	6/30/2017	6/30/2016	6/30/2015	6/30/2014	6/30/2013	6/30/2012	6/30/2011	6/30/2010
Additions by Source										
Employer Contributions	\$ 14,700	\$ 14,203	\$ 7,587	\$ 7,044	\$ 6,679	\$ 6,587	\$ 6,478	\$ 6,454	\$ 5,251	\$ 5,271
Employee Contributions	8,581	8,308	6,365	5,895	5,561	5,489	5,396	5,376	4,166	4,173
Investment Income (Loss) ¹	111,126	113,597	151,021	25,354	49,046	176,856	106,664	11,481	158,571	91,335
Transfers	769	911	524	429	293	510	574	54	415	10
Miscellaneous ²	2,722	2,149	4,603	3,437	1,179	1,467	1,692	2,010	1,385	1,399
Total Additions	137,898	139,168	170,100	42,159	62,758	190,909	120,804	25,375	169,788	102,188
Deductions by Type										
Benefits	64,253	59,508	56,666	53,651	49,772	47,143	43,521	40,368	38,387	36,116
Refunds	117	126	155	508	303	367	304	262	315	127
Transfers	—	261	86	76	—	—	88	32	22	14
Administrative Expenses	619	592	551	448	425	431	538	392	356	364
Total Deductions	64,989	60,487	57,458	54,683	50,500	47,941	44,451	41,054	39,080	36,621
Total Changes in Fiduciary Net Position	\$ 72,909	\$ 78,681	\$ 112,642	\$ (12,524)	\$ 12,258	\$ 142,968	\$ 76,353	\$ (15,679)	\$ 130,708	\$ 65,567
Beginning of Year	1,289,598	1,210,917	1,098,275	1,110,799	1,098,541	955,573	879,220	894,899	764,191	698,624
End of Year	\$ 1,362,507	\$ 1,289,598	\$ 1,210,917	\$ 1,098,275	\$ 1,110,799	\$ 1,098,541	\$ 955,573	\$ 879,220	\$ 894,899	\$ 764,191
Employer Contributions: % of Covered Payroll	13.17%	13.00%	8.15%	8.13%	7.92%	7.91%	7.91%	7.91%	6.41%	6.37%

¹ "Investment income" reflects dividends, interest, realized capital gains, and unrealized gains and losses.

² "Miscellaneous" includes restorations of employee contributions.

Schedules of Changes in Fiduciary Net Position (cont.)

JRS										
Dollars in Thousands										
	6/30/2019	6/30/2018	6/30/2017	6/30/2016	6/30/2015	6/30/2014	6/30/2013	6/30/2012	6/30/2011	6/30/2010
Additions by Source										
Employer Contributions	\$ —	\$ —	\$ —	\$ —	\$ —	\$ —	\$ 12	\$ 31	\$ 46	\$ 79
Employee Contributions	—	—	—	—	—	—	12	31	46	79
State Contributions	8,400	8,700	9,300	9,500	10,600	10,600	10,100	8,100	10,860	11,570
Investment Income (Loss) ¹	166	78	39	78	39	26	(11)	13	8	11
Transfers	—	—	—	—	—	—	—	—	—	—
Miscellaneous ²	—	4	3	3	2	2	2	1	2	2
Total Additions	8,566	8,782	9,342	9,581	10,641	10,628	10,115	8,176	10,962	11,741
Deductions by Type										
Benefits	7,958	8,325	8,723	9,131	9,336	9,480	9,697	9,764	9,738	9,723
Refunds	—	—	—	—	—	—	—	—	—	—
Transfers	—	—	1	—	—	—	—	—	—	—
Administrative Expenses	2	3	2	2	2	2	2	2	2	2
Total Deductions	7,960	8,328	8,726	9,133	9,338	9,482	9,699	9,766	9,740	9,725
Total Changes in Fiduciary Net Position	\$ 606	\$ 454	\$ 616	\$ 448	\$ 1,303	\$ 1,146	\$ 416	\$ (1,590)	\$ 1,222	\$ 2,016
Fiduciary Net Position										
Beginning of Year	7,854	7,400	6,784	6,336	5,033	3,887	3,471	5,061	3,839	1,823
End of Year	\$ 8,460	\$ 7,854	\$ 7,400	\$ 6,784	\$ 6,336	\$ 5,033	\$ 3,887	\$ 3,471	\$ 5,061	\$ 3,839
Employer Contributions: % of Covered Payroll	n/a	n/a	n/a	n/a	n/a	n/a	6,320.00%	1,997.79%	1,784.94%	1,106.27%

¹ "Investment income" reflects dividends, interest, realized capital gains, and unrealized gains and losses.

² "Miscellaneous" includes restorations of employee contributions.

Schedules of Changes in Fiduciary Net Position (cont.)

JRF										
Dollars in Thousands										
	6/30/2019	6/30/2018	6/30/2017	6/30/2016	6/30/2015	6/30/2014	6/30/2013	6/30/2012	6/30/2011	6/30/2010
Additions by Source										
Employer Contributions	\$ —	\$ —	\$ —	\$ —	\$ —	\$ —	\$ —	\$ —	\$ —	\$ —
Employee Contributions	—	—	—	—	—	—	—	—	—	—
State Contributions	500	500	499	501	—	—	—	—	—	—
Investment Income (Loss) ¹	17	7	4	7	4	8	(5)	19	11	48
Transfers	—	—	—	—	—	—	—	—	—	—
Miscellaneous ²	—	1	—	—	—	—	—	1	1	1
Total Additions	517	508	503	508	4	8	(5)	20	12	49
Deductions by Type										
Benefits	338	396	402	440	444	444	474	482	499	500
Refunds	—	—	—	—	—	—	—	—	—	—
Transfers	—	—	—	—	—	—	—	—	—	—
Administrative Expenses	1	—	—	1	—	—	1	1	1	1
Total Deductions	339	396	402	441	444	444	475	483	500	501
Total Changes in Fiduciary Net Position	\$ 178	\$ 112	\$ 101	\$ 67	\$ (440)	\$ (436)	\$ (480)	\$ (463)	\$ (488)	\$ (452)
Fiduciary Net Position										
Beginning of Year	796	684	583	516	956	1,392	1,872	2,335	2,823	3,275
End of Year	\$ 974	\$ 796	\$ 684	\$ 583	\$ 516	\$ 956	\$ 1,392	\$ 1,872	\$ 2,335	\$ 2,823
Employer Contributions: % of Covered Payroll	n/a									

¹ "Investment income" reflects dividends, interest, realized capital gains, and unrealized gains and losses.

² "Miscellaneous" includes restorations of employee contributions.

Schedules of Changes in Fiduciary Net Position (cont.)

JRA										
Dollars in Thousands										
	6/30/2019	6/30/2018	6/30/2017	6/30/2016	6/30/2015	6/30/2014	6/30/2013	6/30/2012	6/30/2011	6/30/2010
Additions by Source										
Employer Contributions	\$ 9	\$ 13	\$ 17	\$ 21	\$ 20	\$ 25	\$ 32	\$ 38	\$ 43	\$ 43
Employee Contributions	9	13	17	21	20	25	32	38	43	43
Investment Income (Loss) ¹	348	731	1,143	(5)	150	1,372	1,015	(29)	1,940	985
Transfers	—	—	—	—	—	—	—	—	—	—
Miscellaneous ²	—	—	—	—	—	(2)	2	5	5	3
Total Additions	366	757	1,177	37	190	1,420	1,081	52	2,031	1,074
Deductions by Type										
Benefits	1,143	1,255	1,661	1,231	976	668	1,071	810	445	389
Refunds	—	—	—	—	—	—	—	—	—	1
Transfers	—	—	—	—	—	—	—	—	—	—
Administrative Expenses	—	—	—	1	—	—	—	—	—	—
Total Deductions	1,143	1,255	1,661	1,232	976	668	1,071	810	445	390
Total Changes in Fiduciary Net Position	\$ (777)	\$ (498)	\$ (484)	\$ (1,195)	\$ (786)	\$ 752	\$ 10	\$ (758)	\$ 1,586	\$ 684
Fiduciary Net Position										
Beginning of Year	10,068	10,566	11,050	12,245	13,031	12,279	12,269	13,027	11,441	10,757
End of Year	\$ 9,291	\$ 10,068	\$ 10,566	\$ 11,050	\$ 12,245	\$ 13,031	\$ 12,279	\$ 12,269	\$ 13,027	\$ 11,441
Employer Contributions: % of Covered Payroll	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a

¹ "Investment income" reflects dividends, interest, realized capital gains, and unrealized gains and losses.

² "Miscellaneous" includes restorations of employee contributions.

Schedules of Changes in Fiduciary Net Position (cont.)

DCP										
Dollars in Thousands										
	6/30/2019	6/30/2018	6/30/2017	6/30/2016	6/30/2015	6/30/2014	6/30/2013	6/30/2012	6/30/2011	6/30/2010
Additions by Source										
Participant Contributions	\$ 312,768	\$ 275,725	\$ 287,130	\$ 213,531	\$ 208,424	\$ 190,538	\$ 182,305	\$ 178,449	\$ 186,734	\$ 185,120
Investment Income (Loss) ¹	222,118	306,332	401,891	12,008	51,431	397,083	263,381	(12,292)	451,033	203,075
Charges for Services	3,012	2,859	2,584	2,317	2,347	1,949	1,566	1,677	1,610	1,780
Transfers	—	—	—	—	—	—	—	—	—	—
Miscellaneous	27	20	14	3	11	314	527	794	1,461	1,145
Total Additions	537,925	584,936	691,619	227,859	262,213	589,884	447,779	168,628	640,838	391,120
Deductions by Type										
Refunds	256,448	232,496	232,229	215,450	225,334	212,298	178,638	171,741	149,010	108,578
Transfers	—	—	—	—	—	—	—	—	—	—
Administrative Expenses	2,106	2,017	2,208	1,941	2,196	1,651	1,568	1,594	1,735	1,512
Total Deductions	258,554	234,513	234,437	217,391	227,530	213,949	180,206	173,335	150,745	110,090
Total Changes in Fiduciary Net Position	\$ 279,371	\$ 350,423	\$ 457,182	\$ 10,468	\$ 34,683	\$ 375,935	\$ 267,573	\$ (4,707)	\$ 490,093	\$ 281,030
Beginning of Year	4,431,996	4,081,573	3,624,391	3,613,923	3,579,240	3,203,305	2,935,732	2,940,439	2,450,346	2,169,316
End of Year	\$ 4,711,367	\$ 4,431,996	\$ 4,081,573	\$ 3,624,391	\$ 3,613,923	\$ 3,579,240	\$ 3,203,305	\$ 2,935,732	\$ 2,940,439	\$ 2,450,346
Employer Contributions: % of Covered Payroll	n/a									

¹ "Investment income" reflects dividends, interest, realized capital gains, and unrealized gains and losses.

Distribution of Membership by System and Plan

Active Members											
For the Years Ended June 30, 2009-2018											
Plan		2018	2017	2016	2015	2014	2013	2012	2011	2010	2009
PERS Plan 1	%	0.62%	0.82%	1.04%	1.30%	1.61%	1.94%	2.29%	2.64%	3.03%	3.43%
	Individuals	2,011	2,597	3,227	3,927	4,782	5,653	6,635	7,733	9,007	10,354
	Average Age	66	65	64	64	63	62	61	61	60	59
PERS Plan 2	%	37.76%	38.38%	38.73%	39.09%	39.47%	39.73%	40.00%	39.92%	40.27%	40.35%
	Individuals	122,165	121,934	119,677	117,768	116,985	115,751	115,877	117,096	119,826	121,800
	Average Age	48	48	48	48	48	48	48	48	48	47
PERS Plan 3	%	11.35%	11.00%	10.76%	10.49%	10.36%	10.06%	9.69%	9.41%	9.31%	8.97%
	Individuals	36,707	34,943	33,240	31,602	30,694	29,302	28,078	27,588	27,693	27,081
	Average Age	43	43	43	43	43	44	44	43	43	42
SERS Plan 2	%	8.48%	8.40%	8.40%	8.12%	7.75%	7.47%	7.20%	7.09%	6.84%	6.69%
	Individuals	27,431	26,697	25,950	24,479	22,950	21,760	20,846	20,784	20,358	20,197
	Average Age	50	50	50	50	51	51	51	51	51	51
SERS Plan 3	%	10.75%	10.61%	10.46%	10.40%	10.40%	10.48%	10.60%	10.76%	10.75%	10.69%
	Individuals	34,781	33,715	32,314	31,326	30,832	30,535	30,712	31,548	31,981	32,277
	Average Age	49	50	50	50	51	51	50	50	49	49
PSERS Plan 2	%	1.91%	1.83%	1.77%	1.73%	1.63%	1.55%	1.47%	1.43%	1.42%	1.44%
	Individuals	6,180	5,822	5,483	5,202	4,820	4,513	4,250	4,187	4,210	4,340
	Average Age	40	40	40	40	40	40	40	40	39	38
TRS Plan 1	%	0.15%	0.22%	0.31%	0.45%	0.62%	0.82%	1.04%	1.27%	1.54%	1.72%
	Individuals	491	698	967	1,353	1,824	2,393	3,019	3,740	4,591	5,204
	Average Age	67	66	65	65	64	63	62	62	61	60
TRS Plan 2	%	6.21%	5.90%	5.58%	5.09%	4.60%	4.14%	3.74%	3.51%	3.17%	3.04%
	Individuals	20,096	18,747	17,242	15,342	13,632	12,071	10,849	10,285	9,442	9,174
	Average Age	42	42	42	42	43	44	46	46	48	48
TRS Plan 3	%	16.83%	16.93%	17.06%	17.30%	17.50%	17.67%	17.77%	17.79%	17.57%	17.56%
	Individuals	54,432	53,780	52,706	52,125	51,837	51,471	51,489	52,178	52,292	53,010
	Average Age	46	46	46	46	46	46	46	45	45	44
LEOFF Plan 1	%	0.01%	0.01%	0.02%	0.03%	0.04%	0.05%	0.06%	0.08%	0.10%	0.12%
	Individuals	26	40	62	82	120	143	186	250	301	356
	Average Age	67	66	65	64	63	62	61	60	60	59
LEOFF Plan 2	%	5.60%	5.57%	5.56%	5.65%	5.66%	5.73%	5.77%	5.73%	5.64%	5.62%
	Individuals	18,130	17,694	17,186	17,019	16,773	16,687	16,720	16,805	16,775	16,951
	Average Age	43	43	44	44	44	44	43	43	42	42
WSPRS Plan 1	%	0.14%	0.15%	0.16%	0.19%	0.21%	0.22%	0.25%	0.26%	0.27%	0.28%
	Individuals	444	464	498	560	609	657	712	767	806	830
	Average Age	49	48	48	47	46	46	45	45	44	43
WSPRS Plan 2	%	0.18%	0.17%	0.15%	0.16%	0.15%	0.14%	0.12%	0.11%	0.09%	0.09%
	Individuals	597	546	470	475	435	409	354	315	281	264
	Average Age	34	34	34	33	33	33	32	32	32	31
JRS	%	0.00%	0.0%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
	Individuals	—	—	—	—	—	—	2	3	5	9
	Average Age	n/a	n/a	n/a	n/a	n/a	n/a	66	69	69	69
JRF	%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
	Individuals	—	—	—	—	—	—	—	—	—	—
	Average Age	n/a									
Totals	%	100.00%									
	Individuals	323,491	317,677	309,022	301,260	296,293	291,345	289,729	293,279	297,568	301,847

Distribution of Membership by System and Plan (cont.)

Inactive and Retired Members											
For the Years Ended June 30, 2009-2018											
Plan		2018	2017	2016	2015	2014	2013	2012	2011	2010	2009
PERS Plan 1	%	19.09%	20.38%	21.69%	23.10%	24.57%	26.14%	27.70%	29.18%	30.63%	31.87%
	Individuals	47,395	48,771	50,098	51,269	52,248	53,244	54,266	55,053	55,721	56,272
	Average Age	76	76	76	75	75	74	74	74	74	73
PERS Plan 2	%	31.77%	31.06%	30.31%	29.52%	28.73%	27.84%	26.93%	26.06%	25.04%	24.14%
	Individuals	78,896	74,333	70,021	65,523	61,105	56,712	52,773	49,167	45,556	42,614
	Average Age	65	65	64	64	63	63	62	62	61	60
PERS Plan 3	%	4.38%	4.12%	3.86%	3.67%	3.39%	3.15%	2.92%	2.69%	2.46%	2.29%
	Individuals	10,879	9,860	8,923	8,147	7,209	6,419	5,718	5,068	4,482	4,045
	Average Age	62	61	60	60	59	58	57	56	55	54
SERS Plan 2	%	6.14%	5.90%	5.67%	5.47%	5.25%	5.04%	4.81%	4.61%	4.44%	4.26%
	Individuals	15,237	14,130	13,104	12,134	11,153	10,274	9,429	8,697	8,069	7,514
	Average Age	65	65	64	64	63	62	62	61	60	58
SERS Plan 3	%	7.09%	6.74%	6.35%	5.97%	5.55%	5.10%	4.67%	4.24%	3.86%	3.57%
	Individuals	17,603	16,128	14,659	13,241	11,788	10,393	9,142	7,993	7,015	6,308
	Average Age	64	64	63	62	62	61	60	60	59	58
PSERS Plan 2	%	0.31%	0.27%	0.22%	0.17%	0.13%	0.08%	0.04%	0.01%	0.01%	0.00%
	Individuals	776	635	501	374	275	162	87	16	7	2
	Average Age	50	49	48	47	46	47	48	59	58	63
TRS Plan 1	%	13.51%	14.35%	15.15%	16.00%	16.92%	17.82%	18.65%	19.45%	20.18%	20.88%
	Individuals	33,537	34,338	35,004	35,506	35,962	36,303	36,531	36,699	36,716	36,875
	Average Age	77	76	75	75	74	74	73	73	72	72
TRS Plan 2	%	3.29%	3.21%	3.12%	3.03%	2.94%	2.84%	2.76%	2.69%	2.63%	2.59%
	Individuals	8,165	7,672	7,219	6,733	6,251	5,775	5,408	5,080	4,787	4,576
	Average Age	66	66	66	66	65	65	64	63	62	61
TRS Plan 3	%	8.46%	8.01%	7.60%	7.08%	6.47%	5.88%	5.37%	4.84%	4.41%	4.04%
	Individuals	21,005	19,178	17,561	15,712	13,749	11,965	10,524	9,134	8,017	7,136
	Average Age	63	63	62	61	61	60	59	58	58	57
LEOFF Plan 1	%	2.85%	3.02%	3.19%	3.38%	3.58%	3.80%	4.00%	4.20%	4.40%	4.58%
	Individuals	7,075	7,228	7,379	7,507	7,607	7,730	7,845	7,933	8,009	8,089
	Average Age	75	75	74	73	72	72	71	70	70	69
LEOFF Plan 2	%	2.57%	2.39%	2.26%	2.02%	1.87%	1.71%	1.55%	1.42%	1.33%	1.16%
	Individuals	6,370	5,714	5,212	4,495	3,984	3,480	3,033	2,670	2,420	2,039
	Average Age	60	60	59	59	58	58	57	56	55	54
WSPRS Plan 1	%	0.50%	0.51%	0.52%	0.52%	0.53%	0.53%	0.53%	0.53%	0.53%	0.54%
	Individuals	1,247	1,228	1,200	1,156	1,120	1,083	1,035	992	970	956
	Average Age	67	66	66	66	66	66	66	65	65	65
WSPRS Plan 2	%	0.01%	0.01%	0.01%	0.01%	0.01%	0.00%	0.00%	0.00%	0.00%	0.00%
	Individuals	34	31	28	20	15	10	8	6	6	4
	Average Age	38	38	38	38	38	36	36	37	35	33
JRS	%	0.04%	0.04%	0.05%	0.05%	0.05%	0.06%	0.06%	0.07%	0.07%	0.07%
	Individuals	93	99	104	106	108	114	119	124	125	124
	Average Age	83	82	82	81	80	80	80	80	79	79
JRF	%	0.00%	0.00%	0.00%	0.01%	0.01%	0.01%	0.01%	0.01%	0.01%	0.01%
	Individuals	11	11	11	12	12	12	12	13	13	13
	Average Age	88	87	87	85	84	83	83	83	82	81
Totals	%	100.00%									
	Individuals	248,323	239,356	231,024	221,935	212,586	203,676	195,930	188,645	181,913	176,567

Figures are as of the latest valuation date for each year.

Source: Office of the State Actuary

Principal Participating Employers by Plan

PERS Plan 1

Current Year and Nine Years Prior

For Fiscal Year Ended June 30, 2019				2010 (Calendar Year Statistics)			
Employer	Covered Employees	Rank	% of Total Plan	Employer	Covered Employees	Rank	% of Total Plan
State of Washington ¹	647	1	41.4%	State of Washington	3,859	1	48.1%
King County	96	2	6.1%	KC Metro	231	2	2.9%
Seattle SD 001	45	3	2.9%	King County	212	3	2.6%
Snohomish County	17	4	1.1%	Seattle SD 001	138	4	1.7%
Pierce County	14	5	0.9%	Pierce County	99	5	1.2%
Port of Seattle	12	6	0.8%	Snohomish County	86	6	1.1%
Bellevue SD 405	11	7	0.7%	Yakima County	54	7	0.7%
Spokane SD 081	10	8	0.6%	Spokane County	53	8	0.7%
Tacoma SD 010	9	9	0.6%	Spokane SD 081	52	9	0.7%
Yakima County	9	10	0.6%	Tacoma SD 010	48	10	0.6%
All Other Employers ²	694		44.3%	All Other Employers	3,185		39.7%
Total (309 Employers)	1,564		100.0%	Total (565 Employers)	8,017		100.0%

All Other Employers	Number	Employees
State of Washington	—	—
School Districts	136	380
Counties/Municipalities	86	187
Other Political Subdivisions	77	127
Total	299	694

¹ Includes 92 component units of the state

² In 2019, "all other employers" consisted of the employers at left.

PERS Plan 2

Current Year and Nine Years Prior

For Fiscal Year Ended June 30, 2019				2010 (Calendar Year Statistics)			
Employer	Covered Employees	Rank	% of Total Plan	Employer	Covered Employees	Rank	% of Total Plan
State of Washington ¹	63,228	1	50.7%	State of Washington	65,643	1	52.5%
King County	10,962	2	8.8%	KC Metro	4,687	2	3.8%
Snohomish County	1,929	3	1.5%	King County	4,487	3	3.6%
Pierce County	1,879	4	1.5%	Pierce County	2,349	4	1.9%
Spokane County	1,286	5	1.0%	Snohomish County	1,952	5	1.6%
Clark County	1,114	6	0.9%	Spokane County	1,404	6	1.1%
Port of Seattle	1,100	7	0.9%	Clark County	1,188	7	1.0%
Snohomish County PUD 01	908	8	0.7%	King County Public Health Dept.	1,075	8	0.9%
City of Bellevue	866	9	0.7%	Pierce County PTBA	955	9	0.8%
Pierce County PTBA	839	10	0.7%	Energy Northwest	894	10	0.7%
All Other Employers ²	40,569		32.6%	All Other Employers	40,356		32.1%
Total (835 Employers)	124,680		100.0%	Total (764 Employers)	124,990		100.0%

All Other Employers	Number	Employees
State of Washington	—	—
School Districts	19	27
Counties/Municipalities	274	21,683
Other Political Subdivisions	532	18,859
Total	825	40,569

¹ Includes 154 component units of the state

² In 2019, "all other employers" consisted of the employers at left.

Principal Participating Employers by Plan (cont.)

PERS Plan 3

Current Year and Nine Years Prior

For Fiscal Year Ended June 30, 2019				2010 (Calendar Year Statistics)			
Employer	Covered Employees	Rank	% of Total Plan	Employer	Covered Employees	Rank	% of Total Plan
State of Washington ¹	23,897	1	63.0%	State of Washington	19,841	1	63.5%
King County	2,356	2	6.2%	King County	856	2	2.7%
Tacoma Metropolitan Park District	612	3	1.6%	KC Metro	792	3	2.5%
Pierce County	446	4	1.2%	Pierce County	482	4	1.5%
Snohomish County	375	5	1.0%	Energy Northwest	426	5	1.4%
Energy Northwest	305	6	0.8%	Snohomish County	355	6	1.1%
Port of Seattle	277	7	0.7%	Tacoma Metropolitan Park Dist.	295	7	0.9%
Spokane County	263	8	0.7%	King County Public Health Dept.	294	8	0.9%
Clark County	238	9	0.6%	Spokane County	255	9	0.8%
City of Bellevue	224	10	0.6%	Yakima County	218	10	0.7%
All Other Employers ²	8,959		23.6%	All Other Employers	7,448		24.0%
Total (575 Employers)	37,952		100.0%	Total (513 Employers)	31,262		100.0%

All Other Employers	Number	Employees
State of Washington	—	—
School Districts	—	—
Counties/Municipalities	212	4,907
Other Political Subdivisions	353	4,052
Total	565	8,959

¹ Includes 147 component units of the state

² In 2019, "all other employers" consisted of the employers at left.

SERS Plan 2

Current Year and Nine Years Prior

For Fiscal Year Ended June 30, 2019				2010 (Calendar Year Statistics)			
Employer	Covered Employees	Rank	% of Total Plan	Employer	Covered Employees	Rank	% of Total Plan
Seattle SD 001	1,308	1	4.3%	Seattle SD 001	978	1	4.4%
Tacoma SD 010	650	2	2.1%	Tacoma SD 010	688	2	3.1%
Highline SD 401	588	3	1.9%	Spokane SD 081	497	3	2.3%
Spokane SD 081	579	4	1.9%	Vancouver SD 037	470	4	2.1%
Evergreen SD 114	572	5	1.9%	Highline SD 401	468	5	2.1%
Bellevue SD 405	568	6	1.9%	Kent SD 415	466	6	2.1%
Vancouver SD 037	544	7	1.8%	Evergreen SD 114	445	7	2.0%
Kent SD 415	539	8	1.8%	Federal Way SD 210	400	8	1.8%
Puyallup SD 003	514	9	1.7%	Bellevue SD 405	362	9	1.6%
Federal Way SD 210	500	10	1.7%	Puyallup SD 003	358	10	1.6%
All Other Employers ¹	23,900		79.0%	All Other Employers	16,883		76.9%
Total (310 Employers)	30,262		100.0%	Total (299 Employers)	22,015		100.0%

All Other Employers	Number	Employees
State of Washington	—	—
School Districts	300	23,900
Counties/Municipalities	—	—
Other Political Subdivisions	—	—
Total	300	23,900

¹ In 2019, "all other employers" consisted of the employers at left.

Principal Participating Employers by Plan (cont.)

SERS Plan 3

Current Year and Nine Years Prior

For Fiscal Year Ended June 30, 2019				2010 (Calendar Year Statistics)			
Employer	Covered Employees	Rank	% of Total Plan	Employer	Covered Employees	Rank	% of Total Plan
Seattle SD 001	1,509	1	4.0%	Seattle SD 001	1,084	1	3.3%
Kent SD 415	990	2	2.6%	Kent SD 415	970	2	2.9%
Spokane SD 081	956	3	2.6%	Spokane SD 081	865	3	2.6%
Tacoma SD 010	886	4	2.4%	Evergreen SD 114	829	4	2.5%
Lake Washington SD 414	864	5	2.3%	Tacoma SD 010	705	5	2.1%
Evergreen SD 114	841	6	2.2%	Lake Washington SD 414	688	6	2.1%
Vancouver SD 037	810	7	2.2%	Vancouver SD 037	682	7	2.1%
Kennewick SD 017	768	8	2.1%	Bethel SD 403	675	8	2.1%
Northshore SD 417	754	9	2.0%	Puyallup SD 003	664	9	2.0%
Bethel SD 403	746	10	2.0%	Federal Way 210	653	10	2.0%
All Other Employers ¹	28,254		75.6%	All Other Employers	25,129		76.3%
Total (309 Employers)	37,378		100.0%	Total (303 Employers)	32,944		100.0%

All Other Employers	Number	Employees
State of Washington	—	—
School Districts	299	28,254
Counties/Municipalities	—	—
Other Political Subdivisions	—	—
Total	299	28,254

¹ In 2019, "all other employers" consisted of the employers at left.

PSERS Plan 2

Current Year and Nine Years Prior

For Fiscal Year Ended June 30, 2019				2010 (Calendar Year Statistics)			
Employer	Covered Employees	Rank	% of Total Plan	Employer	Covered Employees	Rank	% of Total Plan
State of Washington ¹	4,961	1	63.7%	State of Washington	2,582	1	57.1%
King County	438	2	5.6%	King County	349	2	7.7%
Pierce County	266	3	3.4%	Pierce County	199	3	4.4%
Snohomish County	233	4	3.0%	Snohomish County	171	4	3.8%
Spokane County	202	5	2.6%	Yakima County	125	5	2.8%
Thurston County	154	6	2.0%	Spokane County	109	6	2.4%
South Correctional Entity	131	7	1.7%	Thurston County	96	7	2.1%
Yakima County	117	8	1.5%	Benton County	90	8	2.0%
Clark County	114	9	1.5%	Clark County	78	9	1.7%
Benton County	109	10	1.4%	Kitsap County	72	10	1.6%
All Other Employers ²	1,064		13.6%	All Other Employers	653		14.4%
Total (67 Employers)	7,789		100.0%	Total (66 Employers)	4,524		100.0%

All Other Employers	Number	Employees
State of Washington	—	—
School Districts	—	—
Counties/Municipalities	57	1,064
Other Political Subdivisions	—	—
Total	57	1,064

¹ Includes 21 component units of the state

² In 2019, "all other employers" consisted of the employers at left.

Principal Participating Employers by Plan (cont.)

TRS Plan 1

Current Year and Nine Years Prior

For Fiscal Year Ended June 30, 2019				2010 (Calendar Year Statistics)			
Employer	Covered Employees	Rank	% of Total Plan	Employer	Covered Employees	Rank	% of Total Plan
State of Washington ¹	25	1	5.0%	State of Washington	281	1	6.5%
Seattle SD 001	21	2	4.2%	Seattle SD 001	270	2	6.3%
Spokane SD 081	18	3	3.6%	Tacoma SD 010	169	3	3.9%
Edmonds SD 015	13	4	2.6%	Lake Washington SD 414	123	4	2.9%
Shoreline SD 412	11	5	2.2%	Northshore SD 417	117	5	2.7%
Wenatchee SD 246	11	6	2.2%	Spokane SD 081	97	6	2.3%
Clover Park SD 400	10	7	2.0%	Evergreen SD 114	81	7	1.9%
Lake Washington SD 414	10	8	2.0%	Kent SD 415	77	8	1.8%
Northshore SD 417	10	9	2.0%	Puyallup SD 003	77	9	1.8%
Evergreen SD 114	9	10	1.8%	Vancouver SD 037	76	10	1.8%
All Other Employers ²	360		72.4%	All Other Employers	2,936		68.1%
Total (143 Employers)	498		100.0%	Total (276 Employers)	4,304		100.0%

All Other Employers	Number	Employees
State of Washington	—	—
School Districts	133	360
Counties/Municipalities	—	—
Other Political Subdivisions	—	—
Total	133	360

¹ Includes 18 component units of the state

² In 2019, "all other employers" consisted of the employers at left.

TRS Plan 2

Current Year and Nine Years Prior

For Fiscal Year Ended June 30, 2019				2010 (Calendar Year Statistics)			
Employer	Covered Employees	Rank	% of Total Plan	Employer	Covered Employees	Rank	% of Total Plan
Seattle SD 001	1,606	1	6.9%	Seattle SD 001	712	1	6.1%
Lake Washington SD 414	650	2	2.8%	Tacoma SD 010	476	2	4.1%
Tacoma SD 010	620	3	2.7%	Evergreen SD 114	326	3	2.8%
Spokane SD 081	602	4	2.6%	Kent SD 415	314	4	2.7%
Vancouver SD 037	544	5	2.3%	Spokane SD 081	306	5	2.6%
Evergreen SD 114	519	6	2.2%	Federal Way SD 210	279	6	2.4%
Federal Way SD 210	500	7	2.1%	Lake Washington SD 414	276	7	2.4%
Bellevue SD 405	462	8	2.0%	Highline SD 401	273	8	2.3%
Highline SD 401	460	9	2.0%	Issaquah SD 411	237	9	2.0%
Pasco SD 001	458	10	2.0%	Vancouver SD 037	230	10	2.0%
All Other Employers ¹	16,958		72.4%	All Other Employers	8,300		70.6%
Total (307 Employers)	23,379		100.0%	Total (293 Employers)	11,729		100.0%

All Other Employers	Number	Employees
State of Washington ²	1	94
School Districts	296	16,864
Counties/Municipalities	—	—
Other Political Subdivisions	—	—
Total	297	16,958

¹ In 2019, "all other employers" consisted of the employers at left.

² Includes 27 component units of the state

Principal Participating Employers by Plan (cont.)

TRS Plan 3

Current Year and Nine Years Prior

For Fiscal Year Ended June 30, 2019				2010 (Calendar Year Statistics)			
Employer	Covered Employees	Rank	% of Total Plan	Employer	Covered Employees	Rank	% of Total Plan
Seattle SD 001	2,831	1	4.8%	Seattle SD 001	2,578	1	4.8%
Spokane SD 081	1,900	2	3.3%	Spokane SD 081	1,726	2	3.2%
Tacoma SD 010	1,643	3	2.8%	Tacoma SD 010	1,523	3	2.8%
Lake Washington SD 414	1,630	4	2.8%	Evergreen SD 114	1,516	4	2.8%
Evergreen SD 114	1,455	5	2.5%	Kent SD 415	1,411	5	2.6%
Kent SD 415	1,417	6	2.4%	Lake Washington SD 414	1,340	6	2.5%
Vancouver SD 037	1,216	7	2.1%	Federal Way SD 210	1,245	7	2.3%
Puyallup SD 003	1,202	8	2.1%	Vancouver SD 037	1,128	8	2.1%
Federal Way SD 210	1,159	9	2.0%	Edmonds SD 015	1,091	9	2.0%
Edmonds SD 015	1,150	10	2.0%	Puyallup SD 003	1,050	10	2.0%
All Other Employers ¹	42,816		73.2%	All Other Employers	39,368		72.9%
Total (314 Employers)	58,419		100.0%	Total (303 Employers)	53,976		100.0%

All Other Employers	Number	Employees
State of Washington ²	1	982
School Districts	303	41,834
Counties/Municipalities	—	—
Other Political Subdivisions	—	—
Total	304	42,816

¹ In 2019, "all other employers" consisted of the employers at left.

² Includes 40 component units of the state

LEOFF Plan 1

Current Year and Nine Years Prior

For Fiscal Year Ended June 30, 2019				2010 (Calendar Year Statistics)			
Employer	Covered Employees	Rank	% of Total Plan	Employer	Covered Employees	Rank	% of Total Plan
City of Seattle	10	1	40.0%	City of Seattle	84	1	30.7%
Clark County	1	2	4.0%	City of Spokane	18	2	6.6%
City of Tacoma	1	3	4.0%	City of Tacoma	17	3	6.2%
City of Anacortes	1	4	4.0%	City of Bellevue	11	4	4.0%
City of Bellevue	1	5	4.0%	City of Everett	10	5	3.7%
City of Yakima	1	6	4.0%	Adams County	1	6	0.4%
City of Pasco	1	7	4.0%	City of Blaine	1	7	0.4%
Grays Harbor County	1	8	4.0%	Clark County FPD 06	1	8	0.4%
City of Aberdeen	1	9	4.0%	City of Clarkston	1	9	0.4%
City of Spokane	1	10	4.0%	City of College Place	1	10	0.4%
All Other Employers ¹	6		24.0%	All Other Employers	129		46.8%
Total (16 Employers)	25		100.0%	Total (63 Employers)	274		100.0%

All Other Employers	Number	Employees
State of Washington	—	—
School Districts	—	—
Counties/Municipalities	4	4
Other Political Subdivisions	2	2
Total	6	6

¹ In 2019, "all other employers" consisted of the employers at left.

Principal Participating Employers by Plan (cont.)

LEOFF Plan 2

Current Year and Nine Years Prior

For Fiscal Year Ended June 30, 2019				2010 (Calendar Year Statistics)			
Employer	Covered Employees	Rank	% of Total Plan	Employer	Covered Employees	Rank	% of Total Plan
City of Seattle	2,366	1	12.6%	City of Seattle	2,276	1	13.5%
King County	807	2	4.3%	City of Tacoma	733	2	4.4%
City of Tacoma	728	3	3.9%	King County	711	3	4.2%
City of Spokane	673	4	3.6%	City of Spokane	548	4	3.3%
City of Vancouver	398	5	2.1%	City of Bellevue	372	5	2.2%
City of Bellevue	395	6	2.1%	City of Everett	353	6	2.1%
City of Everett	360	7	1.9%	City of Vancouver	350	7	2.1%
Pierce County	337	8	1.8%	Pierce County	297	8	1.8%
Snohomish County	310	9	1.7%	Snohomish County	263	9	1.6%
City of Bellingham	279	10	1.5%	City of Bellingham	257	10	1.5%
All Other Employers ¹	12,102		64.5%	All Other Employers	10,685		63.3%
Total (383 Employers)	18,755		100.0%	Total (366 Employers)	16,845		100.0%

All Other Employers	Number	Employees
State of Washington ²	1	270
School Districts	—	—
Counties/Municipalities	192	6,874
Other Political Subdivisions	180	4,958
Total	373	12,102

¹ In 2019, "all other employers" consisted of the employers at left.

² Includes 9 component units of the state

Number of Participating Employers

PERS Plan 1					
Fiscal Year Ended	Component Units of WA State	Counties/ Municipalities	School Districts	Other Political Subdivisions	Total
6/30/2019	92	90	140	78	400
6/30/2018	101	100	155	88	444
6/30/2017	110	115	172	105	502
6/30/2016	115	123	191	120	549
6/30/2015	123	132	200	140	595
6/30/2014	128	147	212	147	634
6/30/2013	135	172	216	183	706
6/30/2012	129	220	155	174	678
6/30/2011	144	227	158	180	709
6/30/2010	146	229	166	193	734

PERS Plan 2					
Fiscal Year Ended	Component Units of WA State	Counties/ Municipalities	School Districts	Other Political Subdivisions	Total
6/30/2019	154	280	19	535	988
6/30/2018	154	280	—	530	964
6/30/2017	155	280	—	527	962
6/30/2016	153	278	—	515	946
6/30/2015	157	276	—	510	943
6/30/2014	169	275	—	490	934
6/30/2013	167	276	—	491	934
6/30/2012	169	274	—	494	937
6/30/2011	179	271	—	494	944
6/30/2010	178	270	—	485	933

PERS Plan 3					
Fiscal Year Ended	Component Units of WA State	Counties/ Municipalities	School Districts	Other Political Subdivisions	Total
6/30/2019	147	218	—	356	721
6/30/2018	147	217	—	340	704
6/30/2017	148	217	—	342	707
6/30/2016	145	212	—	330	687
6/30/2015	149	211	—	323	683
6/30/2014	158	209	—	306	673
6/30/2013	157	209	—	298	664
6/30/2012	157	206	—	300	663
6/30/2011	166	205	—	302	673
6/30/2010	163	209	—	287	659

Number of Participating Employers (cont.)

SERS Plan 2					
Fiscal Year Ended	Component Units of WA State	Counties/ Municipalities	School Districts	Other Political Subdivisions	Total
6/30/2019	—	—	310	—	310
6/30/2018	—	—	309	—	309
6/30/2017	—	—	309	—	309
6/30/2016	—	—	307	—	307
6/30/2015	—	—	302	—	302
6/30/2014	—	—	303	—	303
6/30/2013	—	—	302	—	302
6/30/2012	—	—	299	—	299
6/30/2011	—	—	299	—	299
6/30/2010	—	—	298	—	298

SERS Plan 3					
Fiscal Year Ended	Component Units of WA State	Counties/ Municipalities	School Districts	Other Political Subdivisions	Total
6/30/2019	—	—	309	—	309
6/30/2018	—	—	308	—	308
6/30/2017	—	—	307	—	307
6/30/2016	—	—	306	—	306
6/30/2015	—	—	300	—	300
6/30/2014	—	—	300	—	300
6/30/2013	—	—	301	—	301
6/30/2012	—	—	301	—	301
6/30/2011	—	—	300	—	300
6/30/2010	1	—	300	—	301

PSERS Plan 2					
Fiscal Year Ended	Component Units of WA State	Counties/ Municipalities	School Districts	Other Political Subdivisions	Total
6/30/2019	21	65	—	1	87
6/30/2018	6	66	—	1	73
6/30/2017	6	66	—	1	73
6/30/2016	6	64	—	1	71
6/30/2015	9	65	—	1	75
6/30/2014	9	65	—	1	75
6/30/2013	9	65	—	1	75
6/30/2012	10	65	—	1	76
6/30/2011	11	65	—	1	77
6/30/2010	10	63	—	—	73

Number of Participating Employers (cont.)

TRS Plan 1					
Fiscal Year Ended	Component Units of WA State	Counties/ Municipalities	School Districts	Other Political Subdivisions	Total
6/30/2019	18	—	142	—	160
6/30/2018	22	—	140	—	162
6/30/2017	26	—	162	—	188
6/30/2016	31	—	189	—	220
6/30/2015	34	—	217	—	251
6/30/2014	36	—	228	—	264
6/30/2013	49	—	295	—	344
6/30/2012	47	—	257	—	304
6/30/2011	49	—	263	—	312
6/30/2010	54	—	271	—	325

TRS Plan 2					
Fiscal Year Ended	Component Units of WA State	Counties/ Municipalities	School Districts	Other Political Subdivisions	Total
6/30/2019	27	—	306	—	333
6/30/2018	26	—	302	—	328
6/30/2017	26	—	306	—	332
6/30/2016	28	—	305	—	333
6/30/2015	26	—	295	—	321
6/30/2014	22	—	295	—	317
6/30/2013	36	—	304	—	340
6/30/2012	24	—	295	—	319
6/30/2011	25	—	288	—	313
6/30/2010	23	—	283	—	306

TRS Plan 3					
Fiscal Year Ended	Component Units of WA State	Counties/ Municipalities	School Districts	Other Political Subdivisions	Total
6/30/2019	40	—	313	—	353
6/30/2018	41	—	312	—	353
6/30/2017	40	—	312	—	352
6/30/2016	40	—	310	—	350
6/30/2015	41	—	303	—	344
6/30/2014	39	—	302	—	341
6/30/2013	38	—	303	—	341
6/30/2012	35	—	302	—	337
6/30/2011	28	—	302	—	330
6/30/2010	31	—	302	—	333

Number of Participating Employers (cont.)

LEOFF Plan 1					
Fiscal Year Ended	Component Units of WA State	Counties/Municipalities	School Districts	Other Political Subdivisions	Total
6/30/2019	—	14	—	2	16
6/30/2018	—	13	—	3	16
6/30/2017	—	18	—	5	23
6/30/2016	—	23	—	6	29
6/30/2015	—	27	—	6	33
6/30/2014	—	36	—	9	45
6/30/2013	—	41	—	10	51
6/30/2012	—	42	—	12	54
6/30/2011	—	48	—	14	62
6/30/2010	—	54	—	15	69

LEOFF Plan 2					
Fiscal Year Ended	Component Units of WA State	Counties/Municipalities	School Districts	Other Political Subdivisions	Total
6/30/2019	9	202	—	180	391
6/30/2018	9	205	—	182	396
6/30/2017	9	203	—	166	378
6/30/2016	8	204	—	164	376
6/30/2015	8	205	—	157	370
6/30/2014	8	204	—	157	369
6/30/2013	8	212	—	154	374
6/30/2012	8	212	—	153	373
6/30/2011	8	214	—	152	374
6/30/2010	8	215	—	149	372

Employers Covered by DRS-Administered Retirement Systems

As of June 30, 2019 — Page 1 of 16

Aging and Long-Term Care

Aging & Long-Term Care of Eastern WA
Olympic Area Agency on Aging
SE WA Aging & Long Term Care Council of
Governments
SW WA Council Government on Aging and Disability

Air Quality Agencies

Benton Clean Air Agency
NW Clean Air Agency
Olympic Region Clean Air Agency
Puget Sound Clean Air Agency
Spokane Regional Clean Air Agency
SW Clean Air Agency
Yakima Regional Clean Air Agency

Airports, Airport Boards

Pangborn Memorial Airport
Spokane International Airport
Walla Walla Regional Airport
West Plains Airport Area PDA

Associations, Unions

King Co. Directors' Association
Sound Cities Association

Cemetery Districts

Cowlitz Co. Cemetery Dist. 01, 02 & 05
Pend Oreille Cemetery Dist. 01
Skagit Co. Cemetery Dist. 02

Charter and Tribal Compact Schools

Green Dot Public Schools
PRIDE Prep Schools
Impact Public Schools
Innovation Schools
Quileute Tribal School
Rainier Prep
SOAR Academy
Spokane International Academy
Summit Public Schools

Cities and Towns

Aberdeen
Airway Heights
Algona
Anacortes
Arlington
Asotin
Auburn
Bainbridge Island
Battle Ground
Beaux Arts Village
Bellevue
Bellingham
Benton City
Bingen
Black Diamond
Blaine
Bonney Lake
Bothell
Bremerton
Brewster
Bridgeport
Brier
Buckley
Buriem
Burlington
Camas
Carbonado (Town of)
Carnation
Cashmere
Castle Rock
Cathlamet (Town of)
Centralia
Chehalis
Chelan
Cheney
Chewelah
Clarkston
Cle Elum
Clyde Hill
Colfax
College Place

Employers Covered by DRS-Administered Retirement Systems (cont.)

As of June 30, 2019 — Page 2 of 16

Cities and Towns (cont.)	
Colton (Town of)	Gold Bar
Colville	Goldendale
Conconully (Town of)	Grand Coulee
Concrete (Town of)	Grandview
Connell	Granger (Town of)
Cosmopolis	Granite Falls
Coulee City (Town of)	Hamilton (Town of)
Coulee Dam (Town of)	Harrington
Coupeville (Town of)	Hoquiam
Creston (Town of)	Hunts Point (Town of)
Cusick (Town of)	Ilwaco
Darrington (Town of)	Issaquah
Davenport	Kalama
Dayton	Kelso
Deer Park	Kenmore
Des Moines	Kennewick
DuPont	Kent
Duvall	Kettle Falls
East Wenatchee	Kirkland
Eatonville (Town of)	Kittitas
Edgewood	La Center
Edmonds	La Conner (Town of)
Electric City	LaCrosse (Town of)
Ellensburg	Lacey
Elma	Lake Forest Park
Elmer City (Town of)	Lake Stevens
Entiat	Lakewood
Enumclaw	Langley
Ephrata	Leavenworth
Everett	Liberty Lake
Everson	Lind (Town of)
Fairfield (Town of)	Long Beach
Federal Way	Longview
Ferndale	Lynden
Fife	Lynnwood
Fircrest	Mabton
Forks	Mansfield (Town of)
Friday Harbor (Town of)	Maple Valley
Garfield (Town of)	Marysville
George	Mattawa
Gig Harbor	McCleary
	Medical Lake
	Medina

Employers Covered by DRS-Administered Retirement Systems (cont.)

As of June 30, 2019 — Page 3 of 16

Cities and Towns (cont.)

Mercer Island	Poulsbo
Metaline Falls (Town of)	Prosser
Mill Creek	Pullman
Millwood (Town of)	Puyallup
Milton	Quincy
Monroe	Rainier
Montesano	Raymond
Morton	Reardan (Town of)
Moses Lake	Redmond
Mossyrock	Renton
Mount Vernon	Republic
Mountlake Terrace	Richland
Moxee	Ridgefield
Mukilteo	Ritzville
Naches (Town of)	Riverside (Town of)
Napavine	Rock Island
Newcastle	Rosalia (Town of)
Newport	Roslyn
Nooksack	Roy
Normandy Park	Royal City
North Bend	Ruston (Town of)
North Bonneville	Sammamish
Northport (Town of)	SeaTac
Oak Harbor	Seattle
Oakesdale (Town of)	Sedro-Woolley
Oakville	Selah
Ocean Shores	Sequim
Odessa (Town of)	Shelton
Okanogan	Shoreline
Olympia	Skykomish (Town of)
Omak	Snohomish
Oroville	Snoqualmie
Orting	Soap Lake
Othello	South Bend
Pacific	South Cle Elum (Town of)
Palouse	Spangle (Town of)
Pasco	Spokane
Pateros	Spokane Valley
Port Angeles	Sprague
Port Orchard	Springdale (Town of)
Port Townsend	Stanwood
	Steilacoom (Town of)
	Stevenson

Employers Covered by DRS-Administered Retirement Systems (cont.)

As of June 30, 2019 — Page 4 of 16

Cities and Towns (cont.)

Sultan
Sumas
Sumner
Sunnyside
Tacoma
Tekoa
Tenino
Tieton
Toledo
Tonasket
Toppenish
Tukwila
Tumwater
Twisp (Town of)
Union Gap
Uniontown (Town of)
University Place
Vancouver
Waitsburg
Walla Walla
Wapato
Warden
Washougal
Washtucna (Town of)
Waterville (Town of)
Wenatchee
West Richland
Westport
White Salmon
Winlock
Winthrop (Town of)
Woodinville
Woodland
Woodway (Town of)
Yacolt (Town of)
Yakima
Yarrow Point (Town of)
Yelm
Zillah

Conservation Districts

Cascadia
Clallam
Columbia
Cowlitz
Grays Harbor
King
Kittitas Co.
Mason
Okanogan
Pacific
Pend Oreille
San Juan Islands
Snohomish
Spokane Co.
Stevens Co.
Thurston
Wahkiakum

Councils

Columbia River Council of Governments
Cowlitz-Wahkiakum Council of Governments
Grays Harbor Council of Governments
Lewis, Mason, Thurston Council of Governments
Northwest Regional Council
Pacific Council of Governments
Pacific Mountain Workforce Development Council
Puget Sound Regional Council
Skagit Council of Governments
South Central Workforce Council
Spokane Area Workforce Development Council
Thurston Regional Planning Council
Whatcom Council of Governments

Counties

Adams
Asotin
Benton
Chelan
Clallam
Clark
Columbia

Employers Covered by DRS-Administered Retirement Systems (cont.)

As of June 30, 2019 — Page 5 of 16

Counties (cont.)	Educational Service Districts
Cowlitz	ESD 101
Douglas	ESD 105
Ferry	ESD 112
Franklin	ESD 113
Garfield	ESD 123
Grant	North Central ESD 171
Grays Harbor	Northwest ESD 189
Island	Olympic ESD 114
Jefferson	Puget Sound ESD 121
King	
Kitsap	
Kittitas	
Klickitat	
Lewis	
Lincoln	
Mason	
Okanogan	
Pacific	
Pend Oreille	
Pierce	
San Juan	
Skagit	
Skamania	
Snohomish	
Spokane	
Stevens	
Thurston	
Wahkiakum	
Walla Walla	
Whatcom	
Whitman	
Yakima	
	Emergency Services and Communication Districts
	Clark Regional Emergency Services Agency
	Cowlitz 911
	Franklin Co. Emergency Management
	Grays Harbor Communications
	Island Co. Emergency Services Communication Ctr.
	Jefferson Co. 911 Communications
	Kitsap 911 Public Auth.
	KITTCOM 911
	Klickitat Co. Emergency Medical Service Dist. 01
	Mason Co. Emergency Communications
	Multi Agency Communications Center
	NORCOM 911
	North Country Emergency Medical Service
	RIVERCOM
	Skagit Emergency Communication Center
	Snohomish Co. 911
	South Sound 911
	Spokane Regional Emergency Comms
	Thurston 911 Communications
	Valley Communication Center
	Fire Protection Districts
	Adams Co. FPD 05
	Asotin Co. FPD 01
	Bainbridge Island Fire Dept.
	Benton Co. FPDs 01, 02, 04 & 06
	Central Kitsap Fire & Rescue
	Central Whidbey Island Fire & Rescue
	Chelan Co. FPDs 01, 03, 05, 06, 07 & 09
Development Authorities/Districts	
Cultural Development Auth. of King Co.	
North Bonneville Public Development Auth.	
Seattle Southside Regional Tourism Auth.	
Tricounty Economic Development Dist.	
Walla Walla Valley Metro Planning Org.	

Employers Covered by DRS-Administered Retirement Systems (cont.)

As of June 30, 2019 — Page 6 of 16

Fire Protection Districts (cont.)

Clallam Co. FPDs 01, 02, 03, 04 & 05
Clark Co. Fire & Rescue
Clark Co. FPDs 03, 05, 06, 10 & 13
Columbia Co. FPD 03
Cowlitz 02 Fire & Rescue
Cowlitz Co. FPDs 01, 03, 05 & 06
Cowlitz-Skamania Co. FPD 07
Douglas Co. FPD 02
Douglas-Okanogan Co. FPD 15
East County Fire & Rescue
Fire District 38
East Pierce Co. Fire & Rescue
Franklin Co. FPD 03
Garfield Co. FPD 01
Grant Co. FPDs 03, 05, 08 & 10
Grays Harbor Co. FPDs 02 & 05
Interlocal Organization of Lewis Co. Rural FPD 02, 07 & 15
Island Co. FPD 01
Jefferson Co. FPDs 01, 02, 03 & 04
King Co. FPDs 02, 10, 16, 20, 27, 28, 34, 39, 44, 45 & 50
Kitsap Co. FPDs 07, 10 & 18
Kittitas Co. FPDs 01, 02 & 07
Klickitat Co. FPDs 03 & 07
Lake Stevens Fire
Lewis Co. FPDs 02, 03, 05, 06, 10, 14 & 15
Mason Co. FPDs 03, 04, 05, 06, 11, 13, 16 & 18
North County Regional Fire Auth.
North Mason Regional Fire Auth.
North Whidbey Fire & Rescue
Okanogan Co. FPD 06
Pacific Co. FPD 01
Pend Oreille FPDs 02, 03 & 04
Pierce Co. FPDs 03, 05, 06, 10, 13, 14, 16, 17, 18, 21, 23 & 27
Puget Sound Regional Fire Auth.
Renton Regional Fire Auth.
Riverside Fire Auth.
San Juan Co. FPDs 02, 03 & 04
Shoreline Fire Dept.

Skagit Co. FPDs 02, 06, 08, 13 & 14
Snohomish Co. FPDs 04, 05, 07, 12, 15, 17, 19, 21, 22, 24 & 26
Snoqualmie Pass Fire & Rescue
South Beach Regional Fire Auth.
South Snohomish Co. Regional Fire Auth.
South Whatcom Fire Auth.
South Whidbey Fire & EMS
Southeast Thurston Fire Auth.
Spokane Co. FPDs 01, 03, 04, 08, 09, 10 & 13
Stevens Co. FPD 01
Thurston Co. FPDs 03, 06, 08, 09, 12, 13 & 17
Valley Regional Fire Auth.
Vashon Island Fire & Rescue
Walla Walla Co. FPDs 04 & 05
West Benton Regional Fire Auth.
West Thurston Regional Fire Auth.
Whatcom Co. FPDs 01, 05, 07, 11, 14, 17, 18 & 21
Woodinville Fire & Rescue
Yakima Co. FPDs 04, 05, 06 & 12

Housing Authorities

Anacortes
Asotin Co.
Bellingham
Bremerton
Chelan Co./Wenatchee
Everett
Grant Co.
Grays Harbor Co.
Island Co.
Joint Republic Ferry Co.
Kelso
Kennewick
King Co.
Kitsap Co. Consolidated
Kittitas Co.
Longview
Okanogan Co.
Othello
Pasco/Franklin Co.
Peninsula
Pierce Co.

Employers Covered by DRS-Administered Retirement Systems (cont.)

As of June 30, 2019 — Page 7 of 16

Housing Authorities (cont.)

Renton
Seattle
Skagit Co.
Snohomish Co.
Spokane
Tacoma
Thurston Co.
Vancouver
Walla Walla

Insurance Authorities

Enduris Washington
Health Benefit Exchange
Transit Insurance Pool of WA
WA Cities Insurance Auth.
WA Counties Insurance Fund
WA Counties Risk Pool
Water & Sewer Insurance Pool

Irrigation, Sewer and Water Districts

Agnew Irrigation Dist.
Ahtanum Irrigation Dist.
Alderwood Water & Wastewater Dist.
Beacon Hill Water & Sewer Dist.
Belfair Water Dist.
Benton Irrigation Dist.
Birch Bay Water & Sewer Dist.
Brewster Flat Irrigation Dist.
Cascade Irrigation Dist.
Cedar River Water & Sewer Dist.
Chinook Water Dist.
Clark Regional Wastewater Dist.
Clinton Water Dist.
Coal Creek Utility Dist.
Columbia Irrigation Dist.
Columbia Valley Water Dist.
Consolidated Irrigation Dist. 19
Covington Water Dist.
Cowlitz Consolidated Diking Improvement Dist. 01 &
02
Cross Valley Water Dist.

Dallesport Water Dist.
Diamond Lake Water & Sewer Dist.
Douglas Co. Sewer Dist. 01
East Columbia Basin Irrigation Dist.
East Spokane Water Dist. 01
East Wenatchee Water Dist.
Eastsound Sewer & Water Dist.
Fall City Water Dist.
Franklin Co. Irrigation Dist. 01
Gardena Farms Irrigation Dist. 13
Glacier Water Dist.
Grays Harbor Co. Water Dist. 01
Greater Wenatchee Irrigation Dist.
Highland Irrigation Dist.
Highline Water Dist.
Holmes Harbor Sewer Dist.
Icicle Irrigation Dist.
Irvin Water Dist. 06
Kennewick Irrigation Dist.
King Co. Water Dist. 19, 20, 49, 54, 90, 119 & 125
Kiona Irrigation Dist.
Kittitas Reclamation Dist.
Lake Chelan Reclamation Dist.
Lake Forest Park Water Dist.
Lake Meridian Water District
Lake Stevens Sewer Dist.
Lake Whatcom Water & Sewer Dist.
Lakehaven Water & Sewer Dist.
Lakewood Water Dist.
Loon Lake Sewer Dist. 04
Lopez Solid Waste Disposal Dist.
LOTT Clean Water Alliance
Malaga Water Dist.
Manchester Water Dist.
Midway Sewer Dist.
Moab Irrigation Dist. 20
Model Irrigation Dist. 18
Moses Lake Irrigation & Rehabilitation Dist.
Mukilteo Water & Wastewater Dist.
Naches-Selah Irrigation Dist.
NE Sammamish Sewer & Water Dist.

Employers Covered by DRS-Administered Retirement Systems (cont.)

As of June 30, 2019 — Page 8 of 16

Irrigation, Sewer and Water Districts (cont.)

North City Water Dist.
North Beach Water Dist.
North Perry Ave. Water Dist.
North Spokane Irrigation Dist. 08
Northshore Utility Dist.
Okanogan Irrigation Dist.
Olympic View Water Dist.
Orchard Ave. Irrigation Dist.
Oroville-Tonasket Irrigation Dist.
Pasadena Park Irrigation Dist. 17
Point Roberts Water Dist. 04
Quincy-Columbia Basin Irrigation Dist.
Roza Irrigation Dist.
Sacheen Lake Sewer & Water Dist.
Samish Water Dist.
Sammamish Plateau Water & Sewer Dist.
Seaview Sewer Dist.
Selah-Moxee Irrigation Dist.
Silver Lake Water Dist.
Silverdale Water Dist. 16
Skyway Water & Sewer Dist.
Snoqualmie Pass Utility District
Snoqualmie Valley Watershed Improvement Dist.
Soos Creek Water & Sewer Dist.
South Columbia Basin Irrigation Dist.
South Kitsap Water Reclamation Facility
Spokane Co. Water Dist. 03
Stemilt Irrigation Dist.
Stevens Pass Sewer Dist.
Sunland Water Dist.
Sunnyside Valley Irrigation Dist.
SW Suburban Sewer Dist.
Terrace Heights Sewer Dist.
Three Rivers Regional Wastewater Auth.
Trentwood Irrigation Dist. 03
Valley View Sewer Dist.
Valley Water Dist.
Vera Water & Power
Walla Walla Watershed Management
Wenatchee Reclamation Dist.
Whatcom Co. Water Dist. 02 & 07

Whitestone Reclamation Dist.
Whitworth Water Dist. 2
Willapa Valley Water Dist.
Woodinville Water Dist.
Yakima-Tieton Irrigation Dist.

Libraries, Library Districts

Asotin Co. Library Dist.
Central Skagit Rural Library Dist.
Columbia Co. Rural Library Dist.
Fort Vancouver Regional Library
Jefferson Co. Rural Library Dist.
King Co. Law Library
King Co. Rural Library Dist.
Kitsap Co. Rural Library Dist.
La Conner Regional Library
Lopez Island Library Dist.
Mid-Columbia Library
North Central Regional Library
North Olympic Library System
Orcas Island Library Dist.
Pend Oreille Co. Library Dist.
Pierce Co. Rural Library Dist.
San Juan Island Co. Library
Sno-Isle Regional Library
Spokane Co. Law Library
Spokane Co. Library Dist.
Stevens Co. Rural Library
Timberland Regional Library
Upper Skagit Library Dist.
Walla Walla Co. Rural Library Dist.
Whatcom Co. Rural Library Dist.
Whitman Co. Rural Library
Yakima Valley Regional Library

Mosquito Districts

Adams Co. Mosquito Dist.
Benton Co. Mosquito Control Dist.
Columbia Mosquito Control Dist.
Franklin Co. Mosquito Control Dist.
Yakima Co. Mosquito Control Dist.

Employers Covered by DRS-Administered Retirement Systems (cont.)

As of June 30, 2019 — Page 9 of 16

Parks and Recreation Districts

Bainbridge Island Metro Parks & Recreation Dist
Eastmont Metropolitan Parks Dist.
Fidalgo Pool & Fitness Center
Key Peninsula Metro Park Dist.
Manson Parks & Recreation Dist.
Metropolitan Park Dist. of Tacoma
Peninsula Metropolitan Park Dist.
San Juan Island Park & Recreation Dist.
Si View Metropolitan Park Dist.
South Whidbey Parks & Recreation Dist.
Vashon-Maury Island Parks & Recreation Dist.

Ports

Allyn
Anacortes
Bellingham
Benton
Bremerton
Brownsville
Camas-Washougal
Centralia
Chehalis
Chelan Co.
Clarkston
Columbia
Douglas Co.
Edmonds
Everett
Friday Harbor
Garfield Co.
Grant Co. 01, 02, 03, 09 & 10
Grays Harbor
Ilwaco
Kalama
Kennewick
Kingston
Klickitat
Longview
Olympia
Orcas
Othello

Pasco
Peninsula
Port Angeles
Port Townsend
Ridgefield
Seattle
Shelton
Skagit Co.
Skamania Co.
Sunnyside
Tacoma
Vancouver
Wahkiakum Co. 01
Walla Walla
Whitman Co.
Willapa Harbor
Woodland

Public Facility Districts

Asotin Co. Public Facilities Dist.
Edmonds Public Facilities Dist.
Lynnwood Public Facilities Dist.
Public Stadium Auth.
Spokane Public Facility Dist.

Public Health

Asotin Co. Health Dist.
Benton-Franklin Health Dist.
Chelan-Douglas Health Dist.
Garfield Co. Health Dist.
Grant Co. Health Dist.
Great Rivers Behavioral Health Organization
Greater Columbia Behavioral Health
Kitsap Public Health Dist.
NE Tricounty Health Dist.
North Sound Regional Support Network
Okanogan Co. Health Dist.
Snohomish Health Dist.
Spokane Regional Health Dist.
Thurston-Mason Behavioral Health
Yakima Co. Health Dist.

Employers Covered by DRS-Administered Retirement Systems (cont.)

As of June 30, 2019 — Page 10 of 16

Public Hospital Districts

Benton Co. Public Hospital Dist. 1
Chelan Co. Public Hospital Dist. 1 & 2
Clallam Co. Public Hospital Dist. 1
Kittitas Co. Public Hospital Dist. 2
San Juan Co. Public Hospital Dist. 1
Skamania Co. Public Hospital Dist. 1
Whidbey Island Public Hospital Dist.

Public Utility Districts

Asotin Co. PUD 01
Benton Co. PUD 01
Chelan Co. PUD 01
Clallam Co. PUD 01
Clark Co. PUD
Columbia Basin Hydropower
Cowlitz Co. PUD 01
Douglas Co. PUD 01
Energy Northwest
Ferry Co. PUD 01
Franklin Co. Public Works 01
Franklin Co. PUD
Grant Co. Public Works
Grant Co. PUD 02
Grays Harbor Co. PUD 01
Jefferson Co. PUD 01
Kitsap Co. PUD 01
Kittitas Co. PUD 01
Klickitat Co. PUD 01
Lewis Co. PUD 01
Mason Co. PUD 01 & 03
Okanogan Co. PUD 01
Pacific Co. PUD 02
Pend Oreille Co. PUD 01
Skagit Co. PUD 01
Skamania Co. PUD 01
Snohomish Co. PUD 01
Stevens Co. PUD
Thurston Co. PUD 01
Wahkiakum Co. PUD 01
West Sound Utility Dist.

Road Departments

Chelan Co. Roads
Lincoln Co. Highway Dept.

School Districts

Aberdeen
Adna
Almira
Anacortes
Arlington
Asotin Anatone
Auburn
Bainbridge Island
Battle Ground
Bellevue
Bellingham
Benge
Bethel
Bickleton
Blaine
Boistfort
Bremerton
Brewster
Bridgeport
Brinnon
Burlington-Edison
Camas
Cape Flattery
Carbonado Historical
Cascade
Cashmere
Castle Rock
Centerville
Central Kitsap
Central Valley
Centralia
Chehalis
Cheney
Chewelah
Chimacum

Employers Covered by DRS-Administered Retirement Systems (cont.)

As of June 30, 2019 — Page 11 of 16

School Districts (cont.)	
Clarkston	Evergreen (Stevens Co.)
Cle Elum-Roslyn	Federal Way
Clover Park	Ferndale
Colfax	Fife
College Place	Finley
Colton	Franklin Pierce
Columbia (Stevens Co.)	Freeman
Columbia (Walla Walla Co.)	Garfield
Colville	Glenwood
Concrete	Goldendale
Conway	Grand Coulee Dam
Cosmopolis	Grandview
Coulee Hartline	Granger
Coupeville	Granite Falls
Crescent	Grapeview
Creston	Great Northern
Curlew	Green Mountain
Cusick	Griffin
Damman	Harrington
Darrington	Highland
Davenport	Highline
Dayton	Hockinson
Deer Park	Hood Canal
Dieringer	Hoquiam
Dixie	Inchelium
East Valley (Spokane Co.)	Index
East Valley (Yakima Co.)	Issaquah
Eastmont	Kahlotus
Easton	Kalama
Eatonville	Keller
Edmonds	Kelso
Ellensburg	Kennewick
Elma	Kent
Endicott	Kettle Falls
Entiat	Kiona-Benton City
Enumclaw	Kittitas
Ephrata	Klickitat
Evaline	La Center
Everett	La Conner
Evergreen (Clark Co.)	LaCrosse
	Lake Chelan
	Lake Stevens

Employers Covered by DRS-Administered Retirement Systems (cont.)

As of June 30, 2019 — Page 12 of 16

School Districts (cont.)	
Lake Washington	North Franklin
Lakewood	North Kitsap
Lamont	North Mason
Liberty	North River
Lind	North Thurston
Longview	Northport
Loon Lake	Northshore
Lopez Island	Oak Harbor
Lyle	Oakesdale
Lynden	Oakville
Mabton	Ocean Beach
Mansfield	Ocosta
Manson	Odessa
Mary M. Knight	Okanogan
Mary Walker	Olympia
Marysville	Omak
McCleary	Onalaska
Mead	Onion Creek
Medical Lake	Orcas Island
Mercer Island	Orchard Prairie
Meridian	Orient
Methow Valley	Orondo
Mill A	Oroville
Monroe	Orting
Montesano	Othello
Morton	Palisades
Moses Lake	Palouse
Mossyrock	Pasco
Mount Adams	Pateros
Mount Baker	Paterson
Mount Pleasant	Pe Ell
Mount Vernon	Peninsula
Mukilteo	Pioneer
Naches Valley	Pomeroy
Napavine	Port Angeles
Naselle-Grays River Valley	Port Townsend
Nespelem	Prescott
Newport	Prosser
Nine Mile Falls	Pullman
Nooksack Valley	Puyallup
North Beach	Queets-Clearwater
	Quilcene
	Quillayute

Employers Covered by DRS-Administered Retirement Systems (cont.)

As of June 30, 2019 — Page 13 of 16

School Districts (cont.)	
Quinault Lake	Stehekin
Quincy	Steilacoom Historical
Rainier	Steptoe
Raymond	Stevenson-Carson
Reardan-Edwall	Sultan
Renton	Summit
Republic	Sumner
Richland	Sunnyside
Ridgefield	Tacoma
Ritzville	Taholah
Riverside	Tahoma
Riverview	Tekoa
Rochester	Tenino
Roosevelt	Thorp
Rosalia	Toledo
Royal	Tonasket
Saint John	Toppenish
San Juan Island	Touchet
Satsop	Toutle Lake
Seattle	Trout Lake
Sedro-Woolley	Tukwila
Selah	Tumwater
Selkirk	Union Gap
Sequim	University Place
Shaw Island	Valley
Shelton	Vancouver
Shoreline	Vashon Island
Skamania	Wahkiakum
Skykomish	Wahluke
Snohomish	Waitsburg
Snoqualmie Valley	Walla Walla
Soap Lake	Wapato
South Bend	Warden Jr. Consolidated
South Kitsap	Washougal
South Whidbey	Washtucna
Southside	Waterville
Spokane	Wellpinit
Sprague	Wenatchee
Stanwood-Camano	West Valley (Spokane Co.)
Star	West Valley (Yakima Co.)
Starbuck	White Pass
	White River
	White Salmon

Employers Covered by DRS-Administered Retirement Systems (cont.)

As of June 30, 2019 — Page 14 of 16

School Districts (cont.)

Wilbur
Willapa Valley
Wilson Creek
Winlock
Wishkah Valley
Wishram
Woodland
Yakima
Yelm
Zillah

Transportation Authorities, Transportation Districts

Asotin Co. P.T.B.A.
Ben Franklin Transit
Chelan-Douglas P.T.B.A.
Chelan-Douglas Transportation Council
Clallam Co. P.T.B.A.
Clark Co. P.T.B.A.
Columbia Co. Transportation Auth.
Garfield Co. Transportation Auth.
Grant Co. P.T.B.A.
Grays Harbor Transportation Auth.
Island Co. P.T.B.A.
Jefferson Transit Auth.
Kitsap Co. P.T.B.A.
Lewis P.T.B.A.
Mason Co. P.T.B.A.
Okanogan Co. Transit Auth.
Pacific Transit System
Pierce Co. P.T.B.A.
Snohomish Co. P.T.B.A.
Spokane Regional Transportation Council
Spokane Transit Auth.
SW WA Regional Transportation Council
Thurston Co. P.T.B.A.
Valley Transit
Whatcom Transportation Auth.

Weed Control Districts

Benton Co. Noxious Weed Control Board
Grant Co. Noxious Weed Board
Grant Co. Weed Dist. 1 & 3
Pierce Co. Noxious Weed Board
Spokane Co. Noxious Weed Control Board

Other

Other Government Entities

Housing Authorities Risk Retention Pool
Lower Columbia Fish Recovery Board
Northwest Seaport Alliance Port Development Auth.
School Information Processing Cooperative
South Correctional Entity
Tacoma-Pierce Co. Employment & Training Consortium
Yakima Valley Conference of Governments

State Entities

State Agencies

Administrative Office of the Courts
Archaeology-Historic Preservation
Board for Volunteer Firefighters
Board of Industrial Insurance Appeals
Board of Tax Appeals
Child Study & Treatment Center
Civil Legal Aid
Consolidated Support Services
Consolidated Technology Services
County Road Administration Board
Court of Appeals
Dept. of Agriculture
Dept. of Children, Youth & Families
Dept. of Commerce
Dept. of Corrections
Dept. of Ecology
Dept. of Employment Security
Dept. of Enterprise Services
Dept. of Financial Institutions
Dept. of Fish & Wildlife
Dept. of Health

Employers Covered by DRS-Administered Retirement Systems (cont.)

As of June 30, 2019 — Page 15 of 16

State Agencies (cont.)

Dept. of Labor & Industries
Dept. of Licensing
Dept. of Natural Resources
Dept. of Retirement Systems
Dept. of Revenue
Dept. of Services for the Blind
Dept. of Social & Health Services (8)
Dept. of Transportation
Dept. of Veterans Affairs
Eastern State Hospital
Eastern WA State Historical Society
Echo Glen Children's Center
Economic Development Finance Auth.
Environmental & Land Use Hearings Office
Fircrest School
Green Hill School
Health Care Facilities Auth.
House of Representatives
Indian Advisory Council
Joint Legislative Audit & Review Committee
Joint Legislative Systems Committee
Joint Transportation Committee
Lakeland Village
Law Library
LEAP Committee
LEOFF Plan 2 Retirement Board
Liquor & Cannabis Board
Military Dept.
Naselle Youth Camp
Office of Administrative Hearings
Office of Financial Management
Office of Forecast Council
Office of Legislative Support Services
Office of Minority & Women's Business Enterprises
Office of Public Defense
Office of the Attorney General
Office of the Governor
Office of the Insurance Commissioner
Office of the Lieutenant Governor
Office of the Secretary of State
Office of the State Actuary

Office of the State Auditor
Office of the State Treasurer
Puget Sound Partnership
Rainier School
Recreation & Conservation Office
Senate
Special Commitment Center
State Board for Community & Technical Colleges
State Board of Accountancy
Statute Law Committee
Student Achievement Council
Superintendent of Public Instruction
Supreme Court
Transportation Improvement Board
Veterans Home — Spokane
Veterans Home — Walla Walla
WA Pollution Liability Insurance Agency
WA Soldiers Home & Colony
WA State Bar Association
WA State Caseload Forecast Council
WA State Ferries
WA State Health Care Auth.
WA State Historical Society
WA State Investment Board
WA State Patrol
WA State School Directors' Association
WA State School for the Blind
WA State School for the Deaf
WA Veterans Home
Western State Hospital
Workforce Training & Education Coordinating Board
Yakima Valley School

State Commissions

African-American Affairs
Apple
Arts
Asian American Affairs
Beef
Columbia River Gorge
Conservation
Criminal Justice Training
Dairy Products

Employers Covered by DRS-Administered Retirement Systems (cont.)

As of June 30, 2019 — Page 16 of 16

State Commissions (cont.)

Fruit
Gambling
Grain
Hispanic Affairs
Hop
Horse Racing
Housing Finance
Human Rights
Judicial Conduct
Lottery
Parks & Recreation
Potato
Public Disclosure
Public Employment Relations
Puget Sound Pilotage
Salaries for Elected Officials
Traffic Safety
Tree Fruit Research
Utilities & Transportation
Wine

Technical Colleges, Community Colleges

Bates Technical College
Bellevue Community College
Bellingham Technical College
Big Bend Community College
Cascadia College
Centralia College
Clark Community College
Clover Park Technical College
Columbia Basin Community College
Edmonds Community College
Everett Community College
Grays Harbor College
Green River College
Highline Community College
Lake Washington Institute of Technology
Lower Columbia Community College
Olympic College
Peninsula College
Pierce College

Renton Technical College
Seattle Community College
Shoreline Community College
Skagit Valley College
South Puget Sound Community College
Spokane Community College
Tacoma Community College
Walla Walla Community College
Wenatchee Valley College
Whatcom Community College
Yakima Valley College

Universities

Central Washington University
Eastern Washington University
Evergreen State College, The
University of Washington
Washington State University
Western Washington University

Schedules of Benefit Recipients by Type of Benefit

PERS Plan 1

For the 12 Months Ended June 30, 2018

Monthly Benefit Amount	Number of Retirees	Retirement Type				Option Selected ¹			
		Service	Duty Disability	Nonduty Disability	Survivor Payment	1 Life	2 100%	3 50%	4 66%
\$ 0-500 ²	2,895	2,209	5	130	551	1,898	648	312	37
501-1,000	6,595	4,556	3	268	1,768	3,924	1,450	1,080	141
1,001-1,500	6,797	5,109	2	231	1,455	4,079	1,550	959	209
1,501-2,000	9,413	8,423	—	131	859	6,548	1,641	927	297
2,001-2,500	7,017	6,592	—	25	400	4,708	1,191	782	336
2,501-3,000	5,023	4,802	—	11	210	3,310	807	621	285
3,001-3,500	3,352	3,245	—	5	102	2,231	459	404	258
3,501-4,000	2,220	2,169	—	—	51	1,421	364	269	166
4,001+	3,568	3,496	—	1	71	2,060	569	523	416
Totals	46,880	40,601	10	802	5,467	30,179	8,679	5,877	2,145

¹ **1 (Life):** Retiree's lifetime; **2 (100%):** Beneficiary receives same monthly benefit for life; **3 (50%):** Beneficiary receives half the monthly benefit for life; or **4 (66%):** Beneficiary receives two-thirds the monthly benefit for life

² Includes L&I holdoffs

PERS Plan 2

For the 12 Months Ended June 30, 2018

Monthly Benefit Amount	Number of Retirees	Retirement Type				Option Selected ¹			
		Service	Duty Disability	Nonduty Disability	Survivor Payment	1 Life	2 100%	3 50%	4 66%
\$ 0-500	8,862	6,791	—	1,016	1,055	5,968	2,167	523	204
501-1,000	10,524	8,777	—	621	1,126	6,688	2,619	811	406
1,001-1,500	9,076	8,353	—	191	532	5,854	1,928	879	415
1,501-2,000	6,595	6,300	—	41	254	4,348	1,142	754	351
2,001-2,500	4,772	4,626	—	14	132	2,994	812	640	326
2,501-3,000	3,406	3,328	—	8	70	2,120	515	517	254
3,001-3,500	2,425	2,390	—	3	32	1,506	340	359	220
3,501-4,000	1,566	1,545	—	4	17	970	217	243	136
4,001+	3,438	3,410	—	2	26	2,112	396	611	319
Totals	50,664	45,520	—	1,900	3,244	32,560	10,136	5,337	2,631

¹ **1 (Life):** Retiree's lifetime; **2 (100%):** Beneficiary receives same monthly benefit for life; **3 (50%):** Beneficiary receives half the monthly benefit for life; or **4 (66%):** Beneficiary receives two-thirds the monthly benefit for life

Schedules of Benefit Recipients by Type of Benefit (cont.)

PERS Plan 3

For the 12 Months Ended June 30, 2018

Monthly Benefit Amount	Number of Retirees	Retirement Type				Option Selected ¹			
		Service	Duty Disability	Nonduty Disability	Survivor Payment	1 Life	2 100%	3 50%	4 66%
\$ 0-500	1,723	1,466	—	75	182	1,093	478	100	52
501-1,000	1,437	1,353	—	12	72	917	326	136	58
1,001-1,500	817	800	—	1	16	517	156	93	51
1,501-2,000	527	521	—	1	5	336	88	57	46
2,001-2,500	260	257	—	—	3	167	42	33	18
2,501-3,000	123	122	—	—	1	71	14	23	15
3,001-3,500	52	52	—	—	—	39	7	4	2
3,501-4,000	12	12	—	—	—	6	1	4	1
4,001+	14	14	—	—	—	10	—	2	2
Totals	4,965	4,597	—	89	279	3,156	1,112	452	245

¹ **1 (Life):** Retiree's lifetime; **2 (100%):** Beneficiary receives same monthly benefit for life; **3 (50%):** Beneficiary receives half the monthly benefit for life; or **4 (66%):** Beneficiary receives two-thirds the monthly benefit for life

SERS Plan 2

For the 12 Months Ended June 30, 2018

Monthly Benefit Amount	Number of Retirees	Retirement Type				Option Selected ¹			
		Service	Duty Disability	Nonduty Disability	Survivor Payment	1 Life	2 100%	3 50%	4 66%
\$ 0-500	3,014	2,606	—	195	213	2,161	639	142	72
501-1,000	3,171	2,973	—	61	137	2,335	546	207	83
1,001-1,500	1,585	1,522	—	6	57	1,114	233	158	80
1,501-2,000	710	700	—	2	8	519	98	72	21
2,001-2,500	310	306	—	1	3	217	32	45	16
2,501-3,000	182	180	—	—	2	136	17	24	5
3,001-3,500	70	69	—	—	1	48	9	6	7
3,501-4,000	39	39	—	—	—	31	3	4	1
4,001+	76	76	—	—	—	52	4	13	7
Totals	9,157	8,471	—	265	421	6,613	1,581	671	292

¹ **1 (Life):** Retiree's lifetime; **2 (100%):** Beneficiary receives same monthly benefit for life; **3 (50%):** Beneficiary receives half the monthly benefit for life; or **4 (66%):** Beneficiary receives two-thirds the monthly benefit for life

Schedules of Benefit Recipients by Type of Benefit (cont.)

SERS Plan 3

For the 12 Months Ended June 30, 2018

Monthly Benefit Amount	Number of Retirees	Retirement Type				Option Selected ¹			
		Service	Duty Disability	Nonduty Disability	Survivor Payment	1 Life	2 100%	3 50%	4 66%
\$ 0-500	5,661	5,302	—	84	275	4,067	1,201	271	122
501-1,000	2,338	2,279	—	7	52	1,677	376	206	79
1,001-1,500	597	589	—	1	7	419	90	64	24
1,501-2,000	172	172	—	—	—	131	15	15	11
2,001-2,500	51	50	—	—	1	31	12	7	1
2,501-3,000	15	15	—	—	—	12	2	—	1
3,001-3,500	8	8	—	—	—	7	—	1	—
3,501-4,000	5	5	—	—	—	3	1	1	—
4,001+	3	3	—	—	—	3	—	—	—
Totals	8,850	8,423	—	92	335	6,350	1,697	565	238

¹ **1 (Life):** Retiree's lifetime; **2 (100%):** Beneficiary receives same monthly benefit for life; **3 (50%):** Beneficiary receives half the monthly benefit for life; or **4 (66%):** Beneficiary receives two-thirds the monthly benefit for life

PSERS Plan 2

For the 12 Months Ended June 30, 2018

Monthly Benefit Amount	Number of Retirees	Retirement Type				Option Selected ¹			
		Service	Duty Disability	Nonduty Disability	Survivor Payment	1 Life	2 100%	3 50%	4 66%
\$ 0-500	64	47	—	10	7	38	19	2	5
501-1,000	96	90	—	5	1	65	19	7	5
1,001-1,500	51	50	—	1	—	37	9	5	—
1,501-2,000	16	16	—	—	—	11	2	2	1
2,001-2,500	4	4	—	—	—	3	—	1	—
2,501-3,000	—	—	—	—	—	—	—	—	—
3,001-3,500	—	—	—	—	—	—	—	—	—
3,501-4,000	—	—	—	—	—	—	—	—	—
4,001+	—	—	—	—	—	—	—	—	—
Totals	231	207	—	16	8	154	49	17	11

¹ **1 (Life):** Retiree's lifetime; **2 (100%):** Beneficiary receives same monthly benefit for life; **3 (50%):** Beneficiary receives half the monthly benefit for life; or **4 (66%):** Beneficiary receives two-thirds the monthly benefit for life

Schedules of Benefit Recipients by Type of Benefit (cont.)

TRS Plan 1

For the 12 Months Ended June 30, 2018

Monthly Benefit Amount	Number of Retirees	Retirement Type				Option Selected ¹			
		Service	Duty Disability	Nonduty Disability	Survivor Payment	1 Life	2 100%	3 50%	4 66%
\$ 0-500	1,185	1,025	—	23	137	815	277	74	19
501-1,000	2,516	1,671	—	94	751	1,347	529	593	47
1,001-1,500	3,162	2,229	—	119	814	1,502	966	562	132
1,501-2,000	8,874	8,095	—	170	609	5,982	1,773	818	301
2,001-2,500	7,025	6,681	—	53	291	4,779	1,245	715	286
2,501-3,000	4,371	4,226	—	18	127	2,679	907	519	266
3,001-3,500	2,954	2,901	—	2	51	1,764	614	359	217
3,501-4,000	1,611	1,580	—	2	29	953	338	200	120
4,001+	1,687	1,655	—	3	29	959	336	242	150
Totals	33,385	30,063	—	484	2,838	20,780	6,985	4,082	1,538

¹ **1 (Life):** Retiree's lifetime; **2 (100%):** Beneficiary receives same monthly benefit for life; **3 (50%):** Beneficiary receives half the monthly benefit for life; or **4 (66%):** Beneficiary receives two-thirds the monthly benefit for life

TRS Plan 2

For the 12 Months Ended June 30, 2018

Monthly Benefit Amount	Number of Retirees	Retirement Type				Option Selected ¹			
		Service	Duty Disability	Nonduty Disability	Survivor Payment	1 Life	2 100%	3 50%	4 66%
\$ 0-500	567	503	—	27	37	393	131	32	11
501-1,000	826	709	—	31	86	533	189	63	41
1,001-1,500	717	662	—	16	39	472	147	54	44
1,501-2,000	786	746	—	5	35	500	154	77	55
2,001-2,500	790	778	—	2	10	509	128	101	52
2,501-3,000	630	622	—	1	7	428	99	67	36
3,001-3,500	462	459	—	—	3	308	70	50	34
3,501-4,000	309	304	—	—	5	221	27	38	23
4,001+	349	347	—	—	2	264	31	38	16
Totals	5,436	5,130	—	82	224	3,628	976	520	312

¹ **1 (Life):** Retiree's lifetime; **2 (100%):** Beneficiary receives same monthly benefit for life; **3 (50%):** Beneficiary receives half the monthly benefit for life; or **4 (66%):** Beneficiary receives two-thirds the monthly benefit for life

Schedules of Benefit Recipients by Type of Benefit (cont.)

TRS Plan 3

For the 12 Months Ended June 30, 2018

Monthly Benefit Amount	Number of Retirees	Retirement Type				Option Selected ¹			
		Service	Duty Disability	Nonduty Disability	Survivor Payment	1 Life	2 100%	3 50%	4 66%
\$ 0-500	2,201	1,854	—	77	270	1,414	621	104	62
501-1,000	3,046	2,893	—	14	139	2,035	652	236	123
1,001-1,500	2,757	2,705	—	2	50	1,679	599	302	177
1,501-2,000	2,351	2,330	—	1	20	1,511	386	289	165
2,001-2,500	1,110	1,104	—	—	6	805	133	115	57
2,501-3,000	306	302	—	—	4	198	42	44	22
3,001-3,500	94	94	—	—	—	56	9	20	9
3,501-4,000	40	40	—	—	—	32	4	3	1
4,001+	20	20	—	—	—	15	2	3	—
Totals	11,925	11,342	—	94	489	7,745	2,448	1,116	616

¹ **1 (Life):** Retiree's lifetime; **2 (100%):** Beneficiary receives same monthly benefit for life; **3 (50%):** Beneficiary receives half the monthly benefit for life; or **4 (66%):** Beneficiary receives two-thirds the monthly benefit for life

LEOFF Plan 1

For the 12 Months Ended June 30, 2018

Monthly Benefit Amount	Number of Retirees	Retirement Type				Option Selected ¹				
		Service	Duty Disability	Nonduty Disability	Survivor Payment	1 Life	2 ² 100%	3 ² 50%	4 ² 66%	A (Standard)
\$ 0-500	16	12	—	—	4	—	2	—	—	14
501-1,000	38	28	—	—	10	—	1	—	—	37
1,001-1,500	45	27	1	—	17	—	6	1	—	38
1,501-2,000	52	20	2	5	25	—	4	6	4	38
2,001-2,500	195	36	65	32	62	1	44	3	7	140
2,501-3,000	594	86	240	85	183	5	119	10	10	450
3,001-3,500	1,288	164	591	144	389	11	196	21	23	1,037
3,501-4,000	1,489	280	774	74	361	15	93	18	14	1,349
4,001+	3,357	1,747	988	22	600	20	71	19	21	3,226
Totals	7,074	2,400	2,661	362	1,651	52	536	78	79	6,329

¹ **1 (Life):** Retiree's lifetime; **2 (100%):** Beneficiary receives same monthly benefit for life; **3 (50%):** Beneficiary receives half the monthly benefit for life; **4 (66%):** Beneficiary receives two-thirds the monthly benefit for life; or **A (Standard):** Standard option, 100% joint and survivor, with additional benefits to eligible children

² Joint and survivor options are available for post-retirement marriages.

Schedules of Benefit Recipients by Type of Benefit (cont.)

LEOFF Plan 2

For the 12 Months Ended June 30, 2018

Monthly Benefit Amount	Number of Retirees	Retirement Type				Option Selected ¹			
		Service	Duty Disability	Nonduty Disability	Survivor Payment	1 Life	2 ² 100%	3 ² 50%	4 ² 66%
\$ 0-500	110	71	13	7	19	55	47	8	—
501-1,000	233	160	27	3	43	101	107	15	10
1,001-1,500	299	229	34	8	28	122	128	26	23
1,501-2,000	304	224	37	8	35	116	141	25	22
2,001-2,500	355	293	32	5	25	131	149	42	33
2,501-3,000	399	332	40	4	23	147	162	50	40
3,001-3,500	513	446	40	4	23	214	172	79	48
3,501-4,000	528	472	33	9	14	218	167	75	68
4,001+	2,695	2,506	129	13	47	1,174	669	448	404
Totals	5,436	4,733	385	61	257	2,278	1,742	768	648

¹ **1 (Life):** Retiree's lifetime; **2 (100%):** Beneficiary receives same monthly benefit for life; **3 (50%):** Beneficiary receives half the monthly benefit for life; or **4 (66%):** Beneficiary receives two-thirds the monthly benefit for life

² Joint and survivor options are available for post-retirement marriages.

WSPRS Plan 1

For the 12 Months Ended June 30, 2018

Monthly Benefit Amount	Number of Retirees	Retirement Type				Option Selected ¹		
		Service	Duty Disability	Nonduty Disability	Survivor Payment	A	B	Life
\$ 0-500	4	4	—	—	—	2	2	—
501-1,000	12	7	—	—	5	7	5	—
1,001-1,500	17	5	—	—	12	15	2	—
1,501-2,000	30	12	—	—	18	26	4	—
2,001-2,500	32	9	—	—	23	25	7	—
2,501-3,000	39	11	—	—	28	33	6	—
3,001-3,500	99	71	—	—	28	37	60	2
3,501-4,000	182	153	—	—	29	72	108	2
4,001+	721	689	—	—	32	319	386	16
Totals	1,136	961	—	—	175	536	580	20

¹ **A:** 100% joint and survivor, with initial pension equal to the lesser of 50% AFC and 100% member's accrued benefit; **B:** 100% joint and survivor, with initial pension being the actuarial equivalent of the single-life annuity — this option is available for post-retirement marriages; or **Life:** Single-life annuity, joint annuitant removed post-retirement

Schedules of Benefit Recipients by Type of Benefit (cont.)

JRS

For the 12 Months Ended June 30, 2018

Monthly Benefit Amount	Number of Retirees	Retirement Type				Option Selected ¹				
		Service	Duty Disability	Nonduty Disability	Survivor Payment	1 Life	2 ² 100%	3 ² 50%	4 ² 66%	A (Standard)
\$ 0-500	—	—	—	—	—	—	—	—	—	—
501-1,000	—	—	—	—	—	—	—	—	—	—
1,001-1,500	—	—	—	—	—	—	—	—	—	—
1,501-2,000	—	—	—	—	—	—	—	—	—	—
2,001-2,500	—	—	—	—	—	—	—	—	—	—
2,501-3,000	1	—	—	—	1	—	—	—	—	1
3,001-3,500	2	—	—	—	2	—	—	—	—	2
3,501-4,000	6	—	—	—	6	—	—	—	—	6
4,001+	84	56	—	—	28	—	6	—	1	77
Totals	93	56	—	—	37	—	6	—	1	86

¹ **1 (Life):** Retiree's lifetime; **2 (100%):** Beneficiary receives same monthly benefit for life; **3 (50%):** Beneficiary receives half the monthly benefit for life; **4 (66%):** Beneficiary receives two-thirds the monthly benefit for life; or **A (Standard):** Standard option, 50% joint and survivor, for eligible spouses

² Joint and survivor options are available for post-retirement marriages.

Source: Office of the State Actuary

Schedules of Average Benefit Payments to Service Retirees

PERS Plan 1						
Retirement Effective Dates ¹	Years of Credited Service					
	5-10	11-15	16-20	21-25	26-30	31+
Period 7/1/2017 to 6/30/2018						
Average Monthly Benefit	\$ 560.50	\$ 1,297.16	\$ 1,817.75	\$ 2,162.08	\$ 3,136.94	\$ 3,665.18
Average Final Salary (Monthly)	\$ 3,863.88	\$ 4,388.91	\$ 4,767.00	\$ 4,576.19	\$ 5,685.79	\$ 5,937.14
Number of Active Retirees	111	97	90	91	91	246
Period 7/1/2016 to 6/30/2017						
Average Monthly Benefit	\$ 566.36	\$ 1,296.87	\$ 1,689.20	\$ 2,175.65	\$ 2,936.54	\$ 3,726.31
Average Final Salary (Monthly)	\$ 4,135.31	\$ 4,601.19	\$ 4,512.08	\$ 4,729.62	\$ 5,334.97	\$ 6,038.50
Number of Active Retirees	138	91	96	99	112	283
Period 7/1/2015 to 6/30/2016						
Average Monthly Benefit	\$ 583.78	\$ 1,182.09	\$ 1,503.50	\$ 2,267.38	\$ 2,802.09	\$ 3,537.80
Average Final Salary (Monthly)	\$ 4,315.92	\$ 4,300.77	\$ 4,073.05	\$ 4,801.12	\$ 5,083.25	\$ 5,700.81
Number of Active Retirees	139	96	124	124	136	300
Period 7/1/2014 to 6/30/2015						
Average Monthly Benefit	\$ 479.68	\$ 1,087.93	\$ 1,596.68	\$ 2,134.72	\$ 2,739.83	\$ 3,555.06
Average Final Salary (Monthly)	\$ 3,853.94	\$ 4,104.79	\$ 4,283.15	\$ 4,644.25	\$ 4,975.68	\$ 5,707.66
Number of Active Retirees	175	121	137	156	143	343
Period 7/1/2013 to 6/30/2014						
Average Monthly Benefit	\$ 528.85	\$ 1,112.60	\$ 1,690.84	\$ 2,097.07	\$ 2,838.69	\$ 3,414.25
Average Final Salary (Monthly)	\$ 4,065.76	\$ 3,942.11	\$ 4,645.48	\$ 4,592.51	\$ 5,163.22	\$ 5,511.91
Number of Active Retirees	163	98	127	173	165	377
Period 7/1/2012 to 6/30/2013						
Average Monthly Benefit	\$ 517.46	\$ 1,039.77	\$ 1,830.73	\$ 2,210.82	\$ 2,944.52	\$ 3,496.40
Average Final Salary (Monthly)	\$ 4,096.87	\$ 4,051.23	\$ 4,622.29	\$ 4,716.57	\$ 5,296.58	\$ 5,653.00
Number of Active Retirees	188	113	139	169	180	420
Period 7/1/2011 to 6/30/2012						
Average Monthly Benefit	\$ 542.78	\$ 1,027.23	\$ 1,523.69	\$ 2,158.86	\$ 3,070.71	\$ 3,387.70
Average Final Salary (Monthly)	\$ 4,003.50	\$ 3,927.11	\$ 4,023.64	\$ 4,625.35	\$ 5,559.31	\$ 5,635.18
Number of Active Retirees	160	145	125	187	198	474
Period 7/1/2010 to 6/30/2011						
Average Monthly Benefit	\$ 437.37	\$ 1,018.91	\$ 1,636.44	\$ 2,316.51	\$ 3,120.62	\$ 3,438.97
Average Final Salary (Monthly)	\$ 3,781.19	\$ 3,960.69	\$ 4,554.22	\$ 5,012.80	\$ 5,735.43	\$ 5,673.74
Number of Active Retirees	162	111	143	188	261	585
Period 7/1/2009 to 6/30/2010						
Average Monthly Benefit	\$ 456.42	\$ 1,100.41	\$ 1,426.42	\$ 2,003.96	\$ 2,931.01	\$ 3,388.27
Average Final Salary (Monthly)	\$ 3,755.10	\$ 4,211.26	\$ 4,053.07	\$ 4,439.81	\$ 5,328.15	\$ 5,679.56
Number of Active Retirees	158	126	169	215	228	596
Period 7/1/2008 to 6/30/2009						
Average Monthly Benefit	\$ 496.59	\$ 943.47	\$ 1,430.86	\$ 2,171.94	\$ 2,965.90	\$ 3,381.04
Average Final Salary (Monthly)	\$ 3,983.17	\$ 3,711.90	\$ 4,081.31	\$ 4,766.33	\$ 5,372.21	\$ 5,660.85
Number of Active Retirees	143	122	160	182	263	590

¹ Average monthly benefit and average final salary (monthly) figures include members at retirement who might not be audited. Retirees with missing or invalid data elements were excluded.

Schedules of Average Benefit Payments to Service Retirees (cont.)

PERS Plan 2		Years of Credited Service					
Retirement Effective Dates¹		5-10	11-15	16-20	21-25	26-30	31+
Period 7/1/2017 to 6/30/2018							
Average Monthly Benefit	\$	539.87	1,218.08	1,745.07	2,267.85	2,988.11	4,066.61
Average Final Salary (Monthly)	\$	4,526.59	4,791.79	5,156.78	5,612.51	5,878.86	6,458.35
Number of Active Retirees		1,052	641	760	678	808	865
Period 7/1/2016 to 6/30/2017							
Average Monthly Benefit	\$	581.41	1,181.59	1,733.89	2,276.96	3,020.26	3,908.33
Average Final Salary (Monthly)	\$	4,358.09	4,674.83	5,167.16	5,605.12	5,967.50	6,258.90
Number of Active Retirees		888	644	690	698	785	776
Period 7/1/2015 to 6/30/2016							
Average Monthly Benefit	\$	520.94	1,161.40	1,705.85	2,141.31	2,884.22	3,708.40
Average Final Salary (Monthly)	\$	4,171.09	4,586.29	5,046.10	5,352.40	5,663.64	6,084.77
Number of Active Retirees		909	602	668	736	715	703
Period 7/1/2014 to 6/30/2015							
Average Monthly Benefit	\$	541.28	1,150.56	1,673.61	2,133.07	2,844.06	3,591.82
Average Final Salary (Monthly)	\$	4,267.06	4,470.17	5,015.36	5,360.33	5,626.32	5,940.62
Number of Active Retirees		795	612	572	746	695	557
Period 7/1/2013 to 6/30/2014							
Average Monthly Benefit	\$	506.78	1,079.98	1,589.12	1,966.73	2,823.53	3,690.55
Average Final Salary (Monthly)	\$	3,952.36	4,301.58	4,735.08	5,044.72	5,602.89	6,184.80
Number of Active Retirees		852	592	527	777	710	655
Period 7/1/2012 to 6/30/2013							
Average Monthly Benefit	\$	486.05	1,082.39	1,525.94	1,947.79	2,681.87	3,529.08
Average Final Salary (Monthly)	\$	3,934.94	4,373.18	4,574.85	4,996.22	5,328.35	5,938.56
Number of Active Retirees		823	653	544	724	546	492
Period 7/1/2011 to 6/30/2012							
Average Monthly Benefit	\$	480.30	1,074.08	1,491.74	1,869.00	2,561.98	3,266.37
Average Final Salary (Monthly)	\$	3,701.65	4,256.13	4,532.75	4,857.44	5,227.28	5,651.05
Number of Active Retirees		735	556	526	679	446	372
Period 7/1/2010 to 6/30/2011							
Average Monthly Benefit	\$	462.97	957.39	1,570.18	1,779.72	2,645.09	3,149.46
Average Final Salary (Monthly)	\$	3,651.50	3,916.39	4,754.82	4,662.49	5,270.42	5,560.87
Number of Active Retirees		606	420	478	545	523	305
Period 7/1/2009 to 6/30/2010							
Average Monthly Benefit	\$	476.80	891.24	1,407.69	1,646.55	2,529.93	3,002.36
Average Final Salary (Monthly)	\$	3,592.08	3,644.54	4,246.31	4,405.77	5,011.27	5,291.83
Number of Active Retirees		461	403	489	430	435	157
Period 7/1/2008 to 6/30/2009							
Average Monthly Benefit	\$	424.97	952.70	1,323.26	1,620.48	2,440.27	2,885.16
Average Final Salary (Monthly)	\$	3,322.80	3,831.80	4,055.40	4,246.60	4,820.87	5,267.21
Number of Active Retirees		510	331	408	414	409	73

¹ Average monthly benefit and average final salary (monthly) figures include members at retirement who might not be audited. Retirees with missing or invalid data elements were excluded.

Schedules of Average Benefit Payments to Service Retirees (cont.)

Retirement Effective Dates ¹	Years of Credited Service					
	5-10	11-15	16-20	21-25	26-30	31+
Period 7/1/2017 to 6/30/2018						
Average Monthly Benefit	\$ 364.89	\$ 586.32	\$ 908.17	\$ 1,278.47	\$ 1,592.59	\$ 2,073.59
Average Final Salary (Monthly)	\$ 5,142.81	\$ 5,087.86	\$ 5,699.74	\$ 6,255.41	\$ 6,228.58	\$ 6,716.53
Number of Active Retirees	122	137	95	107	132	131
Period 7/1/2016 to 6/30/2017						
Average Monthly Benefit	\$ 330.45	\$ 526.58	\$ 836.35	\$ 1,273.32	\$ 1,392.99	\$ 1,989.98
Average Final Salary (Monthly)	\$ 4,506.75	\$ 4,707.25	\$ 5,164.39	\$ 6,130.21	\$ 5,570.30	\$ 6,571.28
Number of Active Retirees	128	117	73	84	95	94
Period 7/1/2015 to 6/30/2016						
Average Monthly Benefit	\$ 365.39	\$ 499.19	\$ 840.05	\$ 1,225.74	\$ 1,605.33	\$ 2,164.84
Average Final Salary (Monthly)	\$ 4,977.35	\$ 4,631.89	\$ 5,438.66	\$ 5,737.42	\$ 6,439.90	\$ 7,084.10
Number of Active Retirees	108	87	71	81	79	79
Period 7/1/2014 to 6/30/2015						
Average Monthly Benefit	\$ 353.70	\$ 479.36	\$ 768.60	\$ 1,074.86	\$ 1,548.70	\$ 1,788.16
Average Final Salary (Monthly)	\$ 4,664.91	\$ 4,706.12	\$ 4,964.99	\$ 5,480.57	\$ 6,169.68	\$ 6,006.73
Number of Active Retirees	99	96	67	102	96	74
Period 7/1/2013 to 6/30/2014						
Average Monthly Benefit	\$ 326.31	\$ 506.34	\$ 796.50	\$ 1,123.54	\$ 1,383.54	\$ 1,690.94
Average Final Salary (Monthly)	\$ 4,499.32	\$ 4,640.98	\$ 5,090.91	\$ 5,678.77	\$ 5,511.32	\$ 5,758.12
Number of Active Retirees	93	65	69	97	90	78
Period 7/1/2012 to 6/30/2013						
Average Monthly Benefit	\$ 349.56	\$ 464.15	\$ 732.71	\$ 1,079.98	\$ 1,456.36	\$ 1,701.71
Average Final Salary (Monthly)	\$ 4,695.89	\$ 4,418.39	\$ 4,744.94	\$ 5,710.41	\$ 5,865.60	\$ 5,987.62
Number of Active Retirees	84	56	68	67	48	52
Period 7/1/2011 to 6/30/2012						
Average Monthly Benefit	\$ 287.76	\$ 435.93	\$ 704.13	\$ 940.02	\$ 1,415.65	\$ 1,796.37
Average Final Salary (Monthly)	\$ 4,436.89	\$ 4,220.74	\$ 4,816.97	\$ 5,293.55	\$ 5,929.81	\$ 6,378.63
Number of Active Retirees	58	60	61	70	61	37
Period 7/1/2010 to 6/30/2011						
Average Monthly Benefit	\$ 241.09	\$ 404.62	\$ 682.89	\$ 935.99	\$ 1,393.48	\$ 1,664.84
Average Final Salary (Monthly)	\$ 4,045.67	\$ 3,928.43	\$ 4,681.79	\$ 4,828.04	\$ 5,589.99	\$ 6,199.43
Number of Active Retirees	30	45	64	56	49	18
Period 7/1/2009 to 6/30/2010						
Average Monthly Benefit	\$ 206.96	\$ 372.48	\$ 650.80	\$ 898.92	\$ 1,237.32	\$ 1,399.82
Average Final Salary (Monthly)	\$ 3,977.34	\$ 3,840.32	\$ 4,624.96	\$ 4,778.36	\$ 5,284.05	\$ 5,238.95
Number of Active Retirees	14	41	50	40	30	17
Period 7/1/2008 to 6/30/2009						
Average Monthly Benefit	\$ 203.00	\$ 370.16	\$ 590.03	\$ 868.92	\$ 1,140.46	\$ 959.19
Average Final Salary (Monthly)	\$ 3,144.81	\$ 3,813.15	\$ 4,340.40	\$ 5,186.33	\$ 5,312.97	\$ 3,803.49
Number of Active Retirees	22	39	40	38	32	1

¹ Average monthly benefit and average final salary (monthly) figures include members at retirement who might not be audited. Retirees with missing or invalid data elements were excluded.

Schedules of Average Benefit Payments to Service Retirees (cont.)

Retirement Effective Dates ¹	Years of Credited Service					
	5-10	11-15	16-20	21-25	26-30	31+
Period 7/1/2017 to 6/30/2018						
Average Monthly Benefit	\$ 342.37	\$ 589.27	\$ 898.98	\$ 1,159.70	\$ 1,505.41	\$ 2,553.69
Average Final Salary (Monthly)	\$ 2,876.76	\$ 2,386.33	\$ 2,708.65	\$ 2,824.35	\$ 3,072.62	\$ 3,974.50
Number of Active Retirees	242	127	235	209	141	66
Period 7/1/2016 to 6/30/2017						
Average Monthly Benefit	\$ 286.78	\$ 575.64	\$ 861.55	\$ 1,069.13	\$ 1,564.10	\$ 2,582.09
Average Final Salary (Monthly)	\$ 2,382.49	\$ 2,411.30	\$ 2,591.66	\$ 2,696.90	\$ 3,126.67	\$ 4,073.96
Number of Active Retirees	199	119	200	188	135	70
Period 7/1/2015 to 6/30/2016						
Average Monthly Benefit	\$ 279.35	\$ 614.17	\$ 868.70	\$ 1,042.68	\$ 1,530.65	\$ 2,284.69
Average Final Salary (Monthly)	\$ 2,429.88	\$ 2,454.73	\$ 2,618.60	\$ 2,661.27	\$ 3,000.84	\$ 3,649.45
Number of Active Retirees	189	126	192	192	113	57
Period 7/1/2014 to 6/30/2015						
Average Monthly Benefit	\$ 264.55	\$ 561.61	\$ 847.17	\$ 1,037.71	\$ 1,567.41	\$ 2,214.59
Average Final Salary (Monthly)	\$ 2,307.13	\$ 2,212.53	\$ 2,542.82	\$ 2,655.90	\$ 3,162.58	\$ 3,633.35
Number of Active Retirees	138	147	191	185	95	52
Period 7/1/2013 to 6/30/2014						
Average Monthly Benefit	\$ 268.86	\$ 551.46	\$ 859.70	\$ 1,074.79	\$ 1,574.79	\$ 2,109.51
Average Final Salary (Monthly)	\$ 2,311.08	\$ 2,199.65	\$ 2,605.06	\$ 2,729.61	\$ 3,057.53	\$ 3,485.55
Number of Active Retirees	119	142	159	164	97	55
Period 7/1/2012 to 6/30/2013						
Average Monthly Benefit	\$ 295.83	\$ 547.42	\$ 867.06	\$ 984.72	\$ 1,587.72	\$ 2,455.16
Average Final Salary (Monthly)	\$ 2,552.68	\$ 2,277.65	\$ 2,634.94	\$ 2,549.87	\$ 3,178.29	\$ 4,042.17
Number of Active Retirees	109	137	132	151	97	43
Period 7/1/2011 to 6/30/2012						
Average Monthly Benefit	\$ 277.30	\$ 561.49	\$ 773.26	\$ 1,081.18	\$ 1,519.44	\$ 2,026.86
Average Final Salary (Monthly)	\$ 2,044.49	\$ 2,295.27	\$ 2,292.04	\$ 2,755.05	\$ 3,061.83	\$ 3,424.90
Number of Active Retirees	77	141	143	145	79	42
Period 7/1/2010 to 6/30/2011						
Average Monthly Benefit	\$ 325.48	\$ 534.80	\$ 792.65	\$ 980.32	\$ 1,455.60	\$ 2,150.54
Average Final Salary (Monthly)	\$ 2,239.23	\$ 2,126.03	\$ 2,341.99	\$ 2,488.89	\$ 2,963.79	\$ 3,471.57
Number of Active Retirees	83	105	135	95	75	22
Period 7/1/2009 to 6/30/2010						
Average Monthly Benefit	\$ 329.64	\$ 499.38	\$ 697.76	\$ 959.01	\$ 1,466.33	\$ 1,877.92
Average Final Salary (Monthly)	\$ 2,325.81	\$ 2,018.06	\$ 2,147.60	\$ 2,636.97	\$ 2,910.30	\$ 3,246.34
Number of Active Retirees	76	102	94	86	56	18
Period 7/1/2008 to 6/30/2009						
Average Monthly Benefit	\$ 306.14	\$ 490.36	\$ 717.17	\$ 982.85	\$ 1,597.73	\$ 2,427.76
Average Final Salary (Monthly)	\$ 1,974.14	\$ 2,020.86	\$ 2,133.43	\$ 2,542.47	\$ 3,044.62	\$ 3,936.89
Number of Active Retirees	97	91	86	89	47	1

¹ Average monthly benefit and average final salary (monthly) figures include members at retirement who might not be audited. Retirees with missing or invalid data elements were excluded.

Schedules of Average Benefit Payments to Service Retirees (cont.)

Retirement Effective Dates ¹	Years of Credited Service					
	5-10	11-15	16-20	21-25	26-30	31+
Period 7/1/2017 to 6/30/2018						
Average Monthly Benefit	\$ 189.05	\$ 317.65	\$ 451.92	\$ 634.59	\$ 846.02	\$ 1,217.98
Average Final Salary (Monthly)	\$ 2,611.50	\$ 2,792.16	\$ 2,810.28	\$ 3,041.47	\$ 3,305.96	\$ 3,870.44
Number of Active Retirees	136	253	195	213	226	116
Period 7/1/2016 to 6/30/2017						
Average Monthly Benefit	\$ 202.01	\$ 314.03	\$ 444.78	\$ 621.84	\$ 830.58	\$ 1,185.39
Average Final Salary (Monthly)	\$ 2,696.85	\$ 2,664.57	\$ 2,741.98	\$ 2,907.24	\$ 3,267.60	\$ 3,854.85
Number of Active Retirees	153	255	155	210	179	81
Period 7/1/2015 to 6/30/2016						
Average Monthly Benefit	\$ 191.19	\$ 287.54	\$ 353.89	\$ 583.84	\$ 789.54	\$ 1,124.96
Average Final Salary (Monthly)	\$ 2,585.52	\$ 2,495.26	\$ 2,268.22	\$ 2,807.68	\$ 3,147.46	\$ 3,773.25
Number of Active Retirees	142	208	158	236	147	79
Period 7/1/2014 to 6/30/2015						
Average Monthly Benefit	\$ 207.81	\$ 289.89	\$ 424.98	\$ 590.73	\$ 836.68	\$ 1,157.83
Average Final Salary (Monthly)	\$ 2,725.94	\$ 2,583.33	\$ 2,691.20	\$ 2,915.61	\$ 3,323.25	\$ 3,749.84
Number of Active Retirees	136	182	153	241	147	69
Period 7/1/2013 to 6/30/2014						
Average Monthly Benefit	\$ 195.52	\$ 292.50	\$ 434.43	\$ 565.35	\$ 758.22	\$ 1,115.16
Average Final Salary (Monthly)	\$ 2,650.92	\$ 2,682.89	\$ 2,755.34	\$ 2,798.40	\$ 3,080.10	\$ 3,628.01
Number of Active Retirees	126	161	143	200	122	71
Period 7/1/2012 to 6/30/2013						
Average Monthly Benefit	\$ 177.27	\$ 265.79	\$ 355.84	\$ 568.30	\$ 814.29	\$ 1,043.69
Average Final Salary (Monthly)	\$ 2,488.97	\$ 2,326.54	\$ 2,309.34	\$ 2,813.97	\$ 3,255.70	\$ 3,449.99
Number of Active Retirees	132	138	162	184	106	48
Period 7/1/2011 to 6/30/2012						
Average Monthly Benefit	\$ 162.22	\$ 264.03	\$ 350.01	\$ 557.10	\$ 748.97	\$ 946.98
Average Final Salary (Monthly)	\$ 2,333.34	\$ 2,426.20	\$ 2,244.00	\$ 2,853.50	\$ 2,945.74	\$ 3,105.56
Number of Active Retirees	107	81	150	160	78	31
Period 7/1/2010 to 6/30/2011						
Average Monthly Benefit	\$ 199.62	\$ 265.46	\$ 347.98	\$ 527.52	\$ 801.12	\$ 970.47
Average Final Salary (Monthly)	\$ 2,644.80	\$ 2,303.44	\$ 2,351.06	\$ 2,730.05	\$ 3,289.12	\$ 3,223.70
Number of Active Retirees	76	81	133	131	86	28
Period 7/1/2009 to 6/30/2010						
Average Monthly Benefit	\$ 179.29	\$ 250.79	\$ 345.57	\$ 504.72	\$ 737.83	\$ 1,141.89
Average Final Salary (Monthly)	\$ 2,441.66	\$ 2,254.72	\$ 2,330.69	\$ 2,659.54	\$ 2,888.18	\$ 4,035.92
Number of Active Retirees	41	46	77	92	39	5
Period 7/1/2008 to 6/30/2009						
Average Monthly Benefit	\$ 142.97	\$ 253.20	\$ 325.52	\$ 458.37	\$ 660.37	\$ 851.43
Average Final Salary (Monthly)	\$ 2,070.97	\$ 2,338.58	\$ 2,190.72	\$ 2,412.90	\$ 2,879.59	\$ 2,972.85
Number of Active Retirees	43	50	106	88	47	3

¹ Average monthly benefit and average final salary (monthly) figures include members at retirement who might not be audited. Retirees with missing or invalid data elements were excluded.

Schedules of Average Benefit Payments to Service Retirees (cont.)

PSERS Plan 2 ¹	Years of Credited Service					
	5-10	11-15	16-20	21-25	26-30	31+
Retirement Effective Dates²						
Period 7/1/2017 to 6/30/2018						
Average Monthly Benefit	\$ 567.59	\$ 1,296.00	\$ —	\$ —	\$ —	\$ —
Average Final Salary (Monthly)	\$ 5,022.30	\$ 6,110.61	\$ —	\$ —	\$ —	\$ —
Number of Active Retirees	23	36	—	—	—	—
Period 7/1/2016 to 6/30/2017						
Average Monthly Benefit	\$ 998.93	\$ 1,203.43	\$ —	\$ —	\$ —	\$ —
Average Final Salary (Monthly)	\$ 5,794.24	\$ 5,864.03	\$ —	\$ —	\$ —	\$ —
Number of Active Retirees	37	17	—	—	—	—
Period 7/1/2015 to 6/30/2016						
Average Monthly Benefit	\$ 887.22	\$ —	\$ —	\$ —	\$ —	\$ —
Average Final Salary (Monthly)	\$ 5,590.67	\$ —	\$ —	\$ —	\$ —	\$ —
Number of Active Retirees	27	—	—	—	—	—
Period 7/1/2014 to 6/30/2015						
Average Monthly Benefit	\$ 668.47	\$ —	\$ —	\$ —	\$ —	\$ —
Average Final Salary (Monthly)	\$ 5,087.53	\$ —	\$ —	\$ —	\$ —	\$ —
Number of Active Retirees	17	—	—	—	—	—
Period 7/1/2013 to 6/30/2014						
Average Monthly Benefit	\$ 666.76	\$ —	\$ —	\$ —	\$ —	\$ —
Average Final Salary (Monthly)	\$ 5,168.06	\$ —	\$ —	\$ —	\$ —	\$ —
Number of Active Retirees	15	—	—	—	—	—
Period 7/1/2012 to 6/30/2013						
Average Monthly Benefit	\$ 510.68	\$ —	\$ —	\$ —	\$ —	\$ —
Average Final Salary (Monthly)	\$ 5,261.25	\$ —	\$ —	\$ —	\$ —	\$ —
Number of Active Retirees	16	—	—	—	—	—
Period 7/1/2011 to 6/30/2012						
Average Monthly Benefit	\$ 339.82	\$ —	\$ —	\$ —	\$ —	\$ —
Average Final Salary (Monthly)	\$ 4,376.32	\$ —	\$ —	\$ —	\$ —	\$ —
Number of Active Retirees	9	—	—	—	—	—
Period 7/1/2010 to 6/30/2011						
Average Monthly Benefit	\$ 324.12	\$ —	\$ —	\$ —	\$ —	\$ —
Average Final Salary (Monthly)	\$ 4,822.01	\$ —	\$ —	\$ —	\$ —	\$ —
Number of Active Retirees	6	—	—	—	—	—
Period 7/1/2009 to 6/30/2010						
Average Monthly Benefit	\$ 271.60	\$ —	\$ —	\$ —	\$ —	\$ —
Average Final Salary (Monthly)	\$ 5,230.39	\$ —	\$ —	\$ —	\$ —	\$ —
Number of Active Retirees	3	—	—	—	—	—

¹ PSERS Plan 2 became effective July 1, 2006.

² Average monthly benefit and average final salary (monthly) figures include members at retirement who might not be audited. Retirees with missing or invalid data elements were excluded.

Schedules of Average Benefit Payments to Service Retirees (cont.)

TRS Plan 1						
Retirement Effective Dates ¹	Years of Credited Service					
	5-10	11-15	16-20	21-25	26-30	31+
Period 7/1/2017 to 6/30/2018						
Average Monthly Benefit	\$ 502.94	\$ 1,284.51	\$ 2,019.48	\$ 2,680.02	\$ 3,370.12	\$ 4,221.80
Average Final Salary (Monthly)	\$ 2,471.61	\$ 4,470.36	\$ 5,594.56	\$ 6,335.33	\$ 6,538.32	\$ 7,418.43
Number of Active Retirees	34	16	16	23	36	122
Period 7/1/2016 to 6/30/2017						
Average Monthly Benefit	\$ 387.18	\$ 1,574.31	\$ 1,950.30	\$ 2,861.76	\$ 3,519.57	\$ 3,879.18
Average Final Salary (Monthly)	\$ 2,304.82	\$ 5,611.70	\$ 5,414.72	\$ 6,393.55	\$ 6,609.01	\$ 6,660.14
Number of Active Retirees	20	19	18	31	51	163
Period 7/1/2015 to 6/30/2016						
Average Monthly Benefit	\$ 660.74	\$ 1,423.73	\$ 1,748.99	\$ 2,670.86	\$ 3,299.09	\$ 3,835.48
Average Final Salary (Monthly)	\$ 3,085.66	\$ 5,458.84	\$ 5,334.95	\$ 6,354.70	\$ 6,423.42	\$ 6,919.97
Number of Active Retirees	36	28	31	50	58	242
Period 7/1/2014 to 6/30/2015						
Average Monthly Benefit	\$ 647.12	\$ 1,092.42	\$ 1,893.48	\$ 2,623.54	\$ 3,228.70	\$ 3,801.44
Average Final Salary (Monthly)	\$ 3,099.63	\$ 3,884.19	\$ 5,272.62	\$ 6,078.62	\$ 6,375.43	\$ 6,776.52
Number of Active Retirees	38	28	41	76	67	286
Period 7/1/2013 to 6/30/2014						
Average Monthly Benefit	\$ 509.01	\$ 1,156.89	\$ 1,984.68	\$ 2,661.17	\$ 3,231.48	\$ 3,794.79
Average Final Salary (Monthly)	\$ 3,485.83	\$ 4,498.77	\$ 5,693.54	\$ 6,148.49	\$ 6,303.26	\$ 6,705.36
Number of Active Retirees	38	36	37	89	125	317
Period 7/1/2012 to 6/30/2013						
Average Monthly Benefit	\$ 470.00	\$ 1,123.24	\$ 1,894.30	\$ 2,644.85	\$ 3,539.29	\$ 3,775.79
Average Final Salary (Monthly)	\$ 3,065.75	\$ 4,277.86	\$ 5,538.86	\$ 6,107.19	\$ 6,783.63	\$ 6,667.23
Number of Active Retirees	59	51	61	94	102	350
Period 7/1/2011 to 6/30/2012						
Average Monthly Benefit	\$ 536.53	\$ 1,127.71	\$ 1,649.43	\$ 2,643.64	\$ 3,191.03	\$ 3,629.98
Average Final Salary (Monthly)	\$ 3,395.33	\$ 4,447.26	\$ 5,174.59	\$ 5,944.53	\$ 6,243.29	\$ 6,622.17
Number of Active Retirees	60	50	69	122	134	406
Period 7/1/2010 to 6/30/2011						
Average Monthly Benefit	\$ 438.41	\$ 977.55	\$ 1,754.50	\$ 2,556.44	\$ 3,356.41	\$ 3,665.13
Average Final Salary (Monthly)	\$ 2,703.33	\$ 3,893.89	\$ 5,064.15	\$ 5,972.05	\$ 6,503.81	\$ 6,557.94
Number of Active Retirees	63	63	82	143	165	475
Period 7/1/2009 to 6/30/2010						
Average Monthly Benefit	\$ 438.54	\$ 989.00	\$ 1,631.06	\$ 2,361.44	\$ 3,124.49	\$ 3,493.23
Average Final Salary (Monthly)	\$ 3,228.12	\$ 3,923.42	\$ 4,939.54	\$ 5,582.54	\$ 6,092.38	\$ 6,401.14
Number of Active Retirees	74	56	72	128	132	330
Period 7/1/2008 to 6/30/2009						
Average Monthly Benefit	\$ 453.06	\$ 1,006.59	\$ 1,618.97	\$ 2,354.28	\$ 2,904.77	\$ 3,314.77
Average Final Salary (Monthly)	\$ 3,243.52	\$ 4,073.33	\$ 5,030.12	\$ 5,709.31	\$ 5,870.41	\$ 6,261.55
Number of Active Retirees	66	69	90	164	176	443

¹ Average monthly benefit and average final salary (monthly) figures include members at retirement who might not be audited. Retirees with missing or invalid data elements were excluded.

Schedules of Average Benefit Payments to Service Retirees (cont.)

TRS Plan 2		Years of Credited Service					
Retirement Effective Dates¹		5-10	11-15	16-20	21-25	26-30	31+
Period 7/1/2017 to 6/30/2018							
Average Monthly Benefit	\$	539.84	1,229.28	1,925.28	2,763.11	3,145.39	4,333.03
Average Final Salary (Monthly)	\$	4,367.24	4,737.37	5,829.56	6,653.48	6,265.39	6,798.50
Number of Active Retirees		94	42	37	98	71	78
Period 7/1/2016 to 6/30/2017							
Average Monthly Benefit	\$	589.09	1,159.82	1,992.65	2,524.50	3,378.41	4,295.54
Average Final Salary (Monthly)	\$	4,571.17	4,527.28	5,820.64	6,283.37	6,467.96	6,834.73
Number of Active Retirees		87	35	57	108	57	74
Period 7/1/2015 to 6/30/2016							
Average Monthly Benefit	\$	528.55	1,111.93	1,984.42	2,544.85	3,319.06	3,894.51
Average Final Salary (Monthly)	\$	4,150.53	4,276.44	5,741.58	6,172.50	6,417.27	6,311.66
Number of Active Retirees		95	36	54	97	77	68
Period 7/1/2014 to 6/30/2015							
Average Monthly Benefit	\$	508.94	1,177.99	2,034.14	2,514.55	3,094.29	4,103.13
Average Final Salary (Monthly)	\$	4,167.38	4,573.45	5,878.92	6,226.79	6,168.76	6,449.36
Number of Active Retirees		63	44	84	133	55	50
Period 7/1/2013 to 6/30/2014							
Average Monthly Benefit	\$	484.37	1,142.52	1,850.92	2,509.87	3,200.19	3,986.80
Average Final Salary (Monthly)	\$	3,682.29	4,621.38	5,436.82	6,290.13	6,282.34	6,753.01
Number of Active Retirees		88	50	88	126	65	53
Period 7/1/2012 to 6/30/2013							
Average Monthly Benefit	\$	483.41	1,029.99	1,904.03	2,302.44	2,928.52	3,588.57
Average Final Salary (Monthly)	\$	3,666.26	4,265.74	5,590.87	5,843.14	5,920.89	6,298.04
Number of Active Retirees		53	40	129	97	53	37
Period 7/1/2011 to 6/30/2012							
Average Monthly Benefit	\$	469.38	1,098.85	1,815.96	2,256.40	2,970.89	3,762.08
Average Final Salary (Monthly)	\$	3,553.53	4,411.40	5,558.73	5,771.40	6,059.92	6,219.80
Number of Active Retirees		79	54	98	97	48	33
Period 7/1/2010 to 6/30/2011							
Average Monthly Benefit	\$	417.71	1,147.78	1,783.60	2,052.93	3,094.93	3,559.00
Average Final Salary (Monthly)	\$	3,507.78	4,578.42	5,406.28	5,582.93	6,034.27	6,283.35
Number of Active Retirees		59	66	92	54	52	19
Period 7/1/2009 to 6/30/2010							
Average Monthly Benefit	\$	511.71	1,228.38	1,902.99	2,012.05	3,025.53	3,167.60
Average Final Salary (Monthly)	\$	3,830.95	4,964.28	5,759.54	5,413.19	5,762.55	5,520.72
Number of Active Retirees		42	47	47	42	41	13
Period 7/1/2008 to 6/30/2009							
Average Monthly Benefit	\$	520.28	1,146.03	1,602.18	2,141.67	2,938.41	3,665.93
Average Final Salary (Monthly)	\$	3,516.21	4,585.47	5,136.98	5,467.87	5,809.95	6,295.83
Number of Active Retirees		35	44	62	46	43	2

¹ Average monthly benefit and average final salary (monthly) figures include members at retirement who might not be audited. Retirees with missing or invalid data elements were excluded.

Schedules of Average Benefit Payments to Service Retirees (cont.)

Retirement Effective Dates ¹	Years of Credited Service					
	5-10	11-15	16-20	21-25	26-30	31+
Period 7/1/2017 to 6/30/2018						
Average Monthly Benefit	\$ 332.64	\$ 660.17	\$ 1,016.00	\$ 1,421.68	\$ 1,790.57	\$ 2,311.54
Average Final Salary (Monthly)	\$ 4,445.22	\$ 5,397.24	\$ 6,063.50	\$ 6,689.68	\$ 6,967.78	\$ 7,106.08
Number of Active Retirees	136	217	311	261	294	434
Period 7/1/2016 to 6/30/2017						
Average Monthly Benefit	\$ 348.63	\$ 643.86	\$ 992.93	\$ 1,441.81	\$ 1,726.19	\$ 2,180.66
Average Final Salary (Monthly)	\$ 4,252.84	\$ 5,356.04	\$ 6,018.92	\$ 6,755.92	\$ 6,723.86	\$ 6,889.78
Number of Active Retirees	122	196	255	239	269	325
Period 7/1/2015 to 6/30/2016						
Average Monthly Benefit	\$ 377.66	\$ 638.40	\$ 986.79	\$ 1,341.00	\$ 1,688.85	\$ 2,040.18
Average Final Salary (Monthly)	\$ 4,827.43	\$ 5,352.54	\$ 5,985.23	\$ 6,366.61	\$ 6,625.67	\$ 6,588.75
Number of Active Retirees	136	218	240	288	221	290
Period 7/1/2014 to 6/30/2015						
Average Monthly Benefit	\$ 356.11	\$ 631.90	\$ 961.06	\$ 1,318.54	\$ 1,675.09	\$ 2,007.23
Average Final Salary (Monthly)	\$ 4,799.72	\$ 5,380.43	\$ 5,918.12	\$ 6,307.98	\$ 6,508.21	\$ 6,580.13
Number of Active Retirees	137	214	224	264	216	289
Period 7/1/2013 to 6/30/2014						
Average Monthly Benefit	\$ 354.31	\$ 628.17	\$ 946.36	\$ 1,274.12	\$ 1,661.82	\$ 1,944.26
Average Final Salary (Monthly)	\$ 4,564.18	\$ 5,273.10	\$ 5,799.82	\$ 6,236.91	\$ 6,569.09	\$ 6,484.91
Number of Active Retirees	130	198	208	231	193	269
Period 7/1/2012 to 6/30/2013						
Average Monthly Benefit	\$ 345.92	\$ 593.34	\$ 961.44	\$ 1,242.35	\$ 1,572.79	\$ 1,909.04
Average Final Salary (Monthly)	\$ 4,553.37	\$ 5,264.59	\$ 5,891.15	\$ 6,152.65	\$ 6,282.97	\$ 6,453.23
Number of Active Retirees	150	179	165	227	167	140
Period 7/1/2011 to 6/30/2012						
Average Monthly Benefit	\$ 331.43	\$ 570.43	\$ 863.21	\$ 1,139.55	\$ 1,610.39	\$ 1,737.76
Average Final Salary (Monthly)	\$ 4,727.90	\$ 5,068.13	\$ 5,473.33	\$ 5,966.01	\$ 6,235.28	\$ 6,143.64
Number of Active Retirees	108	164	151	184	131	105
Period 7/1/2010 to 6/30/2011						
Average Monthly Benefit	\$ 336.03	\$ 545.30	\$ 831.33	\$ 1,125.89	\$ 1,568.81	\$ 1,686.38
Average Final Salary (Monthly)	\$ 4,553.15	\$ 4,830.15	\$ 5,435.01	\$ 5,780.35	\$ 6,160.69	\$ 6,065.22
Number of Active Retirees	106	113	122	136	120	68
Period 7/1/2009 to 6/30/2010						
Average Monthly Benefit	\$ 319.39	\$ 545.45	\$ 786.31	\$ 1,078.33	\$ 1,453.56	\$ 1,699.32
Average Final Salary (Monthly)	\$ 4,468.37	\$ 4,766.92	\$ 5,254.99	\$ 5,634.96	\$ 5,839.55	\$ 5,992.94
Number of Active Retirees	79	73	91	75	79	22
Period 7/1/2008 to 6/30/2009						
Average Monthly Benefit	\$ 303.61	\$ 547.01	\$ 796.81	\$ 993.91	\$ 1,500.99	\$ 1,419.21
Average Final Salary (Monthly)	\$ 4,534.11	\$ 5,211.68	\$ 5,389.18	\$ 5,394.30	\$ 5,833.52	\$ 5,397.36
Number of Active Retirees	76	53	84	77	83	5

¹ Average monthly benefit and average final salary (monthly) figures include members at retirement who might not be audited. Retirees with missing or invalid data elements were excluded.

Schedules of Average Benefit Payments to Service Retirees (cont.)

LEOFF Plan 1	Years of Credited Service					
	5-10	11-15	16-20	21-25	26-30	31+
Retirement Effective Dates¹						
Period 7/1/2017 to 6/30/2018						
Average Monthly Benefit	\$ —	\$ —	\$ —	\$ —	\$ 5,520.00	\$ 9,481.27
Average Final Salary (Monthly)	\$ —	\$ —	\$ —	\$ —	\$ 9,600.00	\$ 10,945.63
Number of Active Retirees	—	—	—	—	1	12
Period 7/1/2016 to 6/30/2017						
Average Monthly Benefit	\$ —	\$ —	\$ —	\$ —	\$ —	\$ 8,455.39
Average Final Salary (Monthly)	\$ —	\$ —	\$ —	\$ —	\$ —	\$ 10,012.32
Number of Active Retirees	—	—	—	—	—	24
Period 7/1/2015 to 6/30/2016						
Average Monthly Benefit	\$ —	\$ —	\$ —	\$ —	\$ 5,469.87	\$ 8,201.17
Average Final Salary (Monthly)	\$ —	\$ —	\$ —	\$ —	\$ 8,204.76	\$ 9,650.11
Number of Active Retirees	—	—	—	—	1	19
Period 7/1/2014 to 6/30/2015						
Average Monthly Benefit	\$ —	\$ —	\$ —	\$ —	\$ 3,891.00	\$ 8,081.82
Average Final Salary (Monthly)	\$ —	\$ —	\$ —	\$ —	\$ 6,708.00	\$ 9,859.16
Number of Active Retirees	—	—	—	—	1	40
Period 7/1/2013 to 6/30/2014						
Average Monthly Benefit	\$ —	\$ —	\$ —	\$ —	\$ 3,690.00	\$ 7,788.21
Average Final Salary (Monthly)	\$ —	\$ —	\$ —	\$ —	\$ 6,220.00	\$ 9,665.96
Number of Active Retirees	—	—	—	—	1	23
Period 7/1/2012 to 6/30/2013						
Average Monthly Benefit	\$ —	\$ —	\$ —	\$ —	\$ —	\$ 7,105.97
Average Final Salary (Monthly)	\$ —	\$ —	\$ —	\$ —	\$ —	\$ 9,171.69
Number of Active Retirees	—	—	—	—	—	42
Period 7/1/2011 to 6/30/2012						
Average Monthly Benefit	\$ —	\$ —	\$ —	\$ —	\$ —	\$ 6,776.58
Average Final Salary (Monthly)	\$ —	\$ —	\$ —	\$ —	\$ —	\$ 8,906.14
Number of Active Retirees	—	—	—	—	—	63
Period 7/1/2010 to 6/30/2011						
Average Monthly Benefit	\$ —	\$ 2,608.42	\$ —	\$ —	\$ 3,770.38	\$ 6,799.27
Average Final Salary (Monthly)	\$ —	\$ 12,347.54	\$ —	\$ —	\$ 6,693.02	\$ 9,117.73
Number of Active Retirees	—	1	—	—	1	49
Period 7/1/2009 to 6/30/2010						
Average Monthly Benefit	\$ —	\$ —	\$ —	\$ —	\$ 5,846.14	\$ 6,727.58
Average Final Salary (Monthly)	\$ —	\$ —	\$ —	\$ —	\$ 9,964.96	\$ 9,156.08
Number of Active Retirees	—	—	—	—	1	56
Period 7/1/2008 to 6/30/2009						
Average Monthly Benefit	\$ —	\$ —	\$ —	\$ —	\$ 8,876.88	\$ 5,773.59
Average Final Salary (Monthly)	\$ —	\$ —	\$ —	\$ —	\$ 13,656.74	\$ 8,293.04
Number of Active Retirees	—	—	—	—	1	67

¹ Average monthly benefit and average final salary (monthly) figures include members at retirement who might not be audited. Retirees with missing or invalid data elements were excluded.

Schedules of Average Benefit Payments to Service Retirees (cont.)

LEOFF Plan 2						
Retirement Effective Dates ¹	Years of Credited Service					
	5-10	11-15	16-20	21-25	26-30	31+
Period 7/1/2017 to 6/30/2018						
Average Monthly Benefit	\$ 786.87	\$ 1,983.24	\$ 2,837.80	\$ 3,936.91	\$ 5,055.76	\$ 6,856.22
Average Final Salary (Monthly)	\$ 6,158.44	\$ 7,686.92	\$ 7,978.73	\$ 8,610.05	\$ 9,553.32	\$ 10,684.31
Number of Active Retirees	22	30	56	96	190	181
Period 7/1/2016 to 6/30/2017						
Average Monthly Benefit	\$ 927.85	\$ 2,100.74	\$ 2,857.25	\$ 4,046.34	\$ 5,073.63	\$ 6,672.31
Average Final Salary (Monthly)	\$ 6,376.90	\$ 7,929.71	\$ 8,002.27	\$ 8,719.53	\$ 9,443.16	\$ 10,363.06
Number of Active Retirees	29	29	57	113	162	182
Period 7/1/2015 to 6/30/2016						
Average Monthly Benefit	\$ 758.78	\$ 1,616.33	\$ 2,564.02	\$ 3,865.95	\$ 4,902.78	\$ 6,347.89
Average Final Salary (Monthly)	\$ 5,915.24	\$ 6,911.12	\$ 7,401.28	\$ 8,542.15	\$ 9,038.72	\$ 9,929.16
Number of Active Retirees	22	32	41	100	152	176
Period 7/1/2014 to 6/30/2015						
Average Monthly Benefit	\$ 887.31	\$ 1,696.16	\$ 2,488.40	\$ 3,750.72	\$ 4,733.82	\$ 5,936.02
Average Final Salary (Monthly)	\$ 6,230.50	\$ 6,686.77	\$ 7,183.01	\$ 8,294.40	\$ 8,604.70	\$ 9,482.73
Number of Active Retirees	17	18	49	95	118	155
Period 7/1/2013 to 6/30/2014						
Average Monthly Benefit	\$ 803.11	\$ 1,600.48	\$ 2,477.29	\$ 3,531.18	\$ 4,758.98	\$ 5,607.91
Average Final Salary (Monthly)	\$ 6,199.64	\$ 6,603.23	\$ 7,405.91	\$ 7,967.27	\$ 8,837.62	\$ 9,087.48
Number of Active Retirees	27	18	30	107	100	149
Period 7/1/2012 to 6/30/2013						
Average Monthly Benefit	\$ 751.29	\$ 1,612.33	\$ 2,510.38	\$ 3,404.26	\$ 4,547.01	\$ 5,529.49
Average Final Salary (Monthly)	\$ 5,948.81	\$ 6,336.73	\$ 7,145.42	\$ 7,691.69	\$ 8,400.58	\$ 9,100.80
Number of Active Retirees	27	25	32	63	123	132
Period 7/1/2011 to 6/30/2012						
Average Monthly Benefit	\$ 918.50	\$ 1,913.13	\$ 2,270.71	\$ 3,261.72	\$ 4,377.04	\$ 5,398.33
Average Final Salary (Monthly)	\$ 5,730.21	\$ 7,272.37	\$ 6,685.73	\$ 7,510.37	\$ 8,172.98	\$ 8,963.58
Number of Active Retirees	21	17	30	61	82	112
Period 7/1/2010 to 6/30/2011						
Average Monthly Benefit	\$ 786.80	\$ 1,346.38	\$ 2,628.43	\$ 3,229.83	\$ 4,442.23	\$ 5,010.17
Average Final Salary (Monthly)	\$ 6,436.60	\$ 5,505.96	\$ 7,191.87	\$ 7,200.29	\$ 8,131.03	\$ 8,349.92
Number of Active Retirees	21	17	31	71	104	73
Period 7/1/2009 to 6/30/2010						
Average Monthly Benefit	\$ 802.80	\$ 1,430.37	\$ 2,176.26	\$ 2,935.73	\$ 4,107.79	\$ 4,329.19
Average Final Salary (Monthly)	\$ 5,885.87	\$ 5,662.91	\$ 6,203.07	\$ 6,911.64	\$ 7,594.47	\$ 7,264.63
Number of Active Retirees	24	17	21	43	99	33
Period 7/1/2008 to 6/30/2009						
Average Monthly Benefit	\$ 826.57	\$ 1,481.13	\$ 2,064.59	\$ 2,981.51	\$ 3,846.34	\$ 4,459.60
Average Final Salary (Monthly)	\$ 6,372.71	\$ 5,884.19	\$ 5,940.37	\$ 6,704.73	\$ 7,298.28	\$ 7,742.83
Number of Active Retirees	15	17	29	42	83	13

¹ Average monthly benefit and average final salary (monthly) figures include members at retirement who might not be audited. Retirees with missing or invalid data elements were excluded.

Schedules of Average Benefit Payments to Service Retirees (cont.)

Retirement Effective Dates ¹	Years of Credited Service					
	5-10	11-15	16-20	21-25	26-30	31+
Period 7/1/2017 to 6/30/2018						
Average Monthly Benefit	\$ 1,237.32	\$ 1,633.29	\$ 2,523.96	\$ 4,516.15	\$ 5,686.64	\$ 6,908.72
Average Final Salary (Monthly)	\$ 4,980.86	\$ 5,505.94	\$ 7,380.62	\$ 8,686.79	\$ 10,125.85	\$ 10,912.37
Number of Active Retirees	3	1	4	3	15	8
Period 7/1/2016 to 6/30/2017						
Average Monthly Benefit	\$ 633.63	\$ —	\$ 2,922.19	\$ 4,500.47	\$ 4,677.63	\$ 5,663.68
Average Final Salary (Monthly)	\$ 3,450.65	\$ —	\$ 7,366.67	\$ 8,965.88	\$ 8,471.29	\$ 9,032.63
Number of Active Retirees	2	—	2	17	12	4
Period 7/1/2015 to 6/30/2016						
Average Monthly Benefit	\$ 1,057.39	\$ 1,949.09	\$ 3,951.29	\$ 4,285.84	\$ 4,956.68	\$ 5,609.04
Average Final Salary (Monthly)	\$ 5,325.53	\$ 6,460.99	\$ 7,333.01	\$ 8,608.50	\$ 8,623.81	\$ 8,319.79
Number of Active Retirees	1	1	4	15	29	6
Period 7/1/2014 to 6/30/2015						
Average Monthly Benefit	\$ 515.10	\$ 1,616.68	\$ 3,108.68	\$ 4,153.86	\$ 4,386.37	\$ 4,883.71
Average Final Salary (Monthly)	\$ 6,961.40	\$ 6,969.05	\$ 7,161.79	\$ 8,328.60	\$ 8,007.96	\$ 7,820.79
Number of Active Retirees	1	2	2	16	24	3
Period 7/1/2013 to 6/30/2014						
Average Monthly Benefit	\$ —	\$ 2,075.14	\$ 2,290.15	\$ 3,490.49	\$ 4,335.50	\$ 4,441.61
Average Final Salary (Monthly)	\$ —	\$ 5,791.02	\$ 4,655.27	\$ 7,110.57	\$ 7,755.76	\$ 7,017.09
Number of Active Retirees	—	1	1	14	20	4
Period 7/1/2012 to 6/30/2013						
Average Monthly Benefit	\$ —	\$ 1,946.46	\$ 3,228.52	\$ 3,916.57	\$ 4,033.93	\$ 5,808.61
Average Final Salary (Monthly)	\$ —	\$ 7,447.17	\$ 9,971.82	\$ 8,046.79	\$ 7,561.30	\$ 8,363.83
Number of Active Retirees	—	2	2	12	30	9
Period 7/1/2011 to 6/30/2012						
Average Monthly Benefit	\$ 332.19	\$ 1,371.65	\$ 1,641.71	\$ 4,047.82	\$ 4,524.91	\$ 3,944.59
Average Final Salary (Monthly)	\$ 4,280.74	\$ 5,911.76	\$ 5,475.29	\$ 7,926.38	\$ 8,487.26	\$ 6,294.76
Number of Active Retirees	1	2	2	19	20	3
Period 7/1/2010 to 6/30/2011						
Average Monthly Benefit	\$ —	\$ —	\$ 1,300.91	\$ 3,981.43	\$ 4,307.44	\$ 3,807.43
Average Final Salary (Monthly)	\$ —	\$ —	\$ 5,279.73	\$ 7,767.77	\$ 7,696.70	\$ 6,534.53
Number of Active Retirees	—	—	1	14	20	1
Period 7/1/2009 to 6/30/2010						
Average Monthly Benefit	\$ —	\$ —	\$ —	\$ 3,603.10	\$ 5,653.44	\$ 5,437.71
Average Final Salary (Monthly)	\$ —	\$ —	\$ —	\$ 7,241.18	\$ 9,302.30	\$ 8,000.30
Number of Active Retirees	—	—	—	9	10	3
Period 7/1/2008 to 6/30/2009						
Average Monthly Benefit	\$ —	\$ —	\$ —	\$ 3,205.87	\$ 3,984.48	\$ 5,748.34
Average Final Salary (Monthly)	\$ —	\$ —	\$ —	\$ 6,495.52	\$ 7,139.94	\$ 8,014.31
Number of Active Retirees	—	—	—	2	7	3

¹ Average monthly benefit and average final salary (monthly) figures include members at retirement who might not be audited. Retirees with missing or invalid data elements were excluded.

Schedules of Average Benefit Payments to Service Retirees (cont.)

JRS	Years of Credited Service					
	5-10	11-15	16-20	21-25	26-30	31+
Retirement Effective Dates¹						
Period 7/1/2017 to 6/30/2018						
Average Monthly Benefit	\$ —	\$ —	\$ —	\$ —	\$ —	\$ —
Average Final Salary (Monthly)	\$ —	\$ —	\$ —	\$ —	\$ —	\$ —
Number of Active Retirees	—	—	—	—	—	—
Period 7/1/2016 to 6/30/2017						
Average Monthly Benefit	\$ —	\$ —	\$ —	\$ —	\$ —	\$ —
Average Final Salary (Monthly)	\$ —	\$ —	\$ —	\$ —	\$ —	\$ —
Number of Active Retirees	—	—	—	—	—	—
Period 7/1/2015 to 6/30/2016						
Average Monthly Benefit	\$ —	\$ —	\$ —	\$ —	\$ —	\$ —
Average Final Salary (Monthly)	\$ —	\$ —	\$ —	\$ —	\$ —	\$ —
Number of Active Retirees	—	—	—	—	—	—
Period 7/1/2014 to 6/30/2015						
Average Monthly Benefit	\$ —	\$ —	\$ —	\$ —	\$ —	\$ —
Average Final Salary (Monthly)	\$ —	\$ —	\$ —	\$ —	\$ —	\$ —
Number of Active Retirees	—	—	—	—	—	—
Period 7/1/2013 to 6/30/2014						
Average Monthly Benefit	\$ —	\$ —	\$ —	\$ —	\$ —	\$ —
Average Final Salary (Monthly)	\$ —	\$ —	\$ —	\$ —	\$ —	\$ —
Number of Active Retirees	—	—	—	—	—	—
Period 7/1/2012 to 6/30/2013						
Average Monthly Benefit	\$ —	\$ —	\$ —	\$ —	\$ 9,302.01	\$ —
Average Final Salary (Monthly)	\$ —	\$ —	\$ —	\$ —	\$ 12,402.68	\$ —
Number of Active Retirees	—	—	—	—	2	—
Period 7/1/2011 to 6/30/2012						
Average Monthly Benefit	\$ —	\$ —	\$ —	\$ —	\$ —	\$ 10,263.81
Average Final Salary (Monthly)	\$ —	\$ —	\$ —	\$ —	\$ —	\$ 13,685.08
Number of Active Retirees	—	—	—	—	—	1
Period 7/1/2010 to 6/30/2011						
Average Monthly Benefit	\$ —	\$ —	\$ —	\$ —	\$ 7,376.49	\$ 9,302.01
Average Final Salary (Monthly)	\$ —	\$ —	\$ —	\$ —	\$ 12,402.68	\$ 12,402.68
Number of Active Retirees	—	—	—	—	1	1
Period 7/1/2009 to 6/30/2010						
Average Monthly Benefit	\$ —	\$ —	\$ —	\$ 7,904.34	\$ 8,292.69	\$ 9,770.51
Average Final Salary (Monthly)	\$ —	\$ —	\$ —	\$ 13,027.34	\$ 12,402.60	\$ 13,027.34
Number of Active Retirees	—	—	—	1	2	1
Period 7/1/2008 to 6/30/2009						
Average Monthly Benefit	\$ —	\$ —	\$ 5,286.59	\$ 9,301.95	\$ —	\$ —
Average Final Salary (Monthly)	\$ —	\$ —	\$ 10,367.60	\$ 12,402.60	\$ —	\$ —
Number of Active Retirees	—	—	1	1	—	—

¹ Average monthly benefit and average final salary (monthly) figures include members at retirement who might not be audited. Retirees with missing or invalid data elements were excluded.

Source: Office of the State Actuary

Schedules of Benefit Expenses and Refunds by Type

PERS Plan 1										
Dollars in Thousands										
	6/30/2019	6/30/2018	6/30/2017	6/30/2016	6/30/2015	6/30/2014	6/30/2013	6/30/2012	6/30/2011	6/30/2010
Benefit Expenses										
Service	\$ 1,099,126	\$ 1,094,346	\$ 1,100,375	\$ 1,103,092	\$ 1,104,025	\$ 1,095,467	\$ 1,088,705	\$ 1,082,344	\$ 1,059,536	\$ 1,024,555
Disability	10,422	11,895	11,961	11,646	12,222	13,240	13,496	13,810	14,431	14,718
Survivor	89,391	83,265	83,724	84,098	82,718	80,789	79,180	77,529	75,555	72,113
Refunds										
Separation	3,139	2,890	2,654	2,912	3,171	3,373	3,365	3,667	2,930	3,997
Death	720	815	505	1,461	858	846	633	887	540	949
Total	\$ 1,202,798	\$ 1,193,211	\$ 1,199,219	\$ 1,203,209	\$ 1,202,994	\$ 1,193,715	\$ 1,185,379	\$ 1,178,237	\$ 1,152,992	\$ 1,116,332

PERS Plan 2/3										
Dollars in Thousands										
	6/30/2019	6/30/2018	6/30/2017	6/30/2016	6/30/2015	6/30/2014	6/30/2013	6/30/2012	6/30/2011	6/30/2010
Benefit Expenses										
Service	\$ 1,139,220	\$ 982,042	\$ 849,518	\$ 734,381	\$ 626,959	\$ 531,509	\$ 430,352	\$ 350,550	\$ 287,560	\$ 230,776
Disability	14,705	10,337	8,942	13,645	13,217	12,417	11,695	10,901	10,140	9,795
Survivor	42,548	41,349	35,769	28,188	25,232	21,734	18,028	15,548	13,243	11,194
Refunds										
Separation	36,141	32,976	29,152	28,527	28,494	28,119	28,286	30,148	27,956	25,005
Death	11,641	9,301	8,222	7,778	7,004	7,083	7,393	5,568	5,730	6,420
Total	\$ 1,244,255	\$ 1,076,005	\$ 931,603	\$ 812,519	\$ 700,906	\$ 600,862	\$ 495,754	\$ 412,715	\$ 344,629	\$ 283,190

Schedules of Benefit Expenses and Refunds by Type (cont.)

PERS Plan 3										
Dollars in Thousands										
	6/30/2019	6/30/2018	6/30/2017	6/30/2016	6/30/2015	6/30/2014	6/30/2013	6/30/2012	6/30/2011	6/30/2010
Benefit Expenses										
Service	\$ 10,620	\$ 7,855	\$ 6,400	\$ 4,112	\$ 2,640	\$ 1,435	\$ 697	\$ 322	\$ 164	\$ 80
Disability	—	—	—	—	—	—	—	—	—	—
Survivor	—	—	—	—	—	—	—	—	—	—
Refunds										
Separation	111,911	106,245	90,295	86,436	87,143	78,756	65,761	63,671	56,974	40,215
Death	5,404	9,208	8,204	6,009	4,943	3,167	2,910	2,574	2,169	1,508
Total	\$ 127,935	\$ 123,308	\$ 104,899	\$ 96,557	\$ 94,726	\$ 83,358	\$ 69,368	\$ 66,567	\$ 59,307	\$ 41,803

SERS Plan 2/3										
Dollars in Thousands										
	6/30/2019	6/30/2018	6/30/2017	6/30/2016	6/30/2015	6/30/2014	6/30/2013	6/30/2012	6/30/2011	6/30/2010
Benefit Expenses										
Service	\$ 169,030	\$ 145,398	\$ 124,838	\$ 107,962	\$ 91,986	\$ 77,320	\$ 63,134	\$ 50,597	\$ 40,753	\$ 32,202
Disability	1,785	1,514	1,300	1,604	1,549	1,553	1,457	1,387	1,198	1,068
Survivor	5,197	4,544	3,901	3,187	2,649	2,343	1,835	1,646	1,387	1,179
Refunds										
Separation	3,551	3,068	2,227	1,932	2,084	2,076	1,984	1,947	1,916	1,779
Death	1,041	673	1,000	562	807	656	671	569	576	346
Total	\$ 180,604	\$ 155,197	\$ 133,266	\$ 115,247	\$ 99,075	\$ 83,948	\$ 69,081	\$ 56,146	\$ 45,830	\$ 36,574

Schedules of Benefit Expenses and Refunds by Type (cont.)

SERS Plan 3										
Dollars in Thousands										
	6/30/2019	6/30/2018	6/30/2017	6/30/2016	6/30/2015	6/30/2014	6/30/2013	6/30/2012	6/30/2011	6/30/2010
Benefit Expenses										
Service	\$ 7,394	\$ 5,768	\$ 4,055	\$ 2,610	\$ 1,526	\$ 854	\$ 464	\$ 302	\$ 182	\$ 91
Disability	—	—	—	—	—	—	—	—	—	—
Survivor	—	—	—	—	—	—	—	—	—	—
Refunds										
Separation	99,434	95,667	81,041	80,759	82,241	71,228	63,122	57,516	51,431	31,383
Death	5,674	5,005	4,536	4,261	4,052	2,598	2,521	3,413	1,811	2,533
Total	\$ 112,502	\$ 106,440	\$ 89,632	\$ 87,630	\$ 87,819	\$ 74,680	\$ 66,107	\$ 61,231	\$ 53,424	\$ 34,007

PSERS Plan 2										
Dollars in Thousands										
	6/30/2019	6/30/2018	6/30/2017	6/30/2016	6/30/2015	6/30/2014	6/30/2013	6/30/2012	6/30/2011	6/30/2010
Benefit Expenses										
Service	\$ 2,754	\$ 1,848	\$ 1,079	\$ 593	\$ 411	\$ 237	\$ 129	\$ 63	\$ 30	\$ 14
Disability	117	98	46	13	12	12	17	5	4	3
Survivor	64	20	23	24	21	7	2	2	1	—
Refunds										
Separation	3,616	2,895	2,551	2,630	2,520	2,107	2,142	1,868	1,747	895
Death	123	59	79	17	92	87	44	53	33	33
Total	\$ 6,674	\$ 4,920	\$ 3,778	\$ 3,277	\$ 3,056	\$ 2,450	\$ 2,334	\$ 1,991	\$ 1,815	\$ 945

Schedules of Benefit Expenses and Refunds by Type (cont.)

TRS Plan 1										
Dollars in Thousands										
	6/30/2019	6/30/2018	6/30/2017	6/30/2016	6/30/2015	6/30/2014	6/30/2013	6/30/2012	6/30/2011	6/30/2010
Benefit Expenses										
Service	\$ 844,683	\$ 839,862	\$ 856,395	\$ 866,940	\$ 870,547	\$ 871,366	\$ 860,631	\$ 860,848	\$ 847,353	\$ 809,214
Disability	8,626	9,031	9,111	9,529	10,013	10,074	10,607	10,618	11,111	10,905
Survivor	51,770	54,185	45,553	47,908	46,455	44,535	43,372	42,398	41,355	39,131
Refunds										
Separation	957	965	1,067	976	915	1,348	1,512	1,120	1,389	574
Death	53	699	188	206	640	914	477	432	431	930
Total	\$ 906,089	\$ 904,742	\$ 912,314	\$ 925,559	\$ 928,570	\$ 928,237	\$ 916,599	\$ 915,416	\$ 901,639	\$ 860,754

TRS Plan 2/3										
Dollars in Thousands										
	6/30/2019	6/30/2018	6/30/2017	6/30/2016	6/30/2015	6/30/2014	6/30/2013	6/30/2012	6/30/2011	6/30/2010
Benefit Expenses										
Service	\$ 345,619	\$ 290,450	\$ 247,080	\$ 211,967	\$ 177,689	\$ 144,464	\$ 112,521	\$ 87,707	\$ 68,782	\$ 52,921
Disability	1,312	2,994	2,547	1,145	1,176	1,126	1,117	1,071	1,118	921
Survivor	7,927	5,989	5,094	4,899	4,347	3,932	3,024	2,622	2,238	1,812
Refunds										
Separation	3,228	2,967	2,348	2,409	2,401	1,460	2,115	1,652	1,584	2,092
Death	1,165	608	662	562	439	528	799	517	697	776
Total	\$ 359,251	\$ 303,008	\$ 257,731	\$ 220,982	\$ 186,052	\$ 151,510	\$ 119,576	\$ 93,569	\$ 74,419	\$ 58,522

Schedules of Benefit Expenses and Refunds by Type (cont.)

TRS Plan 3										
Dollars in Thousands										
	6/30/2019	6/30/2018	6/30/2017	6/30/2016	6/30/2015	6/30/2014	6/30/2013	6/30/2012	6/30/2011	6/30/2010
Benefit Expenses										
Service	\$ 27,159	\$ 20,864	\$ 14,687	\$ 10,034	\$ 5,924	\$ 3,084	\$ 1,569	\$ 1,149	\$ 542	\$ 257
Disability	—	—	—	—	—	—	—	—	—	—
Survivor	—	—	—	—	—	—	—	—	—	—
Refunds										
Separation	393,036	326,099	276,846	279,300	261,465	227,760	168,558	142,364	110,425	67,158
Death	13,447	10,831	9,064	10,485	7,912	7,875	7,494	8,040	5,146	4,507
Total	\$ 433,642	\$ 357,794	\$ 300,597	\$ 299,819	\$ 275,301	\$ 238,719	\$ 177,621	\$ 151,553	\$ 116,113	\$ 71,922

LEOFF Plan 1										
Dollars in Thousands										
	6/30/2019	6/30/2018	6/30/2017	6/30/2016	6/30/2015	6/30/2014	6/30/2013	6/30/2012	6/30/2011	6/30/2010
Benefit Expenses										
Service	\$ 153,695	\$ 152,897	\$ 151,225	\$ 149,411	\$ 147,957	\$ 146,285	\$ 143,906	\$ 138,884	\$ 134,321	\$ 132,450
Disability	136,694	138,336	136,823	141,526	143,951	145,666	146,643	146,207	147,653	150,521
Survivor	78,681	72,808	72,012	69,547	66,503	63,789	61,247	58,347	56,801	55,260
Refunds										
Separation	—	—	—	440	330	248	14	4	48	11
Death	—	—	8	—	4	—	—	431	—	3
Total	\$ 369,070	\$ 364,041	\$ 360,068	\$ 360,924	\$ 358,745	\$ 355,988	\$ 351,810	\$ 343,873	\$ 338,823	\$ 338,245

Schedules of Benefit Expenses and Refunds by Type (cont.)

LEOFF Plan 2										
Dollars in Thousands										
	6/30/2019	6/30/2018	6/30/2017	6/30/2016	6/30/2015	6/30/2014	6/30/2013	6/30/2012	6/30/2011	6/30/2010
Benefit Expenses										
Service	\$ 276,304	\$ 233,648	\$ 197,744	\$ 163,879	\$ 134,364	\$ 110,170	\$ 87,232	\$ 67,331	\$ 52,547	\$ 39,100
Disability	20,012	18,173	15,380	14,266	12,340	10,599	9,693	7,318	6,710	5,356
Survivor	8,556	7,788	6,591	5,922	4,782	4,152	3,607	3,504	2,619	1,702
Refunds										
Separation	6,010	7,097	6,490	6,287	6,798	7,730	8,117	9,774	7,155	6,739
Death	3,077	1,453	802	358	1,743	1,298	560	1,440	1,026	4,208
Total	\$ 313,959	\$ 268,159	\$ 227,007	\$ 190,712	\$ 160,027	\$ 133,949	\$ 109,209	\$ 89,367	\$ 70,057	\$ 57,105

WSPRS Plan 1										
Dollars in Thousands										
	6/30/2019	6/30/2018	6/30/2017	6/30/2016	6/30/2015	6/30/2014	6/30/2013	6/30/2012	6/30/2011	6/30/2010
Benefit Expenses										
Service	\$ 57,376	\$ 52,962	\$ 51,000	\$ 48,540	\$ 45,034	\$ 42,805	\$ 39,537	\$ 36,687	\$ 35,073	\$ 33,015
Disability	—	—	—	—	—	—	—	—	—	—
Survivor	6,877	6,546	5,666	5,111	4,738	4,338	3,984	3,681	3,314	3,101
Refunds										
Separation	2	19	—	476	119	344	98	46	148	97
Death	—	1	65	15	—	—	88	216	99	—
Total	\$ 64,255	\$ 59,528	\$ 56,731	\$ 54,142	\$ 49,891	\$ 47,487	\$ 43,707	\$ 40,630	\$ 38,634	\$ 36,213

Schedules of Benefit Expenses and Refunds by Type (cont.)

WSPRS Plan 2										
Dollars in Thousands										
	6/30/2019	6/30/2018	6/30/2017	6/30/2016	6/30/2015	6/30/2014	6/30/2013	6/30/2012	6/30/2011	6/30/2010
Benefit Expenses										
Service	\$ —	\$ —	\$ —	\$ —	\$ —	\$ —	\$ —	\$ —	\$ —	\$ —
Disability	—	—	—	—	—	—	—	—	—	—
Survivor	—	—	—	—	—	—	—	—	—	—
Refunds										
Separation	115	106	90	7	184	23	118	—	63	30
Death	—	—	—	10	—	—	—	—	5	—
Total	\$ 115	\$ 106	\$ 90	\$ 17	\$ 184	\$ 23	\$ 118	\$ —	\$ 68	\$ 30

JRS										
Dollars in Thousands										
	6/30/2019	6/30/2018	6/30/2017	6/30/2016	6/30/2015	6/30/2014	6/30/2013	6/30/2012	6/30/2011	6/30/2010
Benefit Expenses										
Service	\$ 5,828	\$ 6,161	\$ 6,368	\$ 6,821	\$ 7,178	\$ 7,388	\$ 7,504	\$ 7,569	\$ 7,678	\$ 7,704
Disability	—	—	—	—	—	—	—	—	—	—
Survivor	2,130	2,164	2,355	2,310	2,158	2,092	2,193	2,195	2,060	2,019
Refunds										
Separation	—	—	—	—	—	—	—	—	—	—
Death	—	—	—	—	—	—	—	—	—	—
Total	\$ 7,958	\$ 8,325	\$ 8,723	\$ 9,131	\$ 9,336	\$ 9,480	\$ 9,697	\$ 9,764	\$ 9,738	\$ 9,723

Schedules of Benefit Expenses and Refunds by Type (cont.)

JRF										
Dollars in Thousands										
	6/30/2019	6/30/2018	6/30/2017	6/30/2016	6/30/2015	6/30/2014	6/30/2013	6/30/2012	6/30/2011	6/30/2010
Benefit Expenses										
Service	\$ 195	\$ 257	\$ 265	\$ 347	\$ 346	\$ 346	\$ 402	\$ 421	\$ 420	\$ 421
Disability	—	—	—	—	—	—	72	—	—	—
Survivor	143	139	137	93	98	98	—	61	79	79
Refunds										
Separation	—	—	—	—	—	—	—	—	—	—
Death	—	—	—	—	—	—	—	—	—	—
Total	\$ 338	\$ 396	\$ 402	\$ 440	\$ 444	\$ 444	\$ 474	\$ 482	\$ 499	\$ 500

Deferred Compensation Program Status Report

DCP Status Report

Dollars in Thousands — Page 1 of 4

Funding Media	6/30/2019		6/30/2018		6/30/2017	
	Plan Balance	%	Plan Balance	%	Plan Balance	%
Active U.S. Core Stock Fund ¹	\$ —	—	\$ —	—	\$ —	—
Active U.S. Value Stock Fund ¹	—	—	—	—	—	—
Emerging Market Equity Index ²	75,850	1.61%	82,848	1.87%	69,912	1.72%
Fidelity Growth Company Fund ¹	—	—	—	—	—	—
Global Equity Index ²	173,574	3.69%	174,048	3.93%	143,069	3.51%
International Stock Fund ¹	—	—	—	—	—	—
Savings Pool	886,282	18.83%	862,255	19.47%	869,125	21.31%
U.S. Large Cap Equity Index ²	548,079	11.65%	500,893	11.31%	444,276	10.90%
U.S. Small Cap Equity Index ²	219,824	4.67%	238,559	5.39%	221,996	5.44%
U.S. Small Stock Index Fund ¹	—	—	—	—	—	—
U.S. Stock Market Index Fund ¹	—	—	—	—	—	—
Washington State Bond Fund	265,267	5.64%	240,807	5.44%	248,808	6.10%
Washington State Socially Responsible Balanced Fund	175,990	3.74%	158,863	3.59%	154,665	3.79%
Retirement Maturity Strategy Fund ³	29,843	0.63%	28,426	0.64%	27,015	0.66%
Retirement Strategy 2005 ³	36,944	0.78%	34,549	0.78%	35,738	0.88%
Retirement Strategy 2010 ³	100,626	2.14%	103,199	2.33%	102,286	2.51%
Retirement Strategy 2015 ³	277,795	5.90%	282,366	6.38%	286,150	7.02%
Retirement Strategy 2020 ³	508,253	10.80%	494,312	11.16%	454,443	11.14%
Retirement Strategy 2025 ³	508,003	10.79%	459,127	10.37%	400,990	9.83%
Retirement Strategy 2030 ³	351,804	7.48%	308,941	6.98%	262,780	6.44%
Retirement Strategy 2035 ³	240,075	5.10%	208,937	4.72%	172,841	4.24%
Retirement Strategy 2040 ³	144,962	3.08%	121,125	2.74%	95,102	2.33%
Retirement Strategy 2045 ³	86,789	1.84%	69,425	1.57%	51,859	1.27%
Retirement Strategy 2050 ³	38,085	0.81%	27,858	0.63%	18,587	0.46%
Retirement Strategy 2055 ⁴	23,905	0.51%	18,691	0.42%	13,239	0.33%
Retirement Strategy 2060 ⁵	14,416	0.31%	12,543	0.28%	4,976	0.12%
Total	\$ 4,706,366	100.00%	\$ 4,427,772	100.00%	\$ 4,077,857	100.00%

¹ This investment option was discontinued in October 2011.

² This investment option was added in October 2011.

³ This investment option was added in October 2008. Retirement Maturity Strategy Fund replaced Retirement Strategy 2000 in January 2015.

⁴ This investment option was added in January 2010.

⁵ This investment option was added in January 2015.

Deferred Compensation Program Status Report (cont.)

DCP Status Report

Dollars in Thousands — Page 2 of 4

Funding Media	6/30/2016		6/30/2015		6/30/2014	
	Plan Balance	%	Plan Balance	%	Plan Balance	%
Active U.S. Core Stock Fund ¹	\$ —	—	\$ —	—	\$ —	—
Active U.S. Value Stock Fund ¹	—	—	—	—	—	—
Emerging Market Equity Index ²	49,471	1.37%	56,912	1.58%	59,894	1.68%
Fidelity Growth Company Fund ¹	—	—	—	—	—	—
Global Equity Index ²	116,099	3.21%	121,679	3.37%	114,142	3.19%
International Stock Fund ¹	—	—	—	—	—	—
Savings Pool	868,269	23.98%	863,001	23.91%	937,359	26.21%
U.S. Large Cap Equity Index ²	384,369	10.61%	364,343	10.09%	312,282	8.74%
U.S. Small Cap Equity Index ²	179,182	4.95%	188,368	5.22%	199,588	5.58%
U.S. Small Stock Index Fund ¹	—	—	—	—	—	—
U.S. Stock Market Index Fund ¹	—	—	—	—	—	—
Washington State Bond Fund	242,947	6.71%	230,429	6.38%	222,168	6.21%
Washington State Socially Responsible Balanced Fund	141,740	3.91%	132,229	3.66%	128,312	3.59%
Retirement Maturity Strategy Fund ³	24,052	0.66%	23,772	0.66%	24,999	0.70%
Retirement Strategy 2005 ³	36,136	1.00%	37,874	1.05%	39,905	1.12%
Retirement Strategy 2010 ³	100,244	2.77%	111,130	3.08%	121,329	3.39%
Retirement Strategy 2015 ³	280,694	7.75%	313,588	8.69%	332,310	9.29%
Retirement Strategy 2020 ³	399,657	11.04%	401,305	11.12%	380,889	10.65%
Retirement Strategy 2025 ³	324,826	8.97%	313,852	8.70%	288,862	8.08%
Retirement Strategy 2030 ³	205,154	5.67%	197,681	5.48%	183,453	5.13%
Retirement Strategy 2035 ³	134,634	3.72%	129,075	3.58%	120,809	3.38%
Retirement Strategy 2040 ³	72,012	1.99%	68,789	1.90%	61,489	1.72%
Retirement Strategy 2045 ³	36,635	1.01%	32,737	0.91%	28,288	0.79%
Retirement Strategy 2050 ³	12,411	0.34%	10,782	0.30%	9,694	0.27%
Retirement Strategy 2055 ⁴	10,319	0.28%	9,760	0.27%	9,964	0.28%
Retirement Strategy 2060 ⁵	2,172	0.06%	1,801	0.05%	—	—
Total	\$ 3,621,024	100.00%	\$ 3,609,107	100.00%	\$ 3,575,736	100.00%

¹ This investment option was discontinued in October 2011.

² This investment option was added in October 2011.

³ This investment option was added in October 2008. Retirement Maturity Strategy Fund replaced Retirement Strategy 2000 in January 2015.

⁴ This investment option was added in January 2010.

⁵ This investment option was added in January 2015.

Deferred Compensation Program Status Report (cont.)

DCP Status Report

Dollars in Thousands — Page 3 of 4

Funding Media	6/30/2013		6/30/2012		6/30/2011	
	Plan Balance	%	Plan Balance	%	Plan Balance	%
Active U.S. Core Stock Fund ¹	\$ —	—	\$ —	—%	\$ 238,087	8.11%
Active U.S. Value Stock Fund ¹	—	—	—	—%	299,662	10.20%
Emerging Market Equity Index ²	54,693	1.71%	52,542	1.79%	—	—
Fidelity Growth Company Fund ¹	—	—	—	—%	366,490	12.48%
Global Equity Index ²	84,495	2.64%	65,500	2.23%	—	—
International Stock Fund ¹	—	—	—	—%	123,184	4.20%
Savings Pool	1,000,437	31.27%	1,045,569	35.66%	1,013,313	34.51%
U.S. Large Cap Equity Index ²	227,917	7.12%	178,250	6.08%	—	—
U.S. Small Cap Equity Index ²	150,240	4.69%	109,915	3.75%	—	—
U.S. Small Stock Index Fund ¹	—	—	—	—%	116,776	3.98%
U.S. Stock Market Index Fund ¹	—	—	—	—%	163,011	5.55%
Washington State Bond Fund	257,135	8.04%	267,316	9.12%	179,032	6.10%
Washington State Socially Responsible Balanced Fund	109,148	3.41%	101,014	3.45%	73,021	2.49%
Retirement Maturity Strategy Fund ³	25,468	0.80%	24,435	0.83%	6,312	0.21%
Retirement Strategy 2005 ³	38,443	1.20%	35,891	1.22%	11,313	0.39%
Retirement Strategy 2010 ³	117,647	3.68%	115,133	3.93%	48,294	1.64%
Retirement Strategy 2015 ³	290,316	9.07%	253,859	8.66%	100,846	3.43%
Retirement Strategy 2020 ³	308,468	9.64%	256,143	8.74%	81,120	2.76%
Retirement Strategy 2025 ³	223,555	6.99%	179,951	6.14%	50,278	1.71%
Retirement Strategy 2030 ³	143,763	4.49%	114,916	3.92%	29,300	1.00%
Retirement Strategy 2035 ³	91,183	2.85%	73,173	2.50%	17,332	0.59%
Retirement Strategy 2040 ³	44,745	1.40%	35,038	1.19%	10,251	0.35%
Retirement Strategy 2045 ³	19,892	0.62%	14,996	0.51%	5,554	0.19%
Retirement Strategy 2050 ³	5,706	0.18%	4,355	0.15%	2,228	0.08%
Retirement Strategy 2055 ⁴	6,358	0.20%	3,868	0.13%	1,023	0.03%
Retirement Strategy 2060 ⁵	—	—	—	—	—	—
Total	\$ 3,199,609	100.00%	\$ 2,931,864	100.00%	\$ 2,936,427	100.00%

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² This investment option was added in October 2011.

³ This investment option was added in October 2008. Retirement Maturity Strategy Fund replaced Retirement Strategy 2000 in January 2015.

⁴ This investment option was added in January 2010.

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Deferred Compensation Program Status Report (cont.)

DCP Status Report

Dollars in Thousands — Page 4 of 4

Funding Media	6/30/2010	
	Plan Balance	%
Active U.S. Core Stock Fund ¹	\$ 192,558	7.87%
Active U.S. Value Stock Fund ¹	245,272	10.03%
Emerging Market Equity Index ²	—	—
Fidelity Growth Company Fund ¹	268,855	10.99%
Global Equity Index ²	—	—
International Stock Fund ¹	97,897	4.00%
Savings Pool	959,255	39.21%
U.S. Large Cap Equity Index ²	—	—
U.S. Small Cap Equity Index ²	—	—
U.S. Small Stock Index Fund ¹	77,248	3.16%
U.S. Stock Market Index Fund ¹	124,866	5.10%
Washington State Bond Fund	178,187	7.28%
Washington State Socially Responsible Balanced Fund	58,828	2.41%
Retirement Maturity Strategy Fund ³	3,973	0.16%
Retirement Strategy 2005 ³	9,269	0.38%
Retirement Strategy 2010 ³	38,435	1.57%
Retirement Strategy 2015 ³	69,852	2.86%
Retirement Strategy 2020 ³	51,674	2.11%
Retirement Strategy 2025 ³	30,265	1.24%
Retirement Strategy 2030 ³	17,133	0.70%
Retirement Strategy 2035 ³	10,869	0.44%
Retirement Strategy 2040 ³	6,417	0.26%
Retirement Strategy 2045 ³	3,301	0.14%
Retirement Strategy 2050 ³	1,491	0.06%
Retirement Strategy 2055 ⁴	769	0.03%
Retirement Strategy 2060 ⁵	—	—
Total	\$ 2,446,414	100.00%

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DCP Performance

DCP Performance

Performance Periods Ending June 30, 2019

Fund Name Benchmark	Quarter Ending 6/30/2019	Performance History ¹ Average Annual Total Returns			
		1 Year	3 Years	5 Years ²	10 Years/Since Inception
Emerging Market Equity Index Fund	0.46%	0.48%	9.97%	2.20%	5.07%
MSCI Emerging Markets Investable Market Index	0.43%	0.47%	10.01%	2.25%	5.22%
Global Equity Index Fund	3.57%	5.11%	11.95%	6.54%	11.19%
MSCI ACWI Investable Market Index	3.37%	4.56%	11.42%	6.03%	10.67%
Savings Pool	0.64%	2.46%	2.03%	1.50%	1.95%
U.S. Large Cap Equity Index Fund	4.31%	10.49%	14.23%	10.77%	14.78%
S&P 500 Index	4.30%	10.42%	14.19%	10.71%	14.70%
U.S. Small Cap Value Equity Index Fund	1.42%	(6.03)%	10.05%	5.65%	12.49%
Russell 2000 Value Index	1.38%	(6.24)%	9.81%	5.39%	12.40%
Washington State Bond Fund	3.01%	8.48%	3.31%	3.40%	4.98%
Barclays Capital Intermediate Credit Index	2.99%	8.23%	3.01%	3.10%	4.76%
Washington State Socially Responsible Balanced Fund	3.75%	10.71%	9.85%	7.70%	9.90%
55% S&P 500/45% BC US Aggregate Index ³	3.86%	8.36%	8.77%	6.40%	9.57%
Retirement Maturity Strategy Fund⁴	2.48%	6.10%	5.24%	3.85%	6.56%
Maturity Composite Benchmark ³	2.43%	5.92%	4.78%	3.50%	6.37%
2005 Retirement Strategy	2.54%	6.00%	5.85%	4.07%	7.35%
2005 Composite Benchmark ³	2.46%	5.87%	5.41%	3.74%	7.28%
2010 Retirement Strategy	2.67%	5.97%	6.96%	4.57%	8.27%
2010 Composite Benchmark ³	2.65%	5.91%	6.55%	4.28%	8.31%
2015 Retirement Strategy	2.87%	5.90%	8.09%	5.10%	8.94%
2015 Composite Benchmark ³	2.82%	5.89%	7.67%	4.79%	9.05%
2020 Retirement Strategy	2.96%	5.85%	8.53%	5.19%	9.85%
2020 Composite Benchmark ³	2.96%	5.85%	8.53%	5.19%	9.85%
2025 Retirement Strategy	3.04%	5.65%	9.66%	5.76%	9.76%
2025 Composite Benchmark ³	2.98%	5.67%	9.16%	5.45%	10.01%
2030 Retirement Strategy	3.10%	5.50%	10.29%	6.01%	9.96%
2030 Composite Benchmark ³	2.99%	5.50%	9.79%	5.69%	10.30%
2035 Retirement Strategy	3.12%	5.30%	10.85%	6.15%	10.00%
2035 Composite Benchmark ³	3.02%	5.29%	10.33%	5.86%	10.43%
2040 Retirement Strategy	3.28%	5.02%	11.23%	6.26%	10.08%
2040 Composite Benchmark ³	3.13%	5.00%	10.69%	5.95%	10.54%
2045 Retirement Strategy	3.35%	4.86%	11.36%	6.31%	10.10%
2045 Composite Benchmark ³	3.22%	4.80%	10.81%	6.00%	10.57%
2050 Retirement Strategy	3.34%	4.85%	11.35%	6.32%	10.12%
2050 Composite Benchmark ³	3.22%	4.80%	10.81%	6.00%	10.57%
2055 Retirement Strategy	3.32%	4.87%	11.37%	6.32%	8.07%
2055 Composite Benchmark ³	3.22%	4.80%	10.81%	6.00%	8.64%
2060 Retirement Strategy⁵	3.42%	4.91%	11.39%	—	7.59%
2060 Composite Benchmark ³	3.22%	4.80%	10.81%	—	7.20%

¹ Current performance might be lower or higher than the performance data shown. Quoted performance data represents past performance and is not a guarantee or prediction of future results. For performance data current to the most recent month-end, visit www.drs.wa.gov/dcp. The investment return and principal value of an investment will fluctuate so that, when redeemed, shares/units might be worth more or less than their original costs. All returns are calculated in U.S. dollars.

² Dashed spaces indicate that data is not available. These funds have not been in existence long enough to have performance history for these periods.

³ For the Washington State Socially Responsible Balanced Fund Custom Benchmark and all Composite Benchmark years 2005 through 2060, the benchmark returns are estimated based on what the portfolio would have earned using the return data from the various components.

⁴ Retirement Maturity Strategy Fund replaced Retirement Strategy 2000 in January 2015.

⁵ This investment option was added in January 2015.

DCP Net Asset Growth and Average Participant Balance by Age

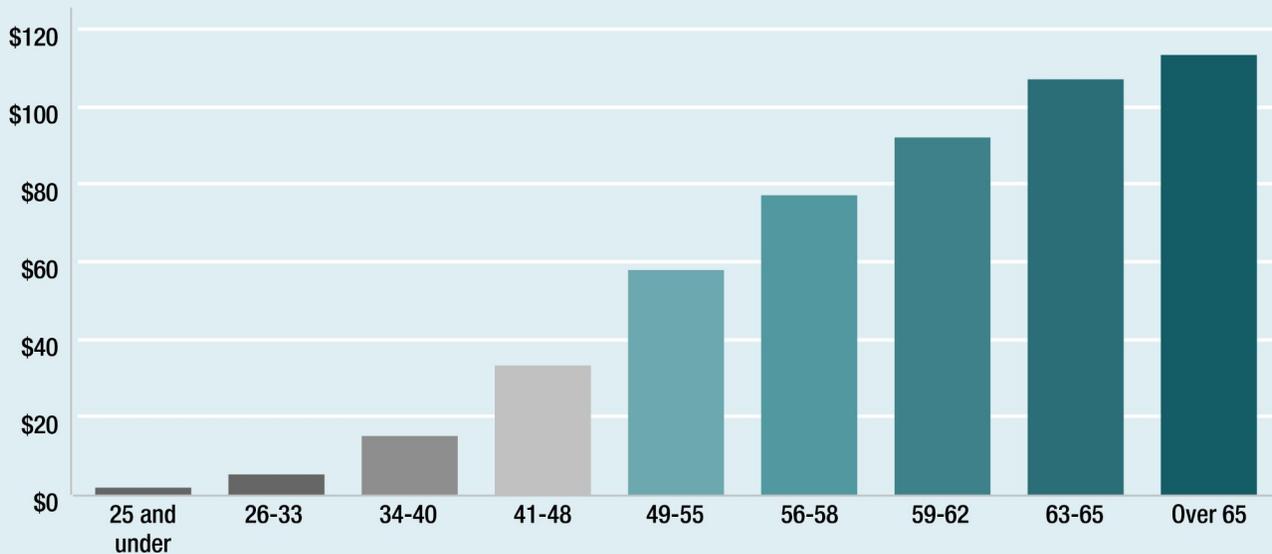
DCP Net Investment Asset Growth

For the Fiscal Years Ended June 30, 2010-2019 — Dollars in Millions



Average Participant Balance by Age

For the Year Ended June 30, 2019 — Dollars in Thousands





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