

ALASKA

• Public Employees' Retirement System •



A component unit of the State of Alaska

Comprehensive Annual Financial Report

Fiscal Year Ended June 30, 2018

Michael J. Dunleavy, Governor

PUBLIC EMPLOYEES' RETIREMENT SYSTEM

COMPREHENSIVE ANNUAL FINANCIAL REPORT

A Component Unit of the State of Alaska

For the Fiscal Year Ended June 30, 2018



Michael J. Dunleavy, Governor

Prepared by

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ALASKA DIVISION OF
**Retirement
and Benefits**

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Alaska Public Employees' Retirement System Defined Contribution Retirement Plan

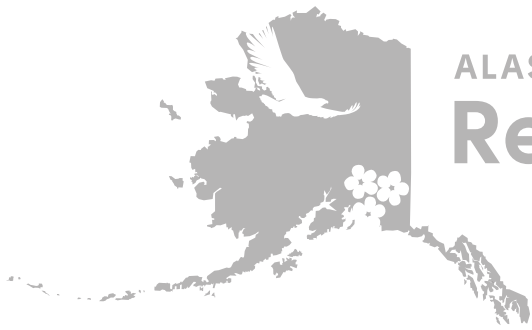
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INTRODUCTORY SECTION



ALASKA DIVISION OF
**Retirement
and Benefits**



THE STATE
of **ALASKA**
GOVERNOR MIKE DUNLEAVY

**Department of
Administration**

DIVISION OF RETIREMENT AND BENEFITS

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Juneau, AK 99811-0203
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LETTER OF TRANSMITTAL

December 15, 2018

The Honorable Mike Dunleavy, Governor
Members of the Alaska State Legislature
Alaska Retirement Management Board
Employers and Plan Members

We are pleased to present the Comprehensive Annual Financial Report (CAFR) of the Public Employees' Retirement System (PERS) (System) for the fiscal year ended June 30, 2018. The CAFR is intended to fulfill the legal requirements of Alaska Statute (AS) 39.35.004(a)(8).

The CAFR provides comprehensive information on the financial operations of the System for the fiscal year. Responsibility for the accuracy, completeness and fairness of the information presented rests with the management of the System. To the best of our knowledge and belief, the enclosed information is accurate in all material respects and is reported in a manner designed to fairly present the financial position and results of operations of the System for the year ended June 30, 2018. All disclosures necessary to enable the reader to gain an understanding of the System's activities have been included.

KPMG LLP, Certified Public Accountants, has issued an unmodified opinion on the System's basic financial statements for the year ended June 30, 2018. The independent auditor's report is located at the beginning of the Financial Section of this report.

The management's discussion and analysis (MD&A) is also located in the Financial Section of this report. The MD&A provides an analytical overview of the financial statements. This letter of transmittal is designed to complement the MD&A and should be read in conjunction with it.

Introductory Section

The CAFR is divided into five sections:

- **Introductory Section**, which contains the letter of transmittal, the organization chart of the Division, and a list of the members serving on the Alaska Retirement Management Board (Board);
- **Financial Section**, which contains the Independent Auditor's Report, MD&A, basic financial statements, required supplementary information, and additional information;
- **Investment Section**, which contains a report prepared by the investment consultant, a report on investment activity, investment results, and various investment schedules;
- **Actuarial Section**, which contains the Actuarial Certification letter and the results of the most current annual actuarial valuation; and
- **Statistical Section**, which includes additional information related to financial trends, demographic and economic information, and operating information.

Profile of the System

The System was established in 1961 to provide pension benefits for eligible state and local government employees. Post-employment health care benefits were added July 1, 1975. Senate Bill 141, signed into law on July 27, 2005, closed the Defined Benefit (DB) Plan effective July 1, 2006, to new members and created a Defined Contribution Retirement (DCR) Plan for members first hired on or after July 1, 2006. Beginning in fiscal year 2007, the System consists of: (1) the DB Plan and (2) the DCR Plan. This report includes both plans. The DB Plan includes the pension plan and the Alaska Retiree Health Care Trust (Tiers I, II, and III). The DCR Plan includes the defined contribution retirement trust, occupational death and disability plan, retiree major medical plan, and the health reimbursement arrangement plan (Tier IV).

Reporting Entity

The System is considered a component unit of the State of Alaska (State) for financial reporting purposes. Due to the closeness of the System's relationship to the State, it is included in the State CAFR as a fiduciary fund.

The Commissioner of the Department of Administration, appointed by the Governor, is responsible for administering the System. In order to meet the statutory requirements of administering the System, the Commissioner appoints the Plan Administrator of the Division of Retirement and Benefits (Division). The Plan Administrator is responsible for the daily operations of the System.

The Board, constituted effective October 1, 2005, replaced the Public Employees' Retirement Board (effective July 1, 2005) and the Alaska State Pension Investment Board (effective October 1, 2005).

The Board is responsible for:

- adopting investment policies and developing investment objectives;
- providing a range of investment options and establishing the rules by which participants can direct their investments among those options, when applicable;
- establishing crediting rates for members' individual contribution accounts, when applicable;
- assisting in prescribing policies for the proper operation of the System;
- coordinating with the System Administrator to have actuarial valuations performed;
- reviewing actuarial assumptions and conducting experience analyses;
- contracting for an independent audit of actuarial valuations and external performance calculations; and
- reporting the financial condition of the Systems to the Governor, Legislature, and individual employers participating in the System.

Major Initiatives / Changes

The System continues to make progress on several on-going projects. Most of these efforts are focused on improving customer service, technology, methods for employers to submit information, methods for members to obtain information, and continued compliance with accounting requirements of the Governmental Accounting Standards Board (GASB) and the Financial Accounting Standards Board (FASB), as applicable.

The System continues to assess and retool its communication efforts, which include printed handbooks, newsletters, and website content. This year, the System has developed new employee videos for employers to use and make the plan information easy to access by members. The System strives to ensure that all communication material is clear, accurate, and user-friendly.

The System strives to provide the highest degree of customer service to all members. The Division continues to enhance and develop the central Member Services Section with the goals of improving phone service, provide faster processing of all customer requests, and improving member education services.

The System continues to offer a broad array of fairs and seminars directed toward both active members and employers, with the goal to assist employers with successful marketing of the plans, educating members about all benefits available from early career through to retirement, encouraging healthy living, and how to best use the health plan.

Introductory Section

Funding Requirements

The System's consulting actuary, Conduent Human Resource Services, presented the results of the June 30, 2017, actuarial valuation report to the Plan Administrator, Division, and the Board. The assumptions and benefits are explained in the Actuarial Section of this report.

Based on the most recent valuation report dated June 30, 2017, the System's DB Plan has a funding ratio (actuarial value of DB Plan assets divided by actuarial liabilities for pension and postemployment healthcare benefits) of 76.7%. The DB Plan's unfunded actuarial accrued liability (actuarial liability minus actuarial value of DB plan assets) totals approximately \$5.1 billion. The unfunded liability continues to be addressed at all levels of the State. The Governor's budget proposes to provide funding to System's employers in order to maintain an appropriate level of employer contributions while also paying the actuarially determined contribution rate adopted by the Board.

Investments

On June 30, 2018, the DB Plan's investment portfolio was valued at \$16.8 billion and earned a 9.61% return for the fiscal year ended June 30, 2018. The DCR Plan's investment portfolio was valued at \$1.5 billion for the fiscal year ended June 30, 2018. Over the past five years ending June 30, 2018, the DB Plan's investments earned an 8.68% return. The Board has statutory oversight of the System's investments and the Department of Revenue, Treasury Division, provides staff for the Board. Actual investing is performed by investment officers in the Treasury Division or by contracted external investment managers. The Board reviews and updates investment policies and strategies and is responsible for safeguarding invested assets.

Accounting System

This CAFR has been prepared to conform to the principles of accounting and reporting established by the GASB. Specific accounting treatments are detailed in the Notes to Financial Statements found in the Financial Section of this report.

Internal Controls

Division management is responsible for establishing and maintaining a system of internal controls to protect System assets from loss, theft, or misuse and to ensure adequate accounting data is compiled for the preparation of financial statements in conformity with generally accepted accounting principles. The cost of internal control should not exceed anticipated benefits; the objective is to provide reasonable, rather than absolute, assurance that the financial statements are free of any material misstatements.

Awards

The Government Finance Officers Association of the United States and Canada (GFOA) awarded a Certificate of Achievement for Excellence in Financial Reporting to the System for its CAFR for the fiscal year ended June 30, 2017. The Certificate of Achievement is a prestigious national award that recognizes conformance with the highest standards of preparation of state and local government financial reports.

In order to be awarded a Certificate of Achievement, a government entity must publish an easily readable and efficiently organized CAFR. This report must satisfy both U.S. generally accepted accounting principles and applicable legal requirements.

A Certificate of Achievement is valid for a period of one year. The Division is confident our current CAFR continues to meet the Certificate of Achievement Program's requirements and are submitting it to the GFOA for consideration.

Additionally, the Public Pension Coordinating Council (PPCC) awarded the Public Pension Standards Award for Funding and Administration certificate to the Division for the fiscal year ended June 30, 2018.

The Public Pension Standards Award for Funding and Administration certificate is valid for a period of one year. The Division is confident the System will continue to meet the standards award requirements and will apply to the PPCC for consideration in 2019.

Acknowledgements

The preparation of this report is made possible by the dedicated services of the staff of the Department of Administration, Division of Retirement and Benefits and Division of Finance; Department of Law; and the Department of Revenue, Treasury Division. This report is intended to provide complete and reliable information as a basis for making management decisions, as a means of determining compliance with legal provisions, and as a means of determining responsible stewardship of the System's financial resources.

The report is available on the web at <http://doa.alaska.gov/drb/pers/employee/resources/cafr.html> and mailed to those who submit a formal request. This report forms the link between the System and the membership. The cooperation of the membership contributes significantly to the success of the System. We hope the employers and plan members find this report informative.

Introductory Section

We are grateful to the Alaska Retirement Management Board, staff, advisors, and to the many people who have diligently worked to assure the successful operation of the System.

Respectfully submitted,



John Quick
Commissioner



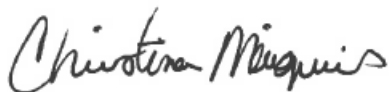
Ajay Desai
Division Director



Michele Michaud
Chief Health Official



Kathy Lea
Chief Pension Officer



Christina Maiquis
Interim Chief Financial Officer



Government Finance Officers Association

Certificate of
Achievement
for Excellence
in Financial
Reporting

Presented to

**Alaska Public Employees'
Retirement System**

For its Comprehensive Annual
Financial Report
for the Fiscal Year Ended

June 30, 2017

Christopher P. Morill

Executive Director/CEO



Public Pension Coordinating Council

***Public Pension Standards Award
For Funding and Administration
2018***

Presented to

Alaska Public Employees' Retirement System

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

Presented by the Public Pension Coordinating Council, a confederation of

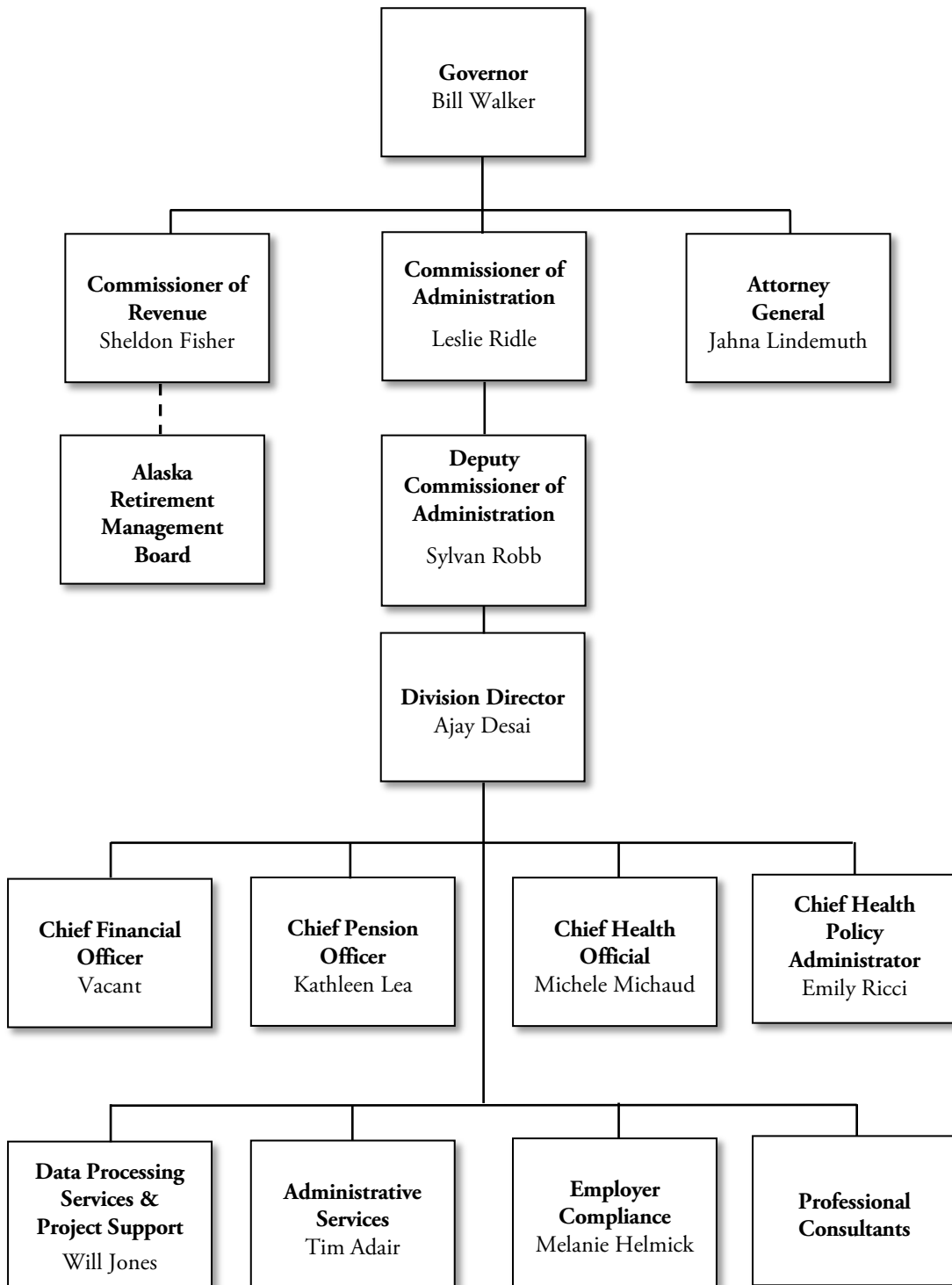
National Association of State Retirement Administrators (NASRA)
National Conference on Public Employee Retirement Systems (NCPERS)
National Council on Teacher Retirement (NCTR)

A handwritten signature in black ink, reading "Alan H. Winkle". The signature is fluid and cursive, with the first letters of the first and last names being capitalized and prominent.

Alan H. Winkle
Program Administrator

ORGANIZATION CHART

As of June 30, 2018



Introductory Section

Section Responsibilities

The **Member Services Section** is responsible for providing comprehensive retirement counseling to the participating members and employers in the plan. This section appoints members to retirement and maintains benefit payment information.

The **Health Plan Administration Section** is responsible for the administration of health, disability, and life insurance. This section provides benefits counseling and plan change information to the membership.

The **Financial Services Section** is responsible for maintaining the employee and employer records and accounts in each of the plans administered by the Division, producing financial statements and reports, and assuring compliance with Internal Revenue Service requirements.

The **Data Processing Services and Project Support Section** supports the information systems the System uses. Responsibilities include planning, development, data base design, programming, and operational support of the data processing systems, including the Local Area Network.

The **Administrative Services Section** is responsible for budget preparation, fiscal management of appropriations, procuring professional services, supplies, and equipment. The section manages the System's record center containing the members' physical records and performs other administrative functions such as legislative tracking and personnel management.

Professional Consultants		
<p>Consulting Actuary Buck <i>Denver, Colorado</i> Gabriel Roeder Smith <i>Denver, Colorado</i></p>	<p>Third-Party Healthcare Claim Administrator Aetna Life Insurance Company <i>Lexington, Kentucky</i> Moda Health / Delta Dental of Alaska <i>Portland, Oregon</i> PayFlex Systems USA, Inc. <i>Omaha, Nebraska</i> CHCS Services, Inc. <i>Pensacola, Florida</i></p>	<p>Consulting Physicians Managed Medical Review Organization <i>Novi, Michigan</i></p>
<p>Independent Auditors KPMG LLP <i>Anchorage, Alaska</i></p>	<p>Legal Counsel Joan Wilkerson Elizabeth Smith Siobhan McIntyre Janell Hafner Kevin Dilg Assistant Attorney Generals <i>Juneau, Alaska</i> Ice Miller LLP <i>Indianapolis, Indiana</i></p>	
<p>Benefits Consultants Buck <i>Denver, Colorado</i> The Segal Company <i>Greenwood Village, Colorado</i></p>		
<p>IT Consultants Computer Task Group Applied Microsystems, Inc. <i>Anchorage, Alaska</i> Alaska IT Group <i>Juneau, Alaska</i></p>		

A list of investment consultants can be found in the Investment Section of this CAFR.

Alaska Retirement Management Board

As of June 30, 2018

Robert M. (“Rob”) Johnson, Chair, has been an attorney in Alaska for over 40 years. In private practice, Mr. Johnson was outside counsel for ARMB since its inception in 2005 until he recently retired from full-time practice. He also was sole outside counsel for ARMB’s predecessor entities, the Alaska State Pension Investment Board and the PERS and TRS board. Mr. Johnson’s law practice included many matters of state-wide importance including Exxon Valdez litigation, public sector labor disputes under the Public Employees Relations Act, and multi-year controversies involving valuation of the Trans-Alaska Pipeline System. His public employment included tenures as an assistant attorney general and director of petroleum revenue. Mr. Johnson received his law degree from Stanford and a BA in history from Claremont McKenna College. Mr. Johnson is the immediate past vice chair of the Alaska Retirement Management Board.

Gail Anagick Schubert, Vice Chair, serves as the President and CEO of the Bering Straits Native Corp. (BSNC), one of the twelve Alaska Native regional corporations formed under the Alaska Native Claims Settlement Act. She is Treasurer of the Alaska Federation of Natives, Vice Chair of the Akeela Treatment Services Board, Vice Chair of the Alaska Native Justice Center, and Vice Chair of the ANCSA Regional Association. Mrs. Schubert is the immediate past chair of the Alaska Native Heritage Center, which she served on for nearly 15 years. She is a member of the Anchorage Chamber of Commerce ATHENA Society, a program that recognizes women’s leadership. She has served on the BSNC Board of Directors since 1992. Mrs. Schubert is the 2014 recipient of the Northwest Indian Bar Association’s Unsung Hero Award. The annual award honors an attorney for his or her outstanding contributions toward improving the legal and political landscape of Pacific Northwest Indian Country. Prior to joining BSNC, Mrs. Schubert practiced law in Anchorage after a successful career on Wall Street, where she worked at the Federal Reserve Bank of New York and two Wall Street law firms. She earned an undergraduate degree from Stanford University, a MBA from Cornell University’s Johnson School of Management with an emphasis in accounting and finance, and a JD from the Cornell University School of Law. Mrs. Schubert was born and raised in Unalakleet, Alaska. Mrs. Schubert is the immediate past chair of the Alaska Retirement Management Board.

Gayle W. Harbo, Secretary, retired after teaching mathematics in Fairbanks for 25 years. She also served as math department chair, as advanced placement coordinator, on the district curriculum, evaluation and budget committees, and twice as chair of the Lathrop Self-Evaluation for Accreditation Committee. Ms. Harbo is a member of Alpha Delta Kappa, AARP, National Retired Teachers of Alaska, Fairbanks Retired Teachers Association, National Council of Teacher Retirement Systems, NCTR Education Committee, and the Alaska Teachers’ Retirement Board. She is also a co-manager of a family trust. Ms. Harbo was named Alaska Teacher of the Year in 1989. She holds a BS in Mathematics from North Carolina State University, and a Masters in Teaching from the University of Alaska, Fairbanks, and has completed an additional 40 hours in mathematics, counseling, law and finance.

Tom Brice is the Business Representative for the Alaska District Council of Laborers administering the contracts in Southeast Alaska for Laborers Local 942 and Public Employees Local 71. He was elected to the position of Vice President of Laborers Local 942 in 2011, and has sat on the negotiating team for the state contract with Public Employees Local 71 for the past three contracts. Prior to this position, Mr. Brice was the Apprenticeship Outreach Coordinator for the Alaska Works Partnership. Here he developed and managed a statewide program focused on assisting qualified rural Alaskans to gain entrance to the various registered Alaskan Building Trade apprenticeships. Mr. Brice also served in the Alaska State House of Representatives between the 18th and 21st legislatures. He has a BA from the University of Alaska Fairbanks.

Introductory Section

Kristin Erchinger is currently finance director for the city of Seward, having worked for the city in finance positions since 1994 including a year serving simultaneously as finance director and acting city manager. She became the finance director in 2000. Ms. Erchinger is past president of the Alaska Government Finance Officer's Association and represents that organization in the Alaska Municipal League. She also served on the Providence Alaska Region Board, the Graduate Medical Education Committee, the Alaska Municipal League Board, and the Board of the American Society for Public Administration, Alaska Chapter. Ms. Erchinger earned bachelor's degrees in international studies and Japanese language and literature, both from the University of Washington, and a master's degree in public administration from the University of Alaska Anchorage.

Sheldon Fisher, Commissioner of the Department of Revenue, was appointed by Governor Walker in September 2017. Prior to this appointment, Mr. Fisher was the Commissioner of the Department of Administration and appointed by Governor Walker in December 2014. Mr. Fisher was born and raised in Ashland, Oregon, and attended Brigham Young University (BYU), where he graduated with honors with a degree in economics. After BYU, Mr. Fisher went on to receive a law degree from Yale Law School and worked for a time for the law firm of Latham & Watkins. In 1994, Mr. Fisher left Latham & Watkins to pursue a career in telecommunications, working first for Hughes Electronics, and later, as the General Manager of Sprint's Broadband Wireless business. Mr. Fisher came to Alaska in 2004 taking a position as Senior Vice President of Sales and Product Marketing for Alaska Communications Systems, where he was responsible for all customer facing organizations, including all revenue generation. In 2010, Mr. Fisher resigned from ACS in order to run for Congress. In 2011, Mr. Fisher joined McKinley Capital Management, LLC, as the Chief Operating Officer, where he was responsible for the day to day administrative and general business operations of McKinley Capital. Mr. Fisher brings 20 years of management experience focusing on operations, technology infrastructure and marketing. Mr. Fisher has been married to his wife, Christine, for 26 years, and they are the parents of 7 children.

Randall Hoffbeck, Commissioner of the Department of Revenue, was appointed by Governor Walker in December 2014. Mr. Hoffbeck has 30+ years of experience in tax administration, valuation, and appraisal of real estate, as a contractor to the Tax Division from 1999-2001, and then as Petroleum Property Assessor for the State of Alaska from 2001-2006. In that capacity, he was the lead appraiser in the valuation and administration of tax assessments on all oil and gas properties in the State of Alaska. From 2006-2011 Mr. Hoffbeck served as the Director of Administration and Finance and CFO for the North Slope Borough before being appointed Chief of Staff in 2012. In late 2012 he retired from government service to focus on the completion of a Master of Divinity Degree which was completed in October 2014. Mr. Hoffbeck and his wife Cindy have just returned from serving with a short term Christian medical mission team in Kenya.

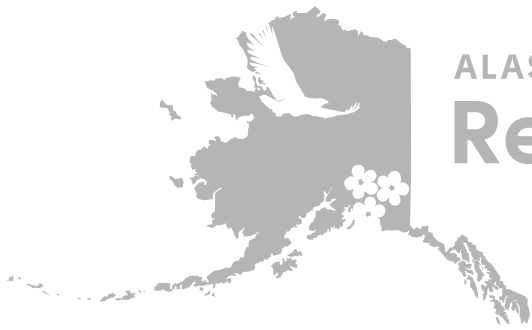
Leslie Ridle, has served as the Deputy Commissioner at the Department of Administration for the Walker Administration. Her portfolio includes the Divisions of Personnel and Labor Relations, Shared Services, Motor Vehicles, Facilities Management, the Public Defender Agency, Office of Public Advocacy and the Alaska Public Offices Commission. Ms. Ridle is also directly involved in labor negotiations, legislative issues, and communications. Ms. Ridle is a 50-year Alaskan who grew up in Douglas and Anchorage. Her professional background includes teaching, as well as government service in Anchorage, Washington, D.C, and Juneau. As Acting Commissioner of the Department of Administration, Leslie will oversee the functions of this department and ensure uninterrupted delivery of services to state agencies as well as the public.

Norman West, CPA, is the Chief Financial Officer at Alaska USA Federal Credit Union with over 30 years of experience with employee benefit plans and management of large fixed income securities portfolios of \$200 million to \$1 billion. Mr. West is responsible for the investment of the Credit Union's fixed income portfolio as well as accounting and related activities. He served on the boards of the Credit Union subsidiaries, including Alaska USA Mortgage, Alaska USA Trust Company, Alaska USA Insurance Brokers, and served as a trustee on the Alaska USA Federal Credit Union's defined benefit plan. Prior to his Alaska USA employment, Mr. West was the Trust Controller and Chief Investment Officer for the Alaska Teamsters Employer Service Corp., the administrator for the union's benefit plans. He previously practiced as a CPA in Alaska, Arizona and Texas, and received training as an ERISA specialist in 1977. He has been active for

Introductory Section

many years in professional organizations as a member, officer and presenter, and served as a volunteer in church and Boy Scouts most of his adult life. Mr. West is a graduate of Brigham Young University with a B.S. in Accounting. He resides in Palmer and is the father of eleven children.

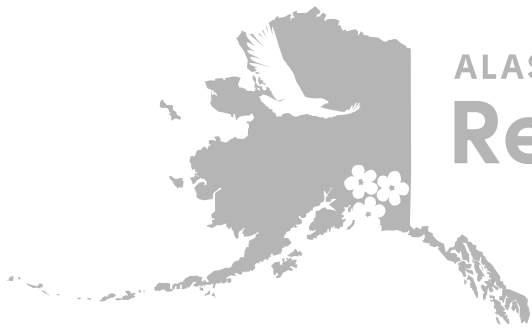
Bob Williams began his teaching career as a Peace Corps teacher in Gambia, Africa. He is a nationally board certified teacher, (NBCT, Math – AYA) and currently teaches Calculus and Geometry at Colony High School in Palmer. Mr. Williams is the Alaska 2009 Teacher of the Year, served as the president of the Alaska Council of Teachers of Mathematics from 2011-2013, and is the recipient of the Presidential Award for Excellence in Mathematics Teaching. He was one of five national recipients of the 2010 Horace Mann Teaching Excellence award and is a 2012 Aspen Teacher Leader Fellow. Mr. Williams has a B.S. in Petroleum Engineering from the University of Alaska, Fairbanks, an M.A. in Mathematics Education from Columbia University, and an M.Ed. in Educational Leadership from the University of Alaska, Anchorage.



ALASKA DIVISION OF
**Retirement
and Benefits**



FINANCIAL SECTION



ALASKA DIVISION OF
**Retirement
and Benefits**



KPMG LLP
Suite 600
701 West Eighth Avenue
Anchorage, AK 99501

Independent Auditors' Report

The Division of Retirement and Benefits and
Members of the Alaska Retirement Management Board
State of Alaska Public Employees' Retirement System:

We have audited the accompanying combining financial statements of the State of Alaska Public Employees' Retirement System (the System), a component unit of the State of Alaska, as of and for the year ended June 30, 2018, and the related notes to the financial statements, which collectively comprise the System's basic financial statements as listed in the table of contents.

Management's Responsibility for the Financial Statements

Management is responsible for the preparation and fair presentation of these financial statements in accordance with U.S. generally accepted accounting principles; 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 an opinion on these financial statements based on our audit. We conducted our audit in accordance with auditing standards generally accepted in the United States of America. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free from material misstatement.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the financial statements. The procedures selected depend on the 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 to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the entity's internal control. Accordingly, we express no such opinion. An audit also includes evaluating the appropriateness of accounting policies used and the reasonableness of significant accounting estimates made by management, as well as evaluating the overall presentation of the financial statements.

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

Opinion

In our opinion, the financial statements referred to above present fairly, in all material respects, the fiduciary net position of the State of Alaska Public Employees' Retirement System as of June 30, 2018, and the changes in fiduciary net position for the year then ended, in accordance with U.S. generally accepted accounting principles.

Other Matters

Financial Section

Prior-Year Comparative Information

We have previously audited the System's 2017 combining financial statements, and we expressed an unmodified opinion on those financial statements in our report dated December 5, 2017. In our opinion, the summarized comparative information presented herein as of and for the year then ended June 30, 2017 is consistent, in all material respects, with the audited financial statements from which it has been derived.

Required Supplementary Information

U.S. generally accepted accounting principles require that the management's discussion and analysis on pages 17-26, and the schedules of changes in employer net pension and OPEB liabilities and related ratios, schedules of employer and nonemployer contributions, and schedules of investment returns on pages 49-65 be presented to supplement the basic financial statements. Such information, although not a part of the basic financial statements, is required by the GASB, who considers it to be an essential part of financial reporting for placing the basic financial statements in an appropriate operational, economic, or historical context. We have applied certain limited procedures to the required supplementary information in accordance with auditing standards generally accepted in the United States of America, which consisted of inquiries of management about the methods of preparing the information and comparing the information for consistency with management's responses to our inquiries, the basic financial statements, and other knowledge we obtained during our audit of the basic financial statements. We do not express an opinion or provide any assurance on the information because the limited procedures do not provide us with sufficient evidence to express an opinion or provide any assurance.

Supplemental Schedules

Our audit was conducted for the purpose of forming an opinion on the financial statements that collectively comprise the System's basic financial statements. The supplemental schedules on pages 80 and 81 are presented for purposes of additional analysis and are not a required part of the basic financial statements. The supplemental schedules are the responsibility of management and were derived from and relate directly to the underlying accounting and other records used to prepare the basic financial statements. Such information has been subjected to the auditing procedures applied in the audit of the basic financial statements and certain additional procedures, including comparing and reconciling such information directly to the underlying accounting and other records used to prepare the basic financial statements or to the basic financial statements themselves, and other additional procedures in accordance with auditing standards generally accepted in the United States of America. In our opinion, the supplemental schedules are fairly stated in all material respects in relation to the basic financial statements as a whole.

KPMG LLP

November 21, 2018

State of Alaska
Public Employees' Retirement System
(A Component Unit of the State of Alaska)

Management's Discussion and Analysis (Unaudited)

June 30, 2018

This section presents management's discussion and analysis (MD&A) of the Public Employees' Retirement System's (the System) financial position and performance for the year ended June 30, 2018. This section is presented as a narrative overview and analysis. Please read the MD&A in conjunction with the financial statements, notes to financial statements, required supplementary information, and supplemental schedules to better understand the financial condition and performance of the System during the fiscal year ended June 30, 2018.

Financial Highlights

The System's financial highlights as of June 30, 2018 were as follows:

- The System's fiduciary net position restricted for pension benefits, postemployment healthcare benefits, and individuals increased by \$905 million during fiscal year 2018.
- The System's plan member and employer contributions increased by \$7.6 million during fiscal year 2018 when compared to fiscal year 2017.
- The State of Alaska (the State) directly appropriated \$72.7 million to the System during fiscal year 2018.
- The System's net investment income decreased \$609.3 million when compared to fiscal year 2017 to \$1,442.8 million during fiscal year 2018.
- The System's pension benefit expenditures totaled \$801.1 million during fiscal year 2018.
- The System's postemployment healthcare benefit expenditures totaled \$422.8 million in fiscal year 2018.

Overview of the Financial Statements

This discussion and analysis is intended to serve as an introduction to the System's financial statements. The System's financial statements are composed of three components: (1) combining statement of fiduciary net position, (2) combining statement of changes in fiduciary net position, and (3) notes to financial statements. This report also contains required supplementary information and other supplemental schedules.

Combining Statement of Fiduciary Net Position – This statement presents information regarding the System's assets, liabilities, and resulting net position restricted for pension benefits, postemployment healthcare benefits, and individuals. This statement reflects the System's investments at fair value, along with cash and cash equivalents, receivables, and other assets less liabilities at June 30, 2018.

Combining Statement of Changes in Fiduciary Net Position – This statement presents how the System's net position restricted for pension benefits, postemployment healthcare benefits, and individuals changed during the fiscal year ended June 30, 2018. This statement presents contributions and investment income during the period. Deductions for pension and postemployment healthcare benefits, refunds, and operating deductions are also presented.

The above statements represent resources available for investment and payment of benefits as of June 30, 2018, and the sources and uses of those funds during fiscal year 2018.

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Notes to Financial Statements – The notes to financial statements are an integral part of the financial statements and provide additional detailed information and schedules that are essential to a full understanding of the System's financial statements.

Required Supplementary Information and Related Notes – The required supplementary information consists of 12 schedules and related notes concerning the funded status of the System and actuarial assumptions and methods used in the actuarial valuation.

Supplemental Schedules – Supplemental schedules include detailed information on administrative and investment deductions incurred by the System and payments to consultants (other than investment advisors) for professional services.

Condensed Financial Information (In thousands)

Description	System net position				
	2018	2017	Increase (decrease)		2016
			Amount	Percentage	
Assets:					
Cash and cash equivalents	\$ 202,947	470,579	(267,632)	(56.9)%	\$ 148,228
Due from State of Alaska General Fund	20,257	19,338	919	4.8	19,922
Contributions receivable	24,461	24,497	(36)	(0.1)	27,733
Due from PERS occupational death and disability	—	2	(2)	(100.0)	2
Other accounts receivable	249	4,423	(4,174)	(94.4)	218
Investments at fair value	18,361,435	17,230,847	1,130,588	6.6	15,838,187
Other assets	982	982	—	—	2,108
Total assets	<u>18,610,331</u>	<u>17,750,668</u>	<u>859,663</u>	<u>4.8</u>	<u>16,036,398</u>
Liabilities:					
Accrued expenses	4,292	4,376	(84)	(1.9)	10,368
Claims payable	45,677	43,006	2,671	6.2	45,313
Forfeiture payable to employers	35,173	32,373	2,800	8.6	27,351
Securities lending collateral payable	62,648	112,258	(49,610)	(44.2)	—
Due to PERS DB Pension Fund	—	2	(2)	(100.0)	2
Due to State of Alaska General Fund	—	1,376	(1,376)	(100.0)	4,568
Total liabilities	<u>147,790</u>	<u>193,391</u>	<u>(45,601)</u>	<u>(23.6)</u>	<u>87,602</u>
Net position	<u>\$ 18,462,541</u>	<u>17,557,277</u>	<u>905,264</u>	<u>5.2%</u>	<u>\$ 15,948,796</u>

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June 30, 2018

Condensed Financial Information Continued (In thousands)

Description	Changes in system net position				2016
	2018	2017	Increase (decrease)		
			Amount	Percentage	
Net position, beginning of year	\$ 17,557,277	15,948,796	1,608,481	10.1%	\$ 16,415,343
Additions:					
Contributions – employers and plan members	666,256	658,675	7,581	1.2	660,834
Contributions – nonemployer State of Alaska	72,719	99,167	(26,448)	(26.7)	126,520
Net investment income (loss)	1,442,821	2,052,072	(609,251)	(29.7)	(86,770)
Other income	26,785	43,233	(16,448)	(38.0)	31,963
Total additions	<u>2,208,581</u>	<u>2,853,147</u>	<u>(644,566)</u>	<u>(22.6)</u>	<u>732,547</u>
Deductions:					
Pension and postemployment healthcare benefits	1,224,012	1,172,955	51,057	4.4	1,133,712
Refund of contributions	54,854	45,776	9,078	19.8	40,744
Administrative	24,451	25,935	(1,484)	(5.7)	24,638
Total deductions	<u>1,303,317</u>	<u>1,244,666</u>	<u>58,651</u>	<u>4.7</u>	<u>1,199,094</u>
Increase (decrease) in net position	<u>905,264</u>	<u>1,608,481</u>	<u>(703,217)</u>	<u>(43.7)</u>	<u>(466,547)</u>
Net position, end of year	<u>\$ 18,462,541</u>	<u>17,557,277</u>	<u>905,264</u>	<u>5.2%</u>	<u>\$ 15,948,796</u>

Financial Analysis of the System

The statements of fiduciary net position as of June 30, 2018 and 2017 show net position restricted for pension benefits, postemployment healthcare benefits, and individuals of \$18,462,541,000, and \$17,557,277,000, respectively. The entire amount is available to cover the System's obligation to pay pension and postemployment healthcare benefits to its members and their beneficiaries, as well as administrative costs.

These amounts represent an increase in the System's net position restricted for pension benefits, postemployment healthcare benefits, and individuals of \$905,264,000, or 5.2%, from fiscal year 2017 to 2018 and individuals of \$1,608,481,000, or 10.1%, from fiscal year 2016 to 2017. Over the long term, plan member, employer, and nonemployer contributions, and State of Alaska appropriations, as well as investment income earned, are anticipated to sufficiently fund the pension benefit and postemployment healthcare costs of the System.

The investment of pension funds is a long-term undertaking. On an annual basis, the Alaska Retirement Management Board (the Board) reviews and adopts an asset allocation strategy to ensure the asset mix will remain at an optimal risk/return level given the System's constraints and objectives.

During the 30th Alaska State Legislature and as part of the State's Fiscal Year 2018 Operating Budget, House Bill 57 appropriated \$72.6 million from the General Fund and the Alaska Higher Education Investment Fund to the Department of Administration for deposit in the Defined Benefit Pension and the Alaska Retiree Healthcare Trust (ARHCT) funds.

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Additionally, as part of the Fiscal Year 2019 Operating Budget, House Bill 286 appropriated \$148 thousand from the General Fund to the Department of Administration for deposit in the Defined Benefit Pension and the ARHCT funds.

System Asset Allocation

During fiscal years 2018 and 2017, the Board adopted the following asset allocation for the Defined Benefit Pension Plan (DB Plan) and Defined Contribution Retirement Pension Plan's (DCR Plan) retiree major medical insurance fund, health reimbursement arrangement fund, and occupational death and disability fund:

	2018	
	Pension and Healthcare Trust	
	Allocation	Range
Broad domestic equity	24.0%	± 6%
Global equity ex-U.S.	22.0	± 4
Fixed income	10.0	± 5
Opportunistic	10.0	± 5
Real assets	17.0	± 8
Absolute return	7.0	± 4
Private equity	9.0	± 5
Cash equivalents	1.0	+ 3/- 1
Total	100.0%	
Expected return 10-year geometric mean	6.60%	
Projected standard deviation	14.70	
	2017	
	Pension and Healthcare Trust	
	Allocation	Range
Broad domestic equity	26.0%	± 6%
Global equity ex-U.S.	22.0	± 4
Private equity	9.0	± 5
Real assets	17.0	± 8
Absolute return	7.0	± 4
Fixed income composite	13.0	± 5
Alternative equity strategies	5.0	± 2
Cash equivalents	1.0	+ 3/- 1
Total	100.0%	
Expected return 10-year geometric mean	7.10%	
Projected standard deviation	15.00	

For fiscal years 2018 and 2017, the DB Plan's investments generated a 9.61% and 13.35% rate of return, respectively.

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Contributions, Investment Income, and Other Additions

The additions required to fund retirement benefits are accumulated through a combination of employer and plan member contributions, State appropriation, investment income, and other additions as follows:

	2018	2017	Additions		2016
			Increase (decrease)		
			Amount	Percentage	
			(in thousands)		
Contributions – plan members	\$ 176,369	172,838	3,531	2.0%	\$ 173,855
Contributions – employers	489,887	485,837	4,050	0.8	486,979
Contributions – nonemployer					
State of Alaska	72,719	99,167	(26,448)	(26.7)	126,520
Net investment income (loss)	1,442,821	2,052,072	(609,251)	(29.7)	(86,770)
Other income	26,785	43,233	(16,448)	(38.0)	31,963
Total	\$ 2,208,581	2,853,147	(644,566)	(22.6)%	\$ 732,547

The System's employer contributions increased from \$485,837,000 in fiscal year 2017 to \$489,887,000 in fiscal year 2018, an increase of \$4,050,000, or 0.8%. The System's employer contributions decreased from \$486,979,000 in fiscal year 2016 to \$485,837,000 in fiscal year 2017, a decrease of \$1,142,000, or 0.2%. Employer contributions increase or decrease in proportion to changes in the underlying salaries, which decreased 0.4% in fiscal year 2017, and increased 0.9% in fiscal year 2018.

The State provided \$72,719,000 and \$99,167,000 for fiscal years 2018 and 2017 in nonemployer contributions per Alaska Statute (AS) 39.35.280. The employer on-behalf amount (or additional State contributions as defined in AS 39.35.280) is calculated by the System's actuary. It is based on projected payroll and the difference between the actuarially determined contribution rate and the statutory effective rate. The employer effective contribution rate of 22.00% is established in AS 39.35.255(a).

The System's net investment income in fiscal year 2018 decreased by \$609,251,000, or 29.7%, from amounts recorded in fiscal year 2017. The System's net investment income in fiscal year 2017 increased by \$2,138,842,000, or 2,465%, from amounts recorded in fiscal year 2016. Fiscal year 2018 saw rates of returns above the assumed rate of return. The investment returns received in fiscal year 2018 were lower than the returns seen in fiscal year 2017, causing a decrease in returns in comparison between 2018 and 2017. Over the long term, investment earnings play a significant role in funding plan benefits. The Board continues to look at investment classes and strategies best suited to meet the expected earnings returns to meet future benefit payments.

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The System's investment rates of return at June 30 are as follows:

	Year ended		
	2018	2017	2016
System returns	9.61 %	13.35%	(0.36)%
Domestic equities	15.21	18.55	0.58
International equities	7.97	20.41	(9.15)
Private equity	26.65	17.04	4.71
Real assets	7.56	5.98	4.76
Absolute return	4.78	8.47	(3.09)
Fixed income	(0.71)	2.91	5.15
Opportunistic	5.64	—	—
Alternative equity	—	11.38	3.41
Cash equivalents	1.51	0.79	0.55
Actuarially assumed rate of return	8.00	8.00	8.00

Benefits and Other Deductions

The primary deduction of the DB Plan is the payment of pension and other postemployment benefits, primarily healthcare. The primary deduction of the DCR Plan is the refund of contributions. These benefit payments, healthcare claims paid, refunds of contributions, and the cost of administering the System comprise the cost of operations as follows:

	Deductions (in thousands)				
	2018	2017	Increase (decrease)		2016
			Amount	Percentage	
Pension benefits	\$ 801,155	766,766	34,389	4.5%	\$ 732,479
Postemployment benefits	422,857	406,189	16,668	4.1	401,233
Refunds of contributions	54,854	45,776	9,078	19.8	40,744
Administrative	24,451	25,935	(1,484)	(5.7)	24,638
Total	\$ 1,303,317	1,244,666	58,651	4.7%	\$ 1,199,094

The System's pension benefit payments in 2018 increased \$34,389,000, or 4.5%, from fiscal year 2017 and increased \$34,287,000, or 4.7%, from fiscal year 2016 to 2017. The increase in pension benefits in fiscal year 2018 is the result of a continued increase in the number of retirees.

The System's postemployment healthcare benefit payments in fiscal year 2018 increased \$16,668,000, or 4.1%, from fiscal year 2017 and increased \$4,956,000, or 1.2%, from fiscal year 2016 to 2017. The System has seen an increase in plan utilization for healthcare as the number of retirees in the DB Plan continues to increase. The System continues to look at ways for cost containment while providing benefits applicable to the plan.

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The System's refund of contributions increased \$9,078,000, or 19.8%, from fiscal year 2017 to 2018 and increased \$5,032,000, or 12.4%, from fiscal year 2016 to 2017. The increase in refunds is primarily in the DCR Plan, where refunds increased \$7,777,000 between fiscal year 2017 to 2018, and increased \$4,645,000 from fiscal year 2016 to 2017. Increases in refunds are attributed to the refund of DCR member accounts. The reasons behind why members withdraw their account at termination are indeterminable. The System continues to look at ways to retain member contributions by emphasizing the low investment costs to members to maintain funds within the DCR Plan, with a number of investment options available.

The System's administrative deductions in 2018 decreased \$1,484,000, or 5.7%, from fiscal year 2017 and increased \$1,297,000, or 5.3%, from fiscal year 2016 to 2017. The decrease in administrative costs in fiscal year 2018 is related to decreases in wages and benefits, partially offset by increases in management, consulting, and other professional services.

Net Pension Liability

Governmental Accounting Standards Board (GASB) Statement No. 67 requires the Defined Benefit (DB) Plan to report the Total Pension Liability, Fiduciary Net Position, and the Net Pension Liability. The Total Pension Liability represents the total obligation for the Plan's pension benefits related to costs incurred as a result of years of service, changes in benefit terms, changes in actuarial assumptions, and any differences between the actuarial assumptions and actual experience. The Plan's Fiduciary Net Position represents the assets available to pay the Plan's future payment stream. The assets are derived from contributions received from participating employers, plan members, and nonemployer contributions, as well as investment earnings, less benefit payments during the year and the related costs to administer the Plan. The difference between the Total Pension Liability and Fiduciary Net Position is the Net Pension Liability, or the unfunded portion of the Total Pension Liability.

The components of the NPL of the participating employers were as follows (in thousands):

	2018	2017
Total pension liability	\$ 14,275,702	14,112,569
Plan fiduciary net position	(9,306,675)	(8,943,127)
Employers' net pension liability	\$ 4,969,027	5,169,442
Plan fiduciary net position as a percentage of the total pension liability	65.19 %	63.37 %

Net OPEB (Asset) Liability

GASB Statement No. 74, implemented in 2017, requires the DB Other Postemployment Benefit (OPEB) Plans to report the Total OPEB Liability, Fiduciary Net Position, and Net OPEB Liability for each plan. The Total OPEB Liability represents the total obligation for the Plan's postemployment healthcare benefits related to costs incurred as a result of

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years of service, changes in benefit terms, changes in actuarial assumptions, and any differences between the actuarial assumptions and actual experience. The Plan's Fiduciary Net Position represents the assets available to pay the OPEB Plan's future payment stream. The assets are derived from contributions received from participating employers, plan members, and nonemployer contributions, as well as investment earnings, less benefit payments during the year and the related costs to administer the Plans. The difference between the Total OPEB Liability and Fiduciary Net Position is the Net OPEB Liability, or the unfunded or overfunded portion of the Total OPEB Liability.

The components of the net OPEB liability (asset) of the participating employers for the Plans as of June 30, 2018 were as follows (in thousands):

	Alaska Retiree Healthcare Trust Plan (ARHCT)	Occupational Death and Disability (ODD)	Retiree Medical Plan (RMP)
Total OPEB liability	\$ 8,638,289	11,383	112,740
Plan fiduciary net position	(7,612,001)	(30,805)	(100,015)
Employers' net OPEB liability (asset)	<u>\$ 1,026,288</u>	<u>(19,422)</u>	<u>12,725</u>
Plan fiduciary net position as a percentage of the total OPEB liability	88.12%	270.62%	88.71%

The components of the net OPEB liability (asset) of the participating employers for the Plans as of June 30, 2017 were as follows (in thousands):

	Alaska Retiree Healthcare Trust Plan (ARHCT)	Occupational Death and Disability (ODD)	Retiree Medical Plan (RMP)
Total OPEB liability	\$ 8,183,709	12,560	86,697
Plan fiduciary net position	(7,338,952)	(26,749)	(81,482)
Employers' net OPEB liability (asset)	<u>\$ 844,757</u>	<u>(14,189)</u>	<u>5,215</u>
Plan fiduciary net position as a percentage of the total OPEB liability	89.68%	212.97%	93.98%

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Funding

Retirement benefits are financed by accumulations from employers, plan members, State nonemployer contributions, and income earned on System investments.

- The employer contribution rate is adopted and set by the Board annually based on actuarial determinations made by the System's consulting actuary as reviewed by the Board's contracted actuary. AS 39.35.255(a) sets the employer effective contribution rate at 22.00%. The difference between the actuarially determined contribution rate adopted by the Board and the statutory employer effective rate is paid by the State as a direct appropriation per AS 39.35.280.
- AS 39.35.280 provides that additional State contributions are made each July 1 or soon after July 1 for the ensuing fiscal year that when combined with the total employer contributions are sufficient to pay the System's past service liability at the contribution rate adopted by the Board for that fiscal year.
- Plan member contributions are set by AS 39.35.160 for the DB Plan and AS 39.35.730 for the DCR Plan.
- The Board works with an external consultant to determine the proper asset allocation strategy.

Legislation

During fiscal year 2018, the 30th Alaska State Legislature enacted one law that affects the System. Conference Committee Substitute House Bill (CCS HB) 57, Section 41(a) appropriates \$72.6 million from the General Fund and the Alaska Higher Education Investment Fund to the Department of Administration for deposit in the System's defined benefit pension fund as partial payment of the participating employers' contribution for fiscal year ending June 30, 2018. Additionally, as part of the Fiscal Year 2019 Operating Budget, House Bill (CCS HB) 286, Section 25 (a) appropriated \$148 thousand from the General Fund to the Department of Administration for deposit in the Defined Benefit Pension fund. These appropriations to the fund are the difference between the statutory employer required contribution of 22.00% paid by participating employers for both defined benefit and defined contribution members, and the actuarially determined contribution rate adopted by the Board for that fiscal year, and is specified in AS 39.35.280 – Additional State Contributions.

Economic Conditions, Future Contribution Rates, and Status of Unfunded Liability

Fiscal year 2018 was a year of positive investment returns. Net investment income decreased from \$2,052,072,000 in fiscal year 2017 to income of \$1,442,821,000 in fiscal year 2018, a decrease of \$609,251,000, or 29.70%. The return on the System's investments was significantly above the 8.00% actuarially assumed rate of return with the System's actual rate of return of 9.61% at June 30, 2018. The Board continues to work with its investment counsel and the Alaska Department of Revenue, Treasury Division, to diversify the portfolio of the System to maintain an optimal risk/return ratio.

The consulting actuary recommended a decrease from the System's actuarially determined contribution rate of 26.14% in fiscal year 2017 to 25.01% in fiscal year 2018. The Board adopted the fiscal year 2018 actuarially determined contribution

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rate of 25.01%, which represented a decrease of 1.13%. The statutory employer effective contribution rate remained at 22.00% for fiscal years 2018 and 2017.

The June 30, 2017 and 2016 actuarial valuation reports for the DB Plan reported funding ratios based on valuation assets of 76.7% and 77.1%, respectively, as well as unfunded liabilities of \$5.1 billion and \$4.9 billion, respectively.

For fiscal years 2018 and 2017, the DCR Plan's employer contribution rate was established by AS 39.35.255(a) at 22.00%. The DCR Plan's actuarially determined occupational death and disability rate was adopted by the Board for fiscal years 2018 and 2017 to be 0.43% and 0.49%, respectively, for peace officers/firefighters; and 0.16% and 0.17%, respectively, for all others. The DCR Plan retiree medical plan actuarially determined contribution rate was adopted by the Board for fiscal years 2018 and 2017 to be 1.03% and 1.18%, respectively.

Requests for Information

This financial report is designed to provide a general overview of the finances for all those with interest in the finances. Questions concerning any of the information provided in this report or requests for additional information should be addressed to:

State of Alaska Public Employees' Retirement System
Division of Retirement and Benefits, Finance Section
P.O. Box 110203
Juneau, Alaska 99811-0203

Questions concerning any of the investment information provided in this report or requests for additional investment information should be addressed to:

State of Alaska
Department of Revenue, Treasury Division
P.O. Box 110405
Juneau, Alaska 99811-0405

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Combining Statement of Fiduciary Net Position

June 30, 2018

(With summarized financial information for June 30, 2017)

(In thousands)

	Defined Benefit Pension	Defined Contribution Pension	Other Postemployment Benefit Plans			System total June 30, 2018	System total June 30, 2017
			Alaska Retiree Healthcare Trust	Occupational Death and Disability	Retiree Medical		
Assets:							
Cash and cash equivalents (note 3):							
Short-term Fixed Income Pool	\$ 57,479	38,989	39,037	198	664	2,364	138,731
Empower money market fund – non-participant directed	—	1,568	—	—	—	—	1,568
Securities lending collateral	33,386	—	27,535	109	352	1,266	62,648
Total cash and cash equivalents	90,865	40,557	66,572	307	1,016	3,630	202,947
Receivables:							
Contributions	23,295	565	385	7	45	164	24,461
Due from State of Alaska General Fund	4,752	7,283	4,677	155	807	2,583	20,257
Due from PERS Occupational Death and Disability Fund	—	—	—	—	—	—	—
Other accounts receivable	212	—	37	—	—	—	249
Total receivables	28,259	7,848	5,099	162	852	2,747	44,967
Investments (note 3), at fair value:							
Fixed income securities:							
U.S. Treasury Fixed Income Pool	841,582	—	694,743	2,778	8,987	32,266	1,580,356
International Fixed Income Pool	—	—	—	—	—	—	—
Emerging Markets Debt Pool	—	—	—	—	—	—	—
Total fixed income securities	841,582	—	694,743	2,778	8,987	32,266	1,580,356
Broad domestic equity:							
Large Cap Pool	1,825,223	—	1,507,805	6,029	19,505	70,027	3,428,589
Small Cap Pool	346,554	—	285,513	1,142	3,693	13,260	650,162
Total broad domestic equity	2,171,777	—	1,793,318	7,171	23,198	83,287	4,078,751
Global equity ex-US:							
International Equity Pool	1,578,835	—	1,303,121	5,211	16,857	60,521	2,964,545
International Equity Small Cap Pool	143,802	—	118,787	475	1,536	5,517	270,117
Emerging Markets Equity Pool	268,481	—	222,127	888	2,873	10,316	504,685
Total global equity ex-US	1,991,118	—	1,644,035	6,574	21,266	76,354	3,739,347
Opportunistic:							
Alternative Equity Pool	469,255	—	387,837	1,551	5,017	18,012	881,672
Opportunistic Fixed Income Pool	312,132	—	257,486	1,030	3,331	11,959	585,938
Other Opportunistic Pool	119,819	—	98,842	395	1,279	4,591	224,926
Tactical Allocation Strategies Pool	110	—	90	—	1	4	205
Convertible Bond Pool	—	—	—	—	—	—	—
Total opportunistic	901,316	—	744,255	2,976	9,628	34,566	1,692,741
Private Equity Pool							
Absolute Return Pool	856,856	—	707,495	2,829	9,152	32,858	1,609,190
Total private equity	687,999	—	568,072	2,272	7,348	26,383	1,292,074
Real assets:							
Real Estate Pools	585,788	—	483,721	1,934	6,257	22,466	1,100,166
Real Estate Investment Trust Pool	71,661	—	59,169	237	765	2,748	134,580
Infrastructure Private Pool	181,331	—	149,722	599	1,937	6,953	340,542
Infrastructure Public Pool	90,976	—	75,118	300	972	3,489	170,855
Master Limited Partnership Pool	357,928	—	295,336	1,182	3,823	13,726	672,195
Energy Pool	35,312	—	29,157	116	377	1,354	66,316
Farmland Pool	297,409	—	245,567	982	3,177	11,405	558,540
Timber Pool	131,381	—	108,480	434	1,403	5,038	246,736
Treasury Inflation Protected Securities Pool	20,066	—	16,568	66	215	769	37,684
Total real assets	1,771,852	—	1,463,038	5,850	18,926	67,948	3,327,614
Other investment funds:							
Pooled investment funds	—	638,110	—	—	—	—	638,110
Collective investment funds	—	403,252	—	—	—	—	403,252
Total other investment funds	—	1,041,362	—	—	—	—	1,041,362
Total investments	9,222,500	1,041,362	7,614,956	30,450	98,505	353,662	18,361,435
Other assets							
Total assets	9,341,639	1,089,767	7,687,594	30,919	100,373	360,039	18,610,331
Liabilities:							
Accrued expenses	1,578	300	2,381	5	6	22	4,292
Claims payable (note 6)	—	—	45,677	—	—	—	45,677
Forfeitures payable to employees	—	35,173	—	—	—	—	35,173
Securities lending collateral payable	33,386	—	27,535	109	352	1,266	62,648
Due to State of Alaska General Fund	—	—	—	—	—	—	—
Due to PERS Defined Benefit Pension Fund	—	—	—	—	—	—	—
Total liabilities	34,964	35,473	75,593	114	358	1,288	147,790
Net position restricted for pension benefits, postemployment healthcare benefits, and individuals	\$ 9,306,675	1,054,294	7,612,001	30,805	100,015	358,751	18,462,541

See accompanying notes to financial statements.

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State of Alaska
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Combining Statement of Changes in Fiduciary Net Position

June 30, 2018

(With summarized financial information for June 30, 2017)

(In thousands)

	Defined Benefit Pension	Defined Contribution Pension	Other Postemployment Benefit Plans			System total June 30, 2018	System total June 30, 2017
			Alaska Retiree Healthcare Trust	Occupational Death and Disability	Retiree Medical		
Additions:							
Contributions:							
Employers	\$ 299,665	51,424	85,731	2,215	11,657	39,195	489,887
Plan members	84,956	91,413	—	—	—	—	176,369
Nonemployer State of Alaska	72,719	—	—	—	—	—	72,719
Total contributions	457,340	142,837	85,731	2,215	11,657	39,195	738,975
Investment income:							
Net appreciation in fair value (note 2)	574,033	85,296	472,891	1,756	5,418	19,555	1,158,949
Interest	32,194	125	26,535	100	313	1,127	60,394
Dividends	122,721	—	101,925	388	1,219	4,392	230,645
Total investment income	728,948	85,421	601,351	2,244	6,950	25,074	1,449,988
Less investment expense	4,724	362	3,902	14	42	155	9,199
Net investment income before securities lending activities	724,224	85,059	597,449	2,230	6,908	24,919	1,440,789
Securities lending income	1,329	—	1,095	4	13	47	2,488
Less securities lending expense	243	—	201	1	2	9	456
Net income from securities lending activities	1,086	—	894	3	11	38	2,032
Net investment income	725,310	85,059	598,343	2,233	6,919	24,957	1,442,821
Other income	25	420	26,338	—	2	—	26,785
Total additions	1,182,675	228,316	710,412	4,448	18,578	64,152	2,208,581
Deductions:							
Pension and postemployment benefits	801,155	—	422,378	392	41	46	1,224,012
Refunds of contributions	11,722	43,132	—	—	—	—	54,854
Administrative	6,250	3,211	14,985	—	4	1	24,451
Total deductions	819,127	46,343	437,363	392	45	47	1,303,317
Net increase	363,548	181,973	273,049	4,056	18,533	64,105	905,264
Net position restricted for pension benefits, postemployment healthcare benefits, and individuals:							
Balance, beginning of year	8,943,127	872,321	7,338,952	26,749	81,482	294,646	17,557,277
Balance, end of year	\$ 9,306,675	1,054,294	7,612,001	30,805	100,015	358,751	18,462,541

See accompanying notes to financial statements.

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(1) Description

The State of Alaska Public Employees' Retirement System (PERS or the System) is a component unit of the State of Alaska (the State). The System is administered by the Division of Retirement and Benefits within the Department of Administration. The Alaska Retirement Management Board (the Board), is responsible for overseeing the management and investment of the system. The Board consists of nine trustees as follows: two members, consisting of the commissioner of administration and the commissioner of revenue; two trustees who are members of the general public; one trustee who is employed as a finance officer for a political subdivision participating in either the PERS or Teachers' Retirement System (TRS); two trustees who are members of PERS; and two trustees who are members of TRS.

PERS acts as the common investment and administrative agency for the following multiple-employer plans:

Plan name	Type of plan
Defined Benefit Pension Plan	Cost-sharing, Defined Benefit Pension
Defined Contribution Pension Plan	Defined Contribution Pension
Defined Benefit Other Postemployment Benefits (OPEB)	
Alaska Retiree Healthcare Trust Plan (ARHCT)	Cost-sharing, Defined Benefit OPEB
Occupational Death and Disability Plan (ODD)	Cost-sharing, Defined Benefit OPEB
Retiree Medical Plan (RMP)	Cost-sharing, Defined Benefit OPEB
Defined Contribution Other Postemployment Benefits	
Healthcare Reimbursement Arrangement Plan	Defined Contribution OPEB

At June 30, 2018, the number of participating local government employers and public organizations, including the State, was as follows:

	Defined Benefit Pension	Defined Contribution Pension	OPEB plans
State of Alaska	1	1	1
Municipalities	74	76	76
School districts	53	53	53
Other	27	27	27
Total employers	155	157	157

Inclusion in the plans is a condition of employment for eligible State employees, except as otherwise provided for judges, elected officers, and certain employees of the Alaska Marine Highway System. Any local government in the State may elect to have its permanent general and peace officer and firefighter employees covered by the System.

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Defined Benefit Pension Plan

General

The Defined Benefit Pension (DB) Plan provides pension benefits for eligible State and local government employees. Benefit and contribution provisions are established by State law and may be amended only by the State Legislature. With the passage of Senate Bill 141, the DB Plan is closed to all new members effective July 1, 2006.

The DB Plan's membership consisted of the following at June 30, 2018:

Inactive plan members or beneficiaries currently receiving benefits	35,139
Inactive plan members entitled to but not yet receiving benefits	5,606
Inactive plan members not entitled to benefits	11,128
Active plan members	13,611
Total DB Plan membership	<u>65,484</u>

Pension Benefits

Members hired prior to July 1, 1986, with five or more paid-up years of credited service, are entitled to monthly pension benefits beginning at normal retirement age, 55, or early retirement age, 50. For members first hired after June 30, 1986, the normal and early retirement ages are 60 and 55, respectively. Members with 30 or more years of credited service (20 years for peace officers and firefighters) may retire at any age and receive a normal benefit.

The normal monthly pension benefit is based on years of service and average monthly compensation. For members hired prior to July 1, 1996, and all peace officers and firefighters, the average monthly compensation is based upon the members' three highest, consecutive years' salaries. For all other members hired after June 30, 1996, average monthly compensation is based upon the members' five highest, consecutive years' salaries.

The benefit related to all years of service prior to July 1, 1986, and for years of service through a total of 10 years for general members, is equal to 2.00% of the member's average monthly compensation for each year of service. The benefit for each year over 10 years of service subsequent to June 30, 1986 is equal to 2.25% of the member's average monthly compensation for the second 10 years and 2.50% for all remaining years of service. For peace officers and firefighters, the benefit for years of service through a total of 10 years is equal to 2.00% of the member's average monthly compensation and 2.50% for all remaining years of service.

Minimum benefits for members eligible for retirement are \$25 per month for each year of credited service.

Married members must receive their benefits in the form of a joint and survivor annuity unless their spouse consents to another form of benefit or another person is eligible for benefits under a qualified domestic relations order.

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The DB Plan has two types of postretirement pension adjustments (PRPA). The automatic PRPA is issued annually to all eligible benefit recipients, when the cost of living increases in the previous calendar year. The automatic PRPA increase is paid beginning July 1 of each year. The discretionary PRPA may be granted to eligible recipients by the DB Plan's administrator if the funding ratio of the DB Plan meets or exceeds 105%. If both an automatic and discretionary PRPA are granted, and a retiree is eligible for both adjustments, the one that provides the retiree the greater increase will be paid.

Contributions

Contribution requirements of the active plan members and the participating employers are actuarially determined and approved by the Board as an amount that, when combined, is expected to finance the costs of benefits earned by plan members during the year, with an additional amount to finance any unfunded accrued liability. The DB Plan's members' contribution rates are 7.50% for peace officers and firefighters, 9.60% for some school district employees, and 6.75% for general DB Plan members, as required by statute. The statutory employer effective rate is 22.00% of annual payroll, which is allocated 17.12% to the DB Pension Plan and 4.88% to the DB ARHCT Plan as determined by the actuary of the Plan. Alaska Statute (AS) 39.35.280 provides that the State, as a nonemployer contributing entity, contributes each July 1, or as soon after July 1 for the ensuing fiscal year, an amount that when combined with the total employer contributions is sufficient to pay the System's past service liability at the actuarially determined contribution rate adopted by the Board for that fiscal year. Additionally, there is a Defined Benefit Unfunded Liability (DBUL) amount levied against the Defined Contribution Retirement Pension (DCR) Plan payroll. The DBUL amount is computed as the difference between:

- (A) The amount calculated for the statutory employer contribution rate of 22.00% on eligible salary less
- (B) The total of the employer contributions for:
 - (1) The defined contribution employer matching amount
 - (2) Major medical
 - (3) Occupational death and disability
 - (4) Health reimbursement arrangement.

The difference is deposited based on an actuarial allocation into the DB Plan's pension and healthcare funds.

Refunds

DB Plan member contributions may be voluntarily or, under certain circumstances, involuntarily refunded to the member or a garnishing agency 60 days after termination of employment. Voluntary refund rights are forfeited on July 1 following the member's 75th birthday or within 50 years of the member's last termination date. Members who

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have had contributions refunded forfeit all retirement benefits, including postemployment healthcare benefits. Members are allowed to reinstate refunded service due to involuntary refunds by repaying the total involuntary refunded balance and accrued interest. Members are allowed to reinstate voluntarily refunded service by repaying the voluntarily refunded balance and accrued interest, as long as they reestablish an employee relationship with a participating DB Plan employer before July 1, 2010. Members who have not reestablished an employee relationship with a participating DB Plan employer by June 30, 2010 will not be eligible to reinstate voluntarily refunded service and will forfeit any claim to DB Plan membership rights. Balances previously refunded to members accrue interest at the rate of 7.00% per annum, compounded semiannually.

Defined Contribution Retirement Pension Plan

General

The DCR Plan provides retirement benefits for eligible employees hired after July 1, 2006. Additionally, certain active members of the DB Plan were eligible to transfer to the DCR Plan if that member had not vested in the DB Plan. Benefit and contribution provisions are established by State law and may be amended only by the State Legislature.

At June 30, 2018, membership in the DCR Plan consisted of 1,905 peace officer and firefighter members and 18,906 other members.

Retirement Benefits

A participating member is immediately and fully vested in that member's contributions and related earnings (losses). A member shall be fully vested in the employer contributions made on that member's behalf, and related earnings (losses), after five years of service. A member is partially vested in the employer contributions made on that member's behalf, and the related earnings, in the ratio of (a) 25% with two years of service; (b) 50% with three years of service; (c) 75% with four years of service; and (d) 100% with five years of service.

Contributions

State statutes require an 8.00% contribution rate for DCR Plan members. Employers are required to contribute 5.00% of the member's compensation.

Participant Distributions and Refunds of Contributions

A member is eligible to request a refund of contributions from their account 60 days after termination of employment.

Participant Accounts

Participant accounts under the DCR Plan are self-directed with respect to investment options.

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Each participant designates how contributions are to be allocated among the investment options. Each participant's account is credited with the participant's contributions and the appreciation or depreciation in unit value for the investment funds.

Record-keeping/administrative fees consisting of a fixed amount, applied in a lump sum each calendar year, and a variable amount, applied monthly, are deducted from each participant's account and applied pro rata to all the funds in which the employee participates. This fee is for all costs incurred by the record keeper and by the State. The investment management fees are netted out of the funds' performance.

Defined Benefit Other Postemployment Benefit Plans

Alaska Retiree Healthcare Trust Plan

The Alaska Retiree Healthcare Trust Plan (ARHCT), a healthcare trust fund of the State, provides major medical coverage to retirees of the DB Plan. The ARHCT is self-funded and self-insured. The ARHCT is closed to all new members effective July 1, 2006. Membership in the plan consisted of the following at June 30, 2018:

Inactive plan members or beneficiaries currently receiving benefits	35,139
Inactive plan members entitled to but not yet receiving benefits	5,606
Inactive plan members not entitled to benefits	11,128
Active plan members	13,611
Total ARHCT Plan membership	65,484

OPEB Benefits

Major medical benefits, to cover medical expenses, are provided to retirees and their surviving spouses at no premium cost for all members hired before July 1, 1986 (Tier 1), and disabled retirees. Members hired after June 30, 1986 (Tier 2), and their surviving spouses with 5 years of credited service (or 10 years of credited service for those first hired after June 30, 1996 [Tier 3]) must pay the full monthly premium if they are under age 60 and will receive benefits at no premium cost if they are over age 60. Tier 3 members with between 5 and 10 years of credited service must pay the full monthly premium regardless of their age. Tier 2 and Tier 3 members with less than five years of credited service are not eligible for postemployment healthcare benefits. Tier 2 members who are receiving a conditional benefit and are age eligible are eligible for postemployment healthcare benefits. In addition, peace officers and their surviving spouses with 25 years of peace officer membership service and all other members and their surviving spouses with 30 years of membership service receive benefits at no premium cost, regardless of their age or date of hire. Peace officers/firefighters who are disabled between 20 and 25 years must pay the full monthly premium.

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Contributions

Employer contribution rates are actuarially determined and adopted by the Board. The 2018 statutory employer effective contribution rate is 22.00% of member's compensation, with 4.88% specifically allocated to ARHCT.

Occupational Death and Disability Plan

The Occupational Death and Disability Plan (ODD) provides death benefits for beneficiaries of plan participants and long-term disability benefits to all active members within the System. Members in the Death and Disability Plan consisted of the following at June 30, 2018:

Active plan members	20,811
Participating employers	157
Open claims	29

Death Benefits

If (1) the death of an employee occurs before the employee's retirement and before the employee's normal retirement date, (2) the proximate cause of death is a bodily injury sustained or a hazard undergone while in the performance and within the scope of the employee's duties, and (3) the injury or hazard is not the proximate result of willful negligence of the employee, then a monthly survivor's pension shall be paid to the surviving spouse. If there is no surviving spouse or if the spouse later dies, the monthly survivor's pension shall be paid in equal parts to the dependent children of the employee.

If an active general DB Plan member dies from occupational causes, the spouse may receive a monthly pension equal to 40% of the DB Plan's member's salary. If an active peace officer or firefighter DB Plan member dies from occupational causes, the spouse may receive a monthly pension equal to 50% of the DB Plan's member's salary or 75% of the member's retirement benefit calculated as if the member had survived until normal retirement age, whichever is greater. When death is due to occupational causes and there is no surviving spouse, the DB Plan's member's dependent child(ren) may receive the monthly pension until they are no longer dependents. If the member does not have a spouse or dependent children at the time of death, a lump-sum death benefit is payable to the named beneficiary(ies). The amount of the occupational death pension changes on the date the DB Plan member's normal retirement would have occurred if the DB Plan member had lived. The new benefit is based on the DB Plan member's average monthly compensation at the time of death and the credited service, including service that would have accrued if the DB Plan member had lived and continued to work until normal retirement. If the death was from nonoccupational causes and the DB Plan member was vested, the spouse may receive a monthly 50% joint and survivor option benefit based on the member's credited service and average monthly compensation at the time of death. If the DB Plan member is not married or vested, a lump-sum death benefit is payable to the named beneficiary(ies).

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The monthly survivor's pension benefit for survivors of DCR Plan employees who were not peace officers or firefighters is 40% of the employee's monthly compensation in the month in which the employee dies. The monthly survivor's pension for survivors of employees who were peace officers or firefighters is 50% of the monthly compensation in the month in which the employee dies. While the monthly survivor's pension is being paid, the employer shall make contributions on behalf of the employee's beneficiaries based on the deceased employee's gross monthly compensation at the time of occupational death.

Disability Benefits

Active DB Plan members who become permanently disabled due to occupational or nonoccupational causes receive disability benefits until normal retirement age, or when the service requirement for normal retirement is met. Although there are no minimum service requirements for DB Plan members to be eligible for occupational disability, DB Plan members must be vested to receive nonoccupational disability benefits. The monthly occupational disability benefit is equal to 40% of the DB Plan's salary at the time of the disability. The nonoccupational disability benefit is based on the DB Plan member's service and salary at the time of disability. At normal retirement age, a disabled general DB Plan member receives normal retirement benefits. A peace officer or firefighter DB Plan member may elect to receive normal retirement benefits calculated under the occupational disability benefit rules.

A DCR Plan member is eligible for an occupational disability benefit if employment is terminated because of a total and apparently permanent occupational disability before the member's normal retirement date. The occupational disability benefits accrue beginning the first day of the month following termination of employment as a result of the disability and are payable the last day of the month. If a final determination granting the benefit is not made in time to pay the benefit when due, a retroactive payment shall be made to cover the period of deferment.

Contributions

An employer shall contribute to each member's account based on the member's compensation. For fiscal year 2018, the rates are 0.43% for occupational death and disability for peace officers and firefighters and 0.16% for occupational death and disability all other members.

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Retiree Medical Plan

The Retiree Medical Plan (RMP) provides major medical coverage to retirees of the DCR Plan. The RMP is self-insured. Members are not eligible to use this plan until they have at least 10 years of service and are Medicare age eligible. Membership in the plan consists of the following at June 30, 2018:

Inactive plan members or beneficiaries currently receiving benefits	11
Inactive plan members entitled to but not yet receiving benefits	1,183
Inactive plan members not entitled to benefits	11,896
Active plan members	20,811
	<hr/>
Total RMP Plan membership	33,901
	<hr/> <hr/>

OPEB Benefits

The medical benefits available to eligible persons means that an eligible person may not be denied medical coverage except for failure to pay the required premium. Major medical coverage, to cover medical expenses, takes effect on the first day of the month following the date of the Plan administrator's approval of the election and stops when the person who elects coverage dies or fails to make the required premium payment. The coverage for persons 65 years of age or older is the same as that available for persons under 65 years of age. The benefits payable to those persons 65 years of age or older supplement any benefits provided under the federal old age, survivors, and disability insurance program. The medical and optional insurance premiums owed by the person who elects coverage may be deducted from the health reimbursement arrangement account until the account balance becomes insufficient to pay the premiums, at this time the person who elects coverage shall pay the premiums directly.

The cost of premiums for retiree major medical coverage for an eligible member or surviving spouse who is

- (1) not eligible for Medicare is an amount equal to the full monthly group premium for retiree major medical insurance coverage,
- (2) eligible for Medicare is the following percentage of the premium:
 - (a) 30 percent if the member had 10 or more, but less than 15, years of service;
 - (b) 25 percent if the member had 15 or more, but less than 20, years of service;
 - (c) 20 percent if the member had 20 or more, but less than 25, years of service;
 - (d) 15 percent if the member had 25 or more, but less than 30, years of service; and
 - (e) 10 percent if the member had 30 or more years of service.

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Contributions

Employer contribution rates are actuarially determined and adopted by the Board. The 2018 employer effective contribution rate is 1.03% of member's compensation.

Defined Contribution Other Postemployment Benefit Plan

General

The Health Reimbursement Arrangement (HRA) Plan allows for medical care expenses to be reimbursed from individual savings accounts established for eligible persons. The HRA Plan became effective July 1, 2006, at which time contributions by employers began. Membership in the plan was as follows as of June 30, 2018:

Inactive plan members or beneficiaries currently receiving benefits	19
Inactive plan members entitled to but not yet receiving benefits	1,175
Inactive plan members not entitled to benefits	11,896
Active plan members	20,811
Total HRA Plan membership	33,901

OPEB Benefits

Persons who meet the eligibility requirements of AS 39.35.870 are eligible for reimbursements from the individual account established for a member under the Plan but do not have to retire directly from the System.

The Plan Administrator may deduct the cost of monthly premiums from the HRA individual account for the Retiree Medical Plan insurance on behalf of an eligible person who elected the retiree major medical insurance under AS 39.35.880. Upon application of an eligible person, the Plan Administrator shall reimburse the costs for medical care expenses defined in 26 USC 213(d). Reimbursement is limited to the medical expenses of (1) an eligible member, the spouse of an eligible member, and the dependent children of an eligible member; or (2) a surviving spouse and the dependent children of an eligible member dependent on the surviving spouse. When the member's individual account balance is exhausted, any deductions from the HRA individual account end. If all eligible persons die before exhausting the member's individual account, the account balance reverts to the Plan.

Contributions

An employer shall contribute to the HRA Plan trust fund an amount equal to 3.00% of the average annual compensation of all employees of all employers in the TRS and PERS. The administrator maintains a record of each member to account for employer contributions on behalf of that member. The 2018 contribution amount was an annual contribution not to exceed \$2,084, and required for every pay period in which the employee is enrolled in the

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DCR Plan, regardless of the compensation paid during the year. An amount less than \$2,084 would be deposited to a member's account if that member worked less than a full year.

(2) Summary of Significant Accounting Policies

Basis of Accounting

The accompanying financial statements have been prepared using the economic resources measurement focus and on the accrual basis of accounting in conformity with U.S. generally accepted accounting principles (GAAP), as prescribed by the Governmental Accounting Standards Board (GASB). Contributions are due to the System when employee services have been performed and paid. Contributions are recognized as revenue when due pursuant to statutory requirements. Benefits and refunds are recognized when due and payable and expenses are recorded when the corresponding liabilities are incurred, regardless of when contributions are received or payment is made.

Use of Estimates

The preparation of financial statements in conformity with U.S. GAAP requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the date of the financial statements and the reported amounts of additions and deductions during the reporting period. Actual results could differ from those estimates.

Defined Benefit Pension and OPEB Investments

The System owns shares in various investment pools that are administered by the State of Alaska, Department of Revenue, Division of Treasury (Treasury). The System's investment in the pools, except for the Short-term Fixed Income Pool, is reported at fair value based on the net asset value reported by the Treasury. The Short-term Fixed Income Pool maintains a share price of \$1. Each participant owns shares in the pool, the number of which fluctuates daily with contributions and withdrawals.

Defined Contribution Participant – Directed Investments

The Board contracts with an external investment manager, through the Treasury, who is given the authority to invest in a wholly owned pooled environment to accommodate 13 participant-directed funds. Additionally, the Board contracts with external managers who manage a mix of collective investment funds. Income for the Pooled Investment and Collective Investment Funds is credited to the fund's net asset value on a daily basis and allocated to pool participants daily on a pro rata basis.

Pooled Participant-directed Investment Funds, held in trust, are stated at fair value based on the unit value as reported by the Trustees multiplied by the number of units held by the Plan. The unit value is determined by the Trustees based on fair value of the underlying assets. Purchases and sales of securities are recorded on a trade-date basis. Underlying assets comprise domestic and international stocks, investment-grade bonds, federally guaranteed

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mortgages, money market instruments, and other cash equivalent instruments with maturities of less than one year, which include but are not limited to commercial paper, asset-backed securities, banker acceptances, certificates of deposit with ratings of A1/P1 or better as well as obligations of the U.S. government and its agencies, and repurchase agreements collateralized by U.S. Treasury instruments.

Collective Investment Funds, held in trust, are stated at fair value based on the unit value as reported by the Trustees multiplied by the number of units held by the Plan. The unit value is determined by the Trustees based on fair value of the underlying assets. Purchases and sales of securities are recorded on a trade-date basis. Underlying assets comprised commingled investment funds, alongside other investors, through ownership of equity shares.

Contributions Receivable

Contributions from the System's members and employers applicable to payrolls received through July for wages paid for service through June 30 are accrued. These contributions are considered fully collectible, and accordingly, no allowance for uncollectible receivables is reflected in the financial statements.

Administrative Costs

Administrative costs are paid from investment earnings.

Due from (to) State of Alaska General Fund

Amounts due from (to) the State of Alaska General Fund represent the amounts paid by the System on behalf of others and amounts paid by others on behalf of the System.

Federal Income Tax Status

The DB Plan and DCR Plan are qualified plans under Sections 401(a) and 414(d) of the Internal Revenue Code and are exempt from federal income taxes under Section 501(a).

(3) Investments

The Board is the investment oversight authority of the System's investments. As the fiduciary, the Board has the statutory authority to invest assets under the Prudent Investor Rule. Fiduciary responsibility for the Board's invested assets is pursuant to AS 37.10.210-390.

AS 37.10.071 provides that investments shall be made with the judgment and care under circumstances then prevailing that an institutional investor of ordinary professional prudence, discretion, and intelligence exercises in managing large investment portfolios.

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Treasury provides staff for the Board. Treasury has created a pooled environment by which it manages investments of the Board. Additionally, Treasury manages a mix of Pooled Investment Funds and Collective Investment Funds for the DCR Participant-Directed Pension Plans under the Board's fiduciary responsibility.

Actual investing is performed by investment officers in Treasury or by contracted external investment managers. The Board has developed investment guidelines, policies, and procedures for Treasury staff and external investment managers to adhere to when managing investments. Treasury manages the U.S. Treasury Fixed Income Pool, Real Estate Investment Trust Pool, Treasury Inflation Protected Securities Pool, in addition to acting as oversight manager for all externally managed investments. All other investments are managed by external management companies.

The Short-term Fixed Income Pool is a State pool managed by Treasury that holds investments on behalf of the Board as well as other state funds.

Rate of Return

The money-weighted rate of return expresses investment performance, net of investment expense, adjusted for the changing amounts actually invested. The annual money-weighted rate of return, net of investment expense, for the year ended June 30, 2018 for the DB Plan is 8.26%, for the ARHCT is 8.35%, for the Occupational Death and Disability Plan is 8.06%, and for the Retiree Medical Plan is 7.89%.

For additional information on securities lending, interest rate risk, credit risk, foreign exchange, derivatives, fair value, and counterparty credit risk, see the separately issued report on the Invested Assets of the State of Alaska Retirement and Benefits Plans at

<http://treasury.dor.alaska.gov/armb/Reports-and-Policies/Annual-Audited-Financial-Schedules.aspx>.

(4) Net Pension Liability – Defined Benefit Pension Plan

The components of the net pension liability of the participating employers at June 30, 2018 were as follows (in thousands):

Total pension liability	\$	14,275,702
Plan fiduciary net position		(9,306,675)
		<hr/>
Employers' net pension liability	\$	4,969,027
		<hr/> <hr/>
Plan fiduciary net position as a percentage of the total pension liability		65.19%

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Actuarial Assumptions

The total pension liability was determined by an actuarial valuation as of June 30, 2017, using the following actuarial assumptions, applied to all periods included in the measurement and rolled forward to the measurement date of June 30, 2018:

Inflation	3.12%
Salary increases	For peace officer/firefighter, increases range from 9.66% to 4.92% based on service. For all others, increase range from 8.55% to 4.34% based on age and service.
Investment rate of return	8.00%, net of pension plan investment expenses. This is based on an average inflation rate of 3.12% and a real return of 4.88%.
Mortality	Posttermination mortality rates were based on 2010-2013 actual mortality experience, 60% of male and 65% of female posttermination rates. Deaths are assumed to be occupational causes 70% of the time for peace officer/firefighter, 50% of the time for all others. Posttermination mortality rates were based on 96% of all rates of the RP-2000 table, 2000 Base Year projected to 2018 with Projection Scale BB.

The actuarial assumptions used in the June 30, 2017 actuarial valuation were based on the results of an actuarial experience study for the period July 1, 2009 to June 30, 2013. The assumptions used in the June 30, 2017 actuarial valuation are the same as those used in the June 30, 2016 actuarial valuation.

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The long-term expected rate of return on pension plan investments was determined using a building-block method in which best-estimate ranges of expected future real rates of return (expected returns, net of pension plan investment expense and inflation) are developed for each major asset class. These ranges are combined to produce the long-term expected rate of return by weighting the expected future real rates of return by the target asset allocation percentage and adding expected inflation. Best estimates of arithmetic rates of return for each major asset class included in the pension plan's target asset allocation as of June 30, 2018 are summarized in the following table (note that the rates shown below exclude the inflation component):

<u>Asset class</u>	<u>Long-term Expected real rate of return</u>	<u>Allocation</u>	<u>Range</u>
Domestic equity	8.90%	24.0% %	+/- 6%
Global ex-U.S. equity	7.85	22.0	+/- 4
Fixed Income	1.25	10.0	+/- 5
Opportunistic	4.76	10.0	+/- 5
Real assets	6.20	17.0	+/- 8
Absolute return	4.76	7.0	+/- 4
Private equity	12.08	9.0	+/- 5
Cash equivalents	0.66	1.0	+3/-1

Discount Rate

The discount rate used to measure the total pension liability was 8.00%. The projection of cash flows used to determine the discount rate assumed that employer and State contributions will continue to follow the current funding policy, which meets State statutes. 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 on pension plan investments was applied to all periods of projected benefit payments to determine the total pension liability. In the event benefit payments are not covered by the plan's fiduciary net position, a municipal bond rate would be used to discount the benefit payments not covered by the plan's fiduciary net position. The S&P Municipal Bond 20-Year High Grade Index rate was 2.98% as of June 30, 2018.

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

The following presents the net pension liability of the System, as of June 30, 2018, calculated using the discount rate of 8.00%, as well as what the System's net pension liability would be if it were calculated using a discount rate that is one percentage point lower or one percentage point higher than the current rate (in thousands):

	1.00% decrease (7.00%)	Current discount rate (8.00%)	1.00% increase (9.00%)
Net pension liability	\$ 6,580,245	4,969,027	3,606,131

(5) Net OPEB Liability (Asset)

The components of the net OPEB liability (asset) of the participating employers for each plan at June 30, 2018 were as follows (in thousands):

	ARHCT	ODD	RMP
Total OPEB liability	\$ 8,638,289	11,383	112,740
Plan fiduciary net position	(7,612,001)	(30,805)	(100,015)
Employers' net OPEB (asset) liability	\$ 1,026,288	(19,422)	12,725
Plan fiduciary net position as a percentage of the total OPEB liability	88.12%	270.62%	88.71%

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Actuarial Assumptions

The total OPEB liability for each plan was determined by actuarial valuations as of June 30, 2017, using the following actuarial assumptions, applied to all periods in the measurement, and rolled forward to the measurement date of June 30, 2018:

Inflation	3.12%
Salary increases	Graded by service, from 9.66% to 4.92% for Peace Officer/Firefighter Graded by age and service, from 8.55% to 4.34% for All Other
Investment rate of return	8.00%, net of postretirement healthcare plan investment expenses. This is based on an average inflation rate of 3.12% and a real return of 4.88%.
Healthcare cost trend rates (ARHCT and RMP)	Pre-65 medical: 8.0% grading down to 4.0% Post-65 medical: 5.5% grading down to 4.0% Prescription drug: 9.0% grading down to 4.0% RDS/EGWP: 6.5% grading down to 4.0%
Mortality	Pre-termination mortality rates were based on 2010-2013 actual mortality experience, 60% of male and 65% of female post-termination rates. Deaths are assumed to be occupational 70% of the time for Peace Officer/Firefighters 50% of the time for All Others. Post-termination mortality rates were based on 96% of all rates of the RP-2000 table, 2000 Base Year projected to 2018 with Projection Scale BB.
Participation (ARHCT)	100% system paid of members and their spouses are assumed to elect the healthcare benefits as soon as they are eligible 10% of non-system paid members and their spouses are assumed to elect the healthcare benefits as soon as they are eligible.

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Participation rates reflect the expected plan election rate that varies by reason for decrement, duration that a member may pay full cost prior to Medicare eligibility and availability of alternative and/or lower cost options, particularly in the Medicare market. This assumption is based on observed trends in participation from a range of other plans. The following participation rates were used to measure the net OPEB liability of the Retiree Medical Plan:

Decrement due to disability		Decrement due to retirement		
Age	Percent participation	Age	Percent participation	
<56	73.00 %	55	40.00 %	
56	77.50	56	50.00	
57	79.75	57	55.00	
58	82.00	58	60.00	
59	84.25	59	65.00	
60	86.50	60	70.00	
61	88.75	61	75.00	
62	91.00	62	80.00	
63	93.25	63	85.00	
64	95.50	64	90.00	
65+	94.40	65+	94.00	
			Years of service	
			<15	70.50 %
			15-19	75.20
			20-24	79.90
			25-29	89.30
			30+	94.00

The actuarial assumptions used in the June 30, 2017 actuarial valuations were based on the results of an actuarial experience study for the period from July 1, 2009 to June 30, 2013. The assumptions used in the June 30, 2017 actuarial valuation are the same as those used in the June 30, 2016 valuation with the following exceptions:

1. The medical trend rate assumption was updated to reflect anticipated increases in costs based on recent survey data.
2. An obligation for the Cadillac Tax was added to the June 30, 2017 valuation because it was no longer deemed immaterial due to the updated trend rates and the change to use chained Consumer Price Index (which was part of the Tax Cut and Jobs Act passed in December 2017) to project the tax thresholds in future years.
3. Per capita claims costs were updated reflecting recent experience.

The long-term expected rate of return on postretirement healthcare plan investments for each plan was determined using a building-block method in which best-estimate ranges of expected future real rates of return (expected returns, net of postretirement healthcare plan investment expense and inflation) are developed for each major asset class. These ranges are combined to produce the long-term expected rate of return by weighting the expected future real rates of

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return by the target asset allocation percentage and adding expected inflation. Best estimates of arithmetic rates of return for each major asset class included in the plans' target asset allocation as of June 30, 2018 (see the discussion of the plans' investment policy) are summarized in the following table (note that the rates shown below exclude the inflation component):

<u>Asset class</u>	<u>Long-term expected real rate of return</u>	<u>Allocation</u>	<u>Range</u>
Domestic equity	8.90%	24.0% %	+/- 6%
Global ex-U.S. equity	7.85	22.0	+/- 4
Fixed Income	1.25	10.0	+/- 5
Opportunistic	4.76	10.0	+/- 5
Real assets	6.20	17.0	+/- 8
Absolute return	4.76	7.0	+/- 4
Private equity	12.08	9.0	+/- 5
Cash equivalents	0.66	1.0	+3/-1

Discount Rate

The discount rate used to measure the total OPEB liability for each plan was 8.00%. The projection of cash flows used to determine the discount rate assumed that employer and State contributions will continue to follow the current funding policy, which meets State statutes. Based on those assumptions, the fiduciary net position for each plan was projected to be available to make all projected future benefit payments of current plan members. Therefore, the long-term expected rate of return on plan investments was applied to all periods of projected benefit payments to determine the total OPEB liability for each plan. In the event benefit payments are not covered by the plan's fiduciary net position, a municipal bond rate would be used to discount the benefit payments not covered by the plan's fiduciary net position. The S&P Municipal Bond 20-Year High Grade Index rate was 2.98% as of June 30, 2018. The corresponding rate was 3.13% as of June 30, 2017.

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Sensitivity of the Net OPEB Liability (Asset) to Changes in the Discount Rate

The following presents the net OPEB (asset) liability for each plan as of June 30, 2018, calculated using the discount rate of 8.00%, as well as what the respective plan's net OPEB liability would be if it were calculated using a discount rate that is one-percentage-point lower or one-percentage-point higher than the current rate (in thousands):

	<u>1.00% decrease</u> <u>(7.00%)</u>	<u>Current</u> <u>discount rate</u> <u>(8.00%)</u>	<u>1.00% increase</u> <u>(9.00%)</u>
ARHCT	\$ 2,077,719	1,026,288	144,974
ODD	(18,238)	(19,422)	(20,396)
RMP	38,000	12,725	(6,989)

Sensitivity of the Net OPEB Liability (Asset) to Changes in the Healthcare Cost Trend Rates

The following presents the net OPEB liability (asset) for each plan as of June 30, 2018, calculated using the healthcare cost trend rates as summarized in the 2017 actuarial valuation report, as well as what the respective for each plan's net OPEB liability (asset) would be if it were calculated using trend rates that are one-percentage-point lower or one-percentage-point higher than the current healthcare cost trend rates:

	<u>1.00% decrease</u>	<u>Current healthcare</u> <u>cost trend rate</u>	<u>1.00% increase</u>
ARHCT	\$ 19,922	1,026,288	2,238,554
ODD	N/A	N/A	N/A
RMP	(10,819)	12,725	44,234

(6) Claims Payable

The liability for claims incurred but not reported represents the estimated amount necessary to settle all outstanding claims, incurred but not reported, as of the balance sheet date. The ARHCT and Retiree Medical Plan's reserve estimates are based primarily on historical development patterns adjusted for current trends that would modify past experience. Claims are reevaluated periodically to consider the effects of inflation, claims settlement trends, and other economic factors. The process of establishing loss reserves is subject to uncertainties that are normal, recurring, and inherent in the healthcare business.

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Changes in the balances of claims liabilities are as follows (in thousands):

	<u>2018</u>
Total, beginning of year	\$ 43,006
Benefit deductions	422,419
Benefits paid	<u>(419,748)</u>
Total, end of year	<u>\$ 45,677</u>
End of year:	
Incurred but not reported	<u>45,677</u>
Total, end of year	<u>\$ 45,677</u>

(7) Commitments and Contingencies

Contingencies

The Division of Retirement and Benefits is a defendant in various lawsuits. Although the outcome of these lawsuits is not presently determinable, in the opinion of the Division of Retirement and Benefits' counsel, the resolution of these matters will not have a material adverse effect on the financial condition of the Division of Retirement and Benefits.

(8) Medicare Part D Retiree Drug Subsidy

One of the provisions of Medicare Part D provides sponsors of pension healthcare plans the opportunity to receive a Retiree Drug Subsidy (RDS) payment if the sponsor's plan provides a prescription drug benefit that is actuarially equivalent to the Medicare Part D benefit. The RDS is equal to 28% of the amount of eligible prescription drug benefit costs of retirees who are eligible for, but not enrolled in, Medicare Part D, by virtue of continuing to be covered by the sponsor's plan. The ARHCT was approved for participation in the Medicare Part D program beginning calendar year 2006.

REQUIRED SUPPLEMENTARY INFORMATION
(Unaudited)

Financial Section

State of Alaska
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Required Supplementary Information (Unaudited)

Schedule of Changes in Employer Net Pension Liability and Related Ratios Defined Benefit Pension Plan

(In thousands)

	2018	2017	2016	2015	2014	2013	2012
Total pension liability:							
Service cost	\$ 170,816	184,411	172,304	184,712	160,828	167,203	172,968
Interest	1,108,068	1,072,312	1,049,226	1,020,947	940,786	927,692	887,361
Differences between expected and actual experience	(302,874)	(184,252)	(118,947)	10,791	—	56,229	42,847
Changes of assumptions	—	—	—	541,390	—	—	—
Benefit payments, including refunds of member contributions	(812,877)	(777,187)	(742,174)	(696,542)	(651,917)	(634,187)	(593,279)
Net change in total pension liability	163,133	295,284	360,409	1,061,298	449,697	516,937	509,897
Total pension liability – beginning	14,112,569	13,817,285	13,456,876	12,395,578	11,945,881	11,428,944	10,919,047
Total pension liability – ending (a)	14,275,702	14,112,569	13,817,285	13,456,876	12,395,578	11,945,881	11,428,944
Plan fiduciary net position:							
Contributions – employer	299,665	263,597	235,360	226,136	206,204	179,976	182,695
Contributions – member	84,956	89,345	96,024	100,036	106,565	110,808	112,703
Contributions – nonemployer entity (State)	72,719	99,167	88,586	1,000,000	176,794	164,087	130,912
Total net investment (loss) income	725,310	1,048,006	(49,967)	253,311	1,207,484	738,656	1,650
Benefit payments, including refunds of member contributions	(812,877)	(777,187)	(742,175)	(696,542)	(651,917)	(610,247)	(570,883)
Administrative expenses	(6,250)	(7,526)	(7,243)	(7,553)	(8,223)	(7,120)	(6,743)
Other income	25	38	240	36	49	28	35
Net change in plan fiduciary net position	363,548	715,440	(379,175)	875,424	1,036,956	576,188	(149,631)
Plan fiduciary net position – beginning	8,943,127	8,227,687	8,606,862	7,731,438	6,694,482	6,118,294	6,267,925
Plan fiduciary net position – ending (b)	9,306,675	8,943,127	8,227,687	8,606,862	7,731,438	6,694,482	6,118,294
Plan's net pension liability (a) – (b)	\$ 4,969,027	5,169,442	5,589,598	4,850,014	4,664,140	5,251,399	5,310,650
Plan fiduciary net position as a percentage of the of the total pension liability	65.19 %	63.37 %	59.55 %	63.96 %	62.37 %	56.04 %	53.53 %
Covered-employee payroll	\$ 1,159,599	1,247,884	1,322,925	1,412,237	1,405,198	1,534,665	1,522,399
Net pension liability as a percentage of covered-employee payroll	428.51 %	414.26 %	422.52 %	343.43 %	331.92 %	342.19 %	348.83 %

This schedule is intended to present information for 10 years. Additional years will be displayed as they become available.

See accompanying notes to required supplementary information (unaudited) and independent auditors' report.

State of Alaska
Public Employees' Retirement System
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Required Supplementary Information (Unaudited)
Schedule of Employer and Nonemployer Contributions
Defined Benefit Pension Plan

Last 10 Fiscal Years

(In thousands)

	<u>2018</u>	<u>2017</u>	<u>2016</u>	<u>2015</u>	<u>2014</u>
Actuarially determined contribution	\$ 395,663	368,766	566,615	529,264	358,718
Contributions in relation to the actuarially determined contribution	<u>372,383</u>	<u>362,764</u>	<u>323,946</u>	<u>1,226,136</u>	<u>382,998</u>
Contribution deficiency (excess)	<u>\$ 23,280</u>	<u>6,002</u>	<u>242,669</u>	<u>(696,872)</u>	<u>(24,280)</u>
Covered-employee payroll	\$ 1,159,599	1,247,884	1,322,925	1,412,237	1,405,198
Contributions as a percentage of covered-employee payroll	32.11 %	29.07 %	24.49 %	86.82 %	27.26 %

See accompanying notes to required supplementary information (unaudited) and independent auditors' report.

State of Alaska
Public Employees' Retirement System
(A Component Unit of the State of Alaska)

Required Supplementary Information (Unaudited)
Schedule of Employer and Nonemployer Contributions
Defined Benefit Pension Plan (continued)

Last 10 Fiscal Years

(In thousands)

	<u>2013</u>	<u>2012</u>	<u>2011</u>	<u>2010</u>	<u>2009</u>
Actuarially determined contribution	\$ 382,889	351,674	220,419	217,080	166,016
Contributions in relation to the actuarially determined contribution	<u>344,063</u>	<u>313,607</u>	<u>204,262</u>	<u>186,617</u>	<u>192,740</u>
Contribution deficiency (excess)	\$ <u>38,826</u>	<u>38,067</u>	<u>16,157</u>	<u>30,463</u>	<u>(26,724)</u>
Covered-employee payroll	\$ 1,534,665	1,522,399	1,559,938	1,586,697	1,585,490
Contributions as a percentage of covered-employee payroll	22.42 %	20.60 %	13.09 %	11.76 %	12.16 %

See accompanying notes to required supplementary information (unaudited) and independent auditors' report.

State of Alaska
Public Employees' Retirement System
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Required Supplementary Information (Unaudited)
Schedule of Investment Returns
Defined Benefit Pension Plan

	<u>2018</u>	<u>2017</u>	<u>2016</u>	<u>2015</u>	<u>2014</u>
Annual money-weighted rate of return, net of investment expense	8.26 %	12.99 %	(0.68)%	3.12 %	18.43 %

This schedule is intended to present information for 10 years. Additional years will be displayed as they become available.

See accompanying notes to required supplementary information (unaudited) and independent auditors' report.

Financial Section

State of Alaska
Public Employees' Retirement System
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Required Supplementary Information (Unaudited)
Schedule of Changes in Employer Net OPEB Liability and Related
Ratios Alaska Retiree Health Trust Plan

(In thousands)

	2018	2017
Total OPEB liability:		
Service cost	\$ 110,333	114,109
Interest	647,310	623,599
Differences between expected and actual experience	(149,287)	(28,042)
Changes of assumptions	259,497	—
Benefit payments, including refunds of member contributions	(413,273)	(405,872)
Net change in total OPEB liability	454,580	303,794
Total OPEB liability – beginning	8,183,709	7,879,915
Total OPEB liability – ending (a)	8,638,289	8,183,709
Plan fiduciary net position:		
Contributions – employer	85,731	124,541
Contributions – Retiree Drug Subsidy	5,965	—
Total net investment income	598,342	859,980
Benefit payments, including refunds of member contributions	(413,273)	(405,872)
Administrative expenses	(3,822)	(15,960)
Other income	106	43,009
Net change in plan fiduciary net position	273,049	605,698
Plan fiduciary net position – beginning	7,338,952	6,733,254
Plan fiduciary net position – ending (b)	7,612,001	7,338,952
Plan's net OPEB liability (a) – (b)	\$ 1,026,288	844,757
Plan fiduciary net position as a percentage of the total OPEB liability	88.12%	89.68%
Covered-employee payroll	\$ 1,159,599	1,247,884
Net OPEB liability as a percentage of covered-employee payroll	88.50%	67.70%

This schedule is intended to present information for 10 years. Additional years will be displayed as they become available.

See accompanying notes to required supplementary information (unaudited) and independent auditors' report.

State of Alaska
Public Employees' Retirement System
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Required Supplementary Information (Unaudited)
Schedule of Employer and Nonemployer Contributions
Alaska Retiree Healthcare Trust Plan

Last 10 Fiscal Years

(In thousands)

	<u>2018</u>	<u>2017</u>	<u>2016</u>	<u>2015</u>	<u>2014</u>
Actuarially determined contribution	\$ 71,251	133,845	790,824	782,258	783,827
Contributions in relation to the actuarially determined contribution	85,731	124,541	193,564	171,028	340,458
Contribution deficiency	\$ (14,480)	9,304	597,260	611,230	443,369
Covered-employee payroll	\$ 1,159,599	1,247,884	1,322,925	1,412,237	1,405,198
Contributions as a percentage of covered-employee payroll	7.39 %	9.98 %	14.63 %	12.11 %	24.23 %

See accompanying notes to required supplementary information (unaudited) and independent auditors' report.

Financial Section

State of Alaska
Public Employees' Retirement System
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Required Supplementary Information (Unaudited)
Schedule of Employer and Nonemployer Contributions
Alaska Retiree Healthcare Trust Plan (continued)

Last 10 Fiscal Years

(In thousands)

	<u>2013</u>	<u>2012</u>	<u>2011</u>	<u>2010</u>	<u>2009</u>
Actuarially determined contribution	\$ 612,792	498,433	525,075	790,793	391,321
Contributions in relation to the actuarially determined contribution	<u>373,205</u>	<u>334,941</u>	<u>362,188</u>	<u>313,683</u>	<u>428,400</u>
Contribution deficiency	\$ <u>239,587</u>	<u>163,492</u>	<u>162,887</u>	<u>477,110</u>	<u>(37,079)</u>
Covered-employee payroll	\$ 1,534,665	1,522,399	1,559,938	1,586,697	1,585,490
Contributions as a percentage of covered-employee payroll	24.32 %	22.00 %	23.22 %	19.77 %	27.02 %

See accompanying notes to required supplementary information (unaudited) and independent auditors' report.

State of Alaska
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Required Supplementary Information (Unaudited)

Schedule of Investment Returns

Alaska Retiree Healthcare Trust Plan

	2018	2017
Annual money-weighted rate of return, net of investment expense	8.35 %	12.69 %

This schedule is intended to present information for 10 years. Additional years will be displayed as they become available.

See accompanying notes to required supplementary information (unaudited) and independent auditors' report.

Financial Section

State of Alaska
Public Employees' Retirement System
(A Component Unit of the State of Alaska)

Required Supplementary Information (Unaudited)
Schedule of Changes in Employer Net OPEB Liability and Related
Ratios Occupational Death and Disability Plan

(In thousands)

	2018	2017
Total OPEB liability:		
Service cost	\$ 3,565	3,419
Interest	1,275	977
Differences between expected and actual experience	(5,625)	(470)
Benefit payments, including refunds of member contributions	(392)	(313)
Net change in total OPEB liability	(1,177)	3,613
Total OPEB liability – beginning	12,560	8,947
Total OPEB liability – ending (a)	11,383	12,560
Plan fiduciary net position:		
Contributions – employer	2,215	2,196
Total net investment income	2,233	2,938
Benefit payments, including refunds of member contributions	(392)	(313)
Administrative expenses	—	(18)
Net change in plan fiduciary net position	4,056	4,803
Plan fiduciary net position – beginning	26,749	21,946
Plan fiduciary net position – ending (b)	30,805	26,749
Plan's net OPEB asset (a) – (b)	\$ (19,422)	(14,189)
Plan fiduciary net position as a percentage of the total OPEB liability	270.62 %	212.97 %
Covered-employee payroll	\$ 1,131,411	1,059,791
Net OPEB asset as a percentage of covered-employee payroll	(1.72)%	(1.34)%

This schedule is intended to present information for 10 years. Additional years will be displayed as they become available.

See accompanying notes to required supplementary information (unaudited) and independent auditors' report.

State of Alaska
Public Employees' Retirement System
(A Component Unit of the State of Alaska)

Required Supplementary Information (Unaudited)
Schedule of Employer and Nonemployer Contributions
Occupational Death and Disability Plan

Last 10 Fiscal Years

(In thousands)

	<u>2018</u>	<u>2017</u>	<u>2016</u>	<u>2015</u>	<u>2014</u>
Actuarially determined contribution	\$ 2,190	2,226	2,601	2,337	2,080
Contributions in relation to the actuarially determined contribution	<u>2,215</u>	<u>2,196</u>	<u>3,104</u>	<u>2,790</u>	<u>2,372</u>
Contribution deficiency	\$ <u>(25)</u>	<u>30</u>	<u>(503)</u>	<u>(453)</u>	<u>(292)</u>
Covered-employee payroll	\$ 1,131,441	1,059,791	867,000	778,980	678,840
Contributions as a percentage of covered-employee payroll	0.20 %	0.21 %	0.36 %	0.36 %	0.35 %

See accompanying notes to required supplementary information (unaudited) and independent auditors' report.

Financial Section

State of Alaska
Public Employees' Retirement System
(A Component Unit of the State of Alaska)

Required Supplementary Information (Unaudited)
Schedule of Employer and Nonemployer Contributions
Occupational Death and Disability Plan (continued)

Last 10 Fiscal Years

(In thousands)

	<u>2013</u>	<u>2012</u>	<u>2011</u>	<u>2010</u>	<u>2009</u>
Actuarially determined contribution	\$ 1,328	1,085	1,852	1,495	1,787
Contributions in relation to the actuarially determined contribution	<u>1,541</u>	<u>1,582</u>	<u>1,852</u>	<u>1,495</u>	<u>1,787</u>
Contribution deficiency	\$ <u>(213)</u>	<u>(497)</u>	<u>—</u>	<u>—</u>	<u>—</u>
Covered-employee payroll	\$ 590,380	558,760	459,521	421,187	314,118
Contributions as a percentage of covered-employee payroll	0.26 %	0.28 %	0.40 %	0.35 %	0.57 %

See accompanying notes to required supplementary information (unaudited) and independent auditors' report.

State of Alaska
Public Employees' Retirement System
(A Component Unit of the State of Alaska)
Required Supplementary Information (Unaudited)
Schedule of Investment Returns
Occupational Death and Disability Plan

	2018	2017
Annual money-weighted rate of return, net of investment expense	8.06 %	11.97 %

This schedule is intended to present information for 10 years. Additional years will be displayed as they become available.

See accompanying notes to required supplementary information (unaudited) and independent auditors' report.

Financial Section

State of Alaska
Public Employees' Retirement System
(A Component Unit of the State of Alaska)

Required Supplementary Information (Unaudited)
Schedule of Changes in Employer Net OPEB Liability and Related
Ratios Retiree Medical Plan

(In thousands)

	2018	2017
Total OPEB liability:		
Service cost	\$ 12,269	10,394
Interest	7,916	6,425
Differences between expected and actual experience	(724)	(46)
Change of assumptions	6,623	—
Benefit payments	(41)	—
	26,043	16,773
Net change in total OPEB liability		
Total OPEB liability – beginning	86,697	69,924
Total OPEB liability – ending (a)	112,740	86,697
Plan fiduciary net position:		
Contributions – employer	11,657	12,280
Total net investment income	6,919	8,506
Other income (expense)	2	1
Benefit payments	(41)	—
Administrative expenses	(4)	(12)
	18,533	20,775
Net change in plan fiduciary net position		
Plan fiduciary net position – beginning	81,482	60,707
Plan fiduciary net position – ending (b)	100,015	81,482
Plan's net OPEB liability (a) – (b)	\$ 12,725	5,215
Plan fiduciary net position as a percentage of the total OPEB liability	88.71 %	93.98 %
Covered-employee payroll	\$ 1,131,441	1,059,791
Net OPEB liability as a percentage of covered-employee payroll	1.12 %	0.49 %

This schedule is intended to present information for 10 years. Additional years will be displayed as they become available.

See accompanying notes to required supplementary information (unaudited) and independent auditors' report.

State of Alaska
Public Employees' Retirement System
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Required Supplementary Information (Unaudited)
Schedule of Employer and Nonemployer Contributions
Retiree Medical Plan

Last 10 Fiscal Years

(In thousands)

	<u>2018</u>	<u>2017</u>	<u>2016</u>	<u>2015</u>	<u>2014</u>
Actuarially determined contribution	\$ 11,654	12,506	16,907	15,190	3,937
Contributions in relation to the actuarially determined contribution	<u>11,657</u>	<u>12,280</u>	<u>16,184</u>	<u>14,552</u>	<u>3,708</u>
Contribution deficiency	\$ <u>(3)</u>	<u>226</u>	<u>723</u>	<u>638</u>	<u>229</u>
Covered-employee payroll	\$ 1,131,441	1,059,791	867,000	778,980	678,840
Contributions as a percentage of covered-employee payroll	1.03 %	1.16 %	1.87 %	1.87 %	0.55 %

See accompanying notes to required supplementary information (unaudited) and independent auditors' report.

Financial Section

State of Alaska
Public Employees' Retirement System
(A Component Unit of the State of Alaska)

Required Supplementary Information (Unaudited)
Schedule of Employer and Nonemployer Contributions
Retiree Medical Plan (continued)

Last 10 Fiscal Years

(In thousands)

	<u>2013</u>	<u>2012</u>	<u>2011</u>	<u>2010</u>	<u>2009</u>
Actuarially determined contribution	\$ 3,365	3,464	3,229	3,469	3,152
Contributions in relation to the actuarially determined contribution	3,195	2,850	2,527	3,031	2,667
Contribution deficiency	\$ 170	614	702	438	485
Covered-employee payroll	\$ 590,380	558,760	459,521	421,187	314,118
Contributions as a percentage of covered-employee payroll	0.54 %	0.51 %	0.55 %	0.72 %	0.85 %

See accompanying notes to required supplementary information (unaudited) and independent auditors' report.

State of Alaska
Public Employees' Retirement System
(A Component Unit of the State of Alaska)
Required Supplementary Information (Unaudited)
Schedule of Investment Returns
Retiree Medical Plan

	2018	2017
Annual money-weighted rate of return, net of investment expense	7.89 %	11.93 %

This schedule is intended to present information for 10 years. Additional years will be displayed as they become available.

See accompanying notes to required supplementary information (unaudited) and independent auditors' report.

State of Alaska
Public Employees' Retirement System
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Notes to Required Supplementary Information (Unaudited)

June 30, 2018

(1) Description of Schedule of Funding Progress

Each time a new benefit is added, which applies to service already rendered, an “unfunded actuarial accrued liability” is created. Laws governing the Public Employees' Retirement System (the System) require that these additional liabilities be financed systematically over a period of future years. Also, if actual financial experiences are less favorable than assumed financial experiences, the difference is added to the unfunded actuarial accrued liability.

In an inflationary economy, the value of the dollar is decreasing. This environment results in employee pay increasing in dollar amounts resulting in unfunded actuarial accrued liabilities increasing in dollar amounts, all at a time when the actual value of these items, in real terms, may be decreasing.

(2) Actuarial Assumptions and Methods

The actuarial valuation was prepared by Conduent Human Resource Services. The significant actuarial methods and assumptions used in the defined benefit pension and postemployment healthcare benefit plan valuation as of June 30, 2017 are as follows:

- (a) Actuarial cost method – Entry Age Normal Actuarial Cost method of funding. Any funding surpluses or unfunded accrued liability is amortized over a closed 25-year period (established June 30, 2014) as a level percentage of payroll amounts. State statutes allow the contribution rate to be determined on payroll for all members, defined benefit and defined contribution member payroll combined.
- (b) Valuation of assets – The actuarial asset value was reinitialized to equal fair value of assets as of June 30, 2014. Beginning in FY15, the asset value method recognizes 20% of the gain or loss each year, for a period of five years. All assets are valued at fair value. Assets are accounted for on an accrued basis and are taken directly from audited financial statements.
- (c) Valuation of medical benefits – Base claims cost rates are incurred healthcare costs expressed as a rate per member per year. Ideally, claims cost rates should be derived for each significant component of cost that can be expected to require differing projection assumptions or methods (i.e., medical claims, prescription drug claims, administrative costs, etc.) Separate analysis is limited by the availability and historic credibility of cost and enrollment data for each component of cost. This valuation reflects nonprescription claims separated by Medicare status, including eligibility for free Part A coverage. Prescription costs are analyzed separately as in prior valuations. Administrative costs are assumed in the final per capita claims cost rates used for valuation purposes. Analysis to date on Medicare Part A coverage is limited since Part A claim data is not available by individual, nor is this status incorporated into historical claim data.
- (d) Investment return – 8.00% per year (geometric), compounded annually, net of expenses.

State of Alaska
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Notes to Required Supplementary Information (Unaudited)

June 30, 2018

- (e) Salary scale – Inflation 3.12% per year and productivity 0.50% per year.
- (f) Payroll growth – 3.62% per year (inflation + productivity).
- (g) Total inflation – Total inflation as measured by the Consumer Price Index for urban and clerical workers for Anchorage is assumed to increase 3.12% annually.
- (h) Mortality (pretermination) – Based upon 2010–2013 actual mortality experience, 60% of male rates and 65% of female rates of posttermination mortality rates. Deaths are assumed to be occupational 70% of the peace officer/firefighters, 50% of the time for others. The mortality assumptions include an allowance for expected future mortality improvement. The mortality table used was set in 2014 with an actual deaths to expected deaths ratio of 109%.
- (i) Mortality (posttermination) – 96% of all rates of the RP-2000 table, 2000 Base Year projected to 2018 with Projection Scale BB. The mortality assumptions include an allowance for expected future mortality improvement. The mortality table used was set in 2014 with an actual deaths to expected deaths ration of 109%.
- (j) Total turnover – Based upon the 2010–2013 actual withdrawal experience.
- (k) Disability – Incidence rates based upon the 2010–2013 actual experience. Postdisability mortality in accordance with the RP-2000 Disabled Retiree Mortality Table, 2000 Base Year, projected to 2018 with Projection Scale BB. Disabilities are assumed to be occupational 70% of the time for peace officer/firefighters, 50% of the time for others.
- (l) Retirement – Retirement rates based on the 2010–2013 actual experience. Deferred vested members are assumed to retire at their earliest unreduced retirement date. The modified cash refund annuity is valued as a three-year certain and life annuity.
- (m) Marriage and age difference – Wives are assumed to be three years younger than husbands. For others, 75% of male members and 70% of female members are assumed to be married. For peace officer/firefighters, 85% of male members and 60% of female members are assumed to be married.
- (n) Dependent children – Benefits to dependent children have been valued only for members currently covering their dependent children. These benefits are only valued through the dependent children's age 23 (unless the child is disabled).

State of Alaska

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Notes to Required Supplementary Information (Unaudited)

June 30, 2018

- (o) Contribution refunds – For others, 10% of terminating members with vested benefits are assumed to have their contributions refunded. For peace officers/firefighters, 15% of terminating members with vested benefits are assumed to have their contributions refunded; 100% of those with nonvested benefits are assumed to have their contributions refunded.
- (p) Imputed data – Data changes from the prior year, which are deemed to have an immaterial impact on liabilities and contribution rates, are assumed to be correct in the current year's client data. Nonvested terminations with appropriate refund dates are assumed to have received a full refund of contributions. Active members with missing salary and service are assumed to be terminated, with status based on their vesting percentage.
- (q) Active rehire assumption – The normal cost used for determining contribution rates and in the projections includes a rehire assumption to account for anticipated rehires. The normal cost includes the following percentage assumptions (which were developed based on the five years of rehire loss experience through June 30, 2015): Pension – 14.23% and Healthcare – 17.24%.
- (r) Public employee active data adjustment – To reflect participants who terminate employment before the valuation date and are subsequently rehired after the valuation date, participants who are listed as terminated in the June 30 census client data but active in the October 1 census data files are updated to active status as of June 30.
- (s) Cost of Living Allowance (COLA) – Of those benefit recipients who are eligible for the COLA, 70% of others and 65% of peace officer/firefighters are assumed to remain in Alaska and receive the COLA.
- (t) Postretirement pension adjustment (PRPA) – 50% and 75% of assumed inflation, or 1.56% and 2.34%, respectively, is valued for the annual automatic PRPA as specified in the statute.
- (u) Expenses – The investment return assumption is net of all expenses.
- (v) Part-time status – Part-time employees are assumed to earn 1.00 years of credited service per year for peace officer/firefighters and 0.65 years of credited service per year for other members.
- (w) Final average earnings – Final average earnings is provided on the data for active members. This amount is used as a minimum in the calculation of the average earnings in the future.

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June 30, 2018

- (x) Per capita claims cost – Sample claims cost rates adjusted to age 65 for FY18 medical and prescription drug benefits are shown below:

	Medical	Prescription drugs
Pre-Medicare	\$ 13,682	3,493
Medicare Parts A and B	1,485	3,706
Medicare Part B Only	4,722	3,706
Medicare Part D	N/A	659

- (y) Third-party administrator fees – \$236 per person per year; assumed to increase at 4% per year.
- (z) Medicare Part B Only – For active members and retirees not yet Medicare-eligible, participation is set based on whether the member/retiree will have 40 quarters of employment covered by Social Security after March 31, 1986, depending upon date of hire and/or rehire.
- (aa) Healthcare cost trend – The table below shows the rate used to project the cost from the shown fiscal year to the next fiscal year. For example, 8.0% is applied to the FY18 pre-Medicare medical claims costs to get the FY19 medical claims costs:

Fiscal year	Medical Pre-65	Medical Post-65	Prescription drugs	RDS/EGWP
2018	8.0%	5.5%	9.0%	6.5%
2019	7.5	5.5	8.5	6.2
2020	7.0	5.4	8.0	6.0
2021	6.5	5.4	7.5	5.7
2022	6.3	5.4	7.1	5.5
2023	6.1	5.4	6.8	5.4
2024	5.9	5.4	6.4	5.2
2025	5.8	5.4	6.1	5.0
2026	5.6	5.4	5.7	4.8
2027–2040	5.4	5.4	5.4	4.7
2041	5.2	5.2	5.2	4.6
2042	5.1	5.1	5.1	4.5
2043	5.0	5.0	5.0	4.5
2044	4.8	4.8	4.8	4.4
2045	4.7	4.7	4.7	4.3
2046	4.5	4.5	4.5	4.2
2047	4.4	4.4	4.4	4.2
2048	4.3	4.3	4.3	4.1
2049	4.1	4.1	4.1	4.0
2050	4.0	4.0	4.0	4.0
2100	4.0	4.0	4.0	4.0

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June 30, 2018

(bb) For the June 30, 2014 valuations and later, the updated Society of Actuaries' Healthcare Cost Trend Model is used to project medical and prescription drug costs. This model estimates trend amounts that are projected out for 80 years. The model has been populated with assumptions that are specific to the State of Alaska. The model was updated this year to use the newest version and incorporate recent trend survey information, which generated the updated trend rates shown above.

	<u>Pre-65</u>	<u>Post-65</u>		<u>Pre-65</u>	<u>Post-65</u>
FY18-FY29	— %	— %	FY60	0.04 %	0.39 %
FY30	—	0.14	FY61	0.04	0.38
FY31	—	0.23	FY62	0.04	0.38
FY32	—	0.24	FY63	0.04	0.37
FY33	—	0.21	FY64	0.14	0.37
FY34	—	0.20	FY65	0.18	0.36
FY35	—	0.20	FY66	0.18	0.36
FY36	—	0.20	FY67	0.17	0.35
FY37	—	0.16	FY68	0.17	0.35
FY38	0.05	0.17	FY69	0.17	0.34
FY39	0.08	0.15	FY70	0.17	0.34
FY40	0.07	0.13	FY71	0.16	0.33
FY41	0.06	0.10	FY72	0.16	0.33
FY42	0.05	0.08	FY73	0.16	0.32
FY43	0.03	0.05	FY74	0.16	0.32
FY44	0.02	0.03	FY75	0.16	0.31
FY45	0.02	0.03	FY76	0.15	0.31
FY46	0.02	0.02	FY77	0.15	0.31
FY47	0.02	0.03	FY78	0.15	0.30
FY48	0.02	0.03	FY79	0.15	0.30
FY49	0.03	0.05	FY80	0.15	0.29
FY50	0.02	0.04	FY81	0.14	0.29
FY51	0.03	0.06	FY82	0.14	0.28
FY52	0.03	0.06	FY83	0.14	0.28
FY53	0.04	0.14	FY84	0.14	0.28
FY54	0.04	0.41	FY85	0.14	0.27
FY55	0.04	0.41	FY86	0.14	0.27
FY56	0.04	0.41	FY87	0.13	0.26
FY57	0.04	0.41	FY88	0.13	0.26
FY58	0.04	0.41	FY89	0.13	0.26
FY59	0.04	0.40	FY90	0.13	0.25

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June 30, 2018

(cc) Aging factors:

Age	Medical	Prescription drugs
0-44	2.0%	4.5%
45-54	2.5	3.5
55-64	3.5	3.0
65-74	4.0	1.5
75-84	1.5	0.5
85-95	0.5	—
96+	—	—

(dd) Retired member contributions for medical benefits – Currently, contributions are required for PERS members who are under age 60 and have less than 30 years of service (25 for peace officers/firefighters). Eligible Tier 1 members are exempt from contribution requirements. Annual FY18 contributions based on monthly rates shown below for calendar 2017 and 2018 are assumed based on the coverage category for current retirees. The composite rate shown is used for current active and inactive members in tier 2 or 3 who are assumed to retire prior to age 60 with less than 30 years of service and who are not disabled. For dependent children, 1/3 of the annual retiree contribution is used to estimate the per-child rate based upon the assumed number of children in rates where children are covered.

Coverage category	Calendar 2018		Calendar 2017
	Annual contribution	Monthly contribution	Monthly contribution
Retiree only	\$ 9,324	777	777
Retiree and spouse	18,648	1,554	1,554
Retiree and child(ren)	13,164	1,097	1,097
Retiree and family	22,500	1,875	1,875
Composite	13,848	1,154	1,154

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June 30, 2018

- (ee) Trend rate for retired member contributions – The table below shows the rate used to project the retired member medical contributions from the shown fiscal year to the next fiscal year. For example, 8.0% is applied to the FY18 retired member medical contributions to get the FY19 retired member medical contributions.

Fiscal year	Trend assumption
2018	8.0%
2019	7.6
2020	7.2
2021	6.8
2022	6.5
2023	6.3
2024	6.0
2025	5.9
2050	4.0
2100	4.0

Graded trend rates for retired member medical contributions were reinitialized for the June 30, 2014 valuation and updated to the rates shown above for the June 30, 2017 valuation. Actual FY18 retired member medical contributions are reflected in the valuation.

- (ff) Healthcare participation – 100% of system paid members and their spouses are assumed to elect healthcare benefits as soon as they are eligible; 10% of nonsystem paid members and their spouses are assumed to elect healthcare benefits as soon as they are eligible.

The significant actuarial methods and assumptions used in the defined contribution occupational death and disability and retiree medical benefit plan valuation as of June 30, 2017 are as follows:

- (a) Actuarial cost method – Liabilities and contributions are computed using the Entry Age Normal Actuarial Cost Method. Any funding surpluses or unfunded accrued liability is amortized over 25 years as a level percentage of expected payroll. However, in keeping with Governmental Accounting Standards Board (GASB) requirements in effect when the plan was adopted, the net amortization period will not exceed 30 years. Under the new accounting standards (GASB 74 and 75), the GASB requirements will not directly control amortization periods used for funding the plan.
- (b) Valuation of assets – Recognizes 20% of the investment gain or loss in each of the current and preceding four years. This method was phased in over five years. Fair value of assets were \$0 as of June 30, 2006. All assets are valued at fair value. Assets are accounted for on an accrued basis and are taken directly from audited financial statements. Valuation assets are constrained to a range of 80% to 120% of fair value of assets.

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June 30, 2018

- (c) Valuation of retiree medical and prescription drug benefits – Due to the lack of experience for the Defined Contribution Retirement (DCR) retiree medical plan only, base claims costs are based on those described in the actuarial valuation as of June 30, 2017 for PERS Defined Benefit (DB) retiree medical plan were used with some adjustments. The claim costs were adjusted to reflect the differences between the DCR medical plan and the DB medical plan. These differences include network steerage, different coverage levels, different Medicare coordination for medical benefits, and an indexing of the retiree out-of-pocket dollar amounts. To account for higher initial copays, deductibles, and out-of-pocket limits, upcoming FY18 claims costs were reduced 2.1% for medical and 10.4% for prescription drugs. In addition, to account for the difference in Medicare coordination, upcoming FY18 medical claims costs for Medicare eligible retirees were further reduced 29.3%. The medical and prescription drug percentages were reduced 0.2% each year for the DCR medical benefits to reflect the fact that the medical benefit to be offered to DCR members will have an annual indexing of member cost sharing features, such as deductibles and out-of-pocket amounts.

The State intends to transition to an Employer Group Waiver Program (EGWP) for this group in 2019. That impact is reflected in the valuation, but not in the base cost rates for 2017 or 2018. We estimated the impact of the EGWP plan by offsetting an amount equal to 160% of the RDS amount (a onetime adjustment, trended at regular prescription drug thereafter) based upon the actuary's review last year of client and industry comparisons of subsidies under RDS and EGWP.

The estimate of the impact of the EGWP arrangement is a somewhat conservative estimate based on the actuary's experience with other similar implementations. EGWP subsidies are provided by three mechanisms: a capitation amount, a discount on brand name drugs, and catastrophic payment.

The greatest variation in the actuary's estimate comes from the capitation amount, which is dependent upon the risk score of the population. The risk score is a measure of how sick (or well) the population is, depending on such matters as age and diagnosis. The higher the risk score, the larger the capitation. On the other hand, the healthier the population, the lower the capitation. Relatively small variations in risk score result in large swings in the capitation. Employer retiree groups tend to be healthier than the Medicare population as a whole. Our 60% estimate is meant to be conservative and is based on typical employer groups. Once a vendor is selected for the 2019 implementation of the EGWP arrangement, we will review an updated estimate of EGWP subsidies from that vendor and update the next valuation accordingly.

- (d) Investment return – 8.00% per year (geometric), compounded annually, net of expenses.
- (e) Salary scale – Inflation 3.12% per year. Productivity 0.5% per year.
- (f) Payroll growth – 3.62% per year (inflation + productivity).

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June 30, 2018

- (g) Total inflation – Total inflation as measured by the Consumer Price Index for urban and clerical workers for Anchorage is assumed to increase 3.12% annually.
- (h) Mortality (pretermination) – Based upon 2010–2013 actual mortality experience, 60% of male rates and 65% of female rates of the posttermination mortality rates. Deaths are assumed to be occupational 70% of the time for peace officer/firefighters, 50% of the time for others. The mortality assumptions include an allowance for expected future mortality improvement. The mortality table used was set in 2014 with an Actual Deaths to Expected Deaths ratio of 109%.
- (i) Mortality (posttermination) – Based upon 2010–2013 actual mortality experience, 96% of all rates of the RP-2000 table, 2000 Base Year, projected to 2018 with projection scale BB. The mortality assumptions include an allowance for expected future mortality improvement. The mortality table used was set in 2014 with an Actual Deaths to Expected Deaths ratio of 109%.
- (j) Total turnover – Rates based upon the 2010–2013 actual experience.
- (k) Disability – Incidence rates based upon the 2010–2013 actual experience. Postdisability mortality in accordance with the RP-2000 Disabled Retiree Mortality Table, 2000 Base Year, projected to 2018 with Projection Scale BB. Disabilities are assumed to be occupational 70% of the time for peace officer/firefighters, 50% of the time for others. For peace officer/firefighters, members are assumed to take the monthly annuity 100% of the time.
- (l) Retirement – Retirement rates based upon the 2010–2013 actual experience.
- (m) Marriage and age difference – Wives are assumed to be three years younger than husbands. For others, 75% of male members and 70% of female members are assumed to be married. For peace officer/firefighters, 85% of male members and 60% of female members are assumed to be married at termination from active service.
- (n) Part-time status – Part-time employees are assumed to earn 1.00 years of credited service per year for peace officer/firefighters and 0.65 years of credited service per year for other members.
- (o) Peace officer/firefighter occupational disability retirement benefit commencement – The occupational disability retirement benefit is assumed to be first payable from the member's DC account and the retirement benefit payable from the occupational death and disability trust will commence five years later.

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- (p) Per capita claims cost – Sample claims cost rates (before base claims cost adjustments described below) adjusted to age 65 for FY18 medical and prescription drug benefits are shown below:

	Medical	Prescription drugs
Pre-Medicare	\$ 13,682	3,493
Medicare Parts A and B	1,485	3,706
Medicare Part B Only	4,722	3,706
Medicare Part D	N/A	659

Members are assumed to attain Medicare eligibility at age 65.

- (q) Third-party administrator fees – \$236 per person per year; assumed trend rate of 4% per year.
- (r) Base claims cost adjustments – Due to higher initial copays, deductibles, out-of-pocket limits, and member cost sharing compared to the DB medical plan, the following cost adjustments are applied to the per capita claims cost rates: 0.979 for the medical plan and 0.686 for the medical Medicare coordination method and 0.896 for the prescription drug plan.
- (s) Imputed data – Data changes from the prior year, which are deemed to have immaterial impact on liabilities and contribution rates, are assumed to be correct in the current year's client data. Nonvested terminations with appropriate refund dates are assumed to have received a full refund of contributions. Active members with missing salary and service are assumed to be terminated with status based on their vesting percentage.
- (t) Active data adjustment – To reflect participants who terminate employment before the valuation date and are subsequently rehired after the valuation date, participants who are listed as terminated on the June 30 client data but active in the October 1 client records are updated to active status.

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Public Employees' Retirement System
(A Component Unit of the State of Alaska)

Notes to Required Supplementary Information (Unaudited)

June 30, 2018

- (u) Healthcare cost trend – The table below shows the rate used to project the cost from the shown fiscal year to the next fiscal year. For example, 8.0% is applied to the FY18 pre-Medicare medical claims cost to get the FY19 medical claims costs:

Fiscal year	Medical Pre-65	Medical Post-65	Prescription drugs	RDS/ EGWP
2018	8.0%	5.5%	9.0%	6.5%
2019	7.5	5.5	8.5	6.2
2020	7.0	5.4	8.0	6.0
2021	6.5	5.4	7.5	5.7
2022	6.3	5.4	7.1	5.5
2023	6.1	5.4	6.8	5.4
2024	5.9	5.4	6.4	5.2
2025	5.8	5.4	6.1	5.0
2026	5.6	5.4	5.7	4.8
2027–2040	5.4	5.4	5.4	4.7
2041	5.2	5.2	5.2	4.6
2042	5.1	5.1	5.1	4.5
2043	5.0	5.0	5.0	4.5
2044	4.8	4.8	4.8	4.4
2045	4.7	4.7	4.7	4.3
2046	4.5	4.5	4.5	4.2
2047	4.4	4.4	4.4	4.2
2048	4.3	4.3	4.3	4.1
2049	4.1	4.1	4.1	4.0
2050	4.0	4.0	4.0	4.0
2100	4.0	4.0	4.0	4.0

As of the June 30, 2014 valuation and later, the updated Society of Actuaries' Healthcare Cost Trend Model is used to project medical and prescription drug costs. This model estimates trend amounts that are projected out for 80 years. This model has been populated with assumptions that are specific to the State of Alaska. The model was updated this year to use the newest version and incorporate recent trend survey information, which generated the updated trend rates.

State of Alaska
Public Employees' Retirement System
(A Component Unit of the State of Alaska)

Notes to Required Supplementary Information (Unaudited)

June 30, 2018

(v) Aging factors:

Age	Medical	Prescription drugs
0-44	2.0%	4.5%
45-54	2.5	3.5
55-64	3.5	3.0
65-74	4.0	1.5
75-84	1.5	0.5
85-95	0.5	—
96+	—	—

(w) Retiree medical participation:

Decrement due to disability		Decrement due to retirement													
Age	Percent participation	Age	Percent participation												
<56	73.00%	55	40.0%												
56	77.50	56	50.0												
57	79.75	57	55.0												
58	82.00	58	60.0												
59	84.25	59	65.0												
60	86.50	60	70.0												
61	88.75	61	75.0												
62	91.00	62	80.0												
63	93.25	63	85.0												
64	95.50	64	90.0												
65+	94.40	65+	<table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th colspan="2" style="text-align: center;">Years of service</th> </tr> </thead> <tbody> <tr> <td style="text-align: center;"><15</td> <td style="text-align: center;">70.5%</td> </tr> <tr> <td style="text-align: center;">15-19</td> <td style="text-align: center;">75.2</td> </tr> <tr> <td style="text-align: center;">20-24</td> <td style="text-align: center;">79.9</td> </tr> <tr> <td style="text-align: center;">25-29</td> <td style="text-align: center;">89.3</td> </tr> <tr> <td style="text-align: center;">30+</td> <td style="text-align: center;">94.0</td> </tr> </tbody> </table>	Years of service		<15	70.5%	15-19	75.2	20-24	79.9	25-29	89.3	30+	94.0
Years of service															
<15	70.5%														
15-19	75.2														
20-24	79.9														
25-29	89.3														
30+	94.0														

Participation rates reflect the expected plan election rate that varies by reason for decrement, duration that a member may pay full cost prior to Medicare eligibility, and availability of alternative and/or lower-cost options, particularly in the Medicare market. This assumption is based on observed trends in participation from a range of other plans.

State of Alaska
Public Employees' Retirement System
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Notes to Required Supplementary Information (Unaudited)

June 30, 2018

Changes in Actuarial Assumptions, Methods, and Benefits Since the Prior Valuation

Defined benefit pension and postemployment healthcare benefit plan

There have been no changes in the asset or valuation methods since the prior valuation.

The medical trend rate assumption was updated to reflect anticipated increases in costs based on recent survey data. An obligation for the Cadillac Tax was also added this year because it was no longer deemed immaterial due to the updated trend rates and the change to use chained CPI (which was part of the Tax Cut and Jobs Act passed in December 2017) to project the tax thresholds in future years.

Defined contribution occupational death and disability and retiree medical benefits plan

There have been no changes in the asset or valuation methods since the prior valuation.

The healthcare cost trend assumption was updated to reflect anticipated increases in costs based on recent survey data. Healthcare claim costs are updated annually. Minor updates were made to the factors used to adjust the DB plan costs to reflect DCR plan design differences.

There have been no changes in PERS OCR benefit provisions since the prior valuation other than the State's decision to defer the EGWP implementation date from January 1, 2018 to January 1, 2019.

SUPPLEMENTAL SCHEDULES

Financial Section

State of Alaska
Public Employees' Retirement System
(A Component Unit of the State of Alaska)

Schedule of Administrative and Investment Deductions

Years ended June 30, 2018 and 2017

(In thousands)

	Administrative	Investment	Totals	
			2018	2017
Personal services:				
Wages	\$ 4,553	346	4,899	6,464
Benefits	2,415	155	2,570	3,044
Total personal services	6,968	501	7,469	9,508
Travel:				
Transportation	27	93	120	95
Per diem	5	14	19	16
Total travel	32	107	139	111
Contractual services:				
Management and consulting	14,815	7,501	22,316	20,458
Accounting and auditing	114	18	132	200
Data processing	1,303	730	2,033	2,161
Communications	113	41	154	110
Advertising and printing	62	1	63	58
Rentals/leases	361	79	440	417
Legal	263	67	330	572
Medical specialists	66	—	66	55
Repairs and maintenance	13	8	21	2
Transportation	168	3	171	88
Securities lending expense	—	456	456	177
Other professional services	91	30	121	246
Total contractual services	17,369	8,934	26,303	24,544
Patient Protection and Affordable Care Act Transitional Reinsurance Program	—	—	—	724
Total Patient Protection and Affordable Care Act	—	—	—	724
Other:				
Equipment	56	34	90	59
Supplies	26	79	105	102
Total other	82	113	195	161
Total administrative and investment deductions	\$ 24,451	9,655	34,106	35,048

See accompanying independent auditors' report.

State of Alaska
Public Employees' Retirement System
(A Component Unit of the State of Alaska)

Schedule of Payments to Consultants
Other than Investment Advisors

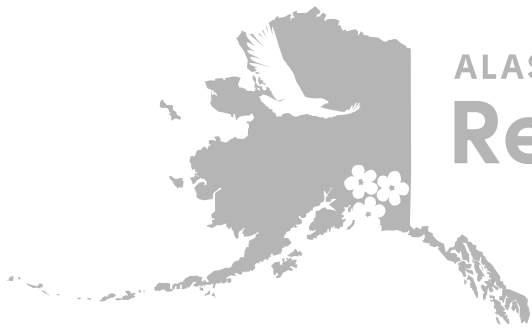
Years ended June 30, 2018 and 2017

(In thousands)

<u>Firm</u>	<u>Services</u>	<u>2018</u>	<u>2017</u>
Conduent Human Resource Services	Actuarial services	\$ 701	460
Health Management Systems	Auditing services	251	—
KPMG LLP	Auditing services	99	132
State Street Bank and Trust	Custodial banking services	851	932
Alaska IT Group	Data processing services	333	382
Applied Microsystems Incorporated	Data processing services	330	355
Genesys Telecommunications Lab	Data processing services	18	—
Interactive Intelligence Group	Data processing services	—	27
International Business Machines	Data processing services	18	14
SHI International Corporation	Data processing services	429	423
Sungard Availability Services	Data processing services	33	26
State of Alaska, Department of Law	Legal services	310	558
Arizona State University	Management consulting services	19	—
Maximus Incorporated	Management consulting services	1	19
The Segal Company Incorporated	Management consulting services	245	306
First Medical Advisory Group	Medical specialist and consulting	—	24
Health Care Cost Management	Medical specialist and consulting	—	54
Managed Medical Review Origination	Medical specialist and consulting	59	—
		\$ 3,697	3,712

This schedule presents payments to consultants receiving greater than \$10,000.

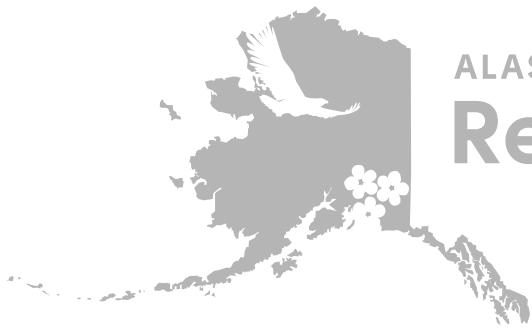
See accompanying independent auditors' report.



ALASKA DIVISION OF
**Retirement
and Benefits**



INVESTMENT SECTION



ALASKA DIVISION OF
**Retirement
and Benefits**



Callan Associates Inc.
1900 16th Street
Suite 1175
Denver, CO 80202



Main 303.861.1900
Fax 303.832.8230

www.callan.com

October 29, 2018

Alaska Retirement Management Board
State of Alaska, Department of Revenue
Treasury Division
333 Willoughby Avenue, 11th Floor
Juneau, Alaska 99801

Dear Board Members:

This letter reviews the investment performance of the Alaska Retirement Management Board (ARMB) for the fiscal year ended June 30, 2018.

Callan LLC (Callan) calculates time-weighted performance statistics based on underlying custodial data provided by the Board's custodian, State Street Bank and Trust Company. The performance calculations were made using a time-weighted return methodology based upon current market values. ARMB's real estate consultant, Townsend Group, calculates returns for the real estate segment of the portfolio. The Townsend data has been incorporated into ARMB's Total Fund returns.

Callan serves as the ARMB Board's (Board) independent general investment consultant and evaluates ARMB's performance in relation to market benchmarks, appropriate manager peer groups and other public pension systems. The performance calculations are made using a methodology broadly similar to the Global Investment Performance Standards.

ARMB purposely seeks to invest assets prudently, expertly, and according to governing law and industry practices. The objective of this approach is that assets under supervision be sufficient to pay promised benefits to members and beneficiaries. In pursuit of these objectives, the ARMB periodically evaluates liabilities, expected contributions and potential earnings. This analysis considers a wide range of potentially viable investment strategies. With thoughtful consideration of multiple factors, the Board selects a strategic investment policy that balances long-term growth potential and acceptable risk. A policy benchmark is constructed that mirrors the Board's strategic decision regarding asset allocation policy. The custom policy benchmark comprises equity, fixed income, real estate and other market indices weighted in proportions corresponding to the ARMB's investment policy.

2018 Fiscal Year Market Overview

Equity markets followed an extremely strong 2017 with further gains in fiscal year 2018. The Russell 3000 Index, a measure of broad U.S. equity, returned 14.78% in the period. Non-U.S. stocks trailed their U.S. counterparts as political developments including potential trade tariffs weighed on stocks outside of the U.S. International stocks, as measured by the MSCI ACWI ex-U.S. Index, gained 7.28% for the fiscal year. A broad measure of the total global equity market (MSCI All Country World Index) rose 10.73%.

Investment Section

Rising interest rates impaired fixed income performance. The Bloomberg U.S. Aggregate Bond Index, a widely-used gauge of the investment grade domestic bond market, fell 0.40% in the year after falling 0.31% the prior year. Absolute return strategies significantly trailed the equity markets; the Callan Absolute Return Hedge Fund-of-Funds Style median return was 5.30% (net-of-fees). Private real estate, as measured by the NCREIF Property Index, was positive for the eighth year in a row. In fiscal year 2018, the NCREIF Property Index returned 7.19%. Publicly traded real estate, as measured by the FTSE NAREIT All Equity Index, lagged the private markets but still gained 4.93%.

ARMB's actual asset groupings delivered the following one-year returns through June 30, 2018:

Domestic Stocks:	15.22%
Int'l Stocks:	9.02%
Opportunistic:	5.23%
Fixed Income:	(0.71%)
Real Assets:	7.59%
Private Equity:	26.65%
Absolute Return:	4.78%

For the fiscal year ended 30 June 2018, the Public Employees Retirement System (PERS) had a time-weighted total return of 9.61%. The Teachers Retirement System (TRS) had a time-weighted total return of 9.62%. Both systems' gross return exceeded their strategic policy target return of 8.25% and the median return for Callan's Public Fund Sponsor database of 8.23%.

Over most trailing periods, PERS and TRS have outperformed their target index returns. Both funds' 5-year annualized return was 8.68% versus a benchmark of 8.10%. The seven-year annualized return for PERS was 7.99% and 8.02% for TRS. Both were above the 7-year target return of 7.64%. Over 26.75 years – the longest period for which we have data – PERS and TRS achieved annualized total returns of 7.79% and 7.84%, respectively, while the policy benchmark return was 7.71%.

Both systems are well diversified and currently have asset allocation policies that, in Callan's opinion, are consistent with achieving a long-term "real" (above inflation) return of 4.5%.

In summary, fiscal 2018 was the second year in a row during which the ARMB's asset class returns had strong showings. Only the fixed income composite posted a negative return. PERS and TRS produced returns well above the average public fund, both ranking in the 18th percentile within the Public Fund Sponsor peer group for the one-year period ended June 30, 2018.

Sincerely,



Paul Erlendson
Senior Vice President

Department of Revenue Treasury Division Staff As of June 30, 2018

Commissioner Sheldon Fisher	Chief Investment Officer Bob G. Mitchell	Investment Officers Casey Colton Emily Howard Josh McLin Kekama Tuiofu Kevin Buckland Kevin Liu Mackenzie Willems Mark Moon	Nicholas Orr Ross Alexander Sean Howard Shane Carson Stephanie Pham Stephen Sikes Steve Verschoor Victor Djajalie
Deputy Commissioner Mike Barnhill	Comptroller Scott Jones, CPA		
Director Pamela Leary, CPA	Cash Management Michelle M. Prebula, MBA, CPA, CCM		
	ARMB Liaison Officer Stephanie Alexander		

External Money Managers and Consultants

Domestic Equity Large Capitalization

Allianz Global Investors
San Francisco, CA
Barrow, Hanley, Mewhinney & Strauss
Dallas, TX
McKinley Capital Management, Inc.
Anchorage, AK
Quantitative Management Associates
Newark, NJ
State Street Global Advisors
San Francisco, CA

Domestic Equity Small Capitalization

ArrowMark Partners
Denver, CO
Barrow, Hanley, Mewhinney & Strauss
Dallas, TX
BMO Global Asset Management
Chicago, IL
Fidelity Investments
Smithfield, RI
Frontier Capital Management
Boston, MA
Jennison Associates LLC
New York, NY
Lord Abbett & Co.
Jersey City, NJ
State Street Global Advisors
San Francisco, CA
Sycamore Capital Management
Cincinnati, OH
T. Rowe Price Investment
Baltimore, MD

Domestic Equity Micro Capitalization

DePrince, Race & Zollo, Inc.
Winter Park, FL
Lord Abbett & Co.
Jersey City, NJ
Zebra Capital Management
Mitford, CT

International Small Capitalization

Mondrian Investment Partners
London, England
Schroders Investment Management NA
London, England

Emerging Market Income

Lazard Asset Management
New York, NY

International Equity – EAFE, Emerging Markets Non U.S., and Global Equity

Allianz Global Investors
San Francisco, CA
Arrowstreet Capital, LP
Boston, MA
BlackRock
San Francisco, CA
Baillie Gifford Overseas Ltd.
Edinburgh, Scotland
Brandes Investment Partners, L.P.
San Diego, CA
Capital Group Trust Co.
Los Angeles, CA
DePrince, Race & Zollo, Inc
Winter Park, FL
Lazard Asset Management
New York, NY
McKinley Capital Management, Inc.
Anchorage, AK
Parametric Clifton
Seattle, WA
State Street Global Advisors
San Francisco, CA

International Fixed Income

Lazard Asset Management
New York, NY
Mondrian Investment Partners
London, England
Schroders Investment Management NA
New York, NY

High Yield/Convertible Bond/Tactical Bond

Fidelity Investment Asset Management
Smithfield, RI
MacKay Shields LLC
New York, NY

Alternative Equity

Analytic Investors
Los Angeles, CA
Quantitative Management Associates
Newark, NJ
State Street Global Advisors
San Francisco, CA

Master Limited Partnerships

Advisory Research
St. Louis, MO
Tortoise Capital Advisors LLC
Leawood, KS

Investment Section

External Money Managers and Consultants (cont.)

Private Equity

Abbott Capital Management, L.P.
New York, NY

Angelo, Gordon & Co.
New York, NY

Advent International,
Boston, MA

Dyal Capital Partners
New York, NY

Glendon Capital
Santa Monica, CA

KKR Lending Partners
New York, NY

Lexington Partners
New York, NY

Merit Capital Partners
Chicago, IL

Neuberger Berman
New York, NY

New Mountain Partners
New York, NY

NGP
Irvine, TX

Onex
New York, NY

Pathway Capital Management, LLC
Irvine, CA

Summit Partners
Boston, MA

The Jordan Company
New York, NY

Warburg Pincus
New York, NY

Investment Consultants

Callan Associates, Inc.
Denver, CO

The Townsend Group
San Francisco, CA

Investment Advisory Council

Jerrold Mitchell
Wayland, MA

Robert Shaw
San Francisco, CA

William Jennings
Colorado Springs, CO

Independent Auditors

KPMG, LLP
Anchorage, AK

Actuaries

Conduent HR Consulting, LLC
Denver, CO

Gabriel Roeder Smith
Denver, CO

Taxable Municipal Bonds

Western Asset Management Company
Pasadena, CA

Tactical Fixed Income

Fidelity Investment Asset Management
Merrimack, NH

Global Master Custodian

State Street Bank & Trust Co.
Boston, MA

Absolute Return

Allianz Global Investors
New York, NY

Crestline Investors, Inc.
Fort Worth, TX

Global Assets Management Inc.
New York, NY

J.P. Morgan Asset Management
New York, NY

Man Group
London, UK

Prisma Capital
New York, NY

Zebra Capital Management
Stanford, CT

Supplemental Benefits System, Deferred Compensation Plan and Defined Contribution Plan

Allianz Global Investors
San Francisco, CA

BlackRock
San Francisco, CA

Brandes Investment Partners
San Diego, CA

Russell Investment Implementation Services
Seattle, WA

State Street Global Advisors
Boston, MA

T. Rowe Price Investment Services
Baltimore, MD

Real Assets – Real Estate Core Separate Accounts

LaSalle Investment Management
Chicago, IL

Sentinel Real Estate Corporation
New York, NY

UBS Realty Investors, LLC
Hartford, CT

Real Assets – Energy

EIG Global Energy Partners
Washington, DC

Real Assets – Infrastructure

Brookfield Investment Management
New York, NY

Industry Funds Management
New York, NY

JP Morgan Asset Management
New York, NY

Lazard Asset Management
New York, NY

Real Assets – Farmland and Timber

Hancock Agricultural Investment Group
Boston, MA

Hancock Timber Resource Group
Boston, MA

Timberland Investment Resources LLC
Atlanta, GA

UBS Farmland Investors, LLC
Hartford, CT

External Money Managers and Consultants (cont.)

Real Estate – Commingled Real Estate Funds

Almanac Realty Investors

New York, NY

Baring Real Estate Advisors

Hartford, CT

BlackRock Realty

New York, NY

Clarion Partners

New York, NY

Colony NorthStar Capital

Los Angeles, CA

Coventry Real Estate Fund II, LLC

New York, NY

J.P. Morgan Investment Management Inc.

New York, NY

KKR & Co.

New York, NY

LaSalle Investment Management

Chicago, IL

Lowe Hospitality Investment Partners, LLC

Los Angeles, CA

Silverpeak Real Estate Partners

New York, NY

Tishman Speyer Properties

New York NY

UBS Realty Investors, LLC

Hartford, CT

Investment Section

Public Employees' Retirement System Investment Report

INVESTMENTS

The investment goals of the State of Alaska Public Employees' Retirement System are the long-term return and sustainability of the pension funds under management. Annually, the Alaska Retirement Management Board (ARMB) sets its asset allocation strategy in order to reflect changes in the marketplace while still retaining an expected optimal risk/return level within the set constraints and objectives of the ARMB.

The ARMB categorizes its investments into eight asset classes: domestic equities, global equities ex-U.S., opportunistic, private equity, real assets, fixed income, absolute return and cash equivalents. The performance of each asset class is compared with a benchmark comprised of one or more market indices. The performance for the total portfolio is compared with its policy portfolio, determined by calculating the weighted performance of the underlying asset class benchmarks at the portfolio's target asset allocation. The asset class benchmarks are illustrated below:

Asset Class	Benchmark
Domestic Equity	Russell 3000 Index
Global Equities Ex-U.S.	MSCI All Country World Ex-U.S. Index
Opportunistic	60% Russell 1000 Index 40% Bloomberg Barclays Aggregate Index
Private Equity	1/3 S&P 500 Index 1/3 Russell 2000 Index 1/3 MSCI EAFE Index
Real Assets	31% NCREIF Total Property Index 25% NCREIF Farmland Index 10% NCREIF Timberland Index 17.5% S&P Global Infrastructure Index 12.5% Alerian MLP Index 4% FTSE NAREIT All Equity REIT Index
Fixed Income	Bloomberg Barclays Intermediate Treasury Index
Absolute Return	HFRI Fund of Funds Composite Index
Cash Equivalents	91 Day Treasury Bill

The target asset allocation is determined by the ARMB, utilizing capital market assumptions provided by its independent general investment consultant, Callan Associates. During the 2018 fiscal year, the ARMB's target asset allocation was 24% domestic equities, 22% global equities ex-U.S., 10% opportunistic, 9% private equity, 17% real assets, 10% fixed income, 7% absolute return, and 1% cash equivalents. Over the next 10 years, the target asset allocation is expected to generate a return of 6.6% with a standard deviation of 14.7%.

Investment Section

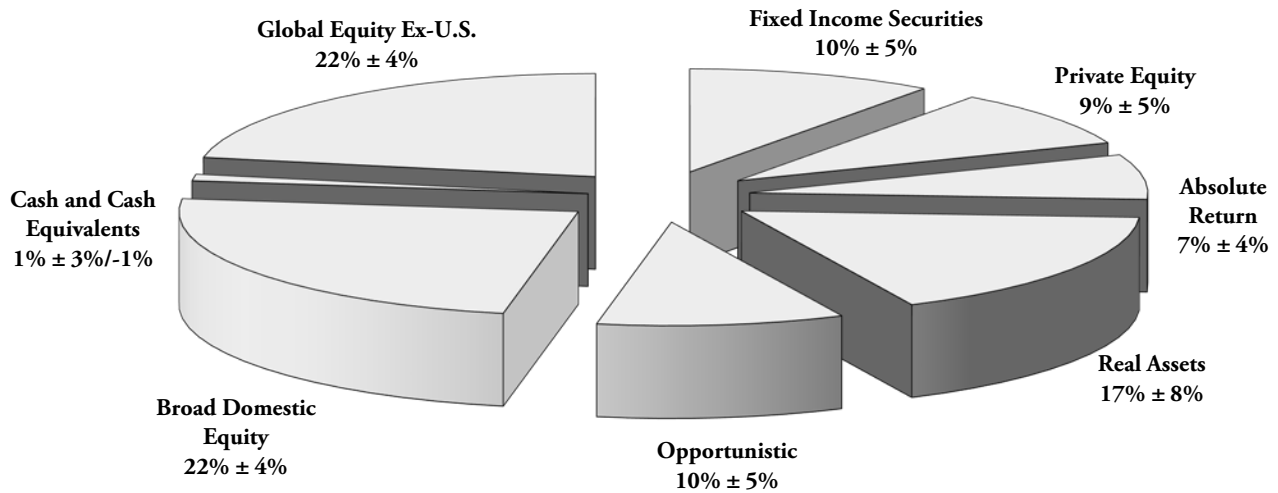
Public Employees' Retirement System Schedule of Investment Results Fiscal Years Ended June 30							
	2014	2015	2016	2017	2018	Annualized	
						3 Year	5 Year
Total Fund							
PERS	18.56%	3.29%	(0.36%)	13.35%	9.61%	7.37%	8.68%
<i>Actuarial Earnings Rate</i>	8.00	8.00	8.00	8.00	8.00	8.00	8.00
Broad Domestic Equity							
PERS	25.81	7.84	0.58	18.55	15.21	11.17	13.26
<i>Custom Composite Index</i>	25.22	7.29	2.14	18.51	14.78	11.58	13.29
Fixed Income							
PERS	5.14	(0.74)	5.15	2.91	(0.71)	2.42	2.31
<i>Custom Composite Index</i>	3.31	0.41	4.79	0.02	(0.76)	1.22	1.33
Opportunistic							
<i>PERS</i>	-	-	-	-	5.64	-	-
<i>Custom Composite Index</i>	-	-	-	-	8.39	-	-
Real Assets							
PERS	13.28	3.70	4.76	5.98	7.53	6.09	7.00
<i>Custom Composite Index</i>	10.98	7.99	8.87	5.66	4.29	6.25	7.53
Global Equity Ex-US							
PERS	23.43	(3.32)	(9.15)	20.41	7.97	5.71	7.11
<i>MSCI ACWI ex-US</i>	22.27	(4.85)	(9.80)	21.00	7.75	5.55	6.47
Private Equity							
PERS	24.19	13.77	4.71	17.04	26.65	15.79	17.01
<i>Custom Composite Index</i>	24.01	3.33	(4.41)	21.04	12.92	9.32	10.86
Absolute Return							
PERS	6.51	9.24	(3.09)	8.47	4.78	3.27	5.09
<i>3-month Treasury Bill +5%</i>	5.05	5.02	5.19	5.49	5.18	5.28	5.18
Alternative Equity							
PERS	22.36	(0.89)	3.41	11.38	-	-	-
<i>Custom Composite Index</i>	18.70	4.26	2.09	15.07	-	-	-
Cash Equivalent							
PERS	0.27	0.28	0.55	0.79	1.51	0.95	0.68
<i>3-month Treasury Bill</i>	0.05	0.02	0.19	0.49	1.36	0.68	0.42

MSCI ACWI =Morgan Stanley Capital International All Country World Index
Returns for periods longer than one year are reported on an annualized basis.
Basis of calculation: Time-Weighed rate of return based on the market rate of return.

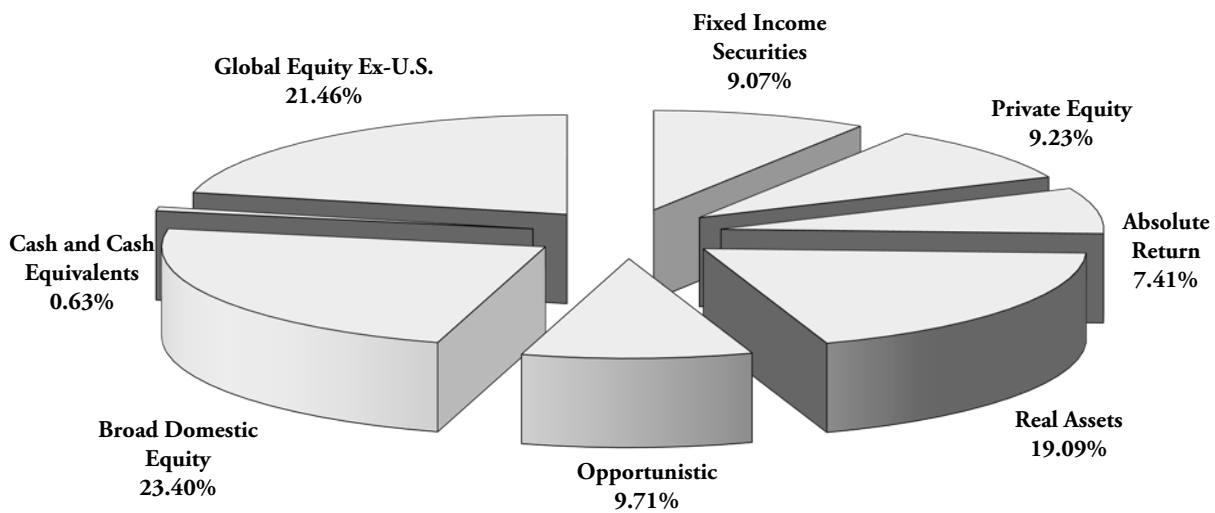
Investment Section

Public Employees' Retirement System Asset Allocation June 30, 2018

Policy

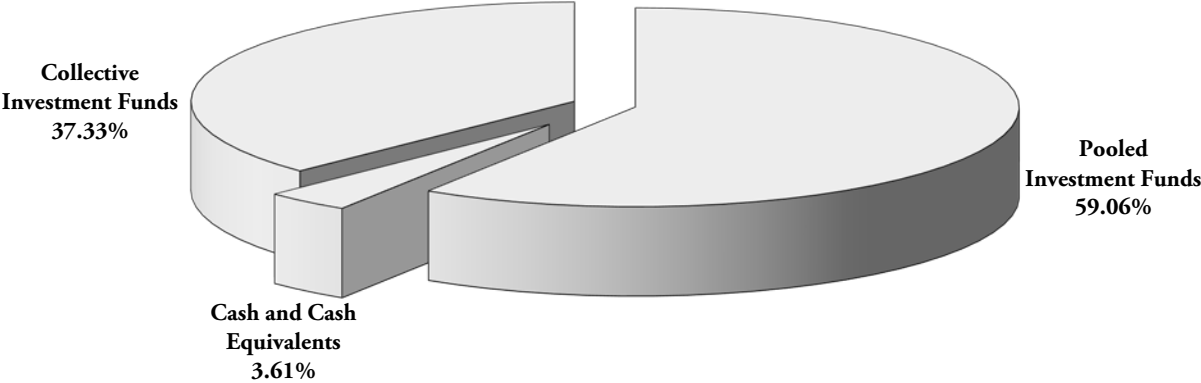


Actual – Defined Benefit Pension

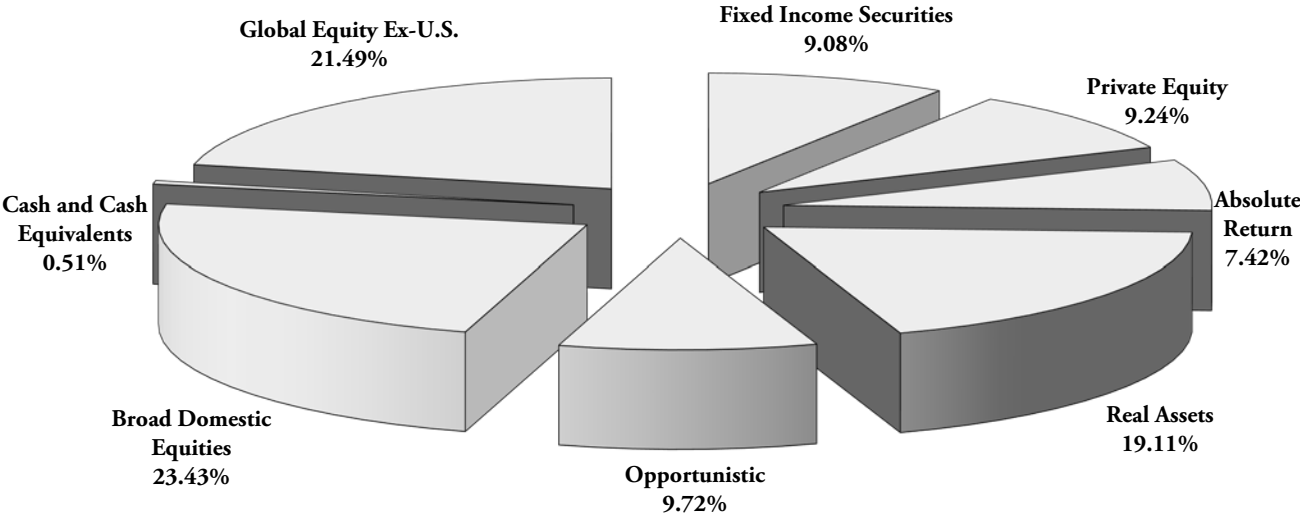


**Public Employees' Retirement System
Asset Allocation
June 30, 2018**

Actual – Defined Contribution Participant Directed



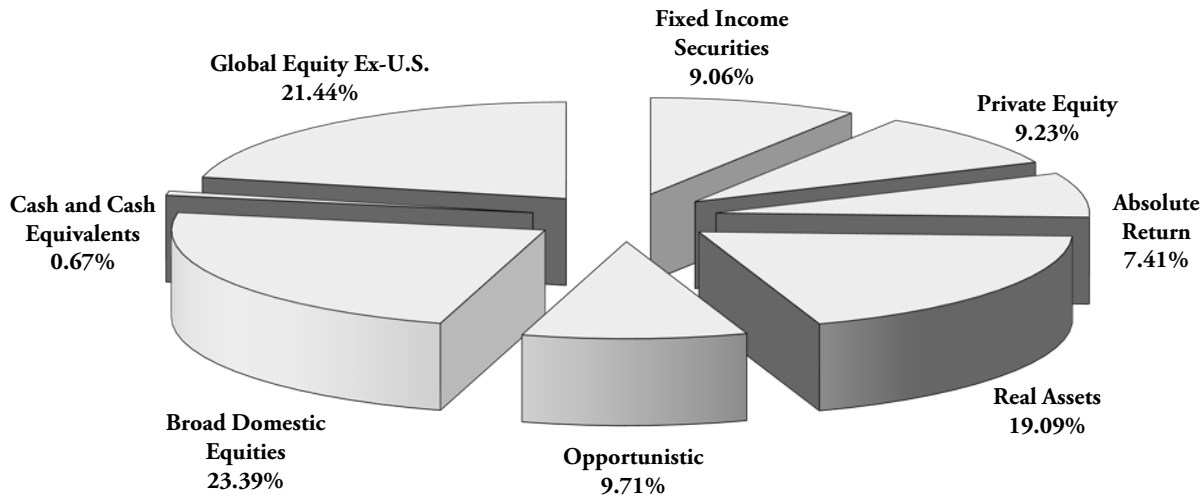
Actual – Defined Benefit Alaska Retiree Healthcare Trust



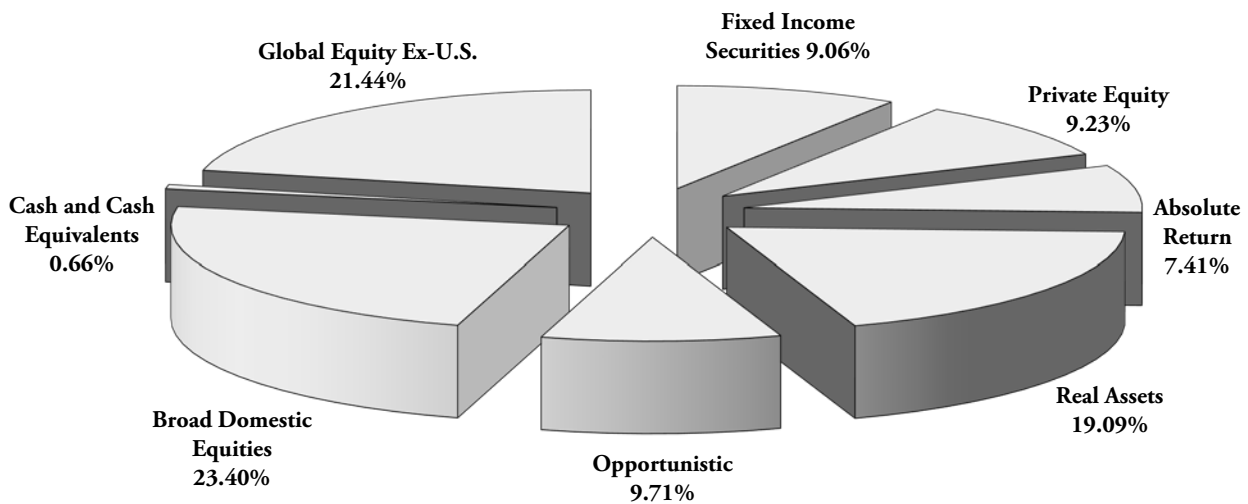
Investment Section

Public Employees' Retirement System Asset Allocation June 30, 2018

Actual — Health Reimbursement Arrangement

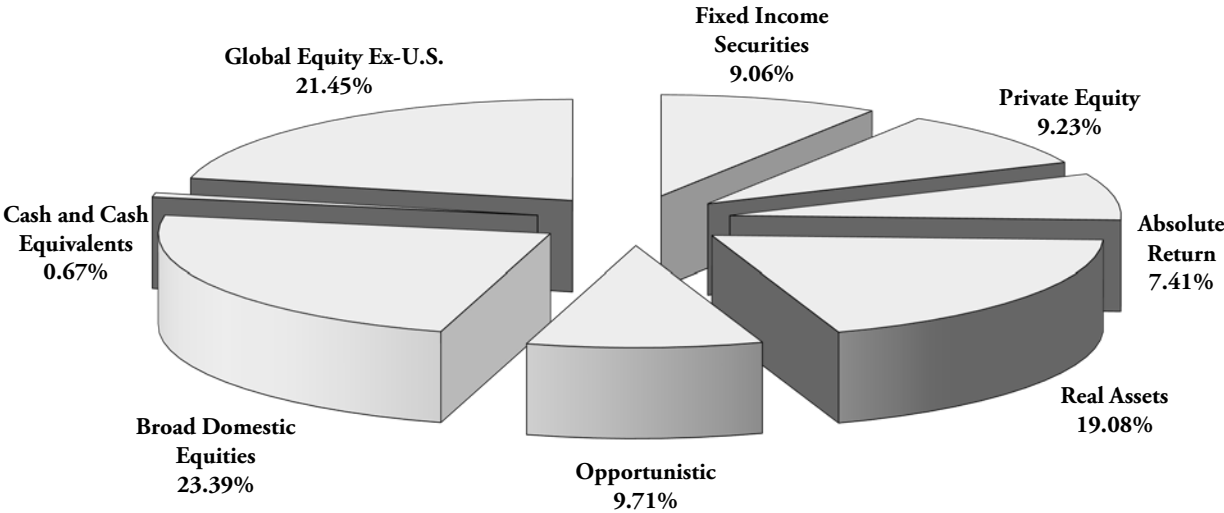


Actual — Occupational Death & Disability



**Public Employees' Retirement System
Asset Allocation
June 30, 2018**

Actual — Retiree Medical Plan



Investment Section

Alaska Retirement Management Board Top Ten Holdings by Asset Type June 30, 2018

Invested assets under the fiduciary responsibility of the Alaska Retirement Management Board (ARMB) have been commingled in various investment pools to manage the overall cost of the program. Using investment pools increases investment efficiency in three ways. First, combining individual funds' cash inflows and outflows to offset each other reduces the amount of cash on hand needed to support daily operations. Second, pooling investments significantly reduces accounting, budgeting, and administrative costs. Finally, the ARMB can achieve economies of scale by making available investment options that could not otherwise be practically provided for smaller retirement funds. Below are the ten largest fixed income and equity holdings.

Fixed Income

<u>Rank</u>	<u>Largest Fixed Income Holdings</u>	<u>Market Value</u>	<u>Par Value</u>
1	US Treasury 2.125% 12/31/2022	\$146,911,491	\$150,696,566
2	US Treasury 1.375% 8/31/2020	69,503,671	71,274,394
3	US Treasury 1.875% 4/30/2022	66,904,443	68,948,663
4	US Treasury 2.000% 8/15/2025	64,754,007	68,358,869
5	US Treasury 2.750% 5/31/2023	56,103,695	56,033,653
6	US Treasury 2.125% 5/15/2025	55,779,675	58,291,207
7	US Treasury 2.375% 8/15/2024	45,960,614	47,080,617
8	US Treasury 2.375% 5/15/2027	43,233,092	44,893,813
9	US Treasury 1.750% 2/28/2022	39,056,192	40,363,268
10	US Treasury 1.125% 7/31/2021	37,489,781	39,233,848

Equities

<u>Rank</u>	<u>Largest Equity Holdings</u>	<u>Market Value</u>	<u>Par Value</u>
1	Apple Inc.	\$107,517,031	\$580,828
2	Microsoft Corp.	90,192,453	914,638
3	Amazon.com Inc	76,037,848	44,733
4	Exxon Mobil Corp.	55,691,202	673,168
5	Facebook Inc.	51,338,294	264,195
6	Alphabet, Inc	46,312,498	41,014
7	Pfizer Inc.	43,232,148	1,191,625
8	Johnson & Johnson	40,270,052	331,878
9	Home Depot Inc	39,047,046	200,139
10	Procter & Gamble Co./The	38,880,478	498,085

Additional investment information may be obtained from the Department of Revenue, Treasury Division, P.O. Box 110405, Juneau, Alaska 99811-0405.

Public Employees' Retirement System Schedule of Investment Management Fees Year Ended June 30, 2018

	Total Fair Value	Fees
Opportunistic		
** Advent Capital Management Convertible Bond Fund	N/A	\$ 569,218
** Analytic Buy Write Account	\$ 17,861,461	286,166
** Analytic SSgA Index Account - Index Fund	463,740,267	26,958
ARMB STOXX Min Var	400,389,217	57,571
** Columbia Threadneedle	N/A	304,440
** Eaton Vance High Yield	202,248	254,956
** Fidelity Institute Asset Management	134,771,652	347,550
** Fidelity Institute Asset Management High Yield	101,373,756	946,570
** Guggenheim Partners	N/A	120,346
** Lazard Emerging Income	109,310,031	843,496
** MacKay Shields	104,044,260	409,977
** Mondrian Investment Partners	65,465,621	413,198
** Quantitative Management Associates	N/A	214,354
** Schroders Insurance Linked Securities	224,925,233	1,046,570
** SSgA Managed Volatility-Russell 1000	N/A	26,764
** Western Asset Management Company	70,971,901	183,145
Total Opportunistic	1,693,055,647	6,051,279
Broad Domestic Equity		
** Allianz Global Investors	N/A	244,140
** ARMB Equity Yield	238,576,065	7,082
** ARMB Russell 1000 Growth	1,037,282,100	46,351
** ARMB Russell 1000 Value	896,902,321	39,391
** ARMB Russell Top 200	256,085,818	15,083
** ARMB S&P 600	176,484,778	6,248
** ARMB S&P 500 Equal Weight	243,573,572	10,280
** ARMB Scientific Beta	247,528,335	132,666
** Arrowmark	57,887,468	233,723
** Barrow, Hanley, Mewhinney & Strauss (Large Cap)	N/A	413,199
** Barrow, Hanley, Mewhinney & Strauss (Small Cap)	N/A	294,701
** BMO DSCC	59,415,785	320,471
** DePrince, Race & Zollo Inc.	81,851,725	746,800
** Fidelity Institutional Asset Management Small Company	N/A	629,075
** Frontier Capital Management Company	111,801,994	904,983
** Jennison Associates	81,187,854	572,156
** Lazard Asset Management	219,634,197	513,402
** Lord Abbett Small Cap Growth	N/A	169,640
** Lord Abbett & Co. - Mircor Cap	78,979,780	586,692
** McKinley Capital	N/A	352,814
** Portable Alpha	27,288,400	271,400
** Quantitative Management Associates	N/A	329,655
** SSgA Futures Large Cap	2,245,549	2,158
** SSgA Futures Small Cap	1,247,760	1,272
** SSgA Managed Volatility Russell 2000	105,839	35,941
** T.Rowe Small Cap Growth	51,211,317	108,052
** Victory Capital Management	133,691,500	809,828
** Zebra Capital Management, LLC	75,715,044	388,739
Total Broad Domestic Equity	4,078,697,201	8,185,942
Global Equity Ex-U.S.		
** Allianz Global Investors (International Large Cap)	667,831	519,266
** Arrowstreet Capital, Limited Partnership	255,439,655	1,182,341
** Baillie Gifford Overseas Limited	256,071,845	1,276,486
** BlackRock ACWI Ex-US IMI	412,223,159	208,020
** Brandes Investment Partners	535,372,091	1,732,416
** Capital Guardian Trust	380,872,525	1,463,269
** DePrince, Race & Zollo (Emerging Markets)	182,001,497	89,384
** Eaton Vance (Emerging Markets)	57,510,013	2,204,646
** Lazard Asset Management (Emerging Markets)	265,175,035	2,363,453
** Lazard Asset Management (International Large Cap)	219,224,675	244,536
** McKinley Capital (International Large Cap)	240,267,267	1,701,525
** Mondrian Investment Partners, Ltd	128,769,753	889,927
** Schroders Investment Management	141,347,596	1,076,657
** State Street Global Advisors	664,405,865	402,454
Total Global Equity Ex-U.S.	3,739,348,807	15,354,380

Investment Section

Public Employees' Retirement System Schedule of Investment Management Fees (continued) Year Ended June 30, 2018

	Total Fair Value	Fees
Private Equity		
Abbott Capital Management	622,628,411	1,445,692
Advent International GPE Fund VIII-B	8,533,204	249,681
Angelo, Gordon & Co.	N/A	6,225
Dyal Capital Partners III	14,655,117	665,455
Glendon Opportunities	24,734,499	416,082
KKR Lending Partners II	39,203,883	353,951
Lexington Capital Partners VII	16,512,180	219,134
Lexington Capital Partners VIII	18,917,914	263,736
Merit Capital Partners	9,353,017	65,747
Neuberger Berman Secondary Opportunities Fund III	20,025,423	233,084
Neuberger Berman Secondary Opportunities Fund IV	3,612,576	415,909
New Mountain Partners IV	14,868,645	47,672
New Mountain Partners V	8,178,772	446,248
NGP XI	32,615,700	466,262
Onex Partners III L.P.	9,168,165	69,790
Pathway Capital Management	691,336,836	1,875,850
Resolute Fund III	12,361,102	137,259
Warburg Pincus X	9,194,669	52,993
Warburg Pincus XI	18,444,967	122,455
Warburg Pincus XII	25,183,411	605,564
Total Private Equity	1,599,528,491	8,158,790
Absolute Return		
Allianz Global Investors (Absolute Return)	255,873,650	4,237,914
Crestline (Blue Glacier)	296,916,324	2,584,804
Crestline Specialty Fund	25,613,215	316,597
Crestline Specialty II	7,561,151	12,657
Global Asset Management (Glacier Bear)	878,421	38,481
JPM Systematic Alpha	121,043,693	313,511
KKR Apex Equity Fund	65,738,092	808,430
Man Group Alternative Risk Premia	143,513,233	910,151
Prisma Capital (Polar Bear)	282,717,244	1,815,529
Zebra Global Equity Advantage Fund	30,283,199	388,163
Zebra Global Equity Fund	61,935,985	739,981
Total Absolute Return	1,292,074,207	12,166,218
Real Assets		
Advisory Research MLP	321,677,401	913,706
Almanac Realty Securities V	1,548,734	37,940
Almanac Realty Securities VII, L.P.	21,070,879	333,894
ARMB REIT	134,580,003	11,849
** Brookfield Investment Management	70,736,549	479,815
Colony Investors VIII, L.P.	1,261,219	30,551
EIG Energy Fund XD	N/A	667
EIG Energy Fund XIV-A	7,615,047	386,408
EIG Energy Fund XV	19,445,608	304,204
EIG Energy Fund XVI	39,256,200	604,668
Hancock	176,889,154	1,471,926
Hancock Natural Resource Group	64,436,465	450,350
IFM Global Infrastructure Fund	262,436,737	1,510,020
ING Clarion Ventures IV, L.P.	14,916,970	84,840
JP Morgan	159,250,667	1,346,409
JPM Infrastructure Fund	78,105,475	658,932
KKR Real Estate Partners Americas II	1,426,784	32,544
KKR Real Estate Partners Americas	21,032,672	309,247
LaSalle Investment Management	134,992,242	769,383
** Lazard Asset Management Infrastructure Fund	100,118,161	647,621
Sentinel Separate Account	136,574,067	648,390
Silverpeak Real Estate Partners II (Lehman)	4,174,290	130,087
Silverpeak Real Estate Partners III (Lehman)	3,523,116	42,454
Timberland	182,299,527	1,436,711
Tishman Speyer Fund VI	15,064,620	110,542
Tishman Speyer Fund VII	849,273	46,035
** Tortoise MLP	350,517,140	1,311,549
UBS Agrivest	381,650,679	3,048,875
UBS Realty Trumbull Property Fund	104,011,687	996,766
UBS Realty Separate Account	340,898,003	1,619,502
Total Real Assets	3,150,359,369	19,775,885
Custodian		
* State Street Bank		809,742
Investment Advisory		
* Callan Associates		140,381
* Investment Advisory Council		56,151
* Townsend Group		106,480
Total Investment Advisory		303,012
Investment Performance		
* Callan Associates		167,498
		\$ 70,972,746

*These fees are paid through the Integrated Resource Information System (IRIS)

**These fees are deducted from earnings by the fund manager and are not directly recorded in IRIS

N/A indicates a closed fund during the fiscal year or an immaterial balance at year-end.

Public Employees' Retirement System Investment Summary Schedule June 30, 2018

<u>Investments (at Fair Value)</u>	<u>Defined Benefit - Pension</u>			<u>% of Total Assets</u>
	<u>Asset Allocation</u>		<u>Fair Value</u>	
	<u>Policy</u>	<u>Range</u>		
Cash and Cash Equivalents				
Short-Term Fixed Income Pool			\$ 57,402,769	
Securities Lending Income			75,618	
Total Cash and Cash Equivalents	1.00%	± 3% / - 1%	57,478,387	0.63%
Fixed Income Securities				
U.S. Treasury Fixed Income Pool			841,582,439	
Total Fixed Income Securities	10.00%	± 5%	841,582,439	9.07%
Opportunistic				
Alternative Equity Strategies			469,255,820	
Tactical Allocation Strategies			109,380	
Opportunistic Fixed Income			312,132,162	
Other Opportunities			119,818,978	
Convertible Bond Pool			(1,184)	
Total Opportunistic	10.00%	± 5%	901,315,156	9.71%
Broad Domestic Equity				
Large Cap Pool			1,825,223,013	
Small Cap Pool			346,553,889	
Total Broad Domestic Equity	24.00%	± 6%	2,171,776,902	23.40%
Global Equity Ex-U.S.				
International Equity Pool			1,578,835,273	
International Equity Small Cap Pool			143,801,766	
Emerging Markets Equity Pool			268,481,092	
Total Global Equity Ex-U.S.	22.00%	± 4%	1,991,118,131	21.46%
Private Equity				
Private Equity Pool			856,855,720	
Total Private Equity	9.00%	± 5%	856,855,720	9.23%
Absolute Return				
Absolute Return Pool			687,999,089	
Total Absolute Return	7.00%	± 4%	687,999,089	7.41%
Real Assets				
Real Estate Pool			585,788,361	
Real Estate Investment Trust Pool			71,660,683	
Infrastructure Private Pool			181,330,709	
Infrastructure Public Pool			90,976,110	
Master Limited Partnership Pool			357,927,764	
Energy Pool			35,312,164	
Farmland Pool			297,409,308	
Timber Pool			131,381,106	
Treasury Inflation Protected Securities Pool			20,066,225	
Total Real Assets	17.00%	± 8%	1,771,852,430	19.09%
Total Invested Assets	100.00%		\$ 9,279,978,254	100.00%

Investment Section

Public Employees' Retirement System Investment Summary Schedule June 30, 2018

Investments (at Fair Value)	Asset Allocation		Fair Value	% of Total Assets
	Policy	Range		
Defined Contribution - Participant Directed				
Cash and Cash Equivalents				
Short-Term Fixed Income Pool	100.00%	0%	\$ 38,988,687	
Total Cash and Cash Equivalents			<u>38,988,687</u>	3.61%
Pooled Investment Funds (1)				
T. Rowe Price				
Alaska Balanced Fund Trust			26,747,401	
Long-Term Balanced Fund			24,484,716	
Target 2010 Trust			2,464,058	
Target 2015 Trust			11,697,702	
Target 2020 Trust			31,286,846	
Target 2025 Trust			50,340,790	
Target 2030 Trust			53,358,977	
Target 2035 Trust			62,718,058	
Target 2040 Trust			74,097,507	
Target 2045 Trust			95,199,847	
Target 2050 Trust			112,880,406	
Target 2055 Trust			92,056,790	
Target 2060 Trust			776,578	
Total Pooled Investment Funds			<u>638,109,676</u>	59.06%
Collective Investment Funds (1)				
State Street Global Advisors				
SSgA Treasury Money Market Fund			4,808,125	
Alaska Money Market			5,243,240	
S&P Stock Index Fund			95,885,001	
Russell 3000 Index			10,397,811	
U.S. Real Estate Investment Trust Index			16,328,981	
World Equity Ex-U.S. Index			45,595,536	
Long U.S. Treasury Bond Index			1,171,435	
U.S. Treasury Inflation Protected Securities Index			14,491,036	
World Government Bond Ex-U.S. Index			7,240,965	
Barclays				
Government/Credit Bond Fund			47,941,119	
Intermediate Bond Fund			22,563,122	
Brandes Institutional				
Alaska International Equity Fund			43,529,205	
RCM				
Sustainable Core Opportunities Fund			10,605,451	
T. Rowe Price				
Small-Cap Stock Fund			77,451,126	
Total Collective Investment Funds			<u>403,252,153</u>	37.33%
Total Invested Assets			<u>\$1,080,350,516</u>	<u>100.00%</u>

(1) Pooled Investment Funds and Collective Investment Funds are participant directed and therefore are not subject to an asset allocation.

Public Employees' Retirement System Investment Summary Schedule June 30, 2018

<u>Investments (at Fair Value)</u>	<u>Defined Benefit - Alaska Retiree Health Care Trust</u>			<u>% of Total Assets</u>
	<u>Asset Allocation</u>		<u>Fair Value</u>	
	<u>Policy</u>	<u>Range</u>		
Cash and Cash Equivalents				
Short-Term Fixed Income Pool			\$ 38,974,626	
Securities Lending Income			62,365	
Total Cash and Cash Equivalents	1.00%	± 3% / - 1%	39,036,991	0.51%
Fixed Income Securities				
U.S. Treasury Fixed Income Pool			694,742,619	
Total Fixed Income Securities	10.00%	± 5%	694,742,619	9.08%
Opportunistic				
Alternative Equity Strategies			387,838,158	
Tactical Allocation Strategies			89,903	
Opportunistic Fixed Income			257,486,143	
Other Opportunities			98,841,870	
Convertible Bond Pool			(973)	
Total Opportunistic	10.00%	± 5%	744,255,101	9.72%
Broad Domestic Equity				
Large Cap Pool			1,507,804,525	
Small Cap Pool			285,512,945	
Total Broad Domestic Equity	24.00%	± 6%	1,793,317,470	23.43%
Global Equity Ex-U.S.				
International Equity Pool			1,303,120,665	
International Equity Small Cap Pool			118,787,113	
Emerging Markets Equity Pool			222,127,493	
Total Global Equity Ex-U.S.	22.00%	± 4%	1,644,035,271	21.49%
Private Equity				
Private Equity Pool			707,494,680	
Total Private Equity	9.00%	± 5%	707,494,680	9.24%
Absolute Return				
Absolute Return Pool			568,071,944	
Total Absolute Return	7.00%	± 4%	568,071,944	7.42%
Real Assets				
Real Estate Pool			483,720,467	
Real Estate Investment Trust Pool			59,169,298	
Infrastructure Private Pool			149,722,420	
Infrastructure Public Pool			75,117,797	
Master Limited Partnership Pool			295,536,323	
Energy Pool			29,156,797	
Farmland Pool			245,567,017	
Timber Pool			108,479,679	
Treasury Inflation Protected Securities Pool			16,568,422	
Total Real Assets	17.00%	± 8%	1,463,038,220	19.11%
Total Invested Assets	100.00%		\$ 7,653,992,296	100.00%

Investment Section

Public Employees' Retirement System Investment Summary Schedule June 30, 2018

Investments (at Fair Value)	Health Reimbursement Arrangement			% of Total Assets
	Asset Allocation		Fair Value	
	Policy	Range		
Cash and Cash Equivalents				
Short-Term Fixed Income Pool			\$ 2,361,079	
Securities Lending Income			2,867	
Total Cash and Cash Equivalents	1.00%	± 3% / - 1%	2,363,946	0.67%
Fixed Income Securities				
U.S. Treasury Fixed Income Pool			32,266,084	
Total Fixed Income Securities	10.00%	± 5%	32,266,084	9.06%
Opportunistic				
Alternative Equity Strategies			18,012,453	
Tactical Allocation Strategies			4,175	
Opportunistic Fixed Income			11,958,485	
Other Opportunities			4,590,535	
Convertible Bond Pool			(45)	
Total Opportunistic	10.00%	± 5%	34,565,603	9.71%
Broad Domestic Equity				
Large Cap Pool			70,027,296	
Small Cap Pool			13,260,140	
Total Broad Domestic Equity	24.00%	± 6%	83,287,436	23.39%
Global Equity Ex-U.S.				
International Equity Pool			60,521,119	
International Equity Small Cap Pool			5,516,856	
Emerging Markets Equity Pool			10,316,316	
Total Global Equity Ex-U.S.	22.00%	± 4%	76,354,291	21.44%
Private Equity				
Private Equity Pool			32,858,331	
Total Private Equity	9.00%	± 5%	32,858,331	9.23%
Absolute Return				
Absolute Return Pool			26,383,090	
Total Absolute Return	7.00%	± 4%	26,383,090	7.41%
Real Assets				
Real Estate Pool			22,465,536	
Real Estate Investment Trust Pool			2,748,013	
Infrastructure Private Pool			6,953,591	
Infrastructure Public Pool			3,488,712	
Master Limited Partnership Pool			13,725,658	
Energy Pool			1,354,135	
Farmland Pool			11,404,923	
Timber Pool			5,038,146	
Treasury Inflation Protected Securities Pool			769,491	
Total Real Assets	17.00%	± 8%	67,948,205	19.09%
Total Invested Assets	100.00%		\$ 356,026,986	100.00%

Public Employees' Retirement System Investment Summary Schedule June 30, 2018

<u>Investments (at Fair Value)</u>	<u>Occupational Death and Disability</u>			<u>% of Total Assets</u>
	<u>Asset Allocation</u>		<u>Fair Value</u>	
	<u>Policy</u>	<u>Range</u>		
Cash and Cash Equivalents				
Short-Term Fixed Income Pool			\$ 197,817	
Securities Lending Income			248	
Total Cash and Cash Equivalents	1.00%	± 3%/ - 1%	198,065	0.66%
Fixed Income Securities				
U.S. Treasury Fixed Income Pool			2,778,138	
Total Fixed Income Securities	10.00%	± 5%	2,778,138	9.06%
Opportunistic				
Alternative Equity Strategies			1,550,888	
Tactical Allocation Strategies			359	
Opportunistic Fixed Income			1,029,636	
Other Opportunities			395,249	
Convertible Bond Pool			(4)	
Total Opportunistic	10.00%	± 5%	2,976,128	9.71%
Broad Domestic Equity				
Large Cap Pool			6,029,412	
Small Cap Pool			1,141,710	
Total Broad Domestic Equity	24.00%	± 6%	7,171,122	23.40%
Global Equity Ex-U.S.				
International Equity Pool			5,210,921	
International Equity Small Cap Pool			475,006	
Emerging Markets Equity Pool			888,244	
Total Global Equity Ex-U.S.	22.00%	± 4%	6,574,171	21.44%
Private Equity				
Private Equity Pool			2,829,131	
Total Private Equity	9.00%	± 5%	2,829,131	9.23%
Absolute Return				
Absolute Return Pool			2,271,607	
Total Absolute Return	7.00%	± 4%	2,271,607	7.41%
Real Assets				
Real Estate Pool			1,934,302	
Real Estate Investment Trust Pool			236,606	
Infrastructure Private Pool			598,710	
Infrastructure Public Pool			300,381	
Master Limited Partnership Pool			1,181,791	
Energy Pool			116,592	
Farmland Pool			981,974	
Timber Pool			433,789	
Treasury Inflation Protected Securities Pool			66,254	
Total Real Assets	17.00%	± 8%	5,850,399	19.09%
Total Invested Assets	100.00%		\$ 30,648,761	100.00%

Investment Section

Public Employees' Retirement System Investment Summary Schedule June 30, 2018

Investments (at Fair Value)	Retiree Medical Plan			
	Asset Allocation		Fair Value	% of Total Assets
	Policy	Range		
Cash and Cash Equivalents				
Short-Term Fixed Income Pool			\$ 663,134	
Securities Lending Income			798	
Total Cash and Cash Equivalents	1.00%	± 3% / - 1%	663,932	0.67%
Fixed Income Securities				
U.S. Treasury Fixed Income Pool			8,987,066	
Total Fixed Income Securities	10.00%	± 5%	8,987,066	9.06%
Opportunistic				
Alternative Equity Strategies			5,017,005	
Tactical Allocation Strategies			1,163	
Opportunistic Fixed Income			3,330,795	
Other Opportunities			1,278,601	
Convertible Bond Pool			(13)	
Total Opportunistic	10.00%	± 5%	9,627,551	9.71%
Broad Domestic Equity				
Large Cap Pool			19,504,689	
Small Cap Pool			3,693,344	
Total Broad Domestic Equity	24.00%	± 6%	23,198,033	23.39%
Global Equity Ex-U.S.				
International Equity Pool			16,856,935	
International Equity Small Cap Pool			1,536,609	
Emerging Markets Equity Pool			2,873,401	
Total Global Equity Ex-U.S.	22.00%	± 4%	21,266,945	21.45%
Private Equity				
Private Equity Pool			9,152,024	
Total Private Equity	9.00%	± 5%	9,152,024	9.23%
Absolute Return				
Absolute Return Pool			7,348,477	
Total Absolute Return	7.00%	± 4%	7,348,477	7.41%
Real Assets				
Real Estate Pool			6,257,321	
Real Estate Investment Trust Pool			765,403	
Infrastructure Private Pool			1,936,782	
Infrastructure Public Pool			971,710	
Master Limited Partnership Pool			3,823,005	
Energy Pool			377,167	
Farmland Pool			3,176,611	
Timber Pool			1,403,274	
Treasury Inflation Protected Securities Pool			214,326	
Total Real Assets	17.00%	± 8%	18,925,599	19.08%
Total Invested Assets	100.00%		\$ 99,169,627	100.00%

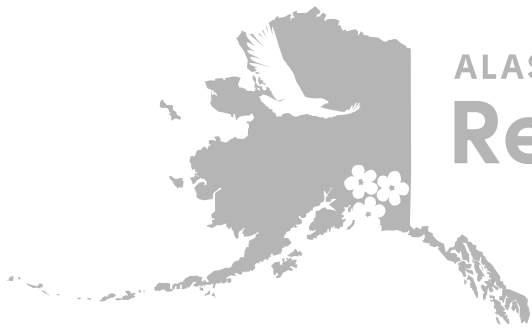
**Public Employees' Retirement System
Recaptured Commission Fees
Year Ended June 30, 2018**

Fund	Broad Domestic Equity Pool	Global Equity Ex-U.S.	Total
Defined Benefit Plan – Pension	\$25,786	\$22,568	\$48,354
Postemployment Benefit – Alaska Retiree Healthcare Trust	21,212	18,551	39,763
Postemployment Benefit – Health Reimbursement Arrangement	887	785	1,672
Postemployment Benefit – Retiree Medical Pan	246	218	464
Postemployment Benefit – Occupational Death & Disability	79	70	149
Total Recapture Commission Fees	\$48,210	\$42,192	\$90,402

The ARMB's Commission Recapture program has been in place since 1995, first working with various brokers then switching to the State Street program in 2005. Under a commission recapture program, a portion of the commissions and mark-ups on trades (placed through the State Street broker network) flow directly back to the fund.

The program allows managers to place trades for commission recapture purposes. The ARMB has established direction percentages for the managers to strive for, but is only requiring best efforts to meet them given their fiduciary obligation to achieve best execution of transactions.

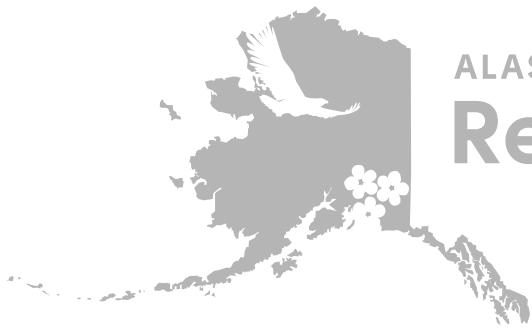
The current rebate arrangement with State Street Global Markets (SSGM) is: 90% of the commissions received in excess of executing the brokers' execution-only rates; 100% of commissions in excess of its execution-only rates for all trading directed through SSGM.



ALASKA DIVISION OF
**Retirement
and Benefits**



ACTUARIAL SECTION



ALASKA DIVISION OF
**Retirement
and Benefits**



June 5, 2018

State of Alaska
The Alaska Retirement Management Board
The Department of Revenue, Treasury Division
The Department of Administration, Division of Retirement and Benefits
P.O. Box 110203
Juneau, AK 99811-0203

Certification of Actuarial Valuation

Dear Members of The Alaska Retirement Management Board, The Department of Revenue and The Department of Administration:

This report summarizes the annual actuarial valuation results of the State of Alaska Public Employees' Retirement System (PERS) as of June 30, 2017 performed by Conduent HR Consulting, LLC (Conduent HR Consulting).

The actuarial valuation is based on financial information provided in the statements audited by KPMG LLP, member data provided by the Division of Retirement and Benefits, and medical enrollment data provided by the healthcare claims administrator (Aetna), all as summarized in this report. The benefits considered are those delineated in Alaska statutes effective June 30, 2017. The actuary did not verify the data submitted, but did perform tests for consistency and reasonableness.

All costs, liabilities and other factors under PERS were determined in accordance with generally accepted actuarial principles and procedures. An actuarial cost method is used to measure the actuarial liabilities which we believe is reasonable. Conduent HR Consulting is solely responsible for the actuarial data and actuarial results presented in this report. This report fully and fairly discloses the actuarial position of PERS as of June 30, 2017.

PERS is funded by Employer, State, and Member Contributions in accordance with the funding policy adopted by the Alaska Retirement Management Board (Board) and as required by Alaska state statutes. The funding objective for PERS is to pay required contributions that remain level as a percent of total PERS compensation. The Board has also established a funding policy objective that the required contributions be sufficient to pay the Normal Costs of active plan members, plan expenses, and amortize the Unfunded Actuarial Accrued Liability as a level percentage of total PERS compensation over a closed 25-year period and as required by Alaska state statutes. The closed 25-year period was established effective June 30, 2014.

The compensation used to determine required contributions is the total compensation of all active members in PERS, including those hired after July 1, 2006 who are members of the Defined Contribution Retirement (DCR) Plan. This objective is currently being met and is projected to continue to be met.

Actuarial Section

The Board and staff of the State of Alaska may use this report for the review of the operations of PERS. Use of this report, for any other purpose or by anyone other than the Board or staff of the State of Alaska may not be appropriate and may result in mistaken conclusions because of failure to understand applicable assumptions, methods or inapplicability of the report for that purpose. Because of the risk of misinterpretation of actuarial results, you should ask Conduent HR Consulting to review any statement you wish to make on the results contained in this report. Conduent HR Consulting will not accept any liability for any such statement made without review by Conduent HR Consulting.

Future actuarial measurements may differ significantly from current measurements due to plan experience differing from that anticipated by the economic and demographic assumptions, increases or decreases expected as part of the natural operation of the methodology used for these measurements, and changes in plan provisions or applicable law. In particular, retiree group benefits models necessarily rely on the use of approximations and estimates, and are sensitive to changes in these approximations and estimates. Small variations in these approximations and estimates may lead to significant changes in actuarial measurements. An analysis of the potential range of such future differences is beyond the scope of this valuation.

In our opinion, the actuarial assumptions used are reasonable, taking into account the experience of the plan and reasonable long-term expectations, and represent our best estimate of the anticipated long-term experience under the plan. The actuary performs an analysis of plan experience periodically and recommends changes if, in the opinion of the actuary, assumption changes are needed to more accurately reflect expected future experience. The last full experience analysis was performed for the period July 1, 2009 to June 30, 2013. Based on that experience study, the Board adopted new assumptions effective beginning with the June 30, 2014 valuation to better reflect expected future experience. Based on our annual analysis of recent claims experience, changes were made to the per capita claim cost rates effective June 30, 2017 to better reflect expected future healthcare experience. Based on recent experience, the healthcare cost trend assumptions were also updated. A summary of the actuarial assumptions and methods used in this actuarial valuation are shown in Section 6.

Governmental Accounting Standards Board (GASB) Statement No. 67 (GASB 67) and Statement No. 74 (GASB 74) are effective for PERS during the fiscal year ending June 30, 2017, and separate GASB 67 and GASB 74 reports as of June 30, 2017 have been prepared. Section 3 of this report contains accounting information previously disclosed under GASB 25 for fiscal years 2007 through 2013 and accounting information previously disclosed under GASB 43 for fiscal years 2007 through 2016. We have also prepared the member data tables shown in Section 5 of this report for the Statistical Section of the CAFR, and the summary of actuarial assumptions, solvency test, and analysis of financial experience for the Actuarial Section of the CAFR. Please see our separate GASB 67 and GASB 74 reports for other information needed for the CAFR.

This report was prepared under my supervision and in accordance with all applicable Actuarial Standards of Practice. David Kershner is a Fellow of the Society of Actuaries, an Enrolled Actuary and a Member of the American Academy of Actuaries. I meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinions contained herein. We are available to discuss this report with you at your convenience. David can be reached at 602-803-6174 and Scott can be reached at 216-682-7583.

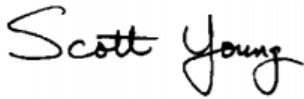
Respectfully submitted,

Conduent HR Consulting, LLC



David J. Kershner, FSA, EA, MAAA, FCA
Principal

The undersigned actuary is responsible for all assumptions related to the average annual per capita health claims cost and the health care cost trend rates, and hereby affirms his qualification to render opinions in such matters in accordance with the Qualification Standards of the American Academy of Actuaries.



Scott Young, FSA, EA, MAAA
Director

Actuarial Section

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The funding method used in this valuation was adopted by the Board in October 2006. Changes in the amortization of unfunded actuarial accrued liability were made in 2014. The asset smoothing method used to determine valuation assets was changed effective June 30, 2014.

Benefits valued are those delineated in Alaska State statutes as of the valuation date. Changes in State statutes effective after the valuation date are not taken into consideration in setting the assumptions and methods.

A. Actuarial Method – Entry Age Normal Cost

Liabilities and contributions shown in the report are computed using the Entry Age Normal Actuarial Cost Method. Any funding surpluses or unfunded accrued liability are amortized over a closed 25-year period (established June 30, 2014) as a level percentage of payroll amount. State statutes allow the contribution rate to be determined on payroll for all members, defined benefit and defined contribution member payroll combined.

Projected pension and postemployment healthcare benefits were determined for all active members. Cost factors designed to produce annual costs as a constant percentage of each member's expected compensation in each year for pension benefits (constant dollar amount for healthcare benefits) from the assumed entry age to the assumed retirement age were applied to the projected benefits to determine the normal cost (the portion of the total cost of the plan allocated to the current year under the method). The normal cost is determined by summing intermediate results for active members and determining an average normal cost rate which is then related to the total payroll of active members. The actuarial accrued liability for active members (the portion of the total cost of the plan allocated to prior years under the method) was determined as the excess of the actuarial present value of projected benefits over the actuarial present value of future normal costs.

The actuarial accrued liability for retired members and their beneficiaries currently receiving benefits, terminated vested members and disabled members not yet receiving benefits was determined as the actuarial present value of the benefits expected to be paid. No future normal costs are payable for these members.

The actuarial accrued liability under this method at any point in time is the theoretical amount of the fund that would have been accumulated had annual contributions equal to the normal cost been made in prior years (it does not represent the liability for benefits accrued to the valuation date). The unfunded actuarial accrued liability is the excess of the actuarial accrued liability over the actuarial value of plan assets measured on the valuation date.

Under this method, experience gains or losses, i.e., decreases or increases in accrued liabilities attributable to deviations in experience from the actuarial assumptions, adjust the unfunded actuarial accrued liability.

B. Valuation of Assets

The actuarial asset value was reinitialized to equal Fair Value of Assets as of June 30, 2014. Beginning in FY15, the asset value method recognizes 20% of the gain or loss each year, for a period of 5 years. All assets are valued at fair value. Assets are accounted for on an accrued basis and are taken directly from financial statements audited by KPMG LLP.

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C. Valuation of Medical and Prescription Drug Benefits

This section outlines the detailed methodology used to develop the initial per capita claims cost rates for PERS postemployment healthcare plan. Note that methodology reflects the results of our annual experience rate update for the period July 1, 2016 to June 30, 2017. Healthcare cost trend and retiree contribution increase assumptions for the period after June 30, 2017 were undated since the prior valuation.

Base claims cost rates are incurred healthcare costs expressed as a rate per member per year. Ideally, claims cost rates should be derived for each significant component of cost that can be expected to require differing projection assumptions or methods (i.e., medical claims, prescription drug claims, administrative costs, etc). Separate analysis is limited by the availability and historical credibility of cost and enrollment data for each component of cost. This valuation reflects non-prescription claims separated by Medicare status, including eligibility for free Part A coverage. Prescription costs are analyzed separately as in prior valuations. Administrative costs are assumed in the final per capita claims cost rates used for valuation purposes, as described below. Analysis to date on Medicare Part A coverage is limited since Part A claim data is not available by individual, nor is this status incorporated into historical claim data.

Benefits

Medical, prescription drug, dental, vision and audio coverage is provided through the AlaskaCare Retiree Health Plan and is available to employees of the State and subdivisions who meet retirement criteria based on the retirement plan tier in effect at their date of hire. Health plan provisions do not vary by retirement tier or age, except for Medicare coordination for those Medicare-eligible. Dental, vision and audio claims (DVA) are excluded from data analyzed for this valuation because those are retiree-pay all benefits where rates are assumed to be self-supporting. Conduent HR Consulting relies upon rates set by a third-party for the DVA benefits. Conduent HR Consulting reviewed historical rate-setting information and views contribution rate adjustments made are not unreasonable.

Administration and Data Sources

The plan was administered by Wells Fargo Insurance Services (acquired by HealthSmart, in January 2012) from July 1, 2009 through December 31, 2013 and by Aetna effective January 1, 2014.

Claims incurred for the period from July 2015 through June 2017 (FY16 through FY17) were provided by the State of Alaska from reports extracted from their data warehouse, which separated claims by Medicare status. Monthly enrollment data for the same period was provided by Aetna.

Aetna also provided census information identifying Medicare Part B only participants. These participants are identified when hospital claims are denied by Medicare; Aetna then flags that participant as a Part B only participant. Conduent HR Consulting added newly identified participants to our list of Medicare Part B only participants. Conduent HR Consulting assumes that once identified as Part B only, that participant remains in that status until we are notified otherwise.

Aetna provided a snapshot file as of July 1, 2017 of retirees and dependents that included a coverage level indicator. The monthly enrollment data includes dual coverage participants. These are participants whereby both the retiree

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and spouse are retirees from the State and both are reflected with Couple coverage in the enrollment. In this case, such a couple would show up as four members in the monthly enrollment (each would be both a retiree and a spouse). As a result, the snapshot census file was used to adjust the total member counts in the monthly enrollment reports to estimate that number of unique participants enrolled in coverage. Based on the snapshot files from the last two valuations, the total member count in the monthly enrollment reports needs to be reduced by approximately 13% to account for the number of participants with dual coverage.

Aetna does not provide separate experience by Medicare status in standard reporting so the special reports mentioned above from the data warehouse were used this year to obtain that information and incorporate it into the per capita rate development for each year of experience (with corresponding weights applied in the final per capita cost).

Methodology

Conduent HR Consulting projected historical claim data to FY18 for retirees using the following summarized steps:

1. Develop historical annual incurred claim cost rates – an analysis of medical costs was completed based on claims information and enrollment data provided by the State of Alaska and Aetna for each year in the experience period of FY16 through FY17. (For this year's valuation, the Board approved reducing the number of experience periods from four years to two years.)
 - Costs for medical services and prescriptions were analyzed separately, and separate trend rates were developed to project expected future medical and prescription costs for the valuation year (e.g. from the experience period up through FY18).
 - Because the reports provided this year reflected incurred claims, no additional adjustment was needed (as it was in prior years) to determine incurred claims to be used in the valuation.
 - An offset for costs expected to be reimbursed by Medicare was incorporated beginning at age 65. Alaska retirees who do not have 40 quarters of Medicare-covered compensation do not qualify for Medicare Part A coverage free of charge. This is a relatively small and closed group. Medicare was applied to State employment for all employees hired after March 31, 1986. For the “no-Part A” individuals who are required to enroll in Medicare Part B, the State is the primary payer for hospital bills and other Part A services. Claim experience is not available separately for participants with both Medicare Parts A and B and those with Part B only. For Medicare Part B only participants, a lower average claims cost was applied to retirees covered by both Medicare Part A and B vs. retirees covered only by Medicare Part B based upon manual rate models that estimate the Medicare covered proportion of medical costs. To the extent that no-Part A claims can be isolated and applied strictly to the appropriate closed group, actuarial accrued liability will be more accurate.
 - Based on census data received from Aetna, less than 1% of the current retiree population was identified as having coverage only under Medicare Part B. For future retirees, we assume their Part A eligible status based on a combination of date of hire and/or re-hire, date of birth, tier, etc.

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- Based upon a reconciliation of valuation census data to the snapshot eligibility files provided by Aetna as of July 1, 2016, and July 1, 2017, Conduent HR Consulting adjusted member counts used for duplicate records where participants have dual coverage; i.e. primary coverage as a retiree and secondary coverage as the covered spouse of another retiree. This is to reflect the total cost per distinct individual/member which is then applied to distinct members in the valuation census.
 - Conduent HR Consulting understands that pharmacy claims reported do not reflect rebates. Based upon reported rebates in proportion to incurred claims for State of Alaska retiree plans, Conduent HR Consulting reduced reported pharmacy incurred claims by 9% to estimate the rebates for the retiree population for the FY16 claims and by 12% for FY17 claims. These estimates were based upon reported rebates for retirees from Aetna and Envision Rx.
2. Develop estimated Retiree Drug Subsidy reimbursement - actual subsidy payments to the State were received for claims incurred during the 2009 through 2016 calendar years. Conduent HR Consulting obtained this information based upon recorded and available information in the RDS Subsidy website and as provided by the State. The projected subsidy for FY18 was determined based on the historical ratio of subsidy received to claims incurred (adjusted for rebates), and then applied to the appropriate projection period. These amounts are applicable only to Medicare eligible participants.
 3. Adjust for claim fluctuation, anomalous experience, etc. – explicit adjustments are often made for anticipated large claims or other anomalous experience. Due to group size and demographics, we did not make any large claim adjustments. We do blend both Alaska plan-specific and national trend factors as described below. Conduent HR Consulting compared data utilized to lag reports and quarterly plan experience presentations provided by the State and Aetna to assess accuracy and reasonableness of data.
 4. Trend all data points to the projection period – project prior years’ experience forward to FY18 for retiree benefits on an incurred claim basis. Trend factors derived from historical Alaska-specific experience and national trend factors are shown in the table in item 5 below.
 5. Apply credibility to prior experience – adjust prior year’s data by assigning weight to recent periods, as shown at the right of the table below. The Board approved a change in the weighting of experience periods as outlined below. The prior valuation used a weighting of 35%/35%/20%/10% for the previous four fiscal years of experience (most recent to oldest). Note also that we averaged projected plan costs using Alaska-specific trend factors and national trend factors, assigning 75% weight to Alaska-specific trends and 25% to national trends:

Experience Period	Alaska-Specific and National Average Weighted Trend from Experience Period to Valuation Year			Weighting Factors
	Medical	Prescription		
FY16 to FY17	5.3%	8.5%		50%
FY17 to FY18	7.0% Pre-Medicare / 4.5% Medicare	6.2%		50%

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Trend assumptions used for rate development are assessed annually and as additional/improved reporting becomes available, we will incorporate into rate development as appropriate. Based upon recent experience trending up, particularly for prescription drugs, the Board has approved our recommendation to update to the valuation healthcare cost trend assumption.

6. Develop separate administration costs – no adjustments were made for internal administrative costs. Third party retiree plan administration fees for FY18 are based upon rates in effect at the midpoint of the year, January 2018, as communicated by the State. We also ensured that these rates were consistent with the calculation of the 2018 budget and retiree contribution rates calculated by Segal. Included in the administration costs are medical and prescription fees of \$28.25 (\$27.70 for medical and \$0.55 for Rx check) PEPM, \$4.60 PPPM for retiree direct billing, \$0.71 PEPM for the Gaps in Care program (applicable to early retirees only) and a share of the HDMS fee for data analytics. The annual per participant per year administrative cost rate for medical and prescription benefits is \$236.
7. Healthcare Reform legislation passed on March 23, 2010 included several provisions with potential implications for the State of Alaska Retiree Health Plan liability. Conduent HR Consulting evaluated the impact of the following provisions; however, none of the impacts have been included in the valuation results except for the excise tax described below.
 - Because the State plan is retiree-only, and was in effect at the time the legislation was enacted, not all provisions of the health reform legislation apply to the State plan. Unlimited lifetime benefits and dependent coverage to age 26 are two of these provisions. We reviewed the impact of including these provisions, but there was no decision made to adopt them, and no requirement to do so.
 - Because Transitional Reinsurance fees are only in effect until 2016, we excluded these for valuation purposes.
 - The Plan will be subject to the high cost plan excise tax (Cadillac tax). Based upon guidance available at the valuation date, Conduent HR Consulting estimated the tax based upon a blended test of pre and post-Medicare projected costs and enrollment projections.
 - A blended test compares a weighted average per capita cost (based upon proportions of pre/post Medicare eligible enrollments) to the tax cost thresholds in each projection year. Projected enrollment was based upon the enrollment data provided by Aetna, and valuation headcount projections for future years.
 - We included administrative fees and applied Retiree Drug Subsidy reimbursements to the Medicare rates.
 - We assumed claim costs would increase according to valuation trend assumptions from the June 30, 2017 valuation, and that the tax cost thresholds would increase at 2.82% (the CPI assumption of 3.12% less 0.30% to estimate the impact of using the chained CPI as required by the Tax Cut and Jobs Act passed in December 2017). The first year increased at 3.82% to reflect the additional 1.0% over inflation assumption.

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- Conduent HR Consulting determined the impact to be approximately \$21.4 million of the projected June 30, 2017 healthcare actuarial accrued liability for the defined benefit plan.

The Tax Cuts and Jobs Act passed in December 2017 included the elimination of the individual mandate penalty and changed the inflation measure for purposes of determining the limits for the High Cost Excise Tax ("Cadillac Tax") to use chained CPI. It is our understanding the law does not directly impact other provisions of the ACA. While the nullification of the ACA's individual mandate penalty does not directly impact employer group health plans, it could contribute to the destabilization of the individual market and increase the number of uninsured. Such destabilization could translate to increased costs for employers. We have considered this when setting our healthcare cost trend assumptions and will continue to monitor this issue.

We have not identified any other specific provision of health care reform that would be expected to have a significant impact on the measured obligation. While the House of Representatives voted to pass the American Health Care Act (AHCA), which would have repealed many provisions of the Affordable Care Act (ACA), the bill was rejected by the Senate. We will continue to monitor legislative activity.

In accordance with actuarial standards, we note the following specific data sources and steps taken to value retiree medical benefits:

- The Division of Retirement and Benefits provided pension valuation census data, which for people currently in receipt of healthcare benefits was supplemented by coverage data from the healthcare claims administrator (Aetna).
- Certain adjustments and assumptions were made to prepare the data for valuation:
 - Some records provided on the Aetna data were associated with a participant social security number not listed on the RIN-to-SSN translation file. We did not add these records to the retiree medical valuation data as they were unable to tie with our pension valuation data (and therefore were unable to be associated with a specific plan or participant).
 - Some in pay participants and beneficiaries on the pension valuation data who were previously assumed to be receiving medical benefits were not listed on the provided Aetna data. We have updated these records to only be valued under the pension valuation.
 - Some records in the Aetna data were duplicates due to the dual coverage (i.e. coverage as a retiree and as a spouse of another retiree) allowed under the Plan. Records were changed for these members so that each member was only valued once. Any additional value of the dual coverage (due to coordination of benefits) is small and reflected in the per capita costs.
 - Covered children included in the Aetna data were valued until age 23, unless handicapped. We assumed that those dependents over 23 were only eligible and included due to being handicapped.

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- Conduent HR Consulting understands that retiree medical coverage/eligibility is in place while a pension benefit is payable. If a participant dies, dependent coverage is only assumed to continue if they have ongoing pension/survivor benefits.
- For individuals included in the pension data expecting a future pension, we valued health benefits starting at the same point that the pension benefit is assumed to start.
- Future retirees' level of coverage is estimated according to valuation assumptions regarding spousal coverage.
- Limitations on the use of the valuation results due to uncertainty about various aspects of the data: Excluded records due to file mismatches are noted above but not are expected to have a material impact on the results.

The chart below shows the basis of setting the per capita claims cost assumption, which includes both PERS and TRS.

	Medical		Prescription Drugs (Rx)		Total
	Pre-Medicare	Medicare	Pre-Medicare	Medicare	
A. Fiscal 2016					
1. Incurred Claims	\$ 237,116,614	\$ 65,703,369	\$ 67,176,175	\$ 146,089,568	\$ 516,085,726
2. Adjustments for Rx Rebates	-	-	(6,045,856)	(13,148,061)	(19,193,917)
3. Net incurred claims	\$ 237,116,614	\$ 65,703,369	\$ 61,130,319	\$ 132,941,507	\$ 496,891,809
4. Average Enrollment	24,439	36,151	24,439	36,151	60,591
5. Claim Cost Rate (3) / (4)	9,702	1,817	2,501	3,677	
6. Trend to Fiscal 2018	1.126	1.100	1.152	1.152	
7. Fiscal 2018 Incurred Cost Rate (5) x (6)	\$ 10,929	\$ 1,999	\$ 2,882	\$ 4,237	
B. Fiscal 2017					
1. Incurred Claims	\$ 231,784,641	\$ 71,323,054	\$ 64,788,957	\$ 161,532,441	\$ 529,429,093
2. Adjustments for Rx Rebates	-	-	(7,774,675)	(19,383,893)	(27,158,568)
3. Net incurred claims	\$ 231,784,641	\$ 71,323,054	\$ 57,014,282	\$ 142,148,548	\$ 502,270,525
4. Average Enrollment	23,342	38,502	23,342	38,502	61,844
5. Claim Cost Rate (3) / (4)	9,930	1,852	2,443	3,692	
6. Trend to Fiscal 2018	1.070	1.045	1.062	1.062	
7. Fiscal 2018 Incurred Cost Rate (5) x (6)	\$ 10,625	\$ 1,936	\$ 2,594	\$ 3,921	
C. Incurred Cost Rate by Fiscal Year					
1. Fiscal 2016 A. (7)	10,929	1,999	2,882	4,237	
2. Fiscal 2017 B. (7)	10,625	1,936	2,594	3,921	
D. Weighting by Fiscal Year					
1. Fiscal 2016	50%	50%	50%	50%	
2. Fiscal 2017	50%	50%	50%	50%	

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	Medical		Prescription Drugs (Rx)	
	Pre-Medicare	Medicare	Pre-Medicare	Medicare
E. Fiscal 2018 Incurred Cost Rate				
1. Rate at Average Age C x D	\$ 10,777	\$ 1,968	\$ 2,738	\$ 4,079
2. Average Aging Factor	0.788	1.305	0.784	1.101
3. Rate at Age 65 (1) / (2)	\$ 13,682	\$ 1,508	\$ 3,493	\$ 3,706
F. Development of Part A&B and Part B Only Cost from Pooled Rate Above				
1. Part A&B Average Enrollment		38,227		
2. Part B Only Average Enrollment		275		
3. Total Medicare Average Enrollment B(4)		38,502		
4. Cost ratio for those with Part B only to those with Part A&B		3.180		
5. Factor to determine cost for those with Parts A&B (2) / (3) x (4) + (1) / (3) x 1.00		1.016		
6. Medicare per capita cost for all participants: E(3)		\$ 1,508		
7. Cost for those eligible for Parts A&B: (6) / (5)		\$ 1,485		
8. Cost for those eligible for Part B only: (7) x (4)		\$ 4,722		

Following the development of total projected costs, a distribution of per capita claims cost was developed. This was accomplished by allocating total projected costs to the population census used in the valuation. The allocation was done separately for each of prescription drugs and medical costs for the Medicare eligible and preMedicare populations. The allocation weights were developed using participant counts by age and assumed morbidity and aging factors. Results were tested for reasonableness based on historical trend and external benchmarks for costs paid by Medicare.

Below are the results of this analysis:

**Distribution of Per Capita Claims Cost by Age
for the Period July 1, 2017 through June 30, 2018**

Age	Medical and Medicare Parts A & B	Medical and Medicare Part B Only	Prescription Drug	Medicare Retiree Drug Subsidy
45	\$ 7,577	\$ 7,577	\$ 1,843	\$ —
50	8,573	8,573	2,188	—
55	9,699	9,699	2,599	—
60	11,520	11,520	3,013	—
65	1,485	4,722	3,493	659
70	1,807	5,745	3,763	710
75	2,145	6,822	4,014	757
80	2,311	7,349	4,115	776

Changes in Methods Since the Prior Valuation

There have been no changes in the asset or valuation methods since the prior valuation.

Actuarial Section

State of Alaska Public Employees' Retirement System Defined Benefit Retirement Plan Summary of Actuarial Assumptions and Changes in Assumptions

The demographic and economic assumptions used in the June 30, 2017 valuation are described below. Unless noted otherwise, these assumptions were adopted by the Board in December 2014 based on an experience study performed as of June 30, 2013.

1. Investment Return / Discount Rate 8.00% per year (geometric), compounded annually, net of all expenses.
2. Salary Scale Inflation – 3.12% per year. Productivity – 0.50% per year. See Table 1 for salary scale rates.
3. Payroll Growth 3.62% per year. (Inflation + Productivity).
4. Total Inflation Total inflation as measured by the Consumer Price Index for urban and clerical workers for Anchorage is assumed to increase 3.12% annually.
5. Mortality (Pre-termination)¹ Based upon the 2010-2013 actual mortality experience (see Table 2) 60% of male rates and 65% of female rates of post-termination mortality rates.

Deaths are assumed to be occupational 70% of the time for Peace Officer/Firefighter, 50% of the time for Others.
6. Mortality (Post-termination)¹ 96% of all rates of the RP-2000 table, 2000 Base Year projected to 2018 using Projection Scale BB.
7. Total Turnover Based upon the 2010-2013 actual withdrawal experience. (See Table 4 and 5).
8. Disability Incidence rates based upon the 2010-2013 actual experience, in accordance with Table 6.

Post-disability mortality in accordance with the RP-2000 Disabled Retiree Mortality Table, 2000 Base Year projected to 2018 with Projection Scale BB.

Disabilities are assumed to be occupational 70% of the time for Peace Officer/Firefighter, 50% of the time for Others
9. Retirement Retirement rates based upon the 2010-2013 actual experience in accordance with Table 7 and 8.

Deferred vested members are assumed to retire at their earliest unreduced retirement date.

The modified cash refund annuity is valued as a three-year certain and life annuity.

¹The mortality assumptions include an allowance for expected future mortality improvement. The mortality table used was set in 2014 with an Actual Deaths to Expected Deaths ratio of 109%.

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- | | |
|--|--|
| 10. Marriage and Age Difference | <p>Wives are assumed to be three years younger than husbands.</p> <p>For Others, 75% of male members and 70% female members are assumed to be married.</p> <p>For Peace Officer/Firefighters, 85% of male members and 60% female members are assumed to be married.</p> |
| 11. Dependent Children | <p>Benefits to dependent children have been valued only for members currently covering their dependent children. These benefits are only valued through the dependent children's age 23 (unless the child is disabled).</p> |
| 12. Contribution Refunds | <p>For Others, 10% of terminating members with vested benefits are assumed to have their contributions refunded.</p> <p>For Peace Officers/Firefighters, 15% of terminating members with vested benefits are assumed to have their contributions refunded.</p> <p>100% of those with non-vested benefits are assumed to have their contributions refunded.</p> |
| 13. Imputed Data | <p>Data changes from the prior year which are deemed to have an immaterial impact on liabilities and contribution rates are assumed to be correct in the current year's client data. Non-vested terminations with appropriate refund dates are assumed to have received a full refund of contributions. Active members with missing salary and service are assumed to be terminated with status based on their vesting percentage.</p> |
| 14. Active Rehire Assumption | <p>The Normal Cost used for determining contribution rates and in the projections includes a rehire assumption to account for anticipated rehires. The Normal Cost shown in the report includes the following % assumptions (which were developed based on the 5 years of rehire loss experience through June 30, 2015): Pension 14.23% , Healthcare 17.24%.</p> |
| 15. Active Data Adjustment | <p>To reflect participants who terminate employment before the valuation date and are subsequently rehired after the valuation date, participants who are listed as terminated in the June 30 client data records but active in the October 1 client records are updated to active status as of June 30.</p> |
| 16. COLA | <p>Of those benefit recipients who are eligible for the COLA, 70% of Others and 65% Peace Officers/Firefighters are assumed to remain in Alaska and receive the COLA.</p> |
| 17. Post-Retirement Pension Adjustment | <p>50% and 75% of assumed inflation, or 1.56% and 2.34% respectively, is valued for the annual automatic Post-Retirement Pension Adjustment (PRPA) as specified in the statute.</p> |
| 18. Expenses | <p>Investment return assumption is net of all expenses.</p> |

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19. Part-Time Status Part-time employees are assumed to earn 1.00 years of credited service per year for Peace Officer/Firefighter and 0.65 years for credited service per year for Other members.
20. Final Average Earnings Final Average Earnings is provided on the data for active members. This amount is used as a minimum in the calculation of the average earnings in the future.
21. Per Capita Claims Cost Sample claims cost rates adjusted to age 65 for FY18 medical and prescription are shown below:

		<u>Medical</u>		<u>Prescription drugs</u>
Pre-Medicare	\$	13,682	\$	3,493
Medicare Parts A & B		1,485		3,706
Medicare Part B Only		4,722		3,706
Medicare Part D		N/A		659

22. Third Party Administrator Fees \$236 per person per year; assumed trend rate of 4% per year.
23. Medicare Part B Only For actives and retirees not yet Medicare-eligible, participation is set based on whether the employee/retiree will have 40 quarters of employment after March 31, 1986, depending upon date of hire and/or re-hire.
24. Health Cost Trend The table below shows the rate used to project the cost from the shown fiscal year to the next fiscal year. For example, 8.0% is applied to the FY18 pre-Medicare medical claims costs to get the FY19 medical claims costs.

Fiscal year	Medical pre-65	Medical post-65	Prescription drugs	RDS/EGWP
2018	8.0%	5.5%	9.0%	6.5%
2019	7.5	5.5	8.5	6.2
2020	7.0	5.4	8.0	6.0
2021	6.5	5.4	7.5	5.7
2022	6.3	5.4	7.1	5.5
2023	6.1	5.4	6.8	5.4
2024	5.9	5.4	6.4	5.2
2025	5.8	5.4	6.1	5.0
2026	5.6	5.4	5.7	4.8
2027-2040	5.4	5.4	5.4	4.7
2041	5.2	5.2	5.2	4.6
2042	5.1	5.1	5.1	4.5
2043	4.0	4.0	4.0	4.0
2044	4.8	4.8	4.8	4.4
2045	4.7	4.7	4.7	4.3
2046	4.5	4.5	4.5	4.2
2047	4.4	4.4	4.4	4.2
2048	4.3	4.3	4.3	4.1
2049	4.1	4.1	4.1	4.0
2050+	4.0	4.0	4.0	4.0

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For the June 30, 2014 valuations and later, the updated Society of Actuaries' Healthcare Cost Trend Model is used to project medical and prescription drug costs. The model has been populated with assumptions that are specific to the State of Alaska. The model was updated this year to use the newest version and incorporate recent trend survey information, which generated the updated trend rates shown above.

25. Aging Factors

Age	Medical	Prescription drugs
0-44	2.0%	4.5%
45-54	2.5	3.5
55-64	3.5	3.0
65-74	4.0	1.5
75-84	1.5	0.5
85-95	0.5	—
96 +	—	—

Note that pre-65 the factor represents the amount to increase from the ages noted to the next age. However post-65, the factor represents the percentage decrease from the ages noted to the prior age. That is, 2.5% is used to adjust from 54 to 55, but 1.5% is used to adjust from age 84 back to age 83.

26. Retired Member
Contributions for
Medical Benefits

Currently contributions are required for PERS members who are under age 60 and have less than 30 years of service (25 for Peace Officer/Firefighter). Eligible Tier 1 members are exempt from contribution requirements. Annual FY18 contributions based on monthly rates shown below for calendar 2017 and 2018 are assumed based on the coverage category for current retirees. The composite rate shown is used for current active and inactive members in tier 2 or 3 who are assumed to retire prior to age 60 with less than 30 years of service and who are not disabled. For dependent children, we value 1/3 of the annual retiree contribution to estimate the per child rate based upon the assumed number of children in rates where children are covered.

Coverage category	Calendar 2018		Calendar 2017
	Annual contribution	Monthly contribution	Monthly contribution
Retiree only	\$ 9,324	777	777
Retiree and spouse	18,648	1,554	1,554
Retiree and child(ren)	13,164	1,097	1,097
Retiree and family	22,500	1,875	1,875
Composite	13,848	1,154	1,154

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27. Trend Rate for Retired
Member Medical
Contributions

The table below shows the rate used to project the retired member medical contributions from the shown fiscal year to the next fiscal year. For example, 8.0% is applied to the FY18 retired member medical contributions to get the FY19 retired member medical contributions.

Fiscal year:	
2018	8.0%
2019	7.6
2020	7.2
2021	6.8
2022	6.5
2023	6.3
2024	6.0
2025	5.9
2050	4.0
2100	4.0

Graded trend rates for retired member medical contributions were reinitialized for the June 30, 2014 valuation and updated to the rates shown above for the June 30, 2017 valuation. Actual FY18 retired member medical contributions are reflected in the valuation.

28. Healthcare Participation

100% of system paid members and their spouses are assumed to elect healthcare benefits as soon as they are eligible. 10% of non-system paid members and their spouses are assumed to elect healthcare benefits as soon as they are eligible.

29. Changes in Assumptions
Since the Prior Valuation

The healthcare cost trend assumption was updated as shown above to reflect anticipated increases in costs based on recent survey data. Healthcare claim costs are updated annually as described in Section 6.2.

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Table 1
 Alaska PERS
 Salary Scale

Peace Officer/Firefighter:			
Years of Service	Percent Increase	Years of Service	Percent Increase
0	9.66%	11	4.92%
1	8.66	12	4.92
2	7.16	13	4.92
3	7.03	14	4.92
4	6.91	15	4.92
5	6.41	16	4.92
6	5.66	17	4.92
7	4.92	18	4.92
8	4.92	19	4.92
9	4.92	20+	4.92
10	4.92		
Others:			
Years of Service	Percent Increase		
0	8.55%		
1	7.36		
2	6.35		
3	6.11		
4	5.71		
5+	Age based		
Age	Percent Increase	Age	Percent Increase
20	7.91%	45	5.44%
21	7.83	46	5.40
22	7.75	47	5.36
23	7.51	48	5.31
24	7.27	49	5.27
25	7.03	50	5.22
26	6.79	51	5.18
27	6.55	52	5.13
28	6.52	53	5.09
29	6.49	54	5.05
30	6.47	55	5.01
31	6.44	56	4.97
32	6.41	57	4.93
33	6.33	58	4.85
34	6.24	59	4.77
35	6.16	60	4.69
36	6.07	61	4.60
37	5.99	62	4.52
38	5.90	63	4.46
39	5.82	64	4.40
40	5.73	65+	4.34
41	5.64		
42	5.55		
43	5.52		
44	5.48		

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Table 2
Alaska PERS
Mortality Table (Pre-termination)

Age	Male	Female	Age	Male	Female
20	0.000188	0.000113	55	0.001978	0.001549
21	0.000195	0.000114	56	0.002292	0.001730
22	0.000200	0.000115	57	0.002515	0.001912
23	0.000204	0.000116	58	0.002775	0.002118
24	0.000205	0.000119	59	0.003073	0.002355
25	0.000205	0.000122	60	0.003425	0.002632
26	0.000206	0.000127	61	0.003826	0.002973
27	0.000208	0.000132	62	0.004287	0.003343
28	0.000214	0.000139	63	0.004813	0.003840
29	0.000225	0.000147	64	0.005324	0.004328
30	0.000242	0.000156	65	0.005904	0.004874
31	0.000272	0.000181	66	0.006558	0.005500
32	0.000307	0.000207	67	0.007184	0.006107
33	0.000344	0.000233	68	0.007842	0.006751
34	0.000383	0.000257	69	0.008689	0.007462
35	0.000422	0.000281	70	0.009744	0.008407
36	0.000459	0.000304	71	0.010782	0.009329
37	0.000493	0.000327	72	0.011971	0.010376
38	0.000526	0.000354	73	0.013334	0.011534
39	0.000557	0.000383	74	0.014876	0.012783
40	0.000589	0.000417	75	0.016602	0.014113
41	0.000623	0.000458	76	0.018504	0.015549
42	0.000663	0.000504	77	0.020583	0.017125
43	0.000709	0.000554	78	0.022872	0.018877
44	0.000762	0.000608	79	0.025419	0.020841
45	0.000823	0.000664	80	0.028245	0.023037
46	0.000882	0.000723	81	0.031612	0.025498
47	0.000946	0.000784	82	0.035318	0.028266
48	0.001015	0.000848	83	0.039369	0.031386
49	0.001089	0.000916	84	0.043784	0.034906
50	0.001167	0.000991	85	0.048601	0.038887
51	0.001336	0.001095	86	0.053884	0.043371
52	0.001455	0.001193	87	0.060797	0.048373
53	0.001591	0.001305	88	0.068537	0.053879
54	0.001744	0.001407	89	0.077135	0.059830
			90	0.086571	0.067336

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Table 3
Alaska PERS
Mortality Table (Post-termination)

Age	Male	Female	Age	Male	Female
50	0.001944	0.001524	85	0.081002	0.059827
51	0.002227	0.001684	86	0.089807	0.066725
52	0.002426	0.001835	87	0.101329	0.074420
53	0.002652	0.002007	88	0.114229	0.082891
54	0.002907	0.002165	89	0.128559	0.092046
55	0.003296	0.002383	90	0.144286	0.103593
56	0.003820	0.002662	91	0.160042	0.115847
57	0.004192	0.002942	92	0.176712	0.128589
58	0.004625	0.003259	93	0.194120	0.141591
59	0.005121	0.003623	94	0.212080	0.154643
60	0.005708	0.004050	95	0.230428	0.167558
61	0.006377	0.004574	96	0.249035	0.180154
62	0.007144	0.005143	97	0.267822	0.192248
63	0.008021	0.005908	98	0.281616	0.200025
64	0.008874	0.006658	99	0.300310	0.210437
65	0.009839	0.007498	100	0.313360	0.215967
66	0.010930	0.008462	101	0.332097	0.226721
67	0.011973	0.009396	102	0.344188	0.235671
68	0.013070	0.010386	103	0.361155	0.250844
69	0.014482	0.011479	104	0.369606	0.263111
70	0.016240	0.012933	105	0.381971	0.281391
71	0.017969	0.014352	106	0.384000	0.295499
72	0.019952	0.015964	107	0.384000	0.309816
73	0.022223	0.017744	108	0.384000	0.323943
74	0.024793	0.019666	109	0.384000	0.337482
75	0.027670	0.021712	110	0.384000	0.350032
76	0.030840	0.023921	111	0.384000	0.361196
77	0.034305	0.026346	112	0.384000	0.370574
78	0.038120	0.029042	113	0.384000	0.377767
79	0.042365	0.032063	114	0.384000	0.382376
80	0.047075	0.035441	115	0.384000	0.384000
81	0.052687	0.039227	116	0.384000	0.384000
82	0.058863	0.043487	117	0.384000	0.384000
83	0.065615	0.048286	118	0.384000	0.384000
84	0.072973	0.053702	119	1.000000	1.000000

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Table 4
Alaska PERS
Total Turnover Assumptions

Peace Officer/Firefighter:	Male	Female
Years of Service	(rounded)	(rounded)
0	0.15	0.15
1	0.12	0.08
2	0.07	0.06
3	0.06	0.06
4	0.06	0.07

Members with 5 or more years of service

Age	Male	Female	Age	Male	Female
20	0.040894	0.080000	40	0.017699	0.034930
21	0.040894	0.080000	41	0.017615	0.034779
22	0.040894	0.080000	42	0.017531	0.034627
23	0.038801	0.080000	43	0.018025	0.034352
24	0.036708	0.080000	44	0.018519	0.034077
25	0.034616	0.080000	45	0.019012	0.033802
26	0.032523	0.080000	46	0.019506	0.033527
27	0.030430	0.080000	47	0.020000	0.033251
28	0.028877	0.078000	48	0.023333	0.032862
29	0.027324	0.076000	49	0.026667	0.032474
30	0.025771	0.074000	50	0.030000	0.032085
31	0.024218	0.072000	51	0.040000	0.031581
32	0.022665	0.070000	52	0.040000	0.030941
33	0.021722	0.063077	53	0.040000	0.030201
34	0.020779	0.056154	54+	0.040000	0.060402
35	0.019836	0.049231			
36	0.018893	0.042308			
37	0.017950	0.035385			
38	0.017866	0.035234			
39	0.017782	0.035082			

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Table 5
Alaska PERS
Total Turnover Assumptions

Others:

Years of Service	Hire Age < 35		Hire Age > 35	
	Male (rounded)	Female (rounded)	Male	Female
0	0.29	0.29	0.20	0.20
1	0.16	0.20	0.12	0.15
2	0.13	0.16	0.10	0.13
3	0.10	0.13	0.09	0.10
4	0.08	0.10	0.09	0.09

Members with 5 or more years of service

Age	Male	Female	Age	Male	Female
20	0.095000	0.136735	40	0.044190	0.053792
21	0.095000	0.136735	41	0.042820	0.052523
22	0.095000	0.136735	42	0.041450	0.051254
23	0.090250	0.128522	43	0.040930	0.049398
24	0.085500	0.120309	44	0.040400	0.047541
25	0.080750	0.112096	45	0.039880	0.045685
26	0.076000	0.103883	46	0.039357	0.043828
27	0.071250	0.095670	47	0.038834	0.041972
28	0.069160	0.091756	48	0.038701	0.041891
29	0.067060	0.087842	49	0.038568	0.041809
30	0.064960	0.083927	50	0.038170	0.041566
31	0.062870	0.080013	51	0.037844	0.041365
32	0.060770	0.076099	52	0.037460	0.041121
33	0.058280	0.072399	53	0.037023	0.040844
34	0.055780	0.068699	54+	0.043859	0.057924
35	0.053290	0.064999			
36	0.050790	0.061299			
37	0.048300	0.057599			
38	0.046930	0.056330			
39	0.045560	0.055061			

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Table 6
Alaska PERS
Disability Table

Age	Peace Officer/ Firefighter Rate	Other Member Rate	
		Male	Female
20	0.000224	0.000218	0.000188
21	0.000224	0.000218	0.000188
22	0.000224	0.000218	0.000188
23	0.000305	0.000240	0.000200
24	0.000387	0.000261	0.000212
25	0.000468	0.000283	0.000224
26	0.000550	0.000304	0.000236
27	0.000631	0.000326	0.000248
28	0.000658	0.000334	0.000255
29	0.000685	0.000342	0.000262
30	0.000712	0.000349	0.000269
31	0.000739	0.000357	0.000277
32	0.000765	0.000365	0.000284
33	0.000793	0.000377	0.000293
34	0.000821	0.000389	0.000303
35	0.000849	0.000401	0.000312
36	0.000877	0.000413	0.000322
37	0.000905	0.000425	0.000331
38	0.000946	0.000446	0.000348
39	0.000986	0.000467	0.000364
40	0.001027	0.000489	0.000381
41	0.001068	0.000510	0.000397
42	0.001108	0.000531	0.000413
43	0.001221	0.000586	0.000454
44	0.001333	0.000641	0.000495
45	0.001446	0.000695	0.000536
46	0.001559	0.000750	0.000577
47	0.001671	0.000805	0.000618
48	0.001828	0.000886	0.000680
49	0.001985	0.000967	0.000742
50	0.002142	0.001048	0.000804
51	0.002299	0.001129	0.000867
52	0.002456	0.001210	0.000929
53	0.002868	0.001421	0.001084
54	0.003280	0.001633	0.001239

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Table 7
Alaska PERS Peace Officer/Firefighter
Retirement Table

Age at Retirement	Retirement Rate		
	Reduced	Unreduced	
	Unisex Rates	Male Rates	Female Rates
<47	N/A	0.080000	0.060000
47	N/A	0.080000	0.150000
48	N/A	0.130000	0.150000
49	N/A	0.130000	0.150000
50	0.087041	0.150000	0.150000
51	0.085580	0.150000	0.150000
52	0.072383	0.185000	0.150000
53	0.076688	0.185000	0.150000
54	0.075561	0.185000	0.250000
55	0.077429	0.250000	0.200000
56	0.077106	0.250000	0.150000
57	0.076730	0.250000	0.150000
58	0.076820	0.250000	0.150000
59	0.200000	0.250000	0.150000
60	N/A	0.300000	0.250000
61	N/A	0.250000	0.200000
62	N/A	0.250000	0.300000
63	N/A	0.250000	0.500000
64	N/A	0.200000	0.500000
65	N/A	0.200000	0.500000
66	N/A	0.250000	0.500000
67	N/A	0.500000	0.500000
68	N/A	0.500000	0.500000
69	N/A	0.500000	0.500000
70	N/A	1.000000	1.000000
71	N/A	1.000000	1.000000
72	N/A	1.000000	1.000000
73	N/A	1.000000	1.000000
74	N/A	1.000000	1.000000
75	N/A	1.000000	1.000000

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Table 8
Alaska PERS Other
Retirement Table

Age at Retirement	Retirement Rate			
	Reduced		Unreduced	
	Male Rate	Female Rate	Male Rates	Female Rates
<50	N/A	N/A	0.10	0.10
50	0.04	0.06	0.30	0.35
51	0.04	0.06	0.33	0.35
52	0.06	0.08	0.33	0.35
53	0.06	0.08	0.33	0.35
54	0.14	0.14	0.35	0.35
55	0.05	0.06	0.30	0.30
56	0.05	0.06	0.20	0.20
57	0.05	0.06	0.20	0.18
58	0.05	0.06	0.20	0.18
59	0.14	0.16	0.20	0.18
60	N/A	N/A	0.20	0.21
61	N/A	N/A	0.20	0.20
62	N/A	N/A	0.20	0.20
63	N/A	N/A	0.20	0.20
64	N/A	N/A	0.20	0.20
65	N/A	N/A	0.23	0.26
66	N/A	N/A	0.25	0.26
67	N/A	N/A	0.20	0.22
68	N/A	N/A	0.23	0.22
69	N/A	N/A	0.25	0.22
70	N/A	N/A	0.25	0.22
71	N/A	N/A	0.25	0.22
72	N/A	N/A	0.25	0.25
73	N/A	N/A	0.25	0.25
74	N/A	N/A	0.25	0.35
75-89	N/A	N/A	0.50	0.50
90+	N/A	N/A	1.00	1.00

State of Alaska
Public Employees' Retirement System
Defined Benefit Retirement Plan
Summary of Actuarial Assumptions and Changes in Assumptions

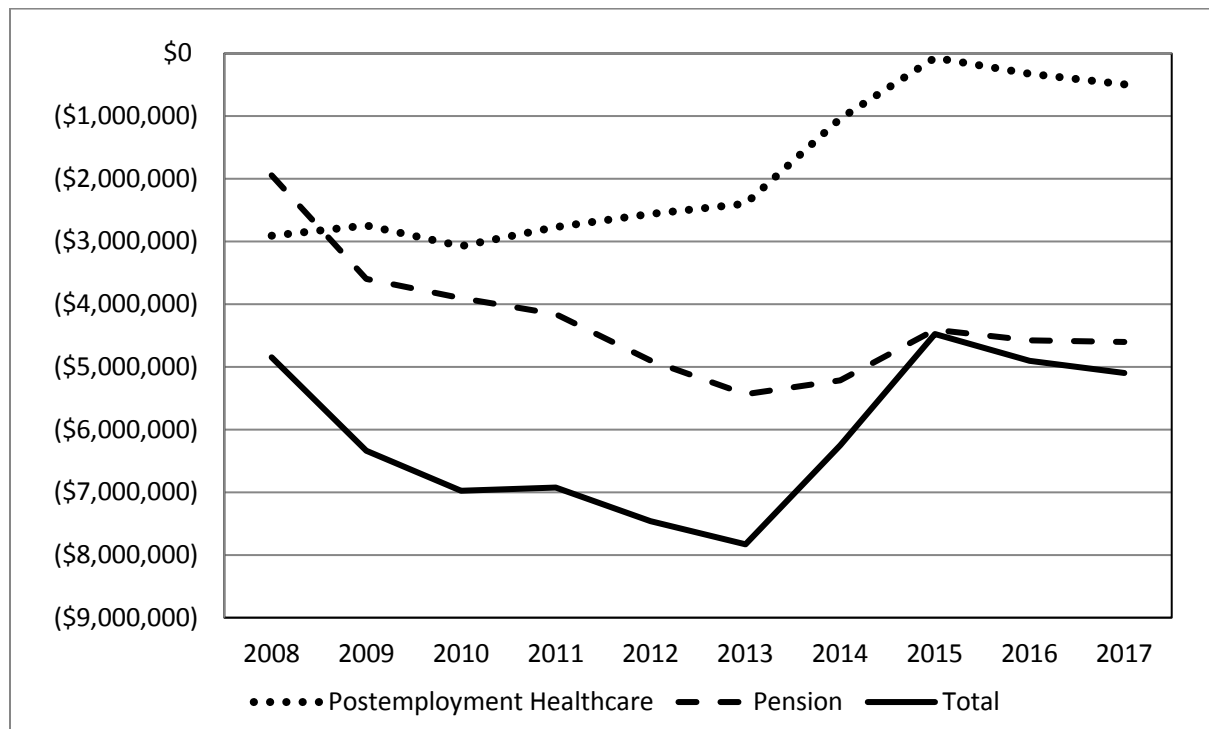
Table 9
Alaska PERS
Disabled Mortality Rates

Age	Male	Female	Age	Male	Female
≤45	0.0214	0.0071	80	0.0833	0.0582
46	0.0226	0.0078	81	0.0880	0.0621
47	0.0238	0.0085	82	0.0928	0.0662
48	0.0250	0.0093	83	0.0978	0.0707
49	0.0262	0.0101	84	0.1028	0.0755
50	0.0275	0.0109	85	0.1079	0.0806
51	0.0287	0.0118	86	0.1130	0.0862
52	0.0299	0.0127	87	0.1204	0.0921
53	0.0311	0.0137	88	0.1282	0.0985
54	0.0324	0.0144	89	0.1362	0.1054
55	0.0336	0.0151	90	0.1503	0.1148
56	0.0348	0.0158	91	0.1667	0.1249
57	0.0354	0.0164	92	0.1841	0.1359
58	0.0359	0.0171	93	0.2022	0.1475
59	0.0365	0.0176	94	0.2209	0.1611
60	0.0370	0.0182	95	0.2400	0.1745
61	0.0376	0.0188	96	0.2594	0.1877
62	0.0382	0.0194	97	0.2790	0.2003
63	0.0389	0.0204	98	0.2934	0.2084
64	0.0396	0.0214	99	0.3128	0.2192
65	0.0404	0.0226	100	0.3264	0.2250
66	0.0413	0.0238	101	0.3459	0.2362
67	0.0422	0.0252	102	0.3585	0.2455
68	0.0434	0.0267	103	0.3762	0.2613
69	0.0454	0.0284	104	0.3850	0.2741
70	0.0477	0.0303	105	0.3979	0.2931
71	0.0502	0.0323	106	0.4000	0.3078
72	0.0529	0.0345	107	0.4000	0.3227
73	0.0558	0.0368	108	0.4000	0.3374
74	0.0591	0.0393	109	0.4000	0.3515
75	0.0625	0.0420	110	0.4000	0.3646
76	0.0662	0.0449	111	0.4000	0.3762
77	0.0702	0.0479	112	0.4000	0.3860
78	0.0744	0.0511	113	0.4000	0.3935
79	0.0788	0.0546	114	0.4000	0.3983
			115+	0.4000	0.4000

Actuarial Section

Public Employees' Retirement System Defined Benefit Retirement Plan Funding Excess/(Unfunded Liability) (In thousands)				
Actuarial Valuation Year Ended June 30	Postemployment Healthcare	Pension	Total Funding Excess/ (Unfunded Liability)	Funded Ratio
2008	\$ (2,904,525)	\$ (1,943,510)	\$ (4,848,035)	69.5%
2009	(2,742,835)	(3,593,558)	(6,336,393)	61.8
2010	(3,073,188)	(3,901,840)	(6,975,028)	61.5
2011	(2,769,878)	(4,156,898)	(6,926,776)	63.0
2012	(2,561,808)	(4,898,523)	(7,460,331)	61.3
2013	(2,395,001)	(5,435,132)	(7,830,133)	60.8
2014	(1,036,453)	(5,216,321)	(6,252,774)	70.1
2015	(68,435)	(4,406,769)	(4,475,204)	75.4
2016	(325,127)	(4,576,371)	(4,901,498)	70.0
2017	(492,197)	(4,602,427)	(5,094,624)	74.4

10-YEAR TREND OF UNFUNDED LIABILITY
(In thousands)



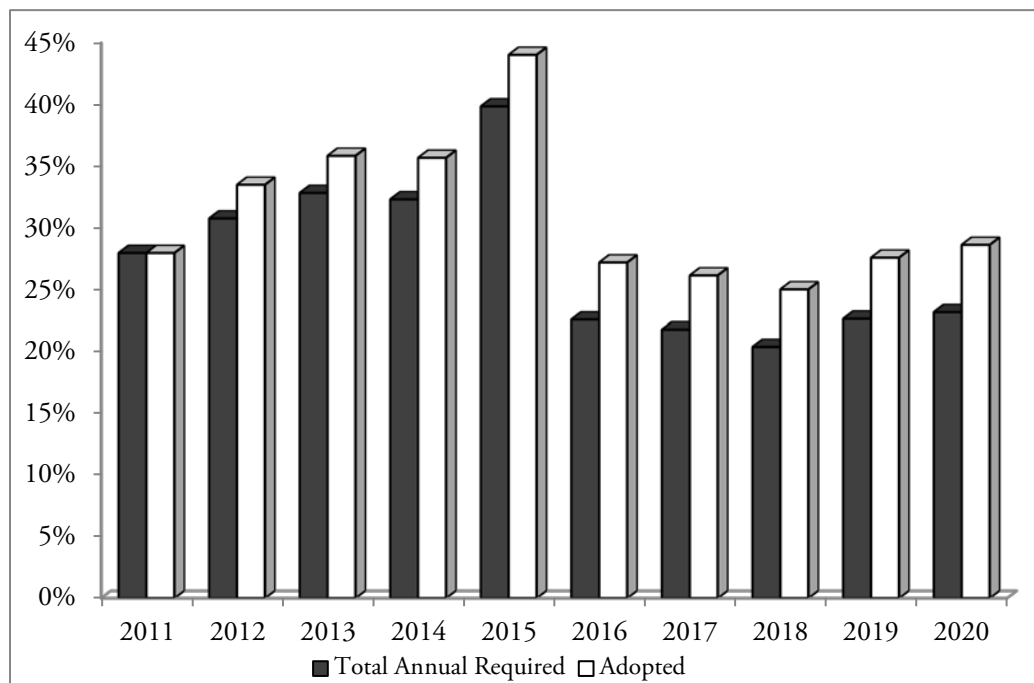
Public Employees' Retirement System Defined Benefit Retirement Plan Employer Contribution Rates					
Year Ended June 30	Actuarially Determined				Adopted
	Actuarial Valuation Year Ended June 30	Normal Cost ¹	Past Service	Total Annual Required	
2011	2008	9.33%	18.63%	27.96%	27.96%
2012	2009	8.28	22.48	30.76	33.49
2013	2010	8.67	24.16	32.83	35.84
2014	2011	8.12	24.19	32.31	35.68
2015	2012	6.82	33.03	39.85	44.03
2016	2013	6.05	16.53	22.58	27.19
2017	2014	5.76	16.02	21.78	26.14
2018	2015	5.10	15.28	20.38	25.01
2019	2016	6.11	16.53	22.64	27.58
2020	2017	5.74	17.43	23.17	28.62

¹ Also referred to as the consolidated rate.

Beginning with the June 30, 2014 valuation, contribution rates for FY17 and beyond are determined using new methodology in accordance with 2014 legislation under HB 385 and SB 119, 2014 Alaska Laws, which changed the amortization methodology to a closed 25-year period as a level percentage of pay, and eliminated the time lag on the contribution rate calculation by using a 2-year year "roll-forward" approach and assuming 0% population growth. Investment gains and losses are recognized over a 5-year period beginning in FY15.

Valuations are used to set contribution rates in future years.

10-YEAR COMPARISON OF AVERAGE EMPLOYER CONTRIBUTION RATES



Actuarial Section

Public Employees' Retirement System Defined Benefit Retirement Plan Schedule of Active Member Valuation Data					
Valuation Date	Number	Annual Earnings (In thousands)	Annual Average Earnings	Percent Increase in Average Earnings	Number of Participating Employers
All Others					
June 30, 2017	13,113	\$ 960,106	\$ 73,218	1.4%	155
June 30, 2016	14,401	1,039,960	72,214	3.2	155
June 30, 2015	15,833	1,108,218	69,994	2.1	159
June 30, 2014	17,339	1,188,918	68,569	3.4	159
June 30, 2013	18,890	1,252,786	66,320	4.5	159
June 30, 2012	20,566	1,305,337	63,471	4.6	160
June 30, 2011	22,118	1,342,122	60,680	4.7	160
June 30, 2010	24,054	1,393,803	57,945	4.5	160
June 30, 2009	25,089	1,390,971	55,441	5.1	159
June 30, 2008	26,301	1,387,117	52,740	6.9	160
Peace Officer / Firefighter					
June 30, 2017	1,606	\$ 171,821	\$ 106,987	1.6%	155
June 30, 2016	1,704	179,461	105,317	3.8	155
June 30, 2015	1,827	185,350	101,450	2.5	159
June 30, 2014	1,958	193,737	98,946	3.4	159
June 30, 2013	2,065	197,534	95,658	4.8	159
June 30, 2012	2,164	197,544	91,286	4.1	160
June 30, 2011	2,275	199,537	87,709	8.6	160
June 30, 2010	2,388	192,895	80,777	2.8	160
June 30, 2009	2,476	194,519	78,562	5.0	159
June 30, 2008	2,549	190,729	74,825	4.9	160
Total and average earnings ("valuation pay") are the annualized earnings for the fiscal year ending on the valuation date.					

Public Employees' Retirement System Defined Benefit Retirement Plan Schedule of Benefit Recipients Added to and Removed from Rolls								
Year Ended	Added to Rolls		Removed from Rolls		Rolls - End of Year		Percent Increase in Annual Pension Benefits	Average Annual Pension Benefits
	No. ¹	Annual Pension Benefits ¹	No. ¹	Annual Pension Benefits ¹	No.	Annual Pension Benefits		
All Others								
June 30, 2017	1,699	\$ 44,619,382	816	\$ 14,610,212	31,032	\$ 663,978,286	4.7%	\$ 21,398
June 30, 2016	1,780	44,409,702	660	12,099,362	30,149	633,969,116	5.4	21,028
June 30, 2015	1,583	39,939,292	627	7,232,812	29,029	601,658,756	5.7	20,726
June 30, 2014	1,778	44,823,611	603	3,011,383	28,073	568,952,296	7.9	20,267
June 30, 2013	1,808	43,247,667	554	4,861,626	26,898	527,140,068	7.9	19,598
June 30, 2012	1,679	37,855,250	636	5,344,239	25,644	488,754,027	7.1	19,059
June 30, 2011	1,595	37,100,217	554	6,897,899	24,601	456,243,016	7.1	18,546
June 30, 2010	1,667	35,089,579	517	8,712,630	23,560	426,040,698	6.6	18,083
June 30, 2009	1,340	25,402,811	476	28,773	22,410	399,663,749	6.8	17,834
June 30, 2008	1,454	28,498,471	466	5,349,935	21,546	374,289,711	6.6	17,372
Peace Officer / Firefighter								
June 30, 2017	166	\$ 6,971,580	54	\$ 2,132,027	3,315	\$ 118,111,073	4.3%	\$ 35,629
June 30, 2016	137	6,618,744	49	1,594,392	3,204	113,271,520	4.6	35,353
June 30, 2015	136	5,617,344	46	633,046	3,116	108,247,168	4.8	34,739
June 30, 2014	109	4,270,620	50	(145,769)	3,026	103,262,870	4.5	34,125
June 30, 2013	113	4,162,920	42	240,775	2,967	98,846,479	4.1	33,315
June 30, 2012	179	5,246,271	41	(177,568)	2,896	94,924,334	6.1	32,778
June 30, 2011	114	3,772,720	33	116,090	2,758	89,500,495	4.3	32,451
June 30, 2010	118	3,593,724	46	1,413,071	2,677	85,843,865	2.6	32,067
June 30, 2009	108	2,759,299	39	(518,134)	2,605	83,663,212	4.1	32,116
June 30, 2008	125	3,556,519	28	191,073	2,536	80,385,779	4.4	31,698

¹ Numbers are estimated, and include other internal transfers.

Actuarial Section

Public Employees' Retirement System Defined Benefit Retirement Plan Pension Solvency Test (In thousands)							
Valuation Date	Pension Actuarial Accrued Liability For:			Pension Valuation Assets	Portion of Actuarial Accrued Liabilities Covered by Assets:		
	(1) Active Member Contributions	(2) Inactive Members	(3) Active Members (Employer-Financed Portion)		(1)	(2)	(3)
June 30, 2016	\$ 1,458,830	\$ 9,147,818	\$ 3,026,385	\$ 9,056,662	100.0%	83.1%	—%
June 30, 2015	1,475,852	8,762,863	3,099,214	8,931,160	100.0	85.1	—
June 30, 2014 ^{1 2}	1,486,335	8,264,683	3,196,741	7,731,438	100.0	75.6	—
June 30, 2013	1,479,538	7,514,255	2,952,088	6,510,749	100.0	67.0	—
June 30, 2012	1,459,943	7,057,967	2,911,034	6,530,421	100.0	71.8	—
June 30, 2011	1,421,967	6,657,517	2,839,563	6,762,149	100.0	80.2	—
June 30, 2010 ¹	1,388,029	6,268,461	2,715,182	6,469,832	100.0	81.1	—
June 30, 2009	1,315,924	5,914,959	2,471,203	6,108,528	100.0	81.0	—
June 30, 2008	1,242,288	5,606,402	2,305,592	7,210,772	100.0	100.0	15.7
June 30, 2007	1,203,007	5,282,132	2,177,185	6,739,004	100.0	100.0	11.7
June 30, 2006 ^{1 2}	1,157,755	4,933,609	2,002,679	6,331,065	100.0	100.0	12.0

¹ Change in Assumptions
² Change in Methods
³ The pension and postemployment healthcare valuation assets were allocated using a ratio of fair value of assets as of June 30, 2005

Public Employees' Retirement System Defined Benefit Retirement Plan Postemployment Healthcare Solvency Test (In thousands)							
Valuation Date	Postemployment Healthcare Actuarial Accrued Liability For:			Post-Employment Healthcare Valuation Assets	Portion of Actuarial Accrued Liabilities Covered by Assets:		
	(1) Active Member Contributions	(2) Inactive Members	(3) Active Members (Employer-Financed Portion)		(1)	(2)	(3)
June 30, 2016	\$ —	\$ 5,393,537	\$ 2,342,920	\$ 7,411,330	100.0%	100.0%	86.1%
June 30, 2015	—	5,159,283	2,151,451	7,242,299	100.0	100.0	96.8
June 30, 2014 ¹	—	5,455,114	2,494,499	6,913,160	100.0	100.0	58.5
June 30, 2013 ¹	—	5,298,380	2,748,498	5,651,877	100.0	100.0	12.9
June 30, 2012 ¹	—	5,026,080	2,837,337	5,301,609	100.0	100.0	9.7
June 30, 2011	—	4,812,845	3,008,658	5,051,625	100.0	100.0	7.9
June 30, 2010 ¹	—	4,581,806	3,179,014	4,687,632	100.0	100.0	3.3
June 30, 2009	—	4,232,394	2,644,891	4,134,450	100.0	97.7	—
June 30, 2008 ¹	—	4,166,270	2,567,589	3,829,334	100.0	91.9	—
June 30, 2007	—	3,684,906	2,223,703	3,161,956	100.0	85.8	—
June 30, 2006 ^{1 2}	—	3,990,202	2,304,168	2,709,843	100.0	67.9	—

Healthcare liabilities are calculated using the funding assumptions (i.e., funding investment return and net of Medicare Part D subsidy).

¹ Change in Assumptions
² Change in Methods
³ The pension and postemployment healthcare valuation assets were allocated using a ratio of fair value of assets as of June 30, 2005

Actuarial Section

Public Employees' Retirement System Defined Benefit Retirement Plan Analysis of Financial Experience					
Change in Employer/State Contribution Rate Due to (Gains) and Losses in Actuarial Accrued Liabilities During the Last Five Fiscal Years Resulting From Differences Between Assumed Experience and Actual Experience					
Type of (Gain) or Loss	Change in Employer/State Contribution Rate During Fiscal Year				
	2017	2016	2015	2014	2013
Health Claims	(2.90)%	1.02%	(3.65)%	(0.85)%	(1.51)%
Salary Experience	(0.42)	(0.35)	(0.32)	(0.19)	0.23
Investment Experience	1.36	1.40	0.45	(4.63)	1.76
Demographic Experience and Miscellaneous	(0.96)	0.13	0.34	(0.04)	(0.84)
Contribution Shortfall	0.04	—	—	0.67	0.79
(Gain) or Loss During Year From Experience	(2.88)	2.20	(3.18)	(5.04)	0.43
Assumption and Method Changes	3.41	2.85	—	(13.46)	—
System Benefit Changes	—	—	—	—	—
Composite (Gain) or Loss During Year	0.53	5.05	(3.18)	(18.50)	0.43
Beginning Employer/State Contribution Rate	22.64	18.60	21.78	40.28	39.85
Ending Valuation Year Employer/State Contribution Rate	<u>23.17%</u>	<u>23.65%</u>	<u>18.60%</u>	<u>21.78%</u>	<u>40.28%</u>
Fiscal Year Employer/State Contribution Rate	23.17%*	22.64%	20.38%	21.78%	22.58%
Fiscal Year for Which Rate Applies	FY20	FY19	FY18	FY17	FY16

*Expected. Actual Rate to be determined.

NOTE: In the second session of the 28th Alaska legislature, the legislature changed the actuarial methodology from level dollar amortization to level percent of pay. The June 30, 2013 PERS actuarial valuation report was not updated for this change, but specific revisions for the amortization change were presented to reflect the change in amortization. The change in the amortization resulted in an adjusted FY16 employer/state contribution rate of 22.58%.

Public Employees' Retirement System Defined Benefit Retirement Plan Analysis of Financial Experience						
Change in Employer/State Contribution Rate Due to (Gains) and Losses in Actuarial Accrued Liabilities During the Last Three Fiscal Years Resulting From Differences Between Assumed Experience and Actual Experience						
Type of (Gain) or Loss	Change in Employer/State Contribution Rate During Fiscal Year					
	Pension			Healthcare		
	2017	2016	2015	2017	2016	2015
Health Claims	N/A	N/A	N/A	(2.90)%	1.02%	(3.65)%
Salary Experience	(0.42)%	(0.35)%	(0.32)%	N/A	N/A	N/A
Investment Experience	0.75	0.77	0.24	0.61	0.63	0.21
Demographic Experience and Miscellaneous	(0.57)	0.13	0.34	(0.39)	N/A	N/A
Contribution Shortfall	0.18	—	—	(0.14)	—	—
(Gain) or Loss During Year From Experience	(0.06)	0.55	0.26	2.82	1.65	(3.44)
Assumption and Method Changes	—	1.92	—	3.41	0.93	—
System Benefit Changes	—	—	—	—	—	—
Composite (Gain) or Loss During Year	(0.06)	2.47	0.26	0.59	2.58	(3.44)
Beginning Employer/State Contribution Rate	18.27	16.24	15.98	4.37	2.36	5.80
Ending Valuation year Employer/State Contribution Rate	<u>18.21%</u>	<u>18.71%</u>	<u>16.24%</u>	<u>4.96%</u>	<u>4.94%</u>	<u>2.36%</u>
Fiscal Year Employer/State Contribution Rate	18.21%*	18.27%	17.27%	4.96%*	4.37%	3.11%*
Fiscal Year for Which Rate Applies	FY20	FY19	FY18	FY20	FY19	FY18

*Expected. Actual Rate to be determined.

Actuarial Section

State of Alaska
Public Employees' Retirement System
Defined Benefit Retirement Plan
Summary of Plan Provisions and Changes in Plan Provisions

1. Effective Date

January 1, 1961, with amendments through June 30, 2017. Chapter 82, 1986 Session Laws of Alaska, created a two tier retirement system. Members who were first hired under PERS before July 1, 1986 (Tier 1) are eligible for different benefits than members hired after June 30, 1986 (Tier 2). Chapter 4, 1996 Session Laws of Alaska created a third tier for members who were first hired after June 30, 1996 (Tier 3). Chapter 9, 2005 Session Laws of Alaska, closed the plan to new members hired after June 30, 2006.

2. Administration of Plan

The Commissioner of Administration or the Commissioner's designee is the administrator of the system. The Attorney General of the state is the legal counsel for the system and shall advise the administrator and represent the system in legal proceedings.

Prior to June 30, 2005, the Public Employees' Retirement Board prescribed policies and adopted regulations and performed other activities necessary to carry out the provisions of the system. The Alaska State Pension Investment Board, Department of Revenue, Treasury Division was responsible for investing PERS funds.

On July 27, 2005, Senate Bill 141, enacted as Chapter 9, 2005 Session laws of Alaska, replaced the Public Employees' Retirement Board and the Alaska State Pension Investment Board with the Alaska Retirement Management Board.

3. Employers Included

Currently there are 155 employers participating in the PERS, including the State of Alaska and 154 political subdivisions and public organizations. Two additional political subdivisions participate in the PERS for healthcare benefits only.

4. Membership

PERS membership is mandatory for all permanent full-time and part-time employees of the State of Alaska and participating political subdivisions and public organizations, unless they are specifically excluded by Alaska Statute or employer participation agreements. Employees participating in the University of Alaska's Optional Retirement Plan or other retirement plans funded by the State are not covered by PERS. Elected officials may waive PERS membership.

Certain members of the Alaska Teachers' Retirement System (TRS) are eligible for PERS retirement benefits for their concurrent elected public official service with municipalities. In addition, employees who work half-time in PERS and TRS simultaneously are eligible for half-time PERS and TRS credit.

Senate Bill 141, signed into law on July 27, 2005, closes the Plan effective July 1, 2006, to new members first hired on or after July 1, 2006.

State of Alaska
Public Employees' Retirement System
Defined Benefit Retirement Plan
Summary of Plan Provisions and Changes in Plan Provisions

5. Credited Service

Permanent employees who work at least 30 hours a week earn full-time credit; part-time employees working between 15 and 30 hours a week earn partial credit based upon the number of hours worked. Members receiving PERS occupational disability benefits continue to earn PERS credit while disabled. Survivors who are receiving occupational death benefits continue to earn PERS service credit while occupational survivor benefits are being paid.

Members may claim other types of service, including:

- part-time State of Alaska service rendered after December 31, 1960, and before January 1, 1976;
- service with the State, former Territory of Alaska, or U.S. Government in Alaska before January 1, 1961;
- past Peace Officer, correctional officer, fire fighter, and special officer service after January 1, 1961;
- military service (not more than five years may be claimed);
- temporary service after December 31, 1960;
- elected official service before January 1, 1981;
- Alaska Bureau of Indian Affairs service;
- past service rendered by employees who worked half-time in the PERS and TRS simultaneously;
- leave without pay service after June 13, 1987, while receiving Workers' Compensation;
- Village Public Safety Officer service; and
- service as a temporary employee of the legislature before July 1, 1979, but this service must have been claimed no later than July 1, 2003, or by the date of retirement, if sooner (not more than 10 years may be claimed).

Except for service before January 1, 1961, with the State, former Territory of Alaska, or U.S. Government in Alaska, contributions are required for all past service.

Past employment with participating political subdivisions that occurred before the employers joined the PERS is creditable if the employers agree to pay the required contributions.

At the election of certain PERS members, certain service may be credited in the same fashion as members in the State of Alaska TRS.

Members employed as dispatchers or within a state correctional facility may, at retirement, elect to convert their dispatcher or correctional facility service from "all other" service to Peace Officer/Firefighter service and retire under the 20 year retirement option. Members pay the full actuarial cost of conversion.

State of Alaska
Public Employees' Retirement System
Defined Benefit Retirement Plan
Summary of Plan Provisions and Changes in Plan Provisions

6. Employer Contributions

PERS employers contribute the amounts required, in addition to employees' contributions, to fund the benefits of the system.

The normal cost rate is a uniform rate for all participating employers (less the value of members' contributions).

The past service rate is a uniform rate for all participating employers to amortize the unfunded past service liability with payments that are a level percentage of payroll amount over a closed 25-year period starting June 30, 2014.

Employer rates cannot be less than the normal cost rate.

Pursuant to AS 39.35.255 effective July 1, 2008, each PERS employer will pay a simple uniform contribution rate of 22% of member payroll.

7. Additional State Contributions

Pursuant to AS 39.35.280 effective July 1, 2008, the State shall contribute an amount (in addition to the State contribution as an employer) that when combined with the employer contribution (22%) will be sufficient to pay the total contribution rate adopted by The Alaska Retirement Management Board.

8. Member Contributions

Mandatory Contributions: Peace Officer/Firefighter members are required to contribute 7.5% of their compensation; all Others contribute 6.75%. Those all Others who have elected to have their service calculated under TRS rules contribute 9.76% of their compensation. Members' contributions are deducted from gross wages before federal income taxes are withheld.

Contributions for Claimed Service: Member contributions are also required for most of the claimed service described above.

Voluntary Contributions: Members may voluntarily contribute up to 5% of their salary on an after-tax basis. Voluntary contributions are recorded in a separate account and are payable to the:

- a. member in lump sum payment upon termination of employment;
- b. member's beneficiary if the member dies; or
- c. member in a lump sum, life annuity, or payments over a designated period of time when the member retires.

Interest: Members' contributions earn 4.5% interest, compounded semiannually on June 30 and December 31.

Refund of Contributions: Terminated members may receive refunds of their member contribution accounts which includes their mandatory and voluntary contributions, indebtedness payments, and interest earned. Terminated members' accounts may be attached to satisfy claims under Alaska Statute 09.38.065, federal income tax levies, and valid Qualified Domestic Relations Orders.

State of Alaska
Public Employees' Retirement System
Defined Benefit Retirement Plan
Summary of Plan Provisions and Changes in Plan Provisions

Reinstatement of Contributions: Refunded accounts and the corresponding PERS service may be reinstated upon reemployment in PERS prior to July 1, 2010. Interest accrues on refunds until paid in full or members retire.

9. Retirement Benefits

Eligibility:

- a) Members, including deferred vested members, are eligible for normal retirement at age 55 or early retirement at age 50 if they were hired before July 1, 1986 (Tier 1), and 60 or early retirement at age 55 if they were hired after July 1, 1986 (Tiers 2 & 3). Additionally, they must have at least:
 - i) five years of paid-up PERS service;
 - ii) 60 days of paid-up PERS service as employees of the legislature during each of the five legislative sessions and they were first hired by the legislature before May 30, 1987;
 - iii) 80 days of paid-up PERS service as employees of the legislature during each of the five legislative sessions and they were first hired by the legislature after May 29, 1987;
 - iv) two years of paid-up PERS service and they are vested in the Teachers' Retirement System; or
 - v) two years of paid-up PERS service and a minimum three years of Teachers' Retirement System service to qualify for a public service benefit.
- b) Members may retire at any age when they have:
 - i) 20 paid-up years of PERS Peace Officer/Firefighter service; or
 - ii) 30 paid-up years of PERS "all other" or "elected official" service.

Benefit Type: Lifetime benefits are paid to members. Eligible members may receive normal, unreduced benefits when they (1) reach normal retirement age and complete the service required; or (2) satisfy the minimum service requirements under the "20 and out" or "30 and out" provisions. Members may receive early, actuarially reduced benefits when they reach early retirement age and complete the service required.

Members may elect an early retirement or a joint and survivor option. Members who entered PERS prior to July 1, 1996 may also select a 66-2/3 last survivor option and a level income option. Under these options and early retirement, benefits are actuarially adjusted so that members receive the actuarial equivalents of their normal benefit amounts.

Benefit Calculations: Retirement benefits are calculated by multiplying the average monthly compensation (AMC) times credited PERS service times the percentage multiplier. The AMC is determined by averaging the salaries earned during the five highest (three highest for Peace Officer/Firefighter members or members hired prior to July 1, 1996) consecutive payroll years. Members must earn at least 115 days of credit in the last year worked to include it in the AMC calculation. PERS pays a minimum benefit of \$25.00 per month for each year of service when the calculated benefit is less.

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The percentage multipliers for Peace Officer/Firefighter members are 2% for the first ten years of service and 2.5% for all service over 10 years.

The percentage multipliers for all Others are 2% for the first ten years, 2.25% for the next ten years, and 2.5% for all remaining service earned on or after July 1, 1986. All service before that date is calculated at 2%.

Indebtedness: Members who terminate and refund their PERS contributions are not eligible to retire, unless they return to PERS employment and pay back their refunds plus interest or accrue additional service which qualifies them for retirement. PERS refunds must be paid in full if the corresponding service is to count toward the minimum service requirements for retirement. Refunded PERS service is included in total service for the purpose of calculating retirement benefits. However, if a member is otherwise eligible to retire, when refunds are not completely paid before retirement, benefits are actuarially reduced for life. Indebtedness balances may also be created when a member purchases qualified claimed service.

10. Reemployment of Retired Members

Retirement and retiree healthcare benefits are suspended while retired members are reemployed under e PERS. During reemployment, members earn additional PERS service and contributions are withheld from their wages. A member who retired with a normal retirement benefit can elect to waive payment of PERS contributions. The waiver allows the member to continue receiving the retirement benefit during the period of reemployment. Members who elect the waiver option do not earn additional PERS service. The Waiver Option first became effective July 1, 2005 and applies to reemployment periods after that date. The Waiver Option is not available to members who retired early or under the Retirement Incentive Programs (RIPs). The Waiver Option is no longer available after June 30, 2009.

Members retired under the Retirement Incentive Programs (RIPs) who return to employment under PERS, TRS, or the University of Alaska's Optional Retirement Plan will:

- a) forfeit the three years of incentive credits that they received;
- b) owe PERS 150% of the benefits that they received for state and political subdivision members, and 110% for school district employees, under the 1996-2000 RIP, which may include costs for health insurance, excluding amounts that they paid to participate for the 1986 and 1989 RIPs. Under prior RIPs, the penalty is 110% of the benefits received; and
- c) be charged 7% interest from the date that they are reemployed until their indebtedness is paid in full or they retire again. If the indebtedness is not completely paid, future benefits will be actuarially reduced for life.

Employers make contributions to the unfunded liability of the plan on behalf of rehired retired members at the rate the employer is making contributions to the unfunded liability of the plan for other members.

11. Postemployment Healthcare Benefits

Major medical benefits are provided to retirees and their surviving spouses by PERS for all employees hired before July 1, 1986 (Tier 1) and disabled retirees. Employees hired after June 30, 1986 (Tier 2) and their surviving spouses with five years of credited service (or ten years of credited service for those first hired after June 30, 1996 (Tier 3))

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must pay the full monthly premium if they are under age sixty and will receive benefits paid by PERS if they are over age sixty. Tier 3 Members with between five and ten years of credited service must pay the full monthly premium regardless of their age. Tier 2 and Tier 3 Members with less than five years of credited service are not eligible for postemployment healthcare benefits. Tier 2 Members who are receiving a conditional benefit and are age eligible are eligible for postemployment healthcare benefits. In addition, Peace Officers and their surviving spouses with twenty-five years of Peace Officer membership service, Other employees and their surviving spouses with thirty years of membership service, and any disabled member receive benefits paid by PERS, regardless of their age or date of hire.

Medical, prescription drug, dental, vision and audio coverage is provided through the AlaskaCare Retiree Health Plan. Health plan provisions do not vary by retirement tier or age, except for Medicare coordination.

Surviving spouses continue coverage only if a pension payment form that provided survivor benefits was elected. Alternate payees (i.e. individuals who are the subject of a domestic relations order or DRO) are allowed to participate in the plan, but must pay the full cost.

Where premiums are required prior to age 60, the valuation bases this payment upon the age of the retiree.

Participants in the defined benefit plan are covered under the following benefit design:

Plan Feature	Amount
Deductible (single/family)	\$150 / \$450
Coinsurance - most services	20%
Outpatient surgery/testing	0%
Maximum Out-of-Pocket (single/family, excl. deductible)	\$800 / \$2,400
Rx Copays (generic/brand/mail-order), does not apply to OOP max	\$4 / \$8 / \$0
Lifetime Maximum	\$2,000,000

The plan coordinates with Medicare on a traditional Coordination of Benefits Method.

12. Disability Benefits

Monthly disability benefits are paid to permanently disabled members until they die, recover or become eligible for normal retirement. Members are appointed to normal retirement on the first of the month after they become eligible.

Occupational Disability: Members are not required to satisfy age or service requirements to be eligible for occupational disability. Monthly benefits are equal to 40% of their gross monthly compensation on the date of their disability. Members on occupational disability continue to earn PERS service until they become eligible for normal retirement. Peace Officer/Firefighter members may elect to retain the disability benefit formula for the calculation of their normal retirement benefits.

Nonoccupational Disability: Members must be vested (five paid up years of PERS service) to be eligible for non-occupational disability benefits. Monthly benefits are calculated based on the member's average monthly

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compensation and PERS service on the date of termination from employment because of disability. Members do not earn PERS service while on non-occupational disability.

13. Death Benefits

Monthly death benefits may be paid to a spouse or dependent children upon the death of a member. If monthly benefits are not payable under the occupational and non-occupational death provisions, the designated beneficiary receives the lump sum benefit described below.

Occupational Death: When an active member (vested or non-vested) dies from occupational causes, a monthly survivor's pension may be paid to the spouse. The pension equals 40% of the member's gross monthly compensation on the date of death or disability, if earlier. If there is no spouse, the pension may be paid to the member's dependent children. On the member's normal retirement date, the benefit converts to a normal retirement benefit. The normal benefit is based on the member's salary on the date of death and service, including service accumulated from the date of the member's death to the normal retirement date. Survivors of Peace Officer/Firefighter members receive the greater of 50% of the member's gross monthly compensation on the date of death or disability, or 75% of the member's monthly normal retirement benefit (including service projected to Normal Retirement). If the member is unmarried with no children, a refund of contributions is payable to the estate.

Death after Occupational Disability: When a member dies while occupationally disabled, benefits are paid as described above in Occupational Death.

Nonoccupational Death: When a vested member dies from non-occupational causes, the surviving spouse may elect to receive a monthly 50% joint and survivor benefit or a lump sum benefit. The monthly benefit is calculated on the member's average monthly compensation and PERS service at the time of termination or death.

Lump Sum Nonoccupational Death Benefit: Upon the death of a member who has less than one year of service, the designated beneficiary receives the member's contribution account, which includes mandatory and voluntary contributions, indebtedness payments, and interest earned. If the member has more than one year of PERS service or is vested, the beneficiary also receives \$1,000 and \$100 for each year of PERS service.

Death After Retirement: When a retired member dies, the designated beneficiary receives the member's contribution account, less any benefits already paid and the member's last benefit check. If the member selected a survivor option at retirement, the eligible spouse receives continuing, lifetime monthly benefits.

14. Postretirement Pension Adjustments

Postretirement pension adjustments (PRPAs) are granted annually to eligible benefit recipients when the consumer price index (CPI) for urban wage earners and clerical workers for Anchorage increases during the preceding calendar year. PRPAs are calculated by multiplying the recipient's base benefit, including past PRPAs, excluding the Alaska COLA, times:

- a. 75% of the CPI increase in the preceding calendar year or 9%, whichever is less, if the recipient is at least age 65 or on PERS disability; or

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- b. 50% of the CPI increase in the preceding calendar year or 6%, whichever is less, if the recipient is at least age 60, or has been receiving benefits for at least five years.

Ad-hoc PRPAs, up to a maximum of 4%, may be granted to eligible recipients who first entered PERS before July 1, 1986 (Tier 1) if the CPI increases and the funded ratio is at least 105%.

In a year where an ad-hoc PRPA is granted, eligible recipients will receive the higher of the two calculations.

15. Alaska Cost of Living Allowance

Eligible benefit recipients who reside in Alaska receive an Alaska cost of living allowance (COLA) equal to 10% of their base benefits or \$50, whichever is more. The following benefit recipients are eligible:

- a. members who first entered PERS before July 1, 1986 (Tier 1) and their survivors;
- b. members who first entered PERS after June 30, 1986 (Tiers 2 & 3) and their survivors if they are at least age 65; and
- c. all disabled members.

16. Changes in Benefit Provisions Since the Prior Valuation

There have been no changes in the benefit provisions effective since the prior valuation.



June 5, 2018

State of Alaska
The Alaska Retirement Management Board
The Department of Revenue, Treasury Division
The Department of Administration, Division of Retirement and Benefits
P.O. Box 110203
Juneau, AK 99811-0203

Certification of Actuarial Valuation

Dear Members of The Alaska Retirement Management Board, The Department of Revenue and The Department of Administration:

This report summarizes the annual actuarial valuation results of the State of Alaska Public Employees' Retirement System Defined Contribution Retirement (PERS DCR) Plan as of June 30, 2017 performed by Conduent HR Services, LLC (Conduent), formerly known as Buck Consultants, LLC.

The actuarial valuation is based on financial information provided in the financial statements audited by KPMG LLP, member data provided by the Division of Retirement and Benefits, and medical enrollment data provided by the healthcare claims administrator (Aetna), all as summarized in this report. The benefits considered are those delineated in Alaska statutes effective June 30, 2016. The actuary did not verify the data submitted, but did perform tests for consistency and reasonableness.

All costs, liabilities and other factors under the PERS DCR were determined in accordance with generally accepted actuarial principles and procedures. An actuarial cost method is used to measure the actuarial liabilities which we believe is reasonable. Conduent HR Consulting is solely responsible for the actuarial data and actuarial results presented in this report. This report fully and fairly discloses the actuarial position of the PERS DCR as of June 30, 2017.

PERS DCR is funded by Employer/State Contributions in accordance with the funding policy adopted by the Alaska Retirement Management Board (Board). The funding objective for PERS DCR is to pay required contributions that remain level as a percent of PERS DCR compensation. The Board has also established a funding policy objective that the required contributions be sufficient to pay the Normal Costs of active plan members, plan expenses, and amortize the Unfunded Actuarial Accrued Liability as a level percent of PERS DCR compensation over a closed layered 25-year period. This objective is currently being met and is projected to continue to be met as required by the Alaska state statutes.

The Board and staff of the State of Alaska may use this report for the review of the operations of PERS DCR. Use of this report, for any other purpose or by anyone other than the Board or staff of the State of Alaska may not be appropriate and may result in mistaken conclusions because of failure to understand applicable assumptions, methods or inapplicability of the report for that purpose. Because of the risk of misinterpretation of actuarial results, you should ask Conduent HR Consulting to review any statement you wish to make on the results contained in this report. Conduent HR Consulting will not accept any liability for any such statement made without the review by Conduent HR Consulting.

Future actuarial measurements may differ significantly from current measurements due to plan experience differing from that anticipated by the economic and demographic assumptions, increases or decreases expected as part of the natural operation of the methodology used for these measurements, and changes in plan provisions or applicable law. In particular, retiree group benefits models necessarily rely on the use of approximations and estimates, and are sensitive to changes in these approximations and estimates. Small variations in these approximations and estimates may lead to significant changes in actuarial measurements. An analysis of the potential range of such future differences is beyond the scope of this valuation.

In our opinion, the actuarial assumptions used are reasonable, taking into account the experience of the plan and reasonable long-term expectations, and represent our best estimate of the anticipated long-term experience under the plan. The actuary performs an analysis of plan experience periodically and recommends changes if, in the opinion of the actuary, assumption changes are needed to more accurately reflect expected future experience. The last full experience analysis was performed for the period July 1, 2009 to June 30, 2013. Based on that experience study, the Board adopted new assumptions effective for the June 30, 2014 valuation to better reflect expected future experience. Based on our annual analysis of recent claims experience, changes were made to the per capita claims cost rates effective June 30, 2017 to better reflect expected future healthcare experience. Based on recent experience, the health care cost trend assumptions were also updated. A summary of the actuarial assumptions and methods used in this actuarial valuation are shown in Sections 5.2 and 5.3.

Governmental Accounting Standards Board (GASB) Statement No. 74 (GASB 74) is effective for PERS DCR beginning with fiscal year ending June 30, 2017, and a separate GASB 74 report as of June 30, 2017 has been prepared. Section 3 of this report contains accounting information previously disclosed under GASB 25 for fiscal years 2007 through 2013 and accounting information previously disclosed under GASB 43 for fiscal years 2007 through 2016.

This report was prepared under my supervision and in accordance with all applicable Actuarial Standards of Practice. David Kershner is a Fellow of the Society of Actuaries, an Enrolled Actuary and a Member of the American Academy of Actuaries. I meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinions contained herein.

I am available to discuss this report with you at your convenience. I can be reached at 602-803-6174.

Respectfully submitted,

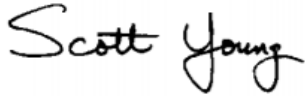
Conduent HR Consulting, LLC



David J. Kershner, FSA, EA, MAAA, FCA
Principal

Actuarial Section

The undersigned actuary is responsible for all assumptions related to the average annual per capita health claims cost and the health care cost trend rates, and hereby affirms his qualification to render opinions in such matters in accordance with the Qualification Standards of the American Academy of Actuaries.

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

Scott Young, FSA, EA, MAAA
Director

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The funding method used in this valuation was adopted by the Board in October 2006. The asset smoothing method used to determine valuation assets was implemented effective June 30, 2006.

Benefits valued are those delineated in Alaska State statutes as of the valuation date. Changes in State statutes effective after the valuation date are not taken into consideration in setting the assumptions and methods.

Valuation of Liabilities

A. Actuarial Method – Entry Age Normal Cost

Liabilities and contributions shown in the report are computed using the Entry Age Normal Actuarial Cost Method. Any funding surpluses or unfunded actuarial accrued liability is amortized over 25 years as a level percentage of expected payroll. However, in keeping with GASB requirements in effect when the plan was adopted, the net amortization period will not exceed 30 years. Under the new accounting standards (GASB 74 and 75), the GASB requirements will not directly control amortization periods used for funding of the plan.

Cost factors designed to produce annual costs as a constant percentage of each member's expected compensation in each year for death and disability benefits (constant dollar amount for retiree medical benefits), from the assumed entry age to the last age with a future benefit were applied to the projected benefits to determine the normal cost (the portion of the total cost of the Plan allocated to the current year under the method). The normal cost is determined by summing intermediate results for active members and determining an average normal cost rate which is then related to the total DCR Plan payroll of active members. The actuarial accrued liability for active members (the portion of the total cost of the Plan allocated to prior years under the method) was determined as the excess of the actuarial present value of projected benefits over the actuarial present value of future normal costs.

The actuarial accrued liability for beneficiaries and disabled members currently receiving benefits (if any) was determined as the actuarial present value of the benefits expected to be paid. No future normal costs are payable for these members.

The actuarial accrued liability under this method at any point in time is the theoretical amount of the fund that would have been accumulated had annual contributions equal to the normal cost been made in prior years (it does not represent the liability for benefits accrued to the valuation date). The unfunded actuarial accrued liability is the excess of the actuarial accrued liability over the actuarial value of plan assets measured on the valuation date.

Under this method, experience gains or losses, i.e., decreases or increases in accrued liabilities attributable to deviations in experience from the actuarial assumptions, adjust the unfunded actuarial accrued liability.

B. Valuation of Assets

Effective June 30, 2006, the asset valuation method recognizes 20% of the investment gain or loss in each of the current and preceding four years. This method was phased in over five years. Fair Value of Assets was \$0 as of June 30, 2006. All assets are valued at fair value. Assets are accounted for on an accrued basis and are taken directly from financial statements audited by KPMG LLP. Valuation assets are constrained to a range of 80% to 120% of the fair value of assets.

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C. Valuation of Retiree Medical and Prescription Drug Benefits

The methodology used for the valuation of the retiree medical benefits is described in Section 6.2 of the State of Alaska Public Employees' Retirement System Defined Benefit Plan Actuarial Valuation Report as of June 30, 2017.

Due to the lack of experience for the DCR retiree medical plan only, base claims costs are based on those described in the actuarial valuation as of June 30, 2017 for the Defined Benefit (DB) retiree medical plan covering TRS, PERS and others. The DB rates were used with some adjustments. The claims costs were adjusted to reflect the differences between the DCR medical plan and the DB medical plan. These differences include network steerage, different coverage levels, different Medicare coordination for medical benefits, and an indexing of the retiree out-of-pocket dollar amounts. To account for higher initial copays, deductibles and out-of-pocket limits, upcoming FY18 claims costs were reduced 2.1% for medical claims, and 10.4% for prescription drugs. In addition, to account for the difference in Medicare coordination, upcoming FY18 medical claims costs for Medicare eligible retirees were further reduced 29.3%. The medical and prescription drug percentages mentioned above were reduced 0.2% in each future year for the DCR medical benefits to reflect the fact that the medical benefit to be offered to DCR members will have annual indexing of member cost sharing features such as deductibles and out-of-pocket amounts.

No implicit subsidies are assumed. Employees projected to retire with 30 years of service (25 years of service for Peace/Fire) prior to Medicare are valued with commencement deferred to Medicare eligibility because those members will be required to pay the full plan premium prior to Medicare. Explicit subsidies for disabled and normal retirement are determined using the plan-defined percentages of age-related total projected plan costs, again with no implicit subsidy assumed.

The State intends to transition to an Employer Group Waiver Program (EGWP) for this group in 2019. That impact is reflected in the valuation, but not in the base cost rates for 2017 or 2018. We estimated the impact of the EGWP plan by offsetting an amount equal to 160% of the RDS amount (a one-time adjustment, trended at the rates shown in Section 5.3 thereafter) based upon Conduent HR Consulting's review last year of client and industry comparisons of subsidies under RDS and EGWP.

Because EGWP subsidies are dependent upon risk scores which have not previously been measured for the State retiree population, and because EGWP subsidies are highly leveraged, there is considerable uncertainty in the estimate.

The estimate of the impact of the EGWP arrangement is a somewhat conservative estimate based on our experience with other similar implementations. EGWP subsidies are provided by three mechanisms, a capitation amount, a discount on brand name drugs (provided by pharmaceutical manufacturers rather than the federal government but still through the administration of a pharmacy benefit manager), and catastrophic payment.

The greatest variation in our estimate comes from the capitation amount, which is dependent upon the risk score of the population. The risk score is a measure of how sick (or well) the population is, depending on such matters as age and diagnosis. The higher the risk score, the larger the capitation. On the other hand, the healthier the population, the lower the capitation. Relatively small variations in risk score result in large swings in the capitation. Employer retiree groups tend to be healthier than the Medicare population as a whole. Our 60% estimate is meant to be conservative and is based on typical employer groups. Once a vendor is selected for the 2019 implementation

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of the EGWP arrangement, we will review an updated estimate of EGWP subsidies from that vendor and update the next valuation accordingly.

D. Healthcare Reform

Healthcare Reform legislation passed on March 23, 2010 included several provisions with potential implications for the State of Alaska Retiree Health Plan liability. Conduent HR Consulting evaluated the impact due to these provisions; however, only the Patient Centered Outcomes Research Institute fee impact has been included in the valuation results as part of administrative fee.

Because the State plan is retiree-only, not all provisions are required. Unlimited lifetime benefits and dependent coverage to age 26 are two of these provisions. The adopted DCR plan does not place lifetime limits on benefits, but does restrict dependent child coverage.

The Plan will be subject to the high cost plan excise tax (Cadillac tax) and the value of the Health Reimbursement Account must be included along with projected plan costs. The excise tax was originally to be effective for 2018; legislation passed in December 2015 delayed it to 2020, with further delay to 2022 passed in January 2018. Based upon guidance available at the time of disclosure, Conduent HR Consulting determined the impact on plan liabilities to be immaterial (less than \$105,000 (0.10%)) based on a blend of projected pre-Medicare and Medicare retirees and related cost projections. Participants will be responsible for any tax to the extent they are reflected in retiree contributions.

The Tax Cuts and Jobs Act passed in December 2017 included the elimination of the individual mandate penalty and changed the inflation measure for purposes of determining the limits for the High Cost Excise Tax to use chained CPI. It is our understanding the law does not directly impact other provisions of the ACA. While the nullification of the ACA's individual mandate penalty does not directly impact employer group health plans, it could contribute to the destabilization of the individual market and increase the number of uninsured. Such destabilization could translate to increased costs for employers. We have considered this when setting our healthcare cost trend assumptions and will continue to monitor this issue.

We have not identified any other specific provisions of healthcare reform or its potential repeal that would be expected to have a significant impact on the measured obligation. While the House of Representatives voted to pass the American Health Care Act (AHCA), which would have repealed many provisions of the Affordable Care Act (ACA), the bill was rejected by the Senate. We will continue to monitor legislative activity.

E. Changes in Methods Since the Prior Valuation

There have been no changes in the asset or valuation methods since the prior valuation.

Actuarial Section

State of Alaska Public Employees' Retirement System Defined Contribution Retirement Plan Summary of Actuarial Assumptions and Changes in Assumptions

The demographic and economic assumptions used in the June 30, 2017 valuation are described below. Unless noted otherwise, these assumptions were adopted by the Board in December 2014. These assumptions were the result of an experience study performed for the PERS defined benefit plan as of June 30, 2013.

1. Investment Return / Discount Rate 8.00% per year (geometric), compounded annually, net of investment expenses.
2. Salary Scale Inflation – 3.12% per year. Productivity – 0.50% per year. See Table 1 for salary scale rates.
3. Payroll Growth 3.62% per year. (Inflation + Productivity).
4. Total Inflation Total inflation as measured by the Consumer Price Index for urban and clerical workers for Anchorage is assumed to increase 3.12% annually.
5. Mortality (Pre-termination)¹ Based upon the 2010-2013 actual mortality experience (see Table 2). 60% of male rates and 65% of female rates of the Post-Termination Mortality rates.

Deaths are assumed to be occupational 70% of the time for Peace Officer/Firefighter, 50% of the time for Others.
6. Mortality (Post-termination)¹ Based upon 2010-2013 actual mortality experience (see Table 3).

96% of all rates of the RP-2000 table, 2000 Base Year projected to 2018 with Projection Scale BB.
7. Total Turnover Rates based upon the 2010-2013 actual experience. (See Table 4.)
8. Disability Incidence rates based upon the 2010-2013 actual experience, in accordance with Table 5.

Post-disability mortality in accordance with the RP-2000 Disabled Retiree Mortality Table, 2000 Base Year projected to 2018 with Projection Scale BB.

Disabilities are assumed to be occupational 70% of the time for Peace Officer/Firefighter, 50% of the time for Others.

For Peace Officer/Firefighters, members are assumed to take the monthly annuity 100% of the time.
9. Retirement Retirement rates based upon the 2010-2013 actual experience in accordance with Table 6.
10. Marriage and Age Difference Wives are assumed to be three years younger than husbands. For Others, 75% of male members and 70% female members are assumed to be married. For Peace Officer/Firefighters, 85% of male members and 60% of female members are assumed to be married at termination from active service.

¹The mortality assumptions include an allowance for expected future mortality improvement. The mortality table used was set in 2014 with an Actual Deaths to Expected Deaths ratio of 109%.

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11. Part-Time Status Part-time employees are assumed to earn 1.00 years of credited service per year for Peace Officer/Firefighter and 0.65 years of credited service per year for Other members.
12. Peace Officer/Firefighter Occupational Disability Retirement Benefit Commencement The occupational disability retirement benefit is assumed to be first payable from the member’s DC account and the retirement benefit payable from the occupational death and disability trust will commence five years later.
13. Per Capita Claims Cost Sample claims cost rates (before base claims cost adjustments described below) adjusted to age 65 for FY18 medical and prescription drug are shown below:

	Medical	Prescription drugs
Pre-Medicare	\$ 13,682	\$ 3,493
Medicare Parts A & B	1,485	3,706
Medicare Part B Only	4,722	3,706
Medicare Part D	N/A	659

Members are assumed to attain Medicare eligibility at age 65.

14. Third Party Administrator Fees \$236 per person per year; assumed trend rate of 4% per year.
15. Base Claims Cost Adjustments Due to higher initial copays, deductibles, out-of-pocket limits and member cost sharing compared to the DB medical plan, the following cost adjustments are applied to the per capita claims cost rates above:
- 0.979 for the medical plan.
 - 0.686 for both the Medicare medical plan and Medicare coordination method (2.1% for the medical plan and 29.3% reduction for the coordination method).
 - 0.896 for the prescription drug plan.
16. Active Data Adjustment To reflect participants who terminate employment before the valuation date and are subsequently rehired after the valuation date, participants who are listed as terminated in the June 30 client data but active in the October 1 client records are updated to active status.

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17. Health Cost Trend

The table below shows the rate used to project the cost from the shown fiscal year to the next fiscal year. For example, 8.0% is applied to the FY18 pre-Medicare medical claims costs to get the FY19 medical claims costs.

<u>Fiscal year</u>	<u>Medical pre-65</u>	<u>Medical post-65</u>	<u>Prescription drugs</u>	<u>RDS / EGWP</u>
2018	8.0%	5.5%	9.0%	6.5%
2019	7.5	5.5	8.5	6.2
2020	7.0	5.4	8.0	6.0
2021	6.5	5.4	7.5	5.7
2022	6.3	5.4	7.1	5.5
2023	6.1	5.4	6.8	5.4
2024	5.9	5.4	6.4	5.2
2025	5.8	5.4	6.1	5.0
2026	5.6	5.4	5.7	4.8
2027-2040	5.4	5.4	5.4	4.7
2041	5.2	5.2	5.2	4.6
2042	5.1	5.1	5.1	4.5
2050	4.0	4.0	4.0	4.0

For the June 30, 2014 valuation and later, the updated Society of Actuaries' Healthcare Cost Trend Model is used to project medical and prescription drug costs. This model estimates trend amounts that are projected out for 80 years. The model has been populated with assumptions that are specific to the State of Alaska. The model was updated this year to use the newest version and incorporate recent trend survey information, which generated the updated trend rates shown above.

18. Aging Factors*

<u>Age</u>	<u>Medical</u>	<u>Prescription drugs</u>
0-44	2.0%	4.5%
45-54	2.5	3.5
55-64	3.5	3.0
65-74	4.0	1.5
75-84	1.5	0.5
85-95	0.5	—
96 +	—	—

* Note that the pre-65 factor represents the percentage increase from the ages noted to the next age. However, the post-65 factor represents the percentage decrease from the ages noted to the prior age. That is, 2.5% is used to adjust from 54 to 55, but 1.5% is used to adjust from age 84 back to age 83.

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19. Retiree Medical Participation

<u>Decrement due to disability</u>		<u>Decrement due to retirement</u>	
<u>Age</u>	<u>Percent participation</u>	<u>Age</u>	<u>Percent participation</u>
<56	73.00%	55	40.00%
56	77.50	56	50.00
57	79.75	57	55.00
58	82.00	58	60.00
59	84.25	59	65.00
60	86.50	60	70.00
61	88.75	61	75.00
62	91.00	62	80.00
63	93.25	63	85.00
64	95.50	64	90.00
65+	94.40	65+	<u>Years of Service</u>
			< 15
			15-19
			20-24
			25-29
			30+

Participation rates reflect the expected plan election rate that varies by reason for decrement, duration that a member may pay full cost prior to Medicare eligibility, and availability of alternative and/or lower cost options, particularly in the Medicare market. This assumption is based on observed trends in participation from a range of other plans.

20. Imputed Data

Data changes from the prior year which are deemed to have an immaterial impact on liabilities and contribution rates are assumed to be correct in the current year's client data. Nonvested terminations with appropriate refund dates are assumed to have received a full refund of contributions. Active members with missing salary and service are assumed to be terminated with status based on their vesting percentage.

21. Changes in Assumptions Since the Prior Valuation

The health care cost trend assumption was updated as shown above to reflect anticipated increases in costs based on recent survey data. Healthcare claim costs are updated annually as described in Section 5.2. Minor updates were made to the factors used to adjust the DB plan costs to reflect DCR plan design differences.

Actuarial Section

State of Alaska
Public Employees' Retirement System
Defined Contribution Retirement Plan
Summary of Actuarial Assumptions and Changes in Assumptions

Table 1
Alaska PERS DCR Plan
Salary Scale

Peace Officer/Firefighter:		Others:	
Years of Service	Percent Increase	Years of Service	Percent Increase
0	9.66%	0	8.55%
1	8.66	1	7.36
2	7.16	2	6.35
3	7.03	3	6.11
4	6.91	4	5.71
5	6.41	5+	Age based
6	5.66		
7+	4.92		

Age	Percent Increase	Age	Percent Increase
20	7.91%	45	5.44%
21	7.83	46	5.40
22	7.75	47	5.36
23	7.51	48	5.31
24	7.27	49	5.27
25	7.03	50	5.22
26	6.79	51	5.18
27	6.55	52	5.13
28	6.52	53	5.09
29	6.49	54	5.05
30	6.47	55	5.01
31	6.44	56	4.97
32	6.41	57	4.93
33	6.33	58	4.85
34	6.24	59	4.77
35	6.16	60	4.69
36	6.07	61	4.60
37	5.99	62	4.52
38	5.90	63	4.46
39	5.82	64	4.40
40	5.73	65+	4.34
41	5.64		
42	5.55		
43	5.52		
44	5.48		

State of Alaska
Public Employees' Retirement System
Defined Contribution Retirement Plan
Summary of Actuarial Assumptions and Changes in Assumptions

Table 2
Alaska PERS DCR Plan
Mortality Table (Pre-termination)

Age	Male	Female	Age	Male	Female
20	0.0188%	0.0113%	55	0.1978%	0.1549%
21	0.0195	0.0114	56	0.2292	0.1730
22	0.0200	0.0115	57	0.2515	0.1912
23	0.0204	0.0116	58	0.2775	0.2118
24	0.0205	0.0119	59	0.3073	0.2355
25	0.0205	0.0122	60	0.3425	0.2632
26	0.0206	0.0127	61	0.3826	0.2973
27	0.0208	0.0132	62	0.4287	0.3343
28	0.0214	0.0139	63	0.4813	0.3840
29	0.0225	0.0147	64	0.5324	0.4328
30	0.0242	0.0156	65	0.5904	0.4874
31	0.0272	0.0181	66	0.6558	0.5500
32	0.0307	0.0207	67	0.7184	0.6107
33	0.0344	0.0233	68	0.7842	0.6751
34	0.0383	0.0257	69	0.8689	0.7462
35	0.0422	0.0281	70	0.9744	0.8407
36	0.0459	0.0304	71	1.0782	0.9329
37	0.0493	0.0327	72	1.1971	1.0376
38	0.0526	0.0354	73	1.3334	1.1534
39	0.0557	0.0383	74	1.4876	1.2783
40	0.0589	0.0417	75	1.6602	1.4113
41	0.0623	0.0458	76	1.8504	1.5549
42	0.0663	0.0504	77	2.0583	1.7125
43	0.0709	0.0554	78	2.2872	1.8877
44	0.0762	0.0608	79	2.5419	2.0841
45	0.0823	0.0664	80	2.8245	2.3037
46	0.0882	0.0723	81	3.1612	2.5498
47	0.0946	0.0784	82	3.5318	2.8266
48	0.1015	0.0848	83	3.9369	3.1386
49	0.1089	0.0916	84	4.3784	3.4906
50	0.1167	0.0991	85	4.8601	3.8887
51	0.1336	0.1095	86	5.3884	4.3371
52	0.1455	0.1193	87	6.0797	4.8373
53	0.1591	0.1305	88	6.8537	5.3879
54	0.1744	0.1407	89	7.7135	5.9830
			90	8.6571	6.7336

Actuarial Section

State of Alaska
Public Employees' Retirement System
Defined Contribution Retirement Plan
Summary of Actuarial Assumptions and Changes in Assumptions

Table 3
Alaska PERS DCR Plan
Mortality Table (Post-termination)

Age	Male	Female	Age	Male	Female
50	0.1944%	0.1524%	85	8.1002%	5.9827%
51	0.2227	0.1684	86	8.9807	6.6725
52	0.2426	0.1835	87	10.1329	7.4420
53	0.2652	0.2007	88	11.4229	8.2891
54	0.2907	0.2165	89	12.8559	9.2046
55	0.3296	0.2383	90	14.4286	10.3593
56	0.3820	0.2662	91	16.0042	11.5847
57	0.4192	0.2942	92	17.6712	12.8589
58	0.4625	0.3259	93	19.4120	14.1591
59	0.5121	0.3623	94	21.2080	15.4643
60	0.5708	0.4050	95	23.0428	16.7558
61	0.6377	0.4574	96	24.9035	18.0154
62	0.7144	0.5143	97	26.7822	19.2248
63	0.8021	0.5908	98	28.1616	20.0025
64	0.8874	0.6658	99	30.0310	21.0437
65	0.9839	0.7498	100	31.3360	21.5967
66	1.0930	0.8462	101	33.2097	22.6721
67	1.1973	0.9396	102	34.4188	23.5671
68	1.3070	1.0386	103	36.1155	25.0844
69	1.4482	1.1479	104	36.9606	26.3111
70	1.6240	1.2933	105	38.1971	28.1391
71	1.7969	1.4352	106	38.4000	29.5499
72	1.9952	1.5964	107	38.4000	30.9816
73	2.2223	1.7744	108	38.4000	32.3943
74	2.4793	1.9666	109	38.4000	33.7482
75	2.7670	2.1712	110	38.4000	35.0032
76	3.0840	2.3921	111	38.4000	36.1196
77	3.4305	2.6346	112	38.4000	37.0574
78	3.8120	2.9042	113	38.4000	37.7767
79	4.2365	3.2063	114	38.4000	38.2376
80	4.7075	3.5441	115	38.4000	38.4000
81	5.2687	3.9227	116	38.4000	38.4000
82	5.8863	4.3487	117	38.4000	38.4000
83	6.5615	4.8286	118	38.4000	38.4000
84	7.2973	5.3702	119	100.0000	100.0000

State of Alaska
Public Employees' Retirement System
Defined Contribution Retirement Plan
Summary of Actuarial Assumptions and Changes in Assumptions

Table 4
Alaska PERS DCR Plan
Turnover Assumptions

Peace Officer/Firefighter:

Select Rates of Turnover During the First 5 Years of Employment

Years of Service	Male (rounded)	Female (rounded)
0	18.00%	16.50%
1	13.50	13.20
2	10.00	11.00
3	9.00	9.90
4	8.00	8.80

Ultimate Rates of Turnover After the First 5 Years of Employment

Age	Male	Female	Age	Male	Female
20	4.8000%	8.5500%	45	4.9678%	7.8800%
21	4.8000	8.5500	46	4.9061	7.8400
22	4.8000	8.5500	47	4.8444	7.8000
23	4.9120	8.5500	48	5.2256	7.7400
24	5.0240	8.5500	49	5.6067	7.6800
25	5.1360	8.5500	50	5.9878	7.6200
26	5.2480	8.5500	51	6.3689	7.5600
27	5.3600	8.5500	52	6.7500	7.5000
28	5.3528	8.5275	53	6.9300	7.6154
29	5.3456	8.5050	54	7.1100	7.7308
30	5.3384	8.4825	55	7.2900	7.8462
31	5.3312	8.4600	56	7.4700	7.9615
32	5.3239	8.4375	57	7.6500	8.0769
33	5.3119	8.4214	58	7.8480	8.1923
34	5.2998	8.4054	59	8.0460	8.3077
35	5.2878	8.3893	60	8.2440	8.4231
36	5.2757	8.3732	61	8.4420	8.5385
37	5.2636	8.3571	62	8.6400	8.6538
38	5.2415	8.2857	63	10.7600	8.7692
39	5.2194	8.2143	64	12.8800	8.8846
40	5.1972	8.1429	65+	15.0000	9.0000
41	5.1751	8.0714			
42	5.1529	8.0000			
43	5.0912	7.9600			
44	5.0295	7.9200			

Actuarial Section

State of Alaska
Public Employees' Retirement System
Defined Contribution Retirement Plan
Summary of Actuarial Assumptions and Changes in Assumptions

Table 5
Alaska PERS DCR Plan
Disability Table

Age	Peace Officer/ Firefighter Rate	Other Member Rate	
		Male	Female
20	0.0224%	0.0218%	0.0188%
21	0.0224	0.0218	0.0188
22	0.0224	0.0218	0.0188
23	0.0305	0.0240	0.0200
24	0.0387	0.0261	0.0212
25	0.0468	0.0283	0.0224
26	0.0550	0.0304	0.0236
27	0.0631	0.0326	0.0248
28	0.0658	0.0334	0.0255
29	0.0685	0.0342	0.0262
30	0.0712	0.0349	0.0269
31	0.0739	0.0357	0.0277
32	0.0765	0.0365	0.0284
33	0.0793	0.0377	0.0293
34	0.0821	0.0389	0.0303
35	0.0849	0.0401	0.0312
36	0.0877	0.0413	0.0322
37	0.0905	0.0425	0.0331
38	0.0946	0.0446	0.0348
39	0.0986	0.0467	0.0364
40	0.1027	0.0489	0.0381
41	0.1068	0.0510	0.0397
42	0.1108	0.0531	0.0413
43	0.1221	0.0586	0.0454
44	0.1333	0.0641	0.0495
45	0.1446	0.0695	0.0536
46	0.1559	0.0750	0.0577
47	0.1671	0.0805	0.0618
48	0.1828	0.0886	0.0680
49	0.1985	0.0967	0.0742
50	0.2142	0.1048	0.0804
51	0.2299	0.1129	0.0867
52	0.2456	0.1210	0.0929
53	0.2868	0.1421	0.1084
54	0.3280	0.1633	0.1239

State of Alaska
Public Employees' Retirement System
Defined Contribution Retirement Plan
Summary of Actuarial Assumptions and Changes in Assumptions

Table 6
Alaska PERS DCR Plan
Retirement Table

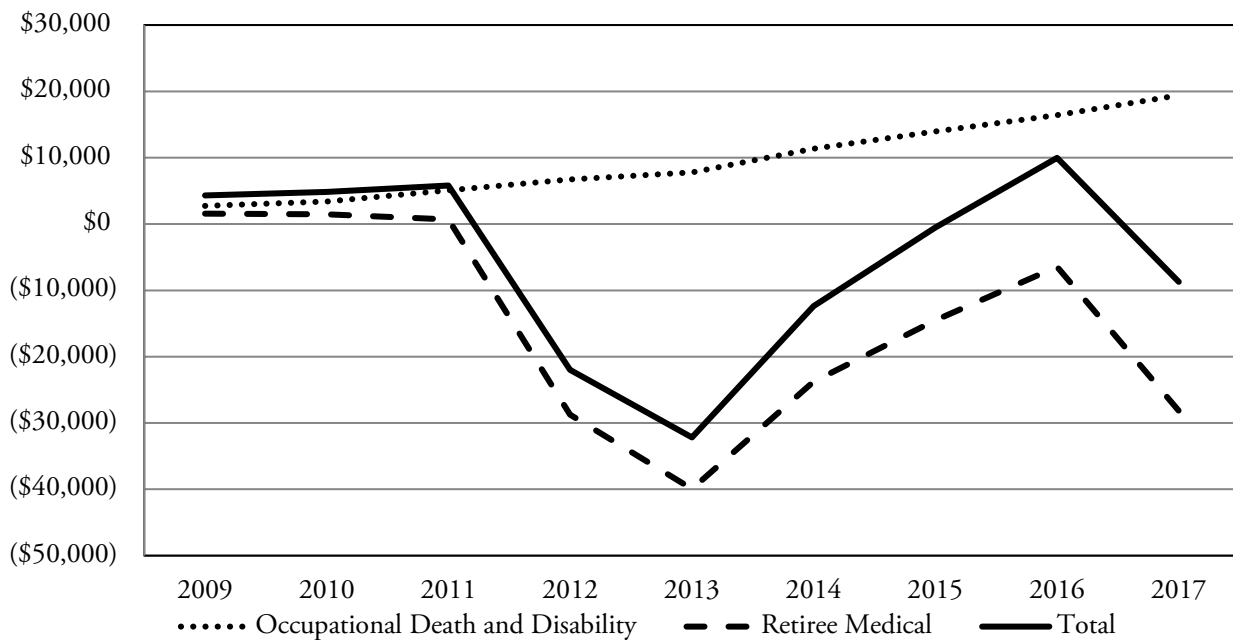
Age	Rate
≤ 50	2.00%
51	2.00
52	2.00
53	2.00
54	2.00
55	3.00
56	3.00
57	3.00
58	3.00
59	3.00
60	5.00
61	5.00
62	10.00
63	5.00
64	5.00
65	25.00
66	25.00
67	25.00
68	20.00
69	20.00
70	100.00

Actuarial Section

**Public Employees' Retirement System
Defined Contribution Retirement Plan
Occupational Death and Disability and Retiree Medical Benefits
Funding Excess/(Unfunded Liability)
(In thousands)**

Actuarial Valuation Year Ended June 30	Occupational Death and Disability	Retiree Medical	Total Funding Excess/(Unfunded Liability)	Funded Ratio
2009	\$ 2,735	\$ 1,562	\$ 4,297	199.6%
2010	3,386	1,460	4,846	171.1
2011	5,100	707	5,807	143.8
2012	6,730	(28,736)	(22,006)	53.1
2013	7,770	(39,946)	(32,176)	49.6
2014	11,368	(23,751)	(12,383)	77.0
2015	13,965	(14,495)	(530)	99.2
2016	16,413	(6,438)	9,975	112.9
2017	19,404	(28,144)	(8,740)	92.5

**9-YEAR TREND OF FUNDING EXCESS/(UNFUNDED) LIABILITY
(In thousands)**



Public Employees' Retirement System Defined Contribution Retirement Plan Occupational Death and Disability and Retiree Medical Benefits Employer Contribution Rates						
Fiscal Year	Actuarial Valuation Year Ended June 30	Actuarially Determined				Adopted
		Occupational Death and Disability		Retiree Medical	Total Required	
		Peace Officer/Firefighter	All Others			
2011	2008	1.18%	0.31%	0.55%	2.04%	2.04%
2012	2009	0.97	0.11	0.51	1.59	1.59
2013	2010	0.99	0.14	0.48	1.61	1.61
2014	2011	1.14	0.20	0.48	1.74	1.74
2015	2012	1.06	0.22	1.66	2.94	2.94
2016	2013	1.05	0.22	1.68	2.95	2.95
2017	2014	0.49	0.17	1.18	1.84	1.84
2018	2015	0.43	0.16	1.03	1.62	1.62
2019	2016	0.76	0.26	0.94	1.96	1.96
2020	2017	0.72	0.26	1.32	2.30	2.30

Valuations are used to set contribution rates in future years.

Actuarial Section

Public Employees' Retirement System Defined Contribution Retirement Plan Occupational Death and Disability and Retiree Medical Benefits Schedule of Active Member Valuation Data					
Valuation Date	Number	Annual Earnings (In thousands)	Annual Average Earnings	Percent Increase/ (Decrease) in Average Earnings	Number of Participating Employers
June 30, 2017	19,171	\$ 1,112,398	\$ 58,025	1.5%	157
June 30, 2016	18,215	1,041,437	57,175	3.4	157
June 30, 2015	17,098	945,496	55,299	1.9	159
June 30, 2014	15,800	857,150	54,250	3.7	159
June 30, 2013	14,316	748,658	52,295	4.7	159
June 30, 2012	12,597	629,128	49,943	4.5	160
June 30, 2011	10,965	524,088	47,796	4.8	160
June 30, 2010	9,232	421,187	45,622	5.4	160
June 30, 2009	7,256	314,118	43,291	7.2	160
June 30, 2008	5,052	203,955	40,371	8.1	159
Total and average annual earnings ("valuation pay") are the annualized earnings for the fiscal year ending on the valuation date.					

Public Employees' Retirement System Defined Contribution Retirement Plan Occupational Death and Disability Solvency Test (In thousands)							
Valuation Date	Occupational Death and Disability Actuarial Accrued Liability For:			Occupational Death and Disability Valuation Assets	Portion of Actuarial Accrued Liability Covered by Assets:		
	(1) Active Member Contributions	(2) Inactive Members	(3) Active Members (Employer-Financed Portion)		(1)	(2)	(3)
June 30, 2016	\$ —	\$ —	\$ 6,763	\$ 23,176	100.0%	100.0%	100.0%
June 30, 2015	—	—	5,049	19,014	100.0	100.0	100.0
June 30, 2014 ¹	—	—	3,627	14,995	100.0	100.0	100.0
June 30, 2013	—	—	3,603	11,373	100.0	100.0	100.0
June 30, 2012	—	—	2,412	9,142	100.0	100.0	100.0
June 30, 2011	—	—	1,949	7,049	100.0	100.0	100.0
June 30, 2010 ¹	—	—	853	4,801	100.0	100.0	100.0
June 30, 2009 ¹	—	—	403	3,138	100.0	100.0	100.0
June 30, 2008	—	—	242	1,288	100.0	100.0	100.0
June 30, 2007	—	—	48	188	100.0	100.0	100.0
¹ Change in Assumptions							

Actuarial Section

Public Employees' Retirement System Defined Contribution Retirement Plan Retiree Medical Solvency Test (In thousands)							
Valuation Date	Retiree Medical Actuarial Accrued Liability For:			Retiree Medical Valuation Assets	Portion of Actuarial Accrued Liability Covered by Assets:		
	(1) Active Member Contributions	(2) Inactive Members	(3) Active Members (Employer-Financed Portion)		(1)	(2)	(3)
June 30, 2016	\$ —	\$ —	\$ 70,289	\$ 63,851	100.0%	100.0%	90.8%
June 30, 2015	—	—	58,683	44,188	100.0	100.0	75.3
June 30, 2014 ¹	—	—	50,217	26,466	100.0	100.0	52.7
June 30, 2013	—	—	60,282	20,336	100.0	100.0	33.7
June 30, 2012 ¹	—	—	44,509	15,773	100.0	100.0	35.4
June 30, 2011	—	—	11,302	12,009	100.0	100.0	100.0
June 30, 2010 ¹	—	—	7,185	8,767	100.0	100.0	100.0
June 30, 2009 ¹	—	—	3,913	5,475	100.0	100.0	100.0
June 30, 2008 ¹	—	—	1,776	2,719	100.0	100.0	100.0
June 30, 2007	—	—	711	1,067	100.0	100.0	100.0

Retiree medical liabilities are calculated using the funding assumptions (i.e., funding investment return and net of Medicare Part D subsidy).

¹ Change in Assumptions

State of Alaska
Public Employees' Retirement System
Defined Contribution Retirement Plan
Summary of Plan Provisions and Changes in Plan Provisions

1. Effective Date

July 1, 2006, with amendments through June 30, 2017.

2. Administration of Plan

The Commissioner of Administration or the Commissioner's designee is the administrator of the Plan. The Attorney General of the state is the legal counsel for the Plan and shall advise the administrator and represent the Plan in legal proceedings.

The Alaska Retirement Management Board prescribes policies, adopts regulations, invests the funds, and performs other activities necessary to carry out the provisions of the Plan.

3. Employers Included

Currently there are 157 employers participating in the PERS DCR Plan, including the State of Alaska, and 156 political subdivisions and public organizations.

4. Membership

An employee of a participating employer who first enters service on or after July 1, 2006, or a member of the defined benefit plan who works for an employer who began participation on or after July 1, 2006, and meets the following criteria is a member in the Plan:

- Permanent full-time or part-time employees of the State of Alaska, participating political subdivisions or public organizations. An employee must be regularly scheduled to work 30 or more hours per week to be considered full-time by the PERS. An employee must be regularly scheduled to work 15 or more hours per week but less than 30 hours to be considered a part-time employee for PERS purposes.
- Elected state officials.
- Elected municipal officials who are compensated and receive at least \$2,001.00 per month.

Members can convert to the PERS DCR if they are an eligible non-vested member of the PERS defined benefit plan whose employer consents to transfers to the defined contribution plan and they elect to transfer his or her account balance to PERS DCR.

5. Member Contributions

Other than the member-paid premiums discussed later in this section, there are no member contributions for the occupational death & disability and retiree medical benefits.

State of Alaska
Public Employees' Retirement System
Defined Contribution Retirement Plan
Summary of Plan Provisions and Changes in Plan Provisions

6. Retiree Medical Benefits

- Member must retire directly from the plan to be eligible for retiree medical coverage. Normal retirement eligibility is the earlier of a) 25 years of service as a peace officer or firefighter and 30 years of service for any other employee or b) Medicare eligible and 10 years of service.
- No subsidized retiree medical benefits are provided until normal retirement eligibility. The member's and any covered dependent premium is 100% until the member is Medicare eligible. Upon the member's Medicare-eligibility, the required contribution will follow the service based schedule shown below.
- Coverage cannot be denied except for failure to pay premium.
- Members who are receiving disability benefits or survivors who are receiving monthly survivor benefits are not eligible until the member meets, or would have met if he/she had lived, the normal retirement eligibility requirements.
- The following is a summary of the medical benefit design adopted in July 2016. The plan description below is used for valuation purposes and indicates participant cost-sharing. Please refer to the benefit handbook for more details.

Plan Design Feature	In-Network⁽¹⁾	Out-of-Network⁽¹⁾⁽²⁾
Deductible (single/family)	\$300 / \$600	\$300 / \$600
Medical services (participant share)	20%	40%
Emergency Room Copay (non-emergent use)	\$100	\$100
Medical Out-of-Pocket Maximum (single/family, after deductible)	\$1,200 / \$2,400	\$2,400 / \$4,800
Medicare Coordination	Exclusion	Exclusion
Pharmacy	No Deductible	No Deductible
Retail Generic (per 30-day fill)	20% \$10 min / \$50 max	
Retail Non-Formulary Brand (per 30-day fill)	25% \$25 min / \$75 max	40%
Retail Formulary Brand (per 30-day fill)	35% \$80 min / \$150 max	
Mail-Order Generic	\$20 copay	
Mail-Order Non-Formulary Brand	\$50 copay	40%
Mail-Order Formulary Brand	\$100 copay	
Pharmacy Out-of-Pocket Max (single/family)	\$1,000 / \$2,000	\$1,000 / \$2,000
Medicare Pharmacy Arrangement	Retiree Drug Subsidy / Employer Group Waiver Plan Effective 1/1/2019	
Wellness/Preventative	100%, Not subject to deductible	

⁽¹⁾ Assumed to increase annually to mitigate impact of healthcare cost trend

⁽²⁾ OON applies only to non-Medicare eligible participants.

State of Alaska
Public Employees’ Retirement System
Defined Contribution Retirement Plan
Summary of Plan Provisions and Changes in Plan Provisions

- Conduent HR Consulting used its manual rate models to determine relative plan values for the defined benefit (DB) retiree medical plan and the adopted DCR retiree medical plan outlined above. We applied the ratio of the DCR retiree health plan value to the DB retiree health plan value to the per capita costs determined for each of pre/post-Medicare medical and pharmacy benefits to estimate corresponding values for the adopted DCR retiree medical plan design. These factors are noted in Section 5.3. We further adjusted the Medicare medical manual rate to reflect the Medicare coordination method adopted. The RDS subsidy offset in 2019 was increased by 60% to reflect estimated Medicare reimbursements under the Employer Group Waiver Plan (EGWP) arrangement. We reflect estimated discounts and pharmacy rebates in the defined benefit medical cost assumptions so no further adjustment was needed for the DCR medical plan. The medical network differential is reflected in the relative plan value adjustments.
- The retiree medical plan’s coverage is supplemental to Medicare. Medicare coordination is described in the 2016 DCR Plan Handbook, referred to in the industry as exclusion coordination: Medicare payment is deducted from the Medicare allowable expense and plan parameters are applied to the remaining amount. Starting in 2019, the prescription drug coverage will be through a Medicare Part D EGWP arrangement.
- The premium for Medicare-eligible retirees will be based on the member’s years of service. The percentage of premium paid by the member is as follows:

<u>Years of Service</u>	<u>Percent of Premium Paid by Member</u>
Less than 15 years	30%
15 – 19	25
20 – 24	20
25 – 29	15
30 years or more	10

- The premium for dependents who are not eligible for Medicare aligns with the member’s subsidy. While a member is not Medicare-eligible, premiums are 100% of the estimated cost. As per discussion with the State, reflects our understanding of statute regarding retiree contribution requirements and employer subsidies.
- Members have a separate defined contribution Health Reimbursement Arrangement account, which is not reflected in this valuation, that can be used to pay for premiums or other medical expenses.
- For valuation purposes, retiree premiums were assumed to equal the percentages outlined in the table above times the age-related plan costs. Future premiums calculated and charged to DCR participants will need to be determined reflecting any appropriate adjustments to the defined benefit (DB) plan data because current DB premiums were determined using information based upon enrollment with dual coverage members.
- Coverage will continue for surviving spouses of covered retired members.

7. Occupational Disability Benefits

- Benefit is 40% of salary at date of disability.

State of Alaska
Public Employees' Retirement System
Defined Contribution Retirement Plan
Summary of Plan Provisions and Changes in Plan Provisions

- For Peace Officer and Firefighters there is a Disability Benefit Adjustment such that:
 - The disability benefit is increased by 75% of the cost of living increase in the preceding calendar year or 9%, whichever is less.
 - At the time the disabled member retires, the retirement benefit will be increased by a percentage equal to the total cumulative percentage that has been applied to the disability benefit. Monthly annuity payments are made from the member's contribution balance until the fund is exhausted, at which the plan pays all remaining payments.
- For Others, there is no increase in the occupational disability benefit after commencement.
- Benefits cease when the member becomes eligible for normal retirement at Medicare-eligible age and 10 years of service, or at any age with 30 years of service for Others members or 25 years of service for Peace Officer/Firefighter members.
- Benefits cease when the member becomes eligible for normal retirement at Medicare-eligible age and 10 years of service, or at any age with 30 years of service for Others members or 25 years of service for Peace Officer/Firefighter members.
- Peace Officer/Firefighter members may select that defined contribution account or monthly benefit payable as if they were retiring under Tier 3 (service continues during disability, final average salary is as of date of disability).
- No subsidized retiree medical benefits are provided until normal retirement eligibility. The member's premium is 100% of the estimated cost until they are Medicare eligible. Medicare-eligible premiums follow the service-based schedule above.

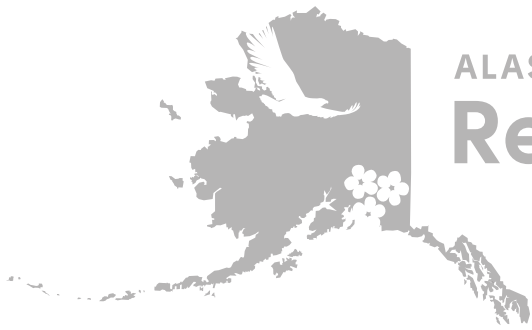
8. Occupational Death Benefits

- Benefit is 40% of salary for Others members and 50% of salary for Peace Officer/Firefighter members.
- Survivor's Pension Adjustment: A survivor's pension is increased by 50% of the cost of living increase in the preceding calendar year or 6%, whichever is less, if the recipient is at least age 60 on July 1, or under age 60 if the recipient has been receiving PERS benefits for at least 5 years as of July 1.
- Benefits cease when the member would have become eligible for normal retirement.
- The period during which the survivor is receiving benefits is counted as service credit toward retiree medical benefits.
- No subsidized retiree medical benefits are provided until the member would have been eligible for normal retirement. The surviving spouse's premium is 100% of the estimated cost until the member would have been Medicare eligible. Medicare-eligible premiums follow the service-based schedule above.

State of Alaska
Public Employees' Retirement System
Defined Contribution Retirement Plan
Summary of Plan Provisions and Changes in Plan Provisions

9. Changes Since the Prior Valuation

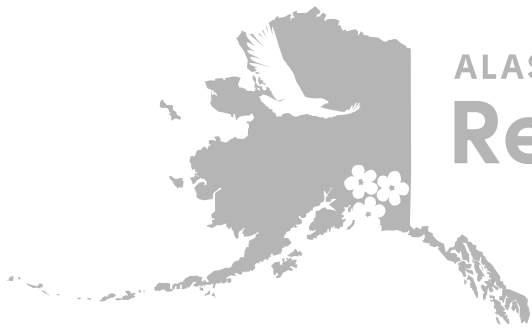
- There have been no changes in PERS DCR benefit provisions since the prior valuation other than the State's decision to defer the EGWP implementation date from January 1, 2018 to January 1, 2019.



ALASKA DIVISION OF
**Retirement
and Benefits**



STATISTICAL SECTION



ALASKA DIVISION OF
**Retirement
and Benefits**

STATISTICAL SECTION OVERVIEW

The statistical section of the Public Employees’ Retirement System (System) comprehensive annual financial report provides additional detail in the form of financial trends, operating statistics and demographic information. This data is provided to enhance the reader’s understanding of the System.

Financial Trends 174-180

These schedules contain financial trend information utilizing a multi-year presentation so the reader can better understand how the System’s financial performance has changed over time. Financial information is presented on an accrual basis.

Operating Information 181-194

These schedules contain detailed benefit payment information to provide the reader a better understanding of the pension benefits provided by the Division.

Demographic Information..... 195-199

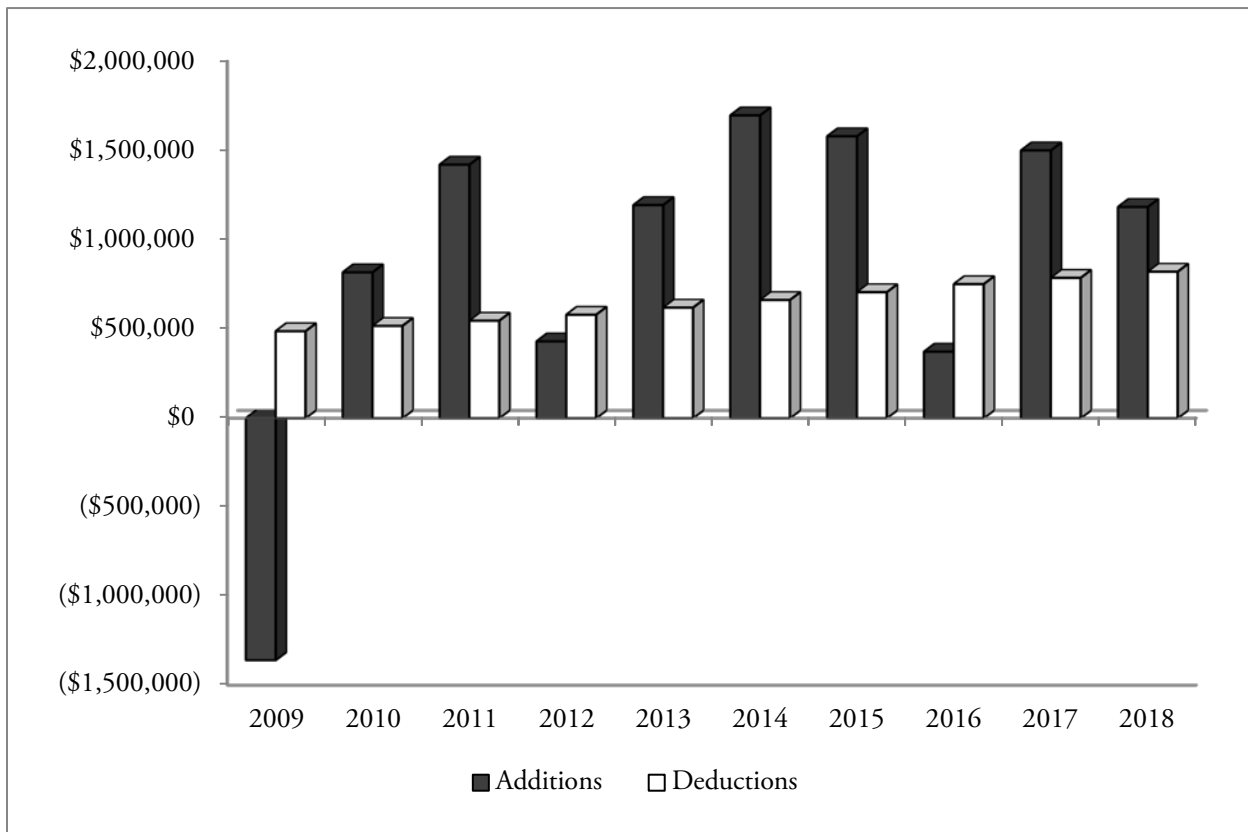
These schedules contain detailed demographic data to provide the reader a better understanding of the membership and employer participation in the System.

Statistical Section

Public Employees' Retirement System Defined Benefit Pension Changes in Fiduciary Net Position (In thousands)

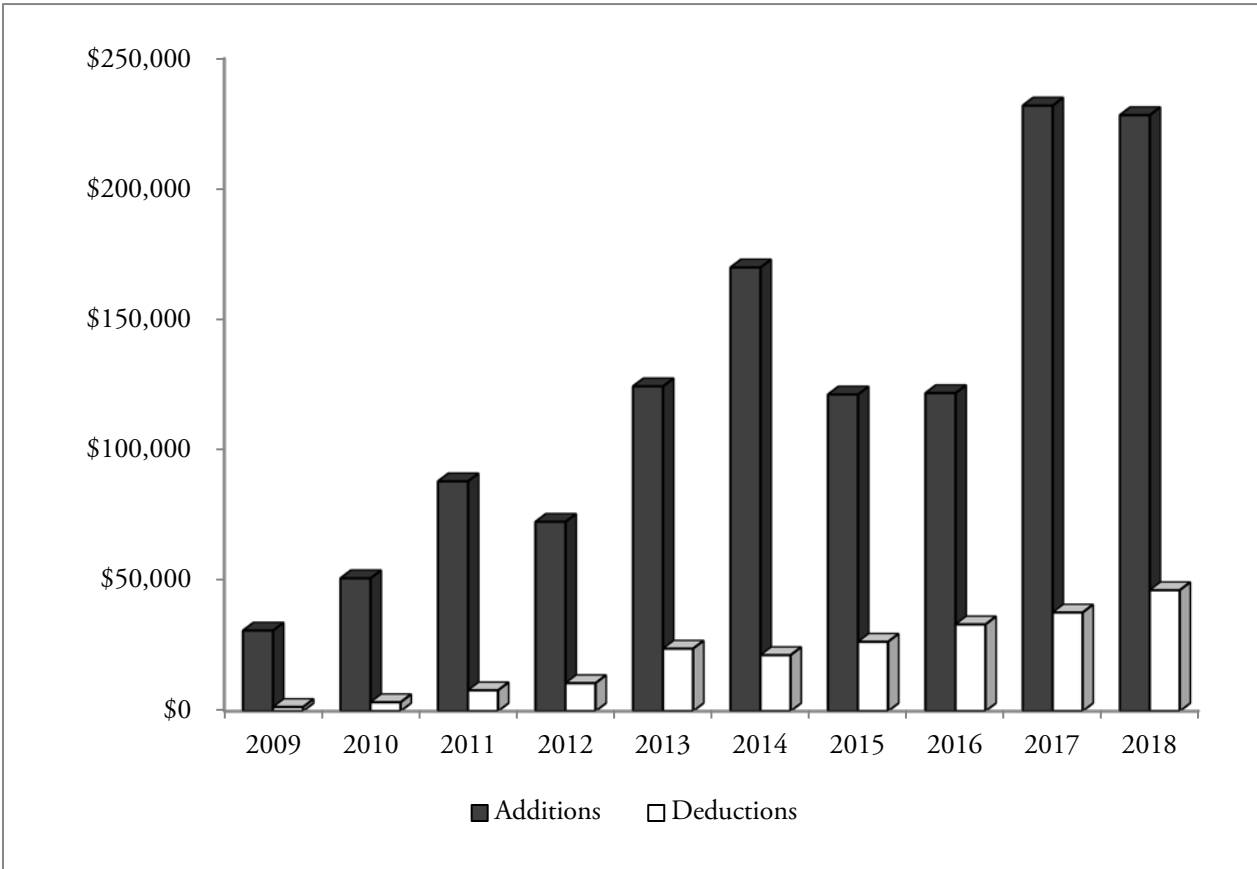
Year Ended June 30	Fiduciary Net Position, Beginning of Year	Additions	Deductions	Increase / (Decrease) in Fiduciary Net Position	Fiduciary Net Position, End of Year
2009	\$ 6,935,808	\$ (1,360,217)	\$ 485,151	\$ (1,845,368)	\$ 5,090,440
2010	5,090,440	815,831	514,744	301,087	5,391,527
2011	5,391,527	1,420,342	543,944	876,398	6,267,925
2012	6,267,925	427,995	577,626	(149,631)	6,118,294
2013	6,118,294	1,193,555	617,367	576,188	6,694,482
2014	6,694,482	1,697,096	660,140	1,036,956	7,731,438
2015	7,731,438	1,579,519	704,095	875,424	8,606,862
2016	8,606,862	370,243	749,418	(379,175)	8,227,687
2017	8,227,687	1,500,153	784,713	715,440	8,943,127
2018	8,943,127	1,182,675	819,127	363,548	9,306,675

10-YEAR COMPARISON OF ADDITIONS AND DEDUCTIONS
(In thousands)



Public Employees' Retirement System Defined Contribution Retirement Participant Directed Changes in Fiduciary Net Position (In thousands)					
Year Ended June 30	Fiduciary Net Position, Beginning of Year	Additions	Deductions	Increase / (Decrease) in Fiduciary Net Position	Fiduciary Net Position, End of Year
2009	\$ 26,687	\$ 30,856	\$ 1,532	\$ 29,324	\$ 56,011
2010	56,011	50,908	3,364	47,544	103,555
2011	103,555	88,084	7,937	80,147	183,702
2012	183,702	72,561	10,692	61,869	245,571
2013	245,571	124,464	23,917	100,547	346,118
2014	346,118	169,983	21,428	148,555	494,673
2015	494,673	121,343	26,554	94,789	589,462
2016	589,462	121,871	33,215	88,656	678,118
2017	678,118	231,977	37,774	194,203	872,321
2018	872,321	228,316	46,343	181,973	1,054,294

10-YEAR COMPARISON OF ADDITIONS AND DEDUCTIONS
(In thousands)

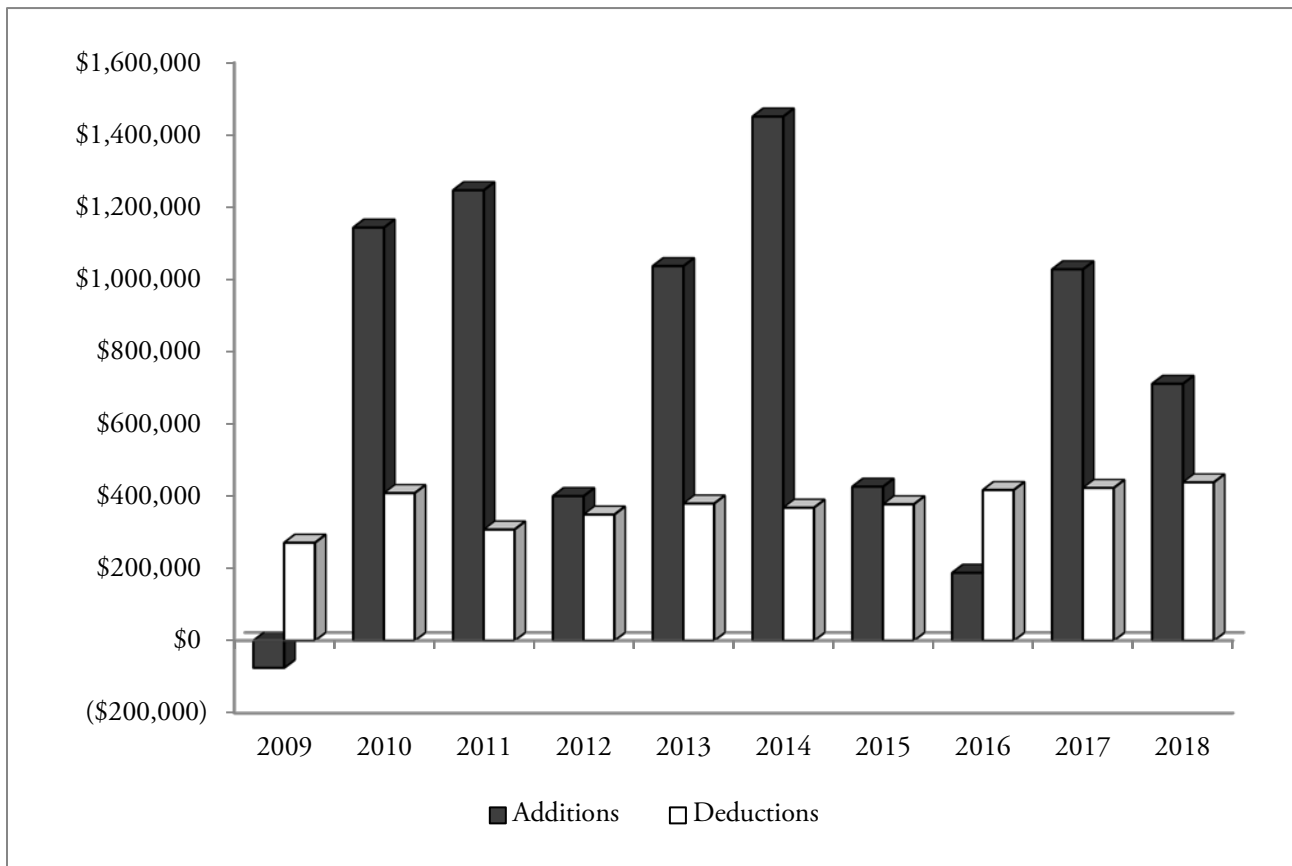


Statistical Section

Public Employees' Retirement System Defined Benefit Alaska Retiree Healthcare Trust Changes in Fiduciary Net Position (In thousands)

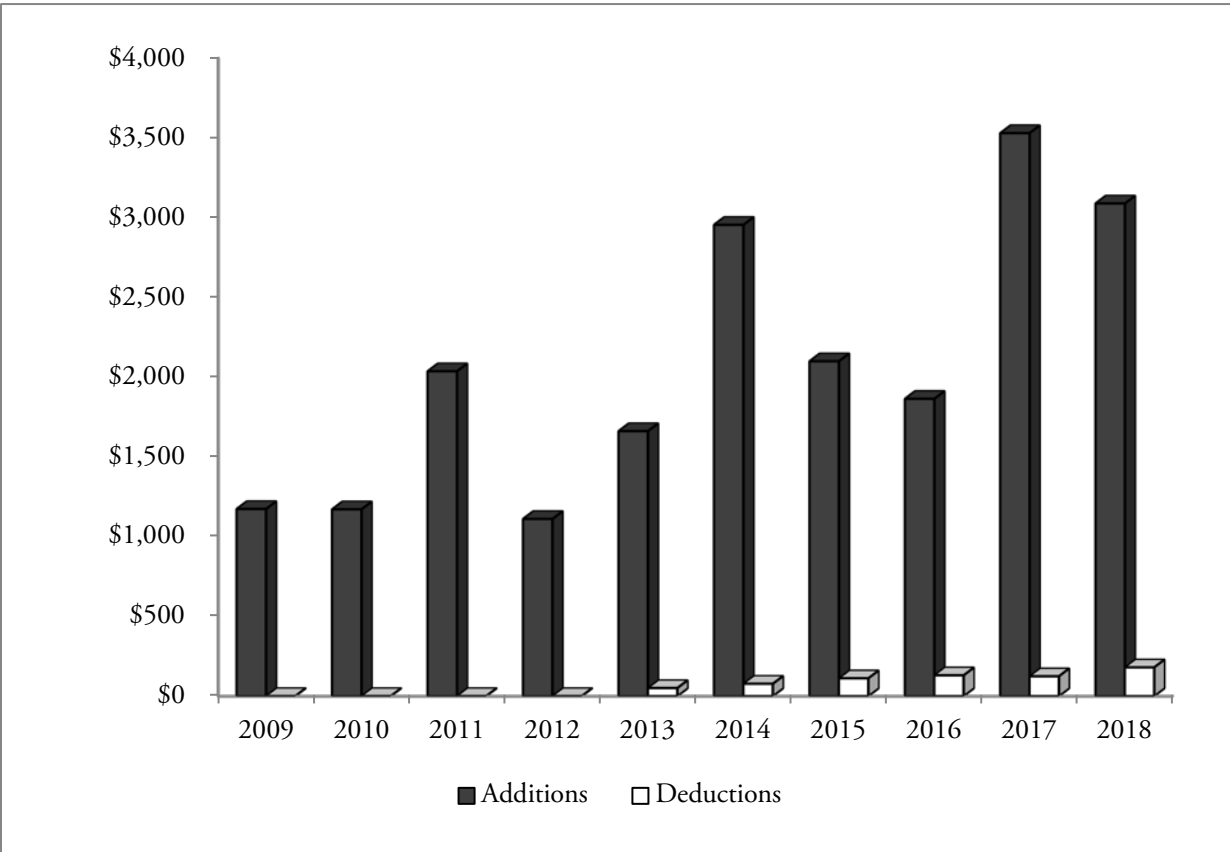
Year Ended June 30	Fiduciary Net Position, Beginning of Year	Additions	Deductions	Increase / (Decrease) in Fiduciary Net Position	Fiduciary Net Position, End of Year
2009	\$ 3,791,105	\$ (75,318)	\$ 270,412	\$ (345,730)	\$ 3,445,375
2010	3,445,375	1,143,261	407,555	735,706	4,181,081
2011	4,181,081	1,246,616	307,002	939,614	5,120,695
2012	5,120,695	399,273	348,152	51,120	5,171,816
2013	5,171,816	1,036,394	378,639	657,755	5,829,571
2014	5,829,571	1,450,755	367,166	1,083,589	6,913,160
2015	6,913,160	425,380	376,577	48,803	6,961,963
2016	6,961,963	187,309	416,018	(228,709)	6,733,254
2017	6,733,254	1,027,530	421,832	605,698	7,338,952
2018	7,338,952	710,412	437,363	273,049	7,612,001

10-YEAR COMPARISON OF ADDITIONS AND DEDUCTIONS
(In thousands)



Public Employees' Retirement System Defined Contribution Retirement Occupational Death & Disability - All Other Changes in Fiduciary Net Position (In thousands)					
Year Ended June 30	Fiduciary Net Position, Beginning of Year	Additions	Deductions	Increase / (Decrease) in Fiduciary Net Position	Fiduciary Net Position, End of Year
2009	\$ 973	\$ 1,173	\$ —	\$ 1,173	\$ 2,146
2010	2,146	1,171	—	1,171	3,317
2011	3,317	2,034	—	2,034	5,351
2012	5,351	1,111	—	1,111	6,462
2013	6,462	1,662	50	1,612	8,074
2014	8,074	2,954	77	2,877	10,951
2015	10,951	2,097	111	1,986	12,937
2016	12,937	1,865	130	1,735	14,672
2017	14,672	3,530	124	3,406	18,078
2018	18,078	3,088	180	2,908	20,986

10-YEAR COMPARISON OF ADDITIONS AND DEDUCTIONS
(In thousands)

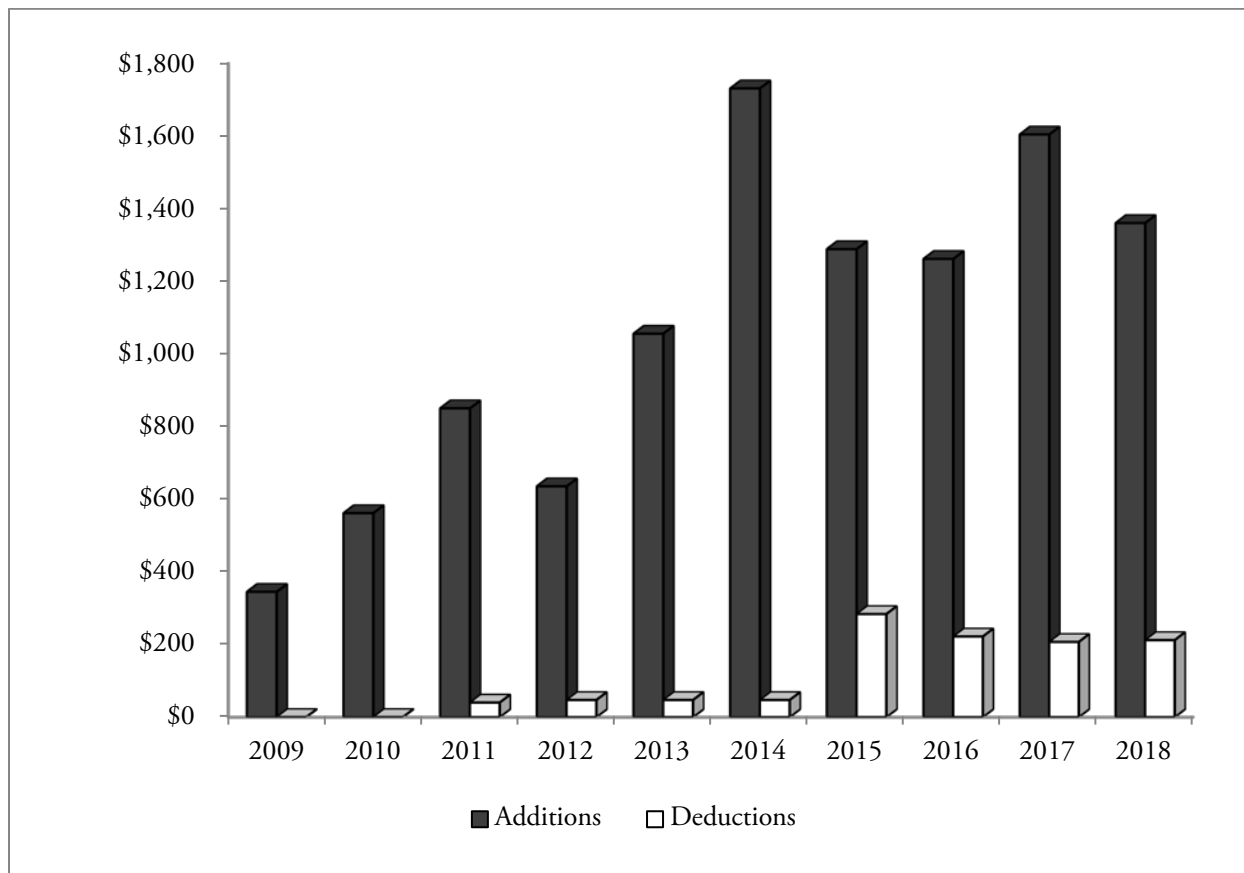


Statistical Section

Public Employees' Retirement System Defined Contribution Retirement Occupational Death & Disability - Peace Officers & Firefighters Changes in Fiduciary Net Position (In thousands)					
Year Ended June 30	Fiduciary Net Position, Beginning of Year	Additions	Deductions	Increase / (Decrease) in Fiduciary Net Position	Fiduciary Net Position, End of Year
2009	\$ 232	\$ 345	\$ —	\$ 345	\$ 577
2010	577	562	—	562	1,139
2011	1,139	851	40	811	1,950
2012	1,950	636	47	590	2,539
2013	2,539	1,055	47	1,008	3,547
2014	3,547	1,731	47	1,684	5,231
2015	5,231	1,288	284	1,004	6,235
2016	6,235	1,261	222	1,039	7,274
2017	7,274	1,604	207	1,397	8,671
2018	8,671	1,360	212	1,148	9,819

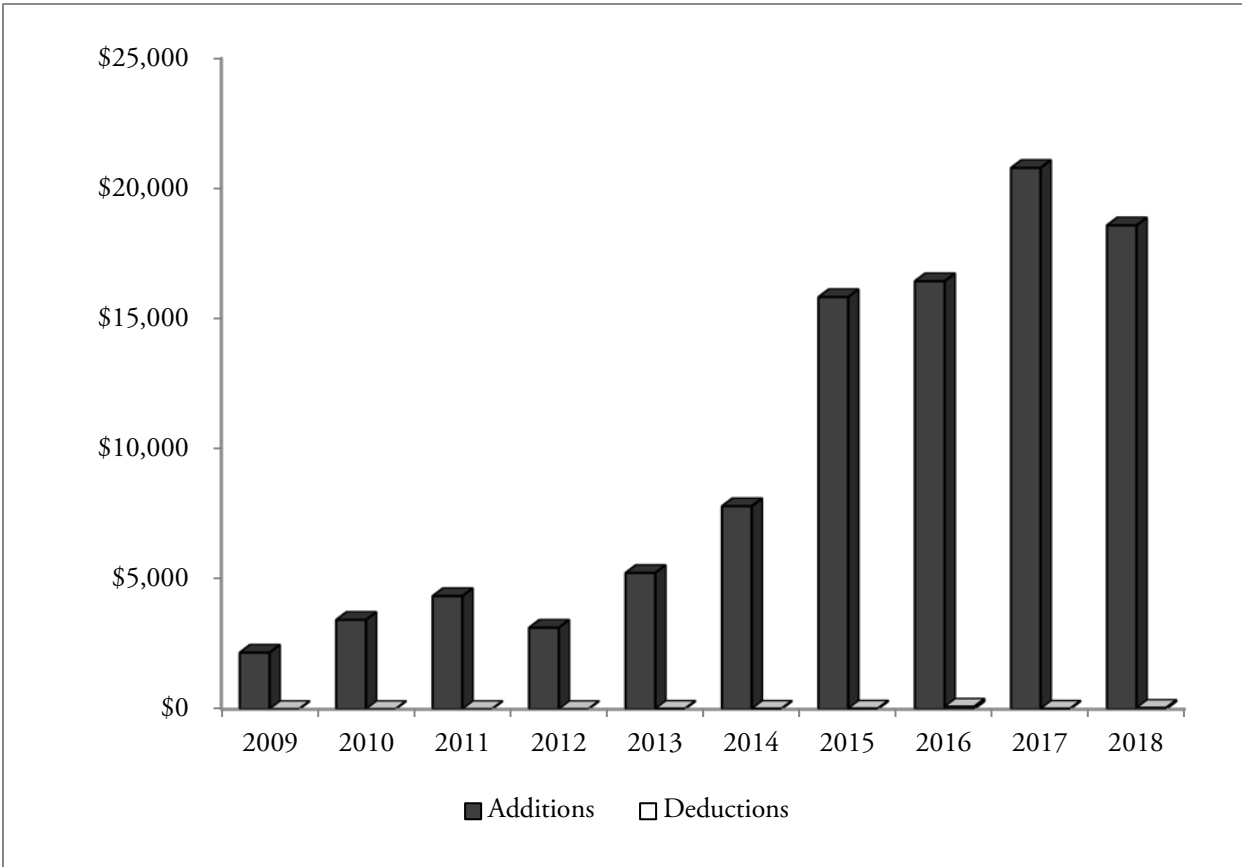
10-YEAR COMPARISON OF ADDITIONS AND DEDUCTIONS

(In thousands)



Public Employees' Retirement System Defined Contribution Retirement Retiree Medical Plan Changes in Fiduciary Net Position (In thousands)					
Year Ended June 30	Fiduciary Net Position, Beginning of Year	Additions	Deductions	Increase / (Decrease) in Fiduciary Net Position	Fiduciary Net Position, End of Year
2009	\$ 2,479	\$ 2,170	\$ —	\$ 2,170	\$ 4,649
2010	4,649	3,429	—	3,429	8,078
2011	8,078	4,345	—	4,345	12,423
2012	12,423	3,128	—	3,128	15,551
2013	15,551	5,235	10	5,225	20,776
2014	20,776	7,802	10	7,792	28,568
2015	28,568	15,819	19	15,800	44,368
2016	44,368	16,430	91	16,339	60,707
2017	60,707	20,787	12	20,775	81,482
2018	81,482	18,578	45	18,533	100,015

10-YEAR COMPARISON OF ADDITIONS AND DEDUCTIONS
 (In thousands)

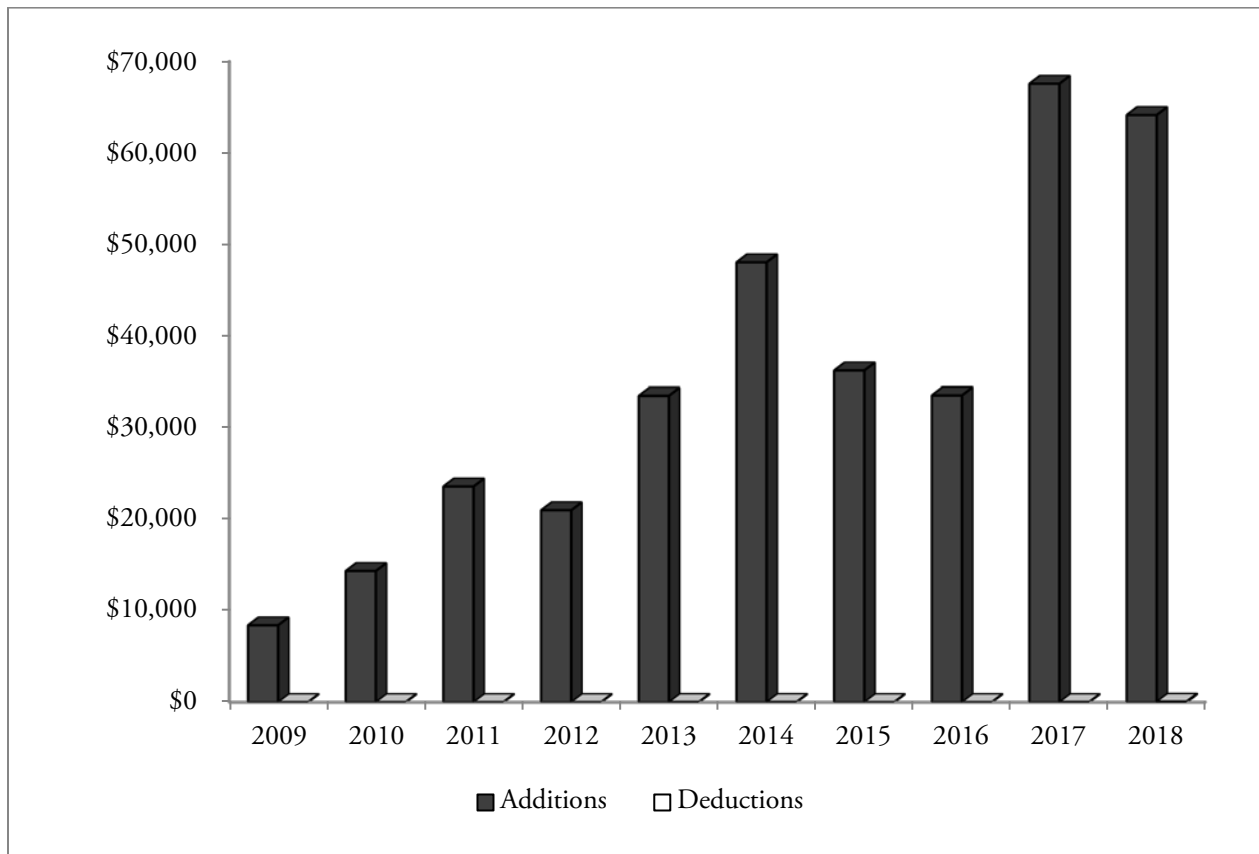


Statistical Section

Public Employees' Retirement System Defined Contribution Retirement Health Reimbursement Arrangement Changes in Fiduciary Net Position (In thousands)

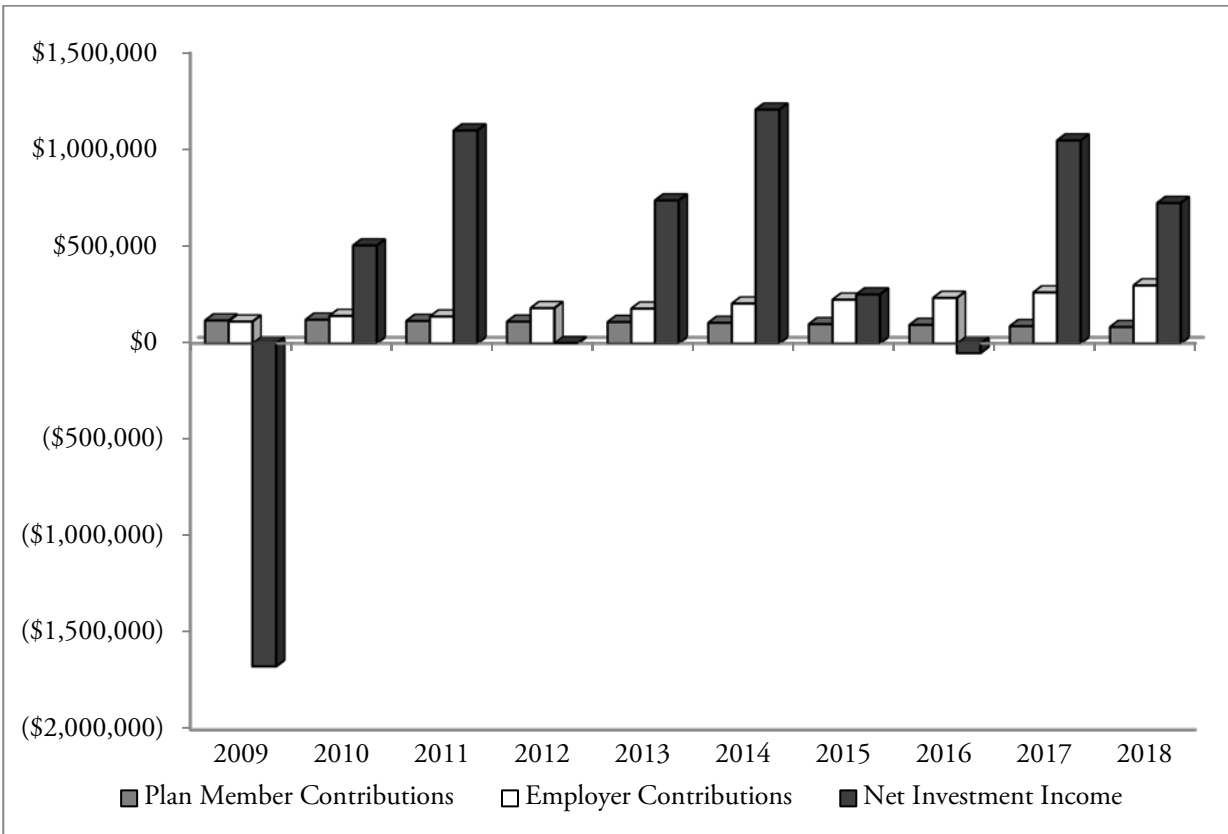
Year Ended June 30	Fiduciary Net Position, Beginning of Year	Additions	Deductions	Increase / (Decrease) in Fiduciary Net Position	Fiduciary Net Position, End of Year
2009	\$ 8,020	\$ 8,414	\$ —	\$ 8,414	\$ 16,434
2010	16,434	14,635	—	14,635	31,069
2011	31,069	23,625	—	23,625	54,694
2012	54,694	21,022	—	21,022	75,716
2013	75,716	33,524	9	33,515	109,231
2014	109,231	48,055	9	48,046	157,277
2015	157,277	36,239	—	36,239	193,516
2016	193,516	33,568	—	33,568	227,084
2017	227,084	67,566	4	67,562	294,646
2018	294,646	64,152	47	64,105	358,751

10-YEAR COMPARISON OF ADDITIONS AND DEDUCTIONS (In thousands)



Public Employees' Retirement System Defined Benefit Pension Additions by Source (In thousands)						
Year Ended June 30	Plan Member Contributions	Employer Contributions	State of Alaska	Net Investment Income (Loss)	Other	Total
2009	\$ 118,815	\$ 113,059	\$ 79,681	\$ (1,671,794)	\$ 22	\$ (1,360,217)
2010	123,066	142,157	44,460	506,043	105	815,831
2011	116,270	139,075	65,187	1,099,713	97	1,420,342
2012	112,703	182,695	130,912	1,650	35	427,995
2013	110,808	179,976	164,087	738,656	28	1,193,555
2014	106,565	206,204	176,794	1,207,484	49	1,697,096
2015	100,036	226,136	1,000,000	253,311	36	1,579,519
2016	96,024	235,360	88,586	(49,967)	240	370,243
2017	89,345	263,597	99,167	1,048,006	38	1,500,153
2018	84,956	299,665	72,719	725,310	25	1,182,675

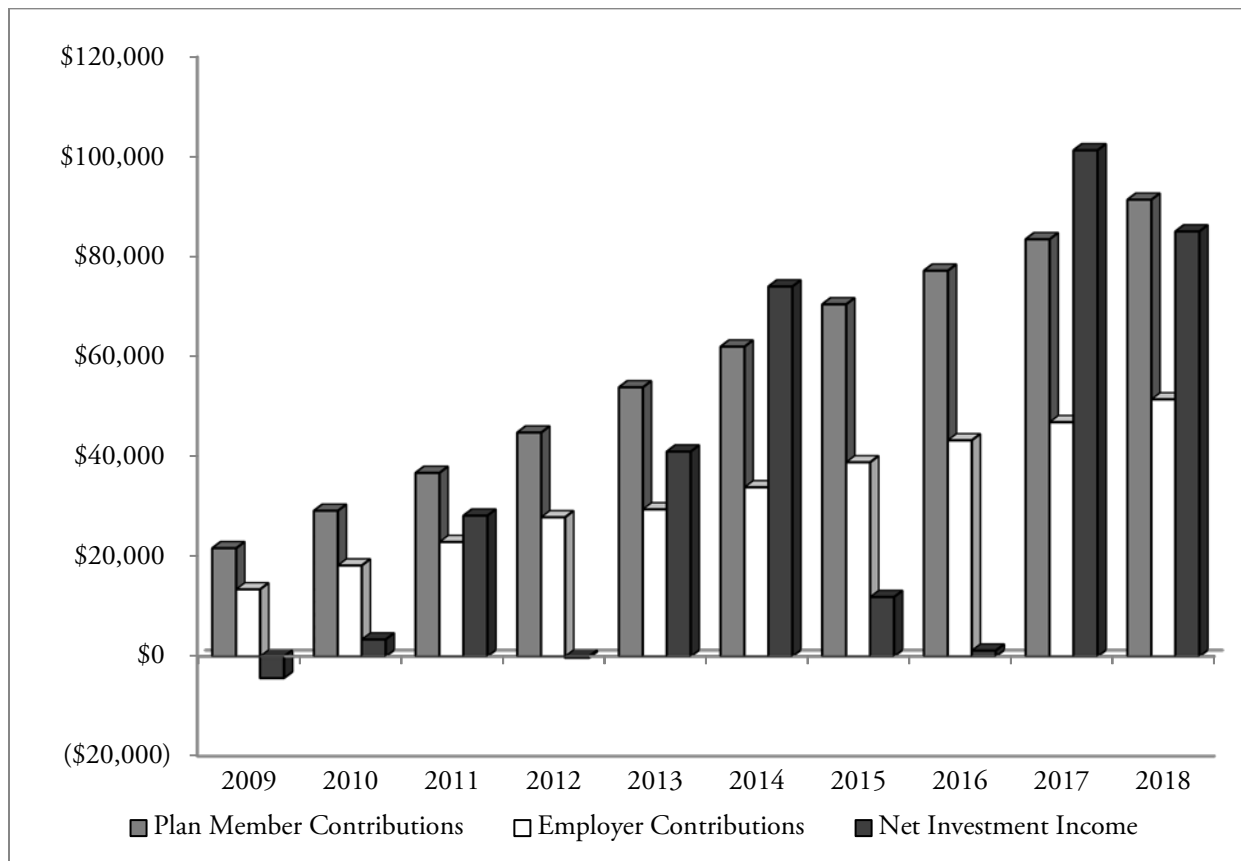
10-YEAR COMPARISON OF ADDITIONS BY SOURCE
(In thousands)



Statistical Section

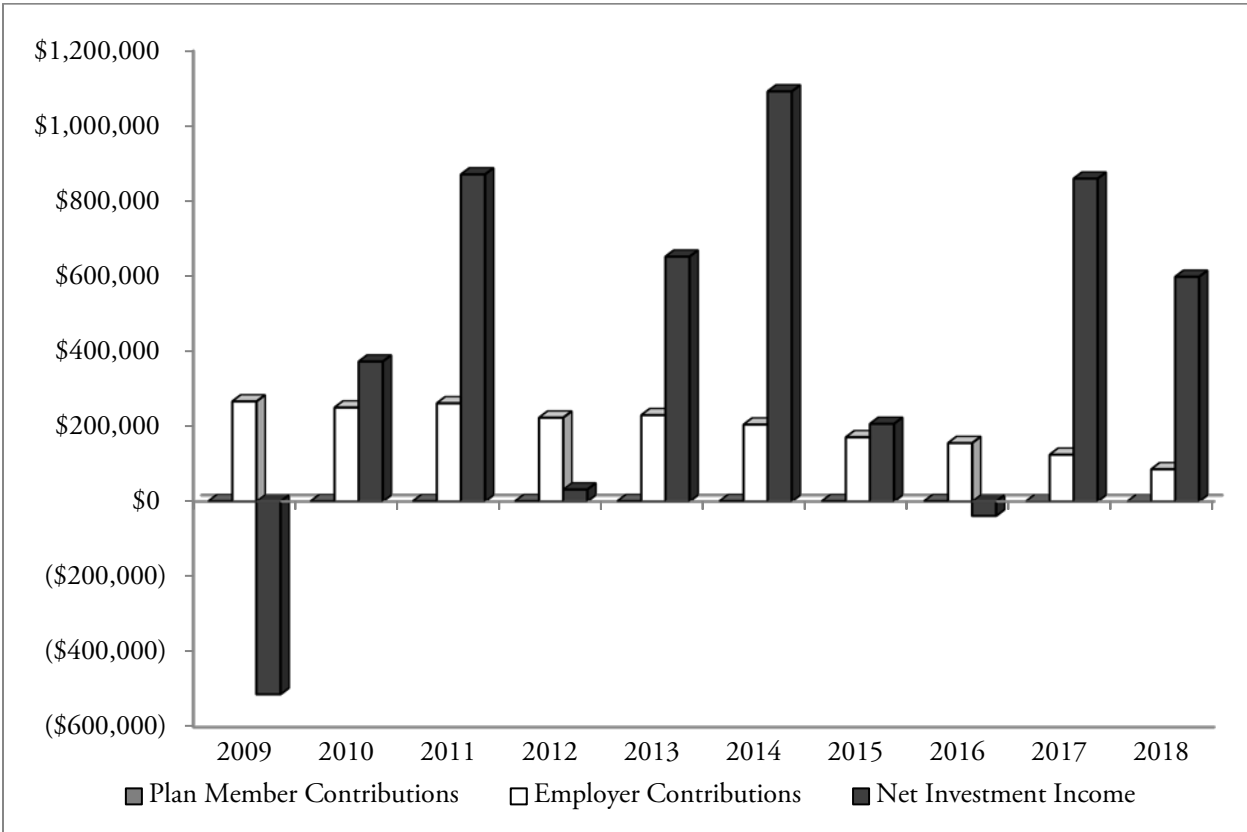
Public Employees' Retirement System Defined Contribution Retirement Participant Directed Additions by Source (In thousands)					
Year Ended June 30	Plan Member Contributions	Employer Contributions	Net Investment Income (Loss)	Other	Total
2009	\$ 21,735	\$ 13,470	\$ (4,349)	\$ —	\$ 30,856
2010	29,246	18,258	3,404	—	50,908
2011	36,831	22,976	28,264	13	88,084
2012	44,903	27,938	(280)	—	72,561
2013	53,843	29,519	41,098	4	124,464
2014	61,989	33,942	74,031	21	169,983
2015	70,462	38,949	11,931	1	121,343
2016	77,196	43,350	1,168	157	121,871
2017	83,493	46,982	101,317	185	231,977
2018	91,413	51,424	85,059	420	228,316

10-YEAR COMPARISON OF ADDITIONS BY SOURCE
(In thousands)



Public Employees' Retirement System Defined Benefit Alaska Retiree Healthcare Trust Additions by Source (In thousands)						
Year Ended June 30	Plan Member Premiums	Employer Contributions	State of Alaska	Net Investment Income (Loss)	Other	Total
2009	\$ 523	\$ 266,481	\$ 161,919	\$ (512,999)	\$ 8,758	\$ (75,318)
2010	475	250,190	63,493	372,712	456,391	1,143,261
2011	557	261,534	100,654	871,221	12,650	1,246,616
2012	627	223,243	111,698	31,815	31,889	399,272
2013	635	229,990	143,215	652,118	10,436	1,036,394
2014	717	204,779	135,679	1,092,212	17,368	1,450,755
2015	656	171,028	—	206,713	46,983	425,380
2016	621	155,630	37,934	(38,442)	31,566	187,309
2017	—	124,541	—	859,980	43,009	1,027,530
2018	—	85,731	—	598,343	26,338	710,412

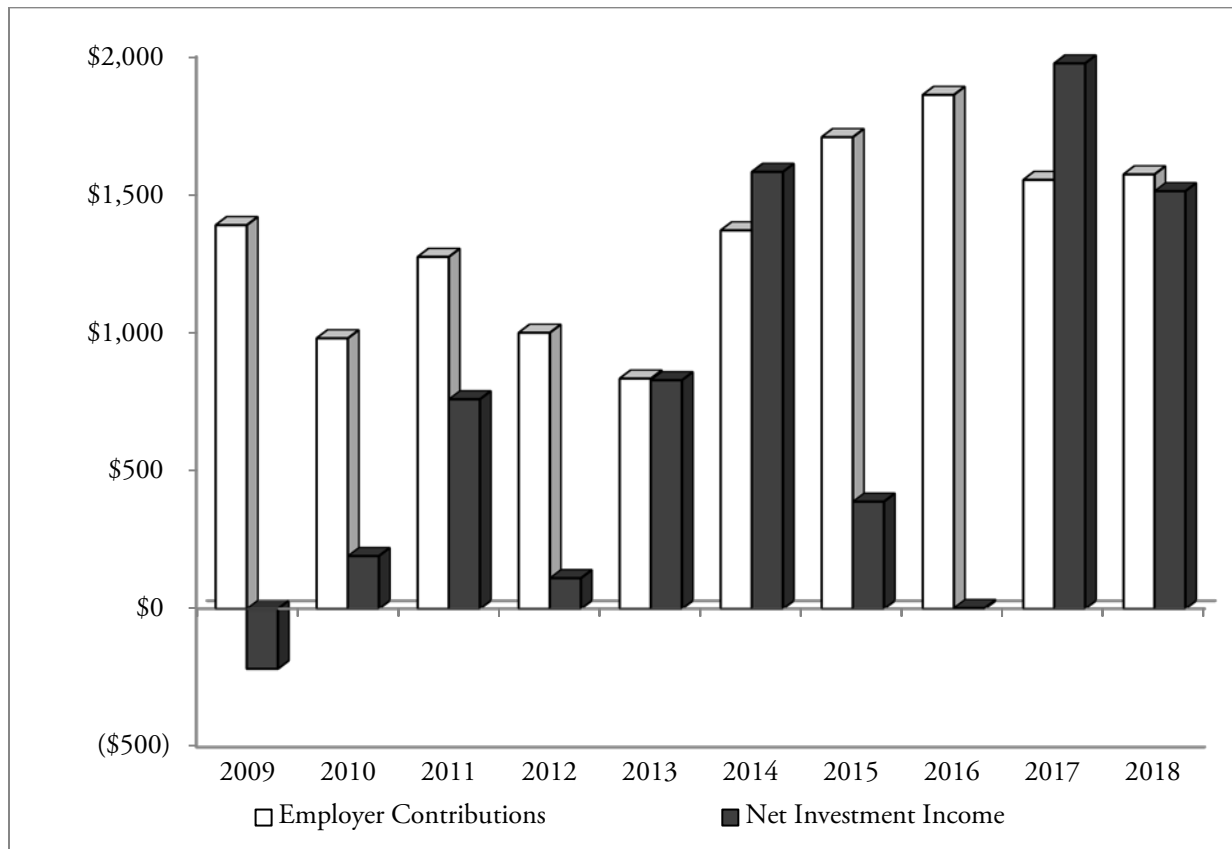
10-YEAR COMPARISON OF ADDITIONS BY SOURCE
(In thousands)



Statistical Section

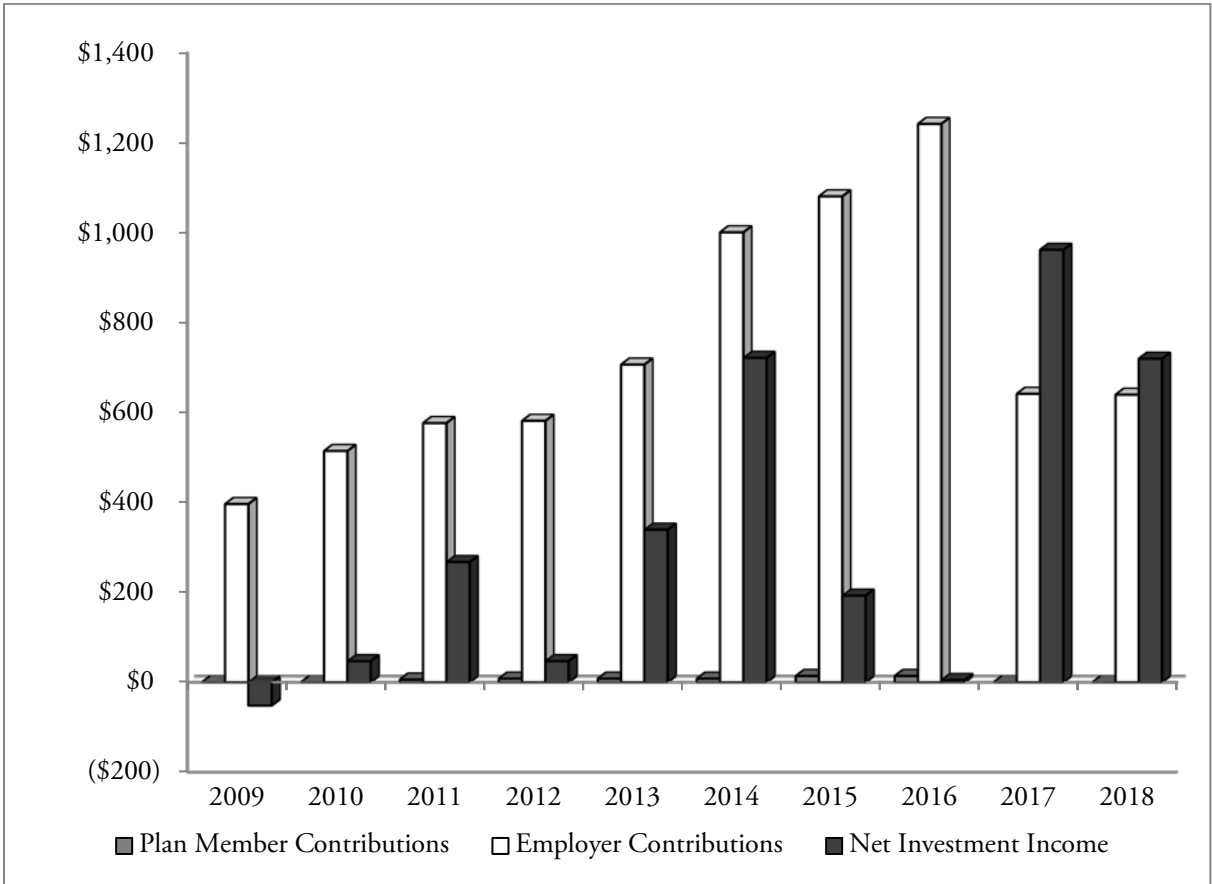
Public Employees' Retirement System Defined Contribution Retirement Occupational Death & Disability - All Other Additions by Source (In thousands)			
Plan Ended June 30	Employer Contributions	Net Investment Income (Loss)	Total
2009	\$ 1,390	\$ (217)	\$ 1,173
2010	980	191	1,171
2011	1,275	759	2,034
2012	1,000	111	1,111
2013	834	828	1,662
2014	1,371	1,583	2,954
2015	1,709	388	2,097
2016	1,862	3	1,865
2017	1,554	1,976	3,530
2018	1,575	1,513	3,088

10-YEAR COMPARISON OF ADDITIONS BY SOURCE
(In thousands)



Public Employees' Retirement System Defined Contribution Retirement Occupational Death & Disability - Peace Officers & Firefighters Additions by Source (In thousands)				
Plan Ended June 30	Plan Member Contributions	Employer Contributions	Net Investment Income (Loss)	Total
2009	\$ —	\$ 397	\$ (52)	\$ 345
2010	—	515	47	562
2011	6	577	268	851
2012	8	582	47	637
2013	8	707	340	1,055
2014	8	1,001	722	1,731
2015	14	1,081	193	1,288
2016	14	1,242	5	1,261
2017	—	642	962	1,604
2018	—	640	720	1,360

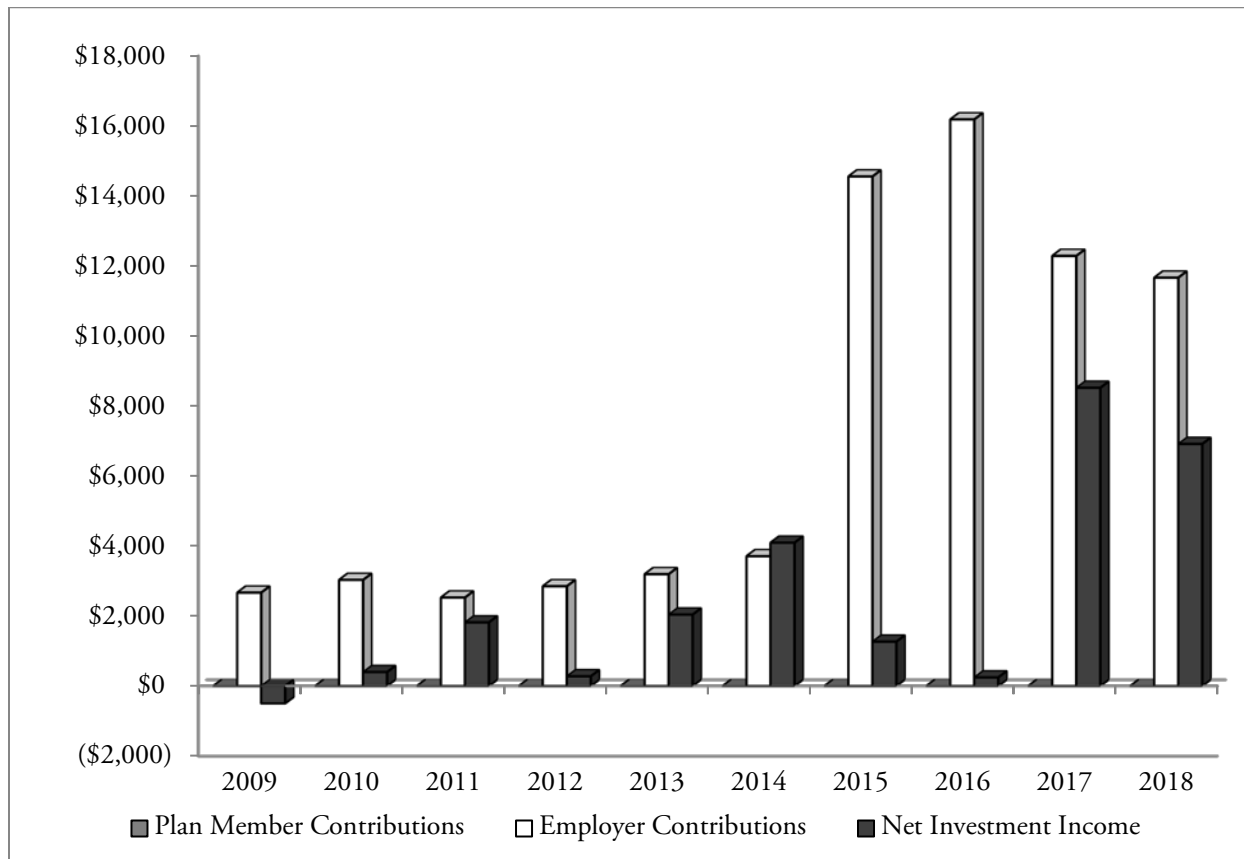
10-YEAR COMPARISON OF ADDITIONS BY SOURCE
(In thousands)



Statistical Section

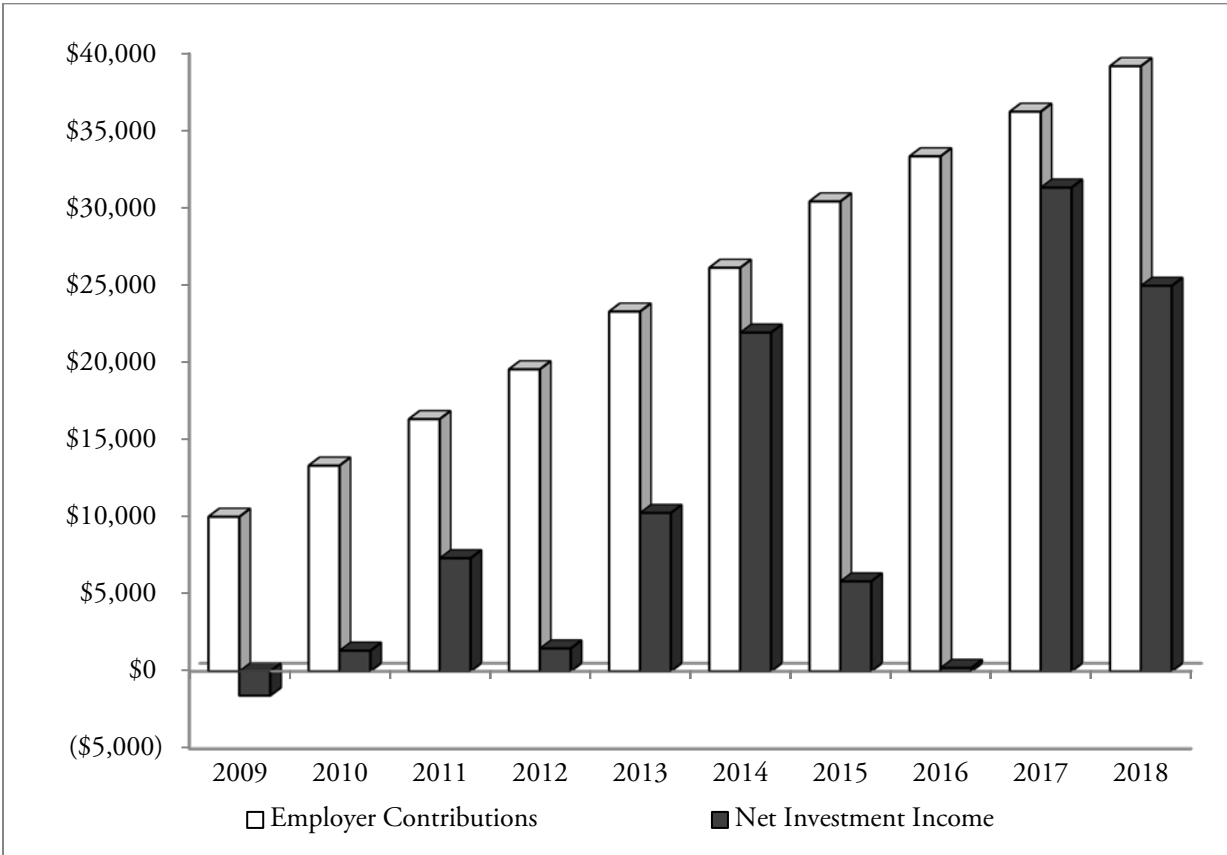
Public Employees' Retirement System Defined Contribution Retirement Retiree Medical Plan Additions by Source (In thousands)					
Plan Ended June 30	Plan Member Contributions	Employer Contributions	Net Investment Income (Loss)	Other	Total
2009	\$ —	\$ 2,667	\$ (497)	\$ —	\$ 2,170
2010	—	3,031	398	—	3,429
2011	—	2,527	1,818	—	4,345
2012	—	2,850	278	—	3,128
2013	—	3,195	2,040	—	5,235
2014	—	3,708	4,094	—	7,802
2015	—	14,552	1,267	—	15,819
2016	—	16,184	246	—	16,430
2017	—	12,280	8,506	1	20,787
2018	—	11,657	6,919	2	18,578

10-YEAR COMPARISON OF ADDITIONS BY SOURCE
(In thousands)



Public Employees' Retirement System Defined Contribution Retirement Health Reimbursement Arrangement Additions by Source (In thousands)			
Plan Ended June 30	Employer Contributions	Net Investment Income (Loss)	Total
2009	\$ 9,988	\$ (1,574)	\$ 8,414
2010	13,304	1,331	14,635
2011	16,317	7,308	23,625
2012	19,547	1,475	21,022
2013	23,289	10,235	33,524
2014	26,128	21,927	48,055
2015	30,426	5,813	36,239
2016	33,351	217	33,568
2017	36,241	31,325	67,566
2018	39,195	24,957	64,152

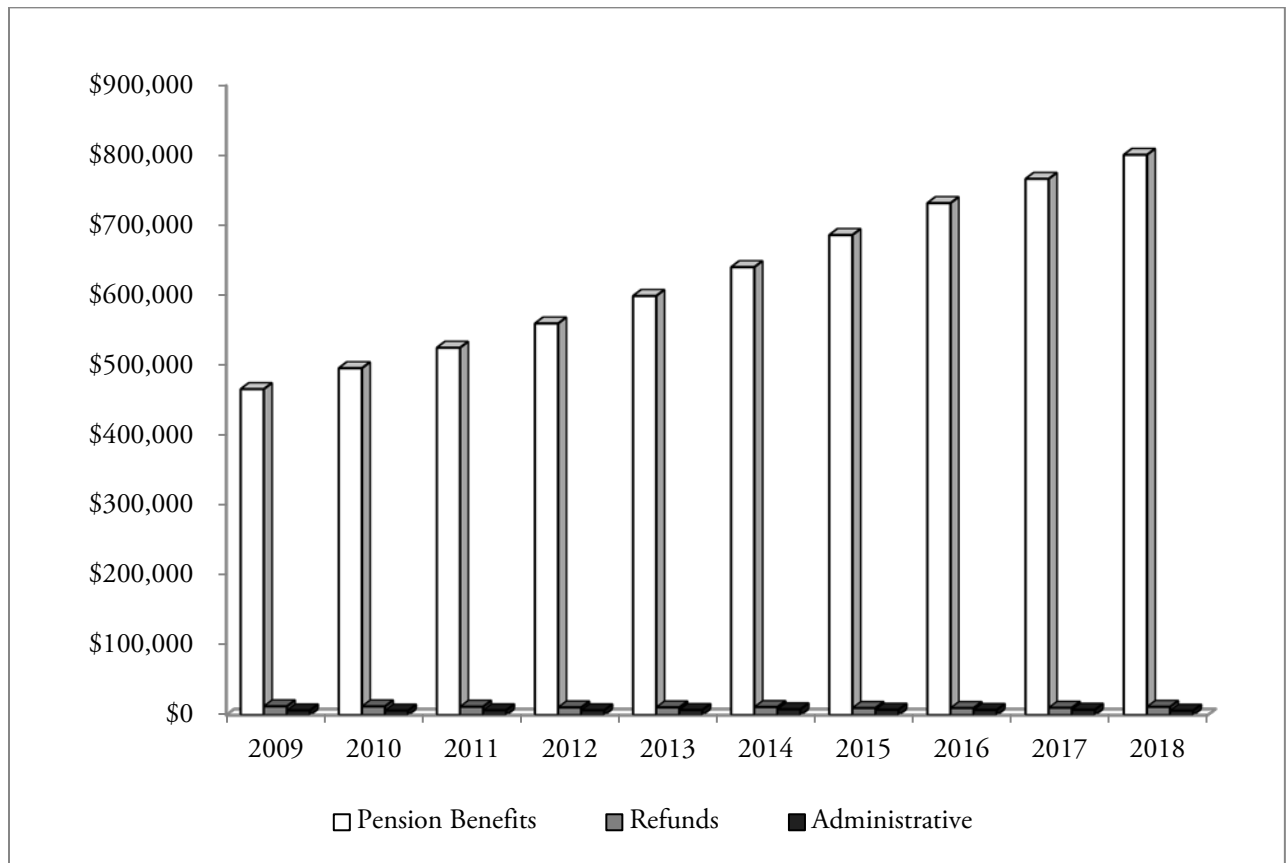
10-YEAR COMPARISON OF ADDITIONS BY SOURCE
 (In thousands)



Statistical Section

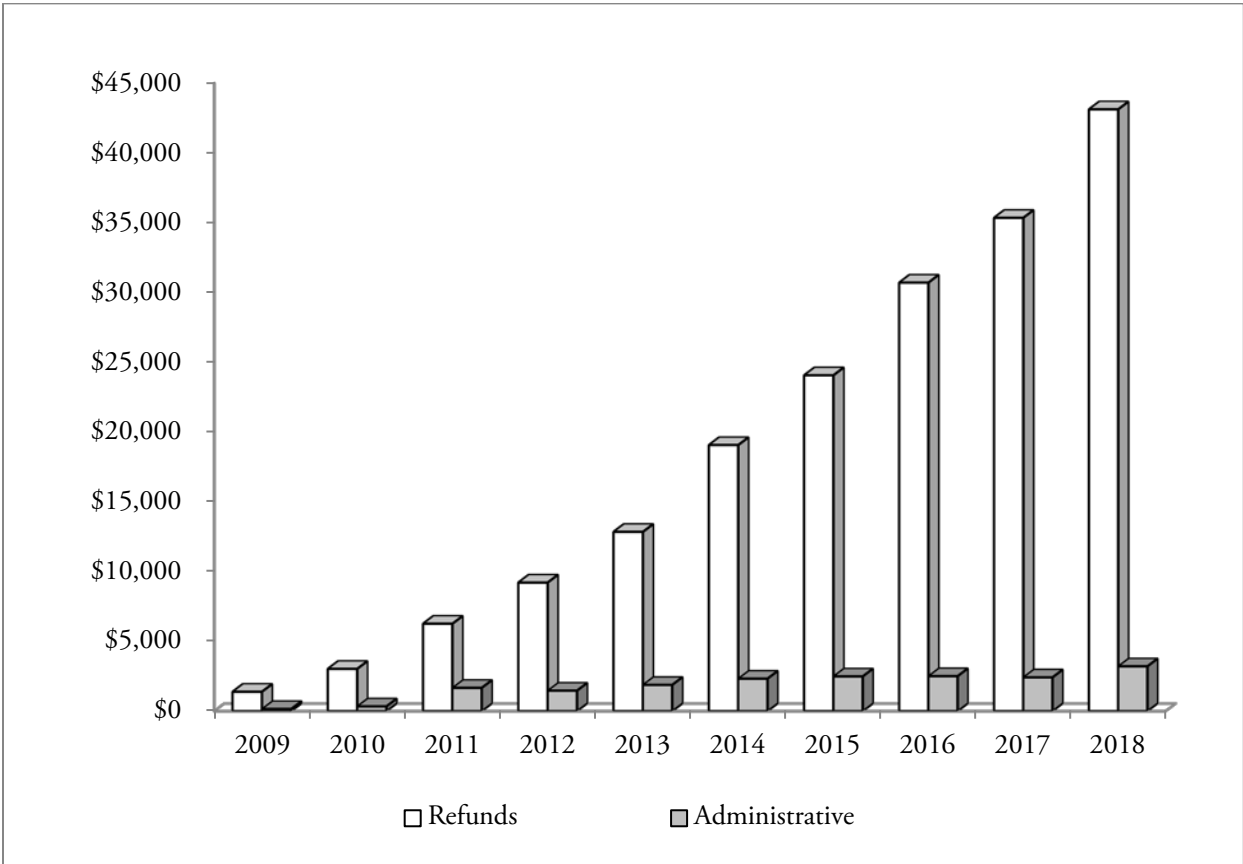
Public Employees' Retirement System Defined Benefit Pension Deductions by Type (In thousands)				
Year Ended June 30	Pension Benefits	Refunds of Contributions	Administrative	Total
2009	\$ 466,085	\$ 12,498	\$ 6,568	\$ 485,151
2010	496,015	12,364	6,365	514,744
2011	525,277	11,923	6,744	543,944
2012	559,977	10,906	6,743	577,626
2013	599,318	10,929	7,120	617,367
2014	640,518	11,399	8,223	660,140
2015	686,493	10,049	7,553	704,095
2016	732,141	10,034	7,243	749,418
2017	766,766	10,421	7,526	784,713
2018	801,155	11,722	6,250	819,127

10-YEAR COMPARISON OF DEDUCTIONS BY TYPE
(In thousands)



Public Employees' Retirement System Defined Contribution Retirement Participant Directed Deductions by Type (In thousands)				
Plan Ended June 30	Refund of Contributions	Administrative	Prior Year Forfeiture Payable Adjustment	Total
2009	\$ 1,386	\$ 146	\$ —	\$ 1,532
2010	3,029	335	—	3,364
2011	6,273	1,664	—	7,937
2012	9,230	1,462	—	10,692
2013	12,872	1,879	9,166	23,917
2014	19,104	2,324	—	21,428
2015	24,067	2,487	—	26,554
2016	30,709	2,506	—	33,215
2017	35,355	2,419	—	37,774
2018	43,132	3,211	—	46,343

10-YEAR COMPARISON OF DEDUCTIONS BY TYPE
(In thousands)

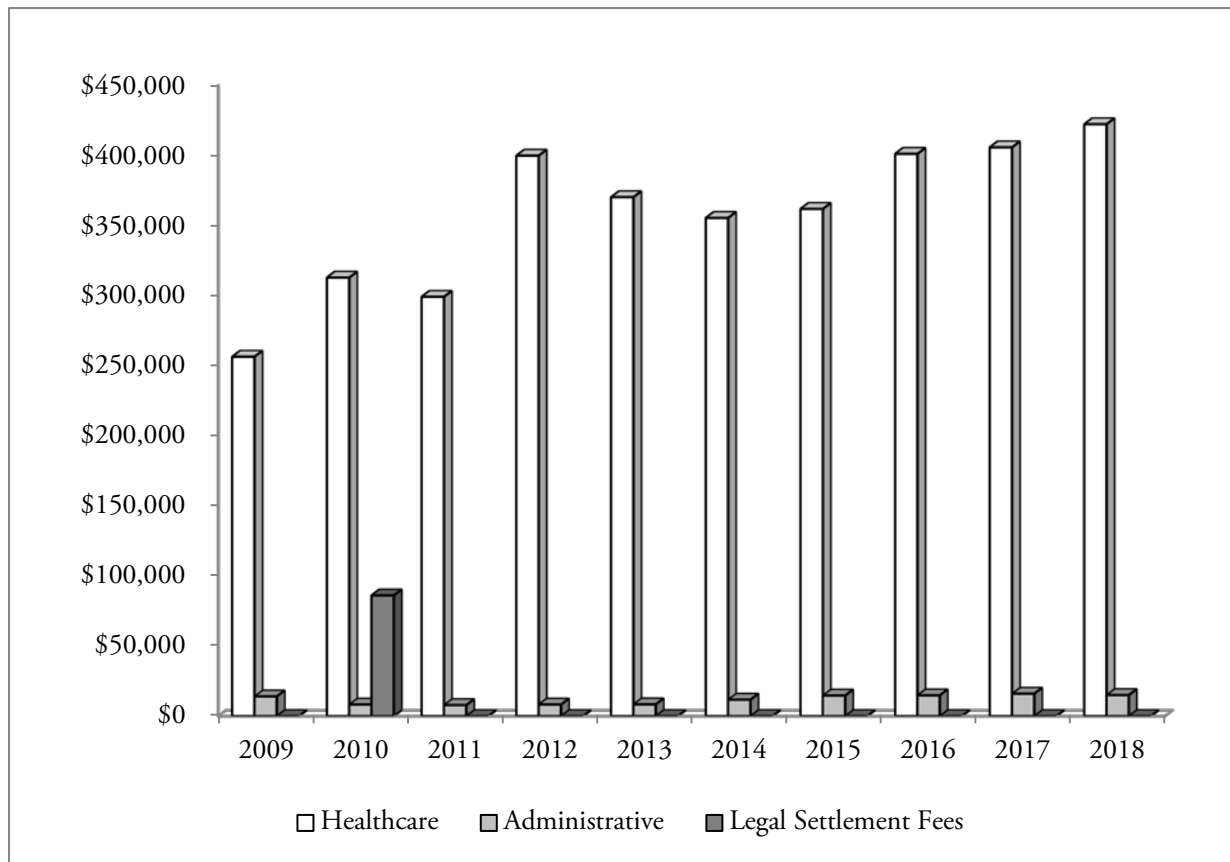


Statistical Section

Public Employees' Retirement System Defined Benefit Alaska Retiree Healthcare Trust Deductions by Type (In thousands)

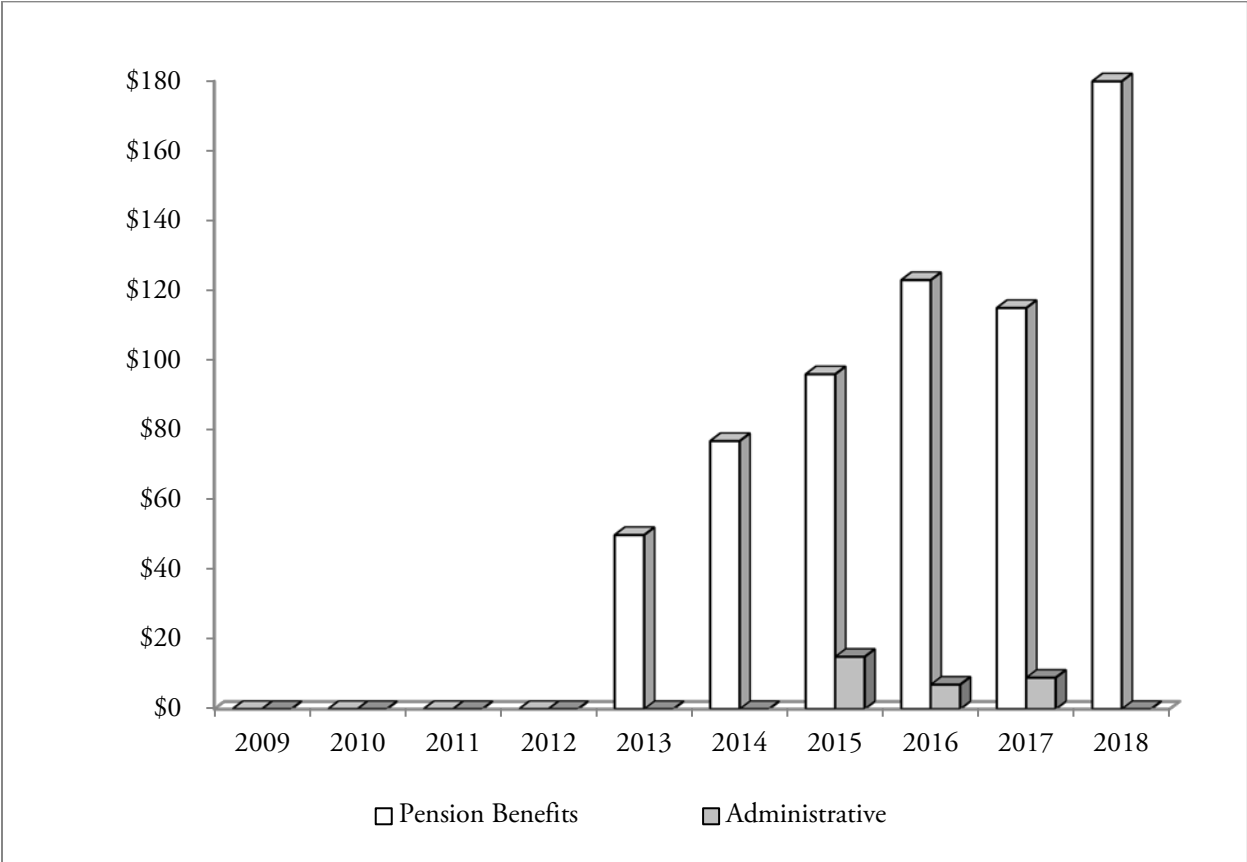
Plan Ended June 30	Healthcare	Administrative	Legal Settlement Fees	Total
2009	\$ 256,408	\$ 14,004	\$ —	\$ 270,412
2010	312,901	8,226	86,428	407,555
2011	299,196	7,806	—	307,002
2012	399,923	8,229	—	348,152
2013	370,314	8,325	—	378,639
2014	355,487	11,679	—	367,166
2015	361,930	14,647	—	376,577
2016	401,233	14,785	—	416,018
2017	405,872	15,960	—	421,832
2018	422,378	14,985	—	437,363

10-YEAR COMPARISON OF DEDUCTIONS BY TYPE
(In thousands)



Public Employees' Retirement System Defined Contribution Retirement Occupational Death & Disability – All Other Deductions by Type (In thousands)			
Plan Ended June 30	Pension Benefits	Administrative	Total
2009	\$ —	\$ —	\$ —
2010	—	—	—
2011	—	—	—
2012	—	—	—
2013	50	—	50
2014	77	—	77
2015	96	15	111
2016	123	7	130
2017	115	9	124
2018	180	—	180

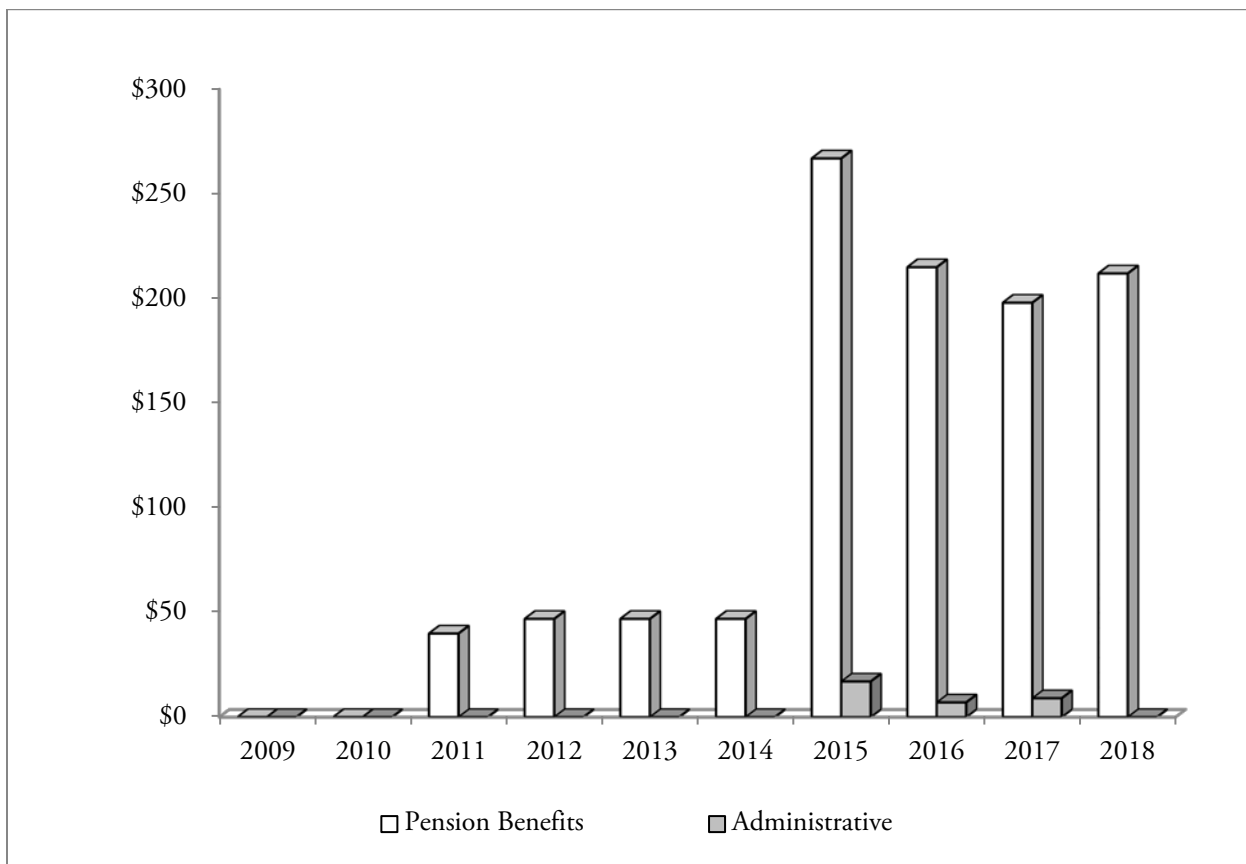
10-YEAR COMPARISON OF DEDUCTIONS BY TYPE
(In thousands)



Statistical Section

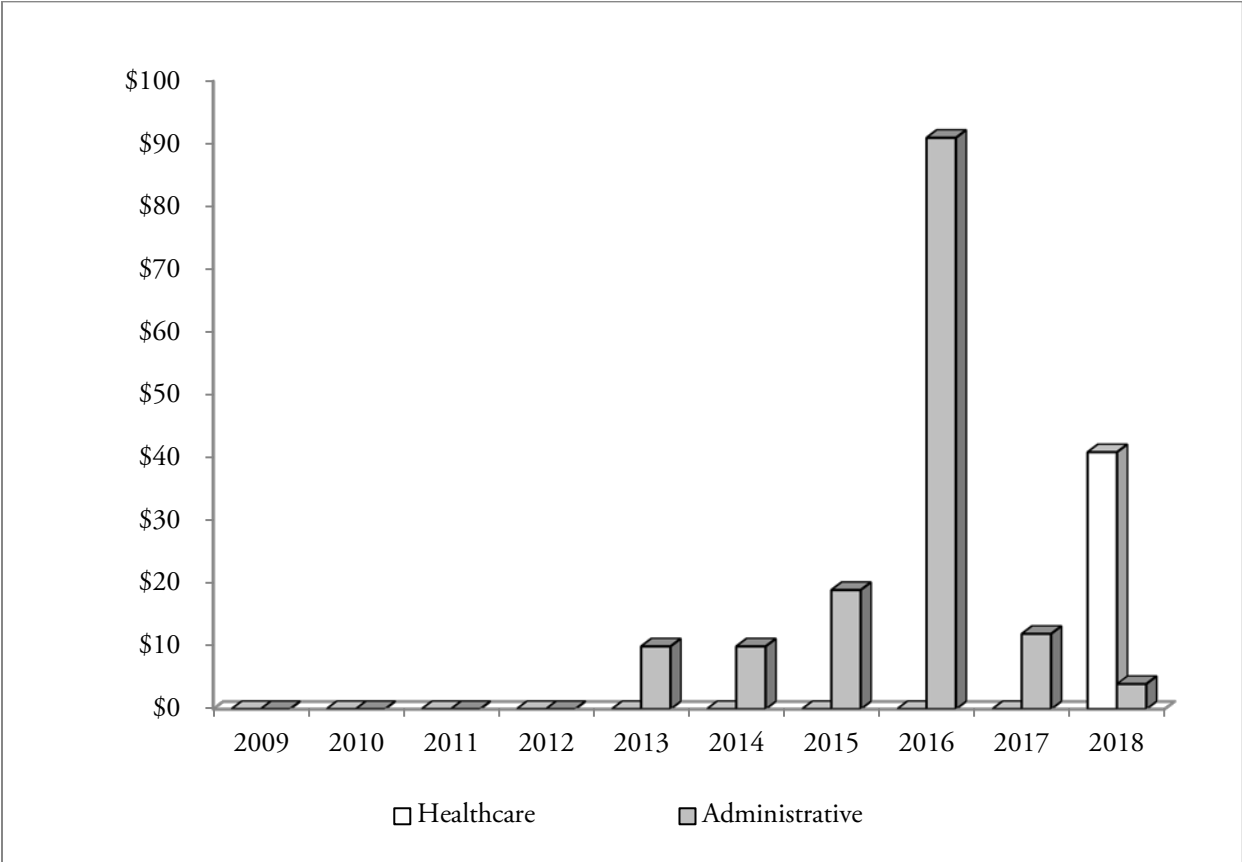
Public Employees' Retirement System Defined Contribution Retirement Occupational Death & Disability – Peace Officers & Firefighters Deductions by Type (In thousands)			
Plan Ended June 30	Pension Benefits	Administrative	Total
2009	\$ —	\$ —	\$ —
2010	—	—	—
2011	40	—	40
2012	47	—	47
2013	47	—	47
2014	47	—	47
2015	267	17	284
2016	215	7	222
2017	198	9	207
2018	212	—	212

10-YEAR COMPARISON OF DEDUCTIONS BY TYPE
(In thousands)



Public Employees' Retirement System Defined Contribution Retirement Retiree Medical Plan Deductions by Type (In thousands)			
Plan Ended June 30	Healthcare	Administrative	Total
2009	\$ —	\$ —	\$ —
2010	—	—	—
2011	—	—	—
2012	—	—	—
2013	—	10	10
2014	—	10	10
2015	—	19	19
2016	—	91	91
2017	—	12	12
2018	41	4	45

10-YEAR COMPARISON OF DEDUCTIONS BY TYPE
 (In thousands)

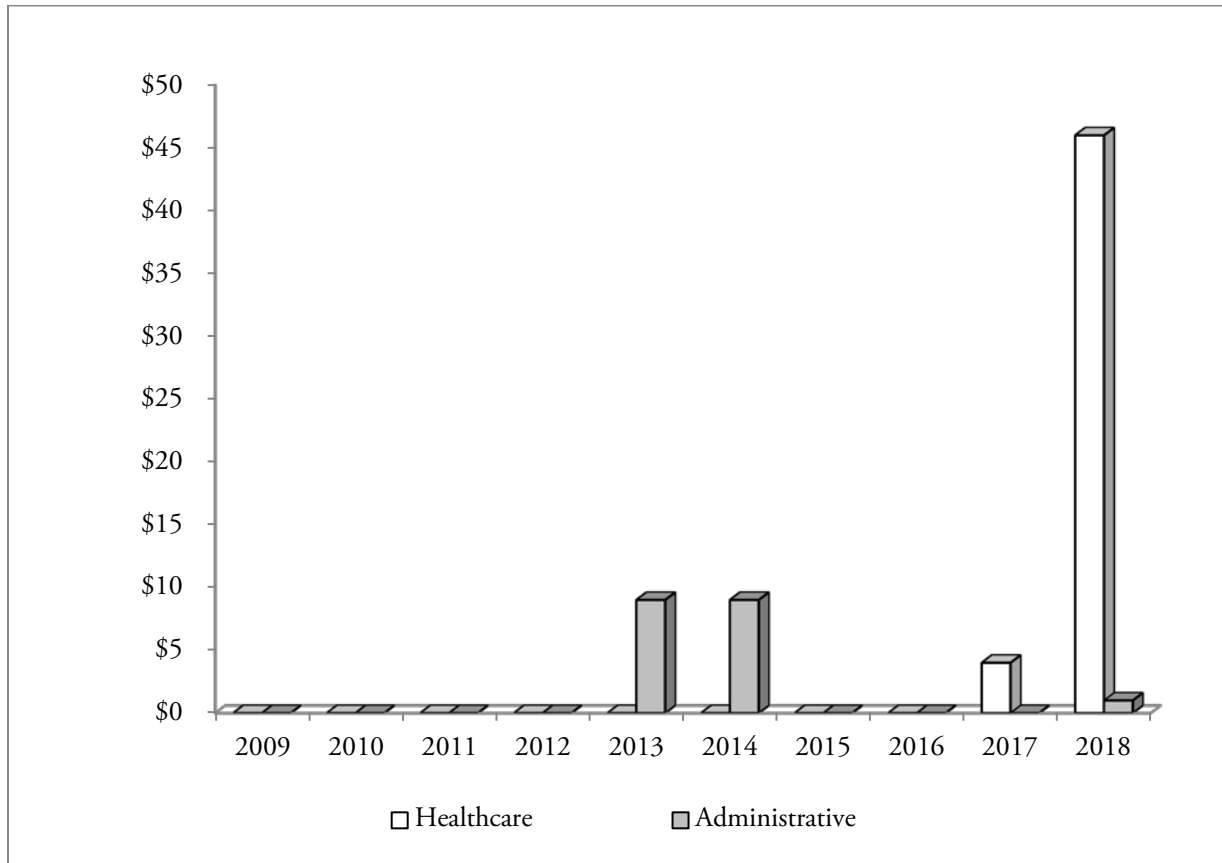


Statistical Section

Public Employees' Retirement System Defined Contribution Retirement Healthcare Reimbursement Arrangement Deductions by Type (In thousands)			
Plan Ended June 30	Healthcare	Administrative	Total
2009	\$ —	\$ —	\$ —
2010	—	—	—
2011	—	—	—
2012	—	—	—
2013	—	9	9
2014	—	9	9
2015	—	—	—
2016	—	—	—
2017	4	—	4
2018	46	1	47

10-YEAR COMPARISON OF DEDUCTIONS BY TYPE

(In thousands)



Statistical Section

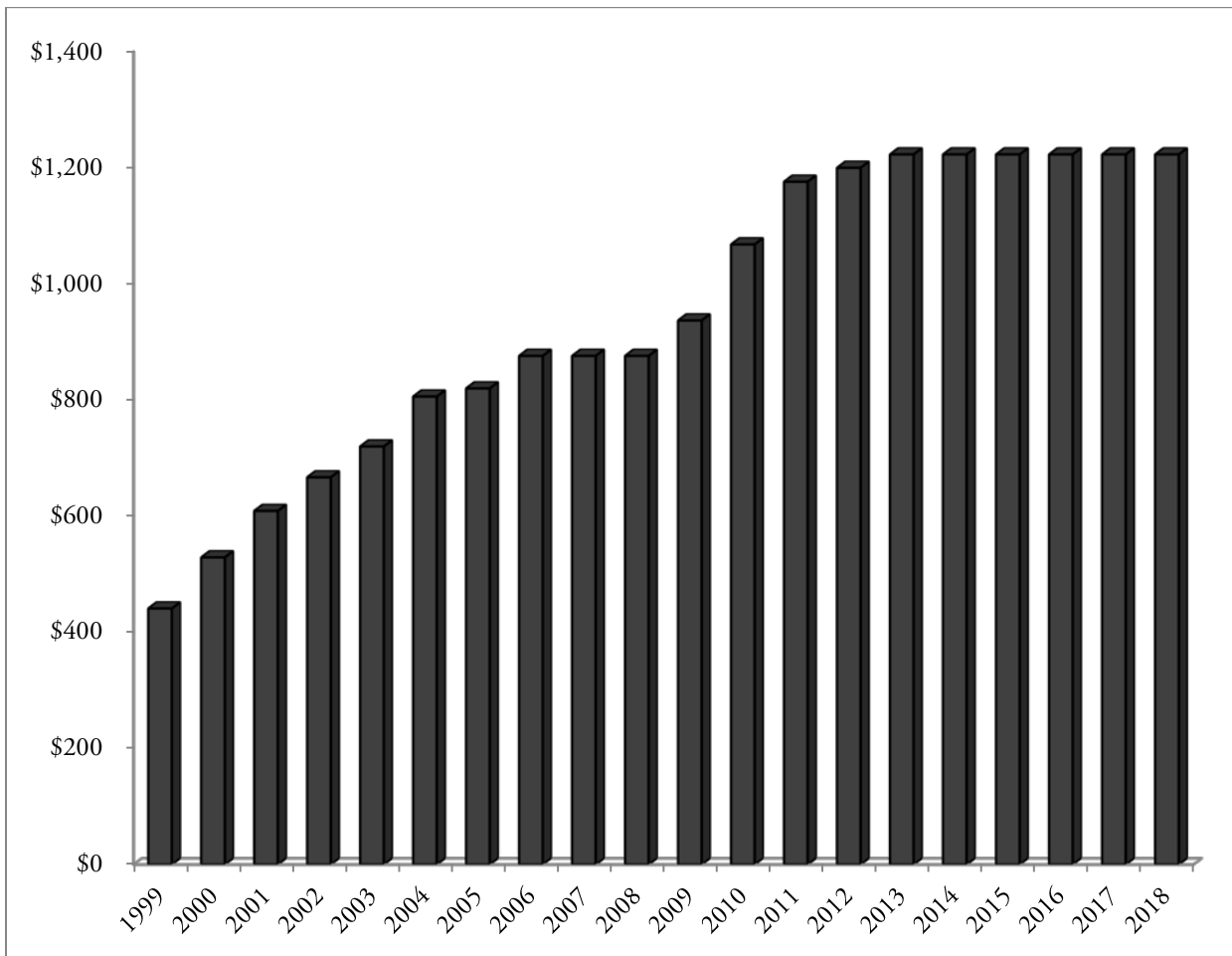
Public Employees' Retirement System Schedule of Average Benefit Payments New Benefit Recipients							
Years of Credited Service							
	0 - 4	5 - 9	10 - 14	15 - 19	20 - 24	25 - 29	30+
All Others							
Period 7/1/11 - 6/30/12:							
Average Monthly Benefit	\$ 407	\$ 610	\$1,147	\$1,931	\$2,805	\$4,214	\$5,076
Number of Recipients	67	351	314	204	208	188	106
Period 7/1/12 - 6/30/13:							
Average Monthly Benefit	\$ 414	\$ 650	\$1,179	\$1,925	\$2,879	\$4,356	\$5,208
Number of Recipients	59	349	365	257	206	209	132
Period 7/1/13 - 6/30/14:							
Average Monthly Benefit	\$ 503	\$ 700	\$1,189	\$2,065	\$3,021	\$4,439	\$5,490
Number of Recipients	48	347	319	241	214	224	121
Period 7/1/14 - 6/30/15:							
Average Monthly Benefit	\$ 430	\$ 685	\$1,260	\$2,008	\$3,086	\$4,544	\$6,195
Number of Recipients	42	284	304	213	198	169	98
Period 7/1/15 - 6/30/16:							
Average Monthly Benefit	\$ 434	\$ 660	\$1,240	\$2,017	\$3,059	\$4,158	\$6,583
Number of Recipients	30	323	387	266	192	161	135
Period 7/1/16 - 6/30/17:							
Average Monthly Benefit	\$ 381	\$ 640	\$1,271	\$2,067	\$3,119	\$4,579	\$6,224
Number of Recipients	27	254	375	233	212	191	115
Peace Officer/Firefighter							
Period 7/1/11 - 6/30/12:							
Average Monthly Benefit	\$ —	\$1,159	\$1,161	\$3,142	\$3,504	\$4,673	\$5,079
Number of Recipients	—	13	13	12	20	17	7
Period 7/1/12 - 6/30/13:							
Average Monthly Benefit	\$ —	\$ 865	\$1,779	\$2,762	\$3,793	\$4,983	\$4,911
Number of Recipients	—	9	8	19	31	18	4
Period 7/1/13 - 6/30/14:							
Average Monthly Benefit	\$ 209	\$1,423	\$2,002	\$2,902	\$4,014	\$5,464	\$6,299
Number of Recipients	1	9	10	14	22	16	7
Period 7/1/14 - 6/30/15:							
Average Monthly Benefit	\$ —	\$1,173	\$1,621	\$3,632	\$4,436	\$5,457	\$6,863
Number of Recipients	—	8	9	26	24	25	7
Period 7/1/15 - 6/30/16:							
Average Monthly Benefit	\$ —	\$ 958	\$1,742	\$3,347	\$4,622	\$5,778	\$7,221
Number of Recipients	—	6	11	19	30	28	16
Period 7/1/16 - 6/30/17:							
Average Monthly Benefit	\$ —	\$ 686	\$2,075	\$3,234	\$4,462	\$5,151	\$6,376
Number of Recipients	—	8	9	28	41	23	14

“Average Monthly Benefit” includes post-retirement pension adjustments and cost-of-living increases.

Statistical Section

Public Employees' Retirement System Schedule of Pension and Healthcare Benefits Deductions by Type (In thousands)					
Year Ended June 30	Service	Disability	Survivor	Healthcare	Total
2009	\$ 436,656	\$ 6,644	\$ 22,785	\$ 245,328	\$ 711,413
2010	464,735	6,539	24,741	283,095	779,110
2011	492,808	5,821	26,648	323,843	849,120
2012	543,789	5,528	28,651	339,923	917,891
2013	563,172	5,276	30,870	395,939	995,257
2014	601,705	5,630	33,183	415,926	1,056,444
2015	645,895	5,220	35,742	361,930	1,048,786
2016	689,487	4,878	38,115	401,233	1,133,713
2017	721,300	4,812	40,967	405,876	1,172,955
2018	753,409	4,861	43,277	422,465	1,224,012

20-YEAR COMPARISON OF RETIREE MONTHLY COMPOSITE MEDICAL PREMIUMS



Public Employees' Retirement System Schedule of Pension Benefit Recipients by Type of Pension Benefit and Option Elected Valuation as of June 30, 2017										
Amount of Monthly Pension Benefit	Number of Recipients	Type of Pension Benefit			Option Selected					
		1	2	3	1	2	3	4	5	
All Others										
\$ 1 - 300	2,119	1,621	496	2	958	403	296	70	392	
301 - 600	5,074	4,310	750	14	2,580	1,230	843	254	167	
601 - 900	4,146	3,522	613	19	2,137	1,011	662	202	142	
901 - 1,200	3,289	2,859	409	13	1,539	841	621	165	115	
1,201 - 1,500	2,841	2,498	313	30	1,355	777	491	126	92	
1,501 - 1,800	2,193	1,972	199	22	959	647	416	98	73	
1,801 - 2,100	1,840	1,665	159	16	790	528	353	101	68	
2,101 - 2,400	1,549	1,439	96	14	648	450	308	92	51	
2,401 - 2,700	1,329	1,242	75	12	525	435	251	59	59	
2,701 - 3,000	1,089	1,018	67	4	435	354	220	46	34	
3,001 - 3,300	914	876	34	4	341	327	185	32	29	
3,301 - 3,600	779	750	26	3	277	273	156	56	17	
3,601 - 3,900	622	602	20	—	245	210	114	36	17	
3,901 - 4,200	569	552	15	2	179	195	147	34	14	
over \$4,200	2,679	2,648	28	3	857	1,029	591	150	52	
Totals	31,032	27,574	3,300	158	13,825	8,710	5,654	1,521	1,322	
Peace Officer/Firefighter										
\$ 1 - 300	57	24	33	—	37	8	—	2	10	
301 - 600	172	106	66	—	89	35	25	9	14	
601 - 900	171	100	70	1	98	45	8	12	8	
901 - 1,200	179	108	71	—	105	36	19	10	9	
1,201 - 1,500	174	124	49	1	98	35	21	8	12	
1,501 - 1,800	153	116	35	2	74	44	22	10	3	
1,801 - 2,100	174	129	43	2	72	51	37	8	6	
2,101 - 2,400	203	154	46	3	83	73	25	13	9	
2,401 - 2,700	205	178	22	5	74	73	33	17	8	
2,701 - 3,000	249	223	24	2	75	112	36	16	10	
3,001 - 3,300	270	246	21	3	82	110	47	15	16	
3,301 - 3,600	218	196	18	4	69	97	32	14	6	
3,601 - 3,900	205	193	9	3	65	95	30	11	4	
3,901 - 4,200	169	167	2	—	42	86	23	15	3	
over \$4,200	716	699	16	1	164	377	102	58	15	
Totals	3,315	2,763	525	27	1,227	1,277	460	218	133	

Type of Pension Benefit

- 1 - Regular retirement
- 2 - Survivor payment
- 3 - Disability

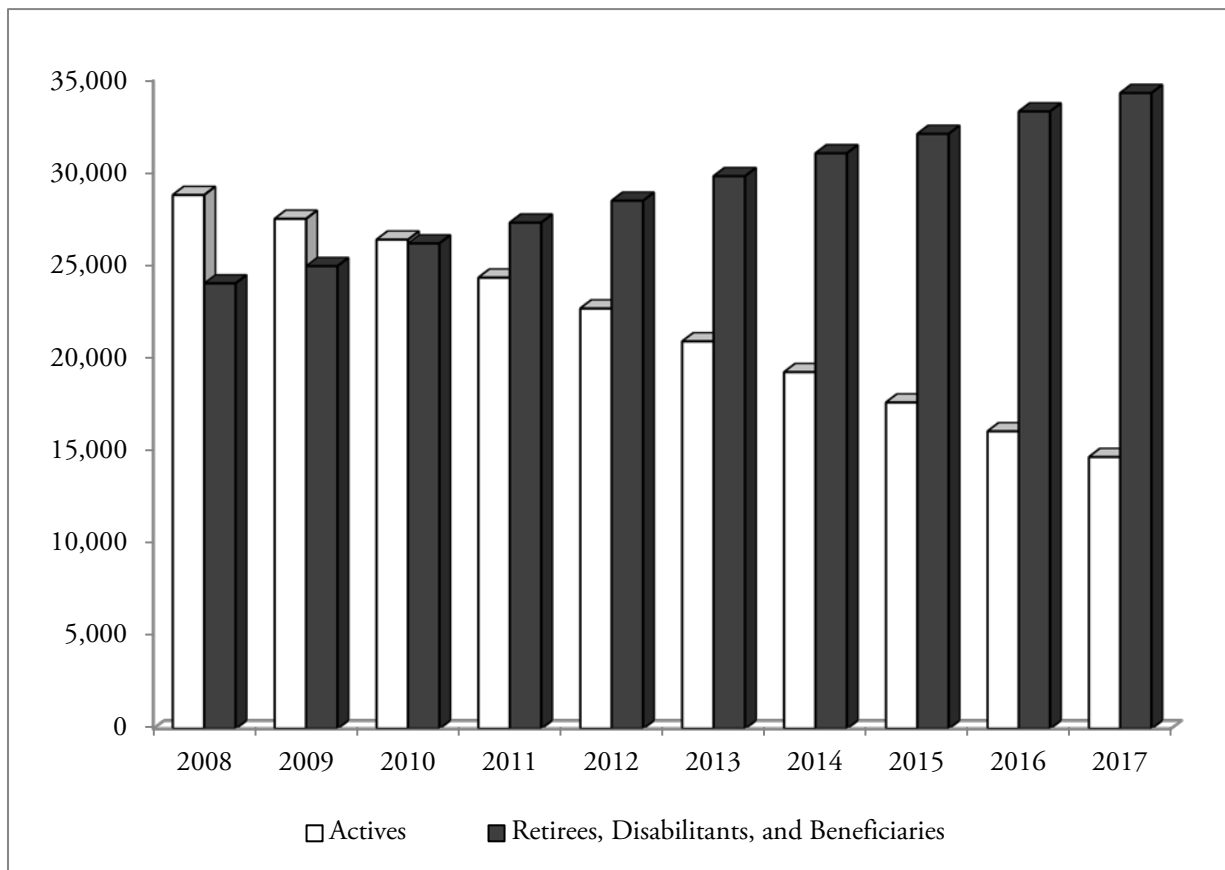
Option Selected

- 1 - Whole Life Annuity
- 2 - 75% Joint and Contingent Annuity
- 3 - 50% Joint and Contingent Annuity
- 4 - 66 2/3% Joint and Survivor Annuity
- 5 - Level Income Option

Statistical Section

Public Employees' Retirement System System Membership by Status					
Year Ended June 30	Active	Retirees, Disabilitants & Beneficiaries	Vested Terminations	Nonvested Terminations w/Balance	Total
2008	28,850	24,082	6,627	14,930	74,489
2009	27,565	25,015	6,566	14,626	73,772
2010	26,442	26,237	6,253	14,543	73,475
2011	24,393	27,359	6,414	14,028	72,194
2012	22,730	28,540	6,294	13,552	71,116
2013	20,955	29,865	6,230	13,162	70,212
2014	19,297	31,099	6,167	12,713	69,276
2015	17,660	32,145	6,304	12,339	68,448
2016	16,105	33,353	6,160	11,880	67,498
2017	14,719	34,347	5,962	11,506	66,534

10-YEAR COMPARISON OF ACTIVE MEMBERS AND RETIREES, DISABILITANTS, AND BENEFICIARIES



Public Employees' Retirement System Principal Participating Employers June 30, 2018			
Employer	Non-retired Members	Rank	Percentage of of Total Non-retired Members
State of Alaska	26,227	1	40.55%
Anchorage School District	5,708	2	8.83
University of Alaska	<u>4,184</u>	3	<u>6.47</u>
Total	<u>36,119</u>		<u>55.85%</u>

Statistical Section

Public Employees' Retirement System Participating Employers at June 30, 2018

Akutan, City of	Chatham School District
Alaska, State of	Chugach School District
Alaska Gasline Development Corporation	Cook Inlet Housing Authority
Alaska Gateway School District	Copper River Basin Regional Housing Authority
Alaska Housing Finance Corporation	Copper River School District
Alaska Municipal League	Cordova, City of
Aleutian Housing Authority	Cordova City School District
Aleutian Region School District	Cordova Community Medical Center
Aleutians East Borough	Craig, City of
Aleutians East Borough School District	Craig City School District
Allakaket, City of	
Anchorage, Municipality of	Delta-Greely School District
Anchorage Community Development Authority	Delta Junction, City of
Anchorage School District	Denali Borough
Anderson, City of	Denali Borough School District
Aniak, City of	Dillingham, City of
Annette Island School District	Dillingham City School District
Atka, City of	
	Eek, City of
Baranof Island Housing Authority	Egegik, City of
Barrow, City of	Elim, City of
Bartlett Regional Hospital	
Bering Straits Regional Housing Authority	Fairbanks, City of
Bering Strait School District	Fairbanks North Star Borough
Bethel, City of	Fairbanks North Star Borough School District
Bristol Bay Borough	Fort Yukon, City of
Bristol Bay Borough School District	
Bristol Bay Regional Housing Authority	Galena, City of
	Galena City School District

**Public Employees' Retirement System
Participating Employers
at June 30, 2018 (continued)**

Haines Borough	Kuspuk School District
Haines Borough School District	
Homer, City of	Lake and Peninsula Borough
Hoonah, City of	Lake and Peninsula Borough School District
Hoonah City School District	Lower Kuskokwim School District
Hooper Bay, City of	Lower Yukon School District
Huslia, City of	
Hydaburg City School District	Matanuska-Susitna Borough
	Matanuska-Susitna Borough School District
	Mekoryuk, City of
Iditarod Area School District	
Ilisagvik College	
Interior Regional Housing Authority	Nenana, City of
Inter-Island Ferry Authority	Nenana City School District
	Nome, City of
Juneau School District, City and Borough of	Nome City School District
Juneau, City and Borough of	Nome Joint Utility System
	Noorvik, City of
Kachemak, City of	North Pacific Fishery Management Council
Kake City School District	North Pacific Rim Housing Authority
Kaltag, City of	North Pole, City of
Kashunamiut School District	North Slope Borough
Kenai, City of	North Slope Borough School District
Kenai Peninsula Borough	Northwest Arctic Borough
Kenai Peninsula Borough School District	Northwest Arctic Borough School District
Ketchikan, City of	Northwest Inupiat Housing Authority
Ketchikan Gateway Borough	Nulato, City of
Ketchikan Gateway Borough School District	
King Cove, City of	Palmer, City of
Kivalina, City of	Pelican, City of
Klawock, City of	Pelican City School District
Klawock City School District	Petersburg Borough
Kodiak, City of	Petersburg City School District
Kodiak Island Borough	Petersburg Medical Center
Kodiak Island Borough School District	Pribilof School District
Kotzebue, City of	
Koyuk, City of	

Statistical Section

Public Employees' Retirement System
Participating Employers
at June 30, 2018 (continued)

Saint George, City of	Thorne Bay, City of
Saint Mary's School District	Tlingit-Haida Regional Housing Authority
Saint Paul, City of	Toksook Bay, City of
Sand Point, City of	
Saxman, City of	Unalakleet, City of
Saxman Seaport	Unalaska, City of
Selawik, City of	Unalaska City School District
Seldovia, City of	University of Alaska
Seward, City of	Upper Kalskag, City of
Shaktoolik, City of	
Sitka Borough School District	Valdez, City of
Sitka, City and Borough of	Valdez City School District
Sitka Community Hospital	
Skagway City School District	Wasilla, City of
Skagway, Municipality of	Whittier, City of
Soldotna, City of	Wrangell, City and Borough of
Southeast Island School District	Wrangell Public School District
Southeast Regional Resource Center	
Southwest Region School District	Yakutat, City and Borough of
Special Education Service Agency	Yakutat School District
	Yukon Flats School District
Tagiugmiullu Nunamiullu Housing Authority	Yukon-Koyukuk School District
Tanana, City of	Yupiit School District
Tanana School District	



STATE OF ALASKA • DEPARTMENT OF ADMINISTRATION

• *Division of Retirement and Benefits* •

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