

ALASKA

• Teachers' Retirement System •



A component unit of the State of Alaska

Comprehensive Annual Financial Report

Fiscal Year Ended June 30, 2016

Bill Walker, Governor

TEACHERS' RETIREMENT SYSTEM

COMPREHENSIVE ANNUAL FINANCIAL REPORT

A Component Unit of the State of Alaska

For the Fiscal Year Ended June 30, 2016



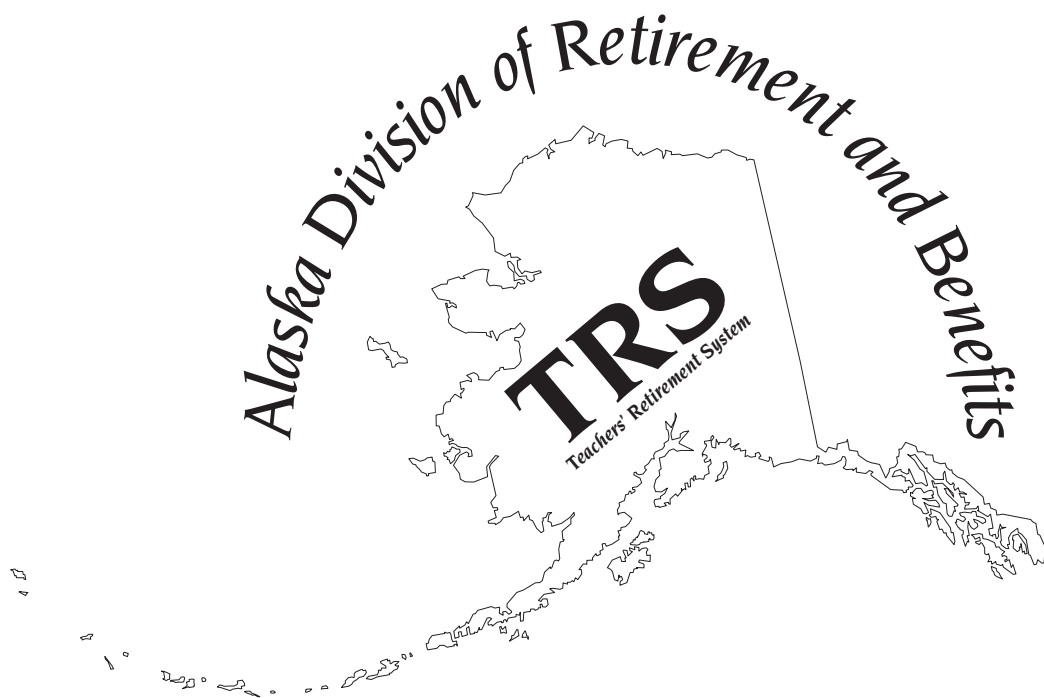
Bill Walker, Governor

Prepared by

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Teachers' Retirement System Defined Contribution Retirement Plan

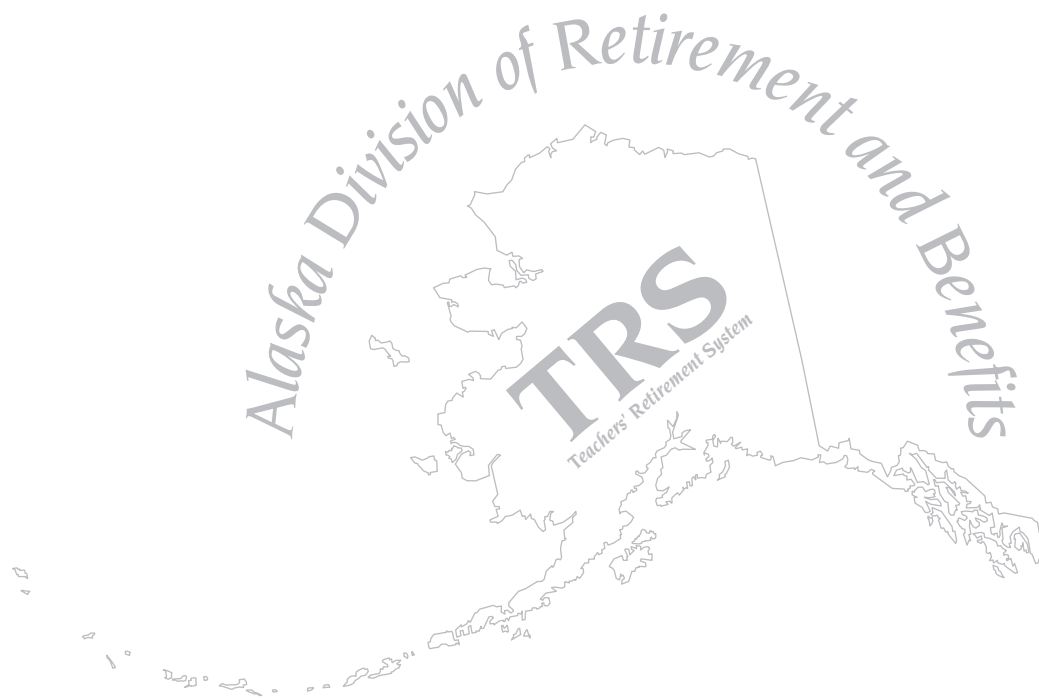
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INTRODUCTORY SECTION





THE STATE
of **ALASKA**
GOVERNOR BILL WALKER

Department of Administration

DIVISION OF RETIREMENT AND BENEFITS

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LETTER OF TRANSMITTAL

December 22, 2016

The Honorable Bill Walker, 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 Teachers' Retirement System (TRS) (System) for the fiscal year ended June 30, 2016. The CAFR is intended to fulfill the legal requirements of Alaska Statute (AS) 14.25.004(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, 2016. 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 Systems' basic financial statements for the year ended June 30, 2016. 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 organizational 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 1955 to provide pension benefits to teachers and other eligible participants. Post-employment health care benefits were added in 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 and II). 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 III).

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 of Alaska 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 Teachers' 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. 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, Buck Consultants, presented the results of the June 30, 2014, 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, 2015, 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 83.3%. The DB Plan's unfunded actuarial accrued liability (actuarial liability minus actuarial value of DB plan assets) totals approximately \$1.6 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, 2016, the DB Plan's investment portfolio was valued at \$7.4 billion and earned a (0.36)% return for the fiscal year ended June 30, 2016. The DCR Plan's investment portfolio was valued at \$378.0 million for the fiscal year ended June 30, 2016. Over the past five years ending June 30, 2016, the DB Plan's investments earned a 6.67% 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, 2015. 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. We are 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, 2016.

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 2017.

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; 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/trs/trscafr.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,



Sheldon Fisher
Commissioner



Ryan Mitchell-Colgan
Deputy Commissioner



Jim Puckett
Chief Operations Officer



Michele Michaud
Chief Health Official



Kathy Lea
Chief Pension Officer



Kevin Worley
Chief Financial Officer



Government Finance Officers Association

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

Presented to

Alaska Teachers' Retirement System

For its Comprehensive Annual
Financial Report
for the Fiscal Year Ended

June 30, 2015

Executive Director/CEO



Public Pension Coordinating Council

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

Presented to

Alaska Teachers' 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

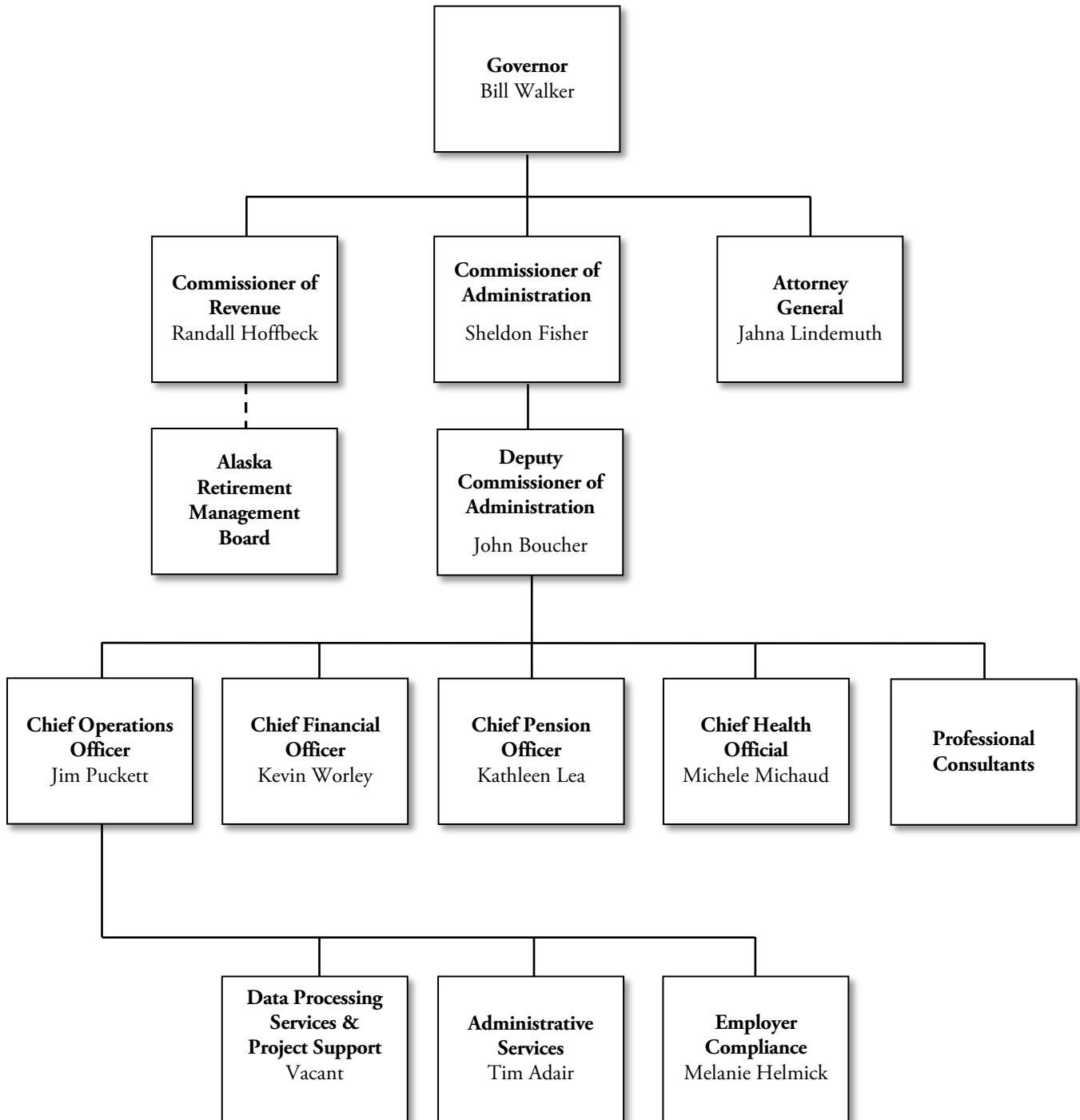
National Association of State Retirement Administrators (NASRA)
National Conference on Public Employee Retirement Systems (NCPERS)
National Council on Teacher Retirement (NCTR)

A handwritten signature in black ink that reads "Alan H. Winkle".

Alan H. Winkle
Program Administrator

ORGANIZATION CHART

As of June 30, 2016



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 member's physical records and performs other administrative functions such as legislative tracking and personnel management.

Professional Consultants		
<p>Consulting Actuary Buck Consultants <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> HealthSmart Benefit Solutions, Inc. <i>Charleston, West Virginia</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 Ward Hurlburt, M.D. <i>Juneau, Alaska</i> Terrence Tauschek <i>Anchorage, Alaska</i> Michael Fraser <i>San Diego, California</i> First Medical Advisory Group Inc. <i>Salem, Oregon</i> Maximus Federal Services <i>Reston, Virginia</i> Mountain State Orthopedic Consulting <i>Eagle, Idaho</i> Objective Medical Assessments Corp. <i>Seattle, Washington</i></p>
<p>Independent Auditors KPMG LLP <i>Anchorage, Alaska</i></p>	<p>Legal Counsel Joan Wilkerson Siobhan McIntyre Kevin Dilg Assistant Attorney Generals <i>Juneau, Alaska</i> Ice Miller LLP <i>Indianapolis, Indiana</i></p>	
<p>Benefits Consultants Maximus Federal Services <i>Reston, Virginia</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 on pages 69-70 and on the Schedule of Investment Management Fees on pages 78-79.

Alaska Retirement Management Board

As of June 30, 2016

Gail Anagick Schubert, 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. Ms. 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. Ms. 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, Ms. 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. Ms. Schubert was born and raised in Unalakleet, Alaska.

Robert M. ("Rob") Johnson, Vice 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.

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.

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

Introductory Section

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 Administration, was 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.

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 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.



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 Teachers' Retirement System:

We have audited the accompanying combining financial statements of the State of Alaska Teachers' Retirement System (the System), a component unit of the State of Alaska, as of and for the year ended June 30, 2016, 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 audits. We conducted our audits 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 in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the entity's internal control. Accordingly, we express no such opinion. An audit also includes evaluating the appropriateness of accounting policies used and the reasonableness of significant accounting estimates made by management, as well as evaluating the overall presentation of the financial statements.

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

Financial Section

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 Teachers' Retirement System as of June 30, 2016, and the changes in fiduciary net position for the year then ended, in accordance with U.S. generally accepted accounting principles.

Other Matters

Prior-Year Comparative Information

We have previously audited the System's 2015 combining financial statements, and we expressed an unmodified opinion on those financial statements in our report dated December 4, 2015. In our opinion, the summarized comparative information presented herein as of and for the year ended June 30, 2015 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 15-24, and the schedule of changes in employer net pension liability and related ratios, schedule of employer and nonemployer contributions, schedule of investment returns, schedule of funding progress, and schedule of contributions from employers and the State of Alaska on pages 45-60 be presented to supplement the basic financial statements. Such information, although not a part of the basic financial statements, is required by the Governmental Accounting Standards Board, who considers it to be an essential part of financial reporting for placing the basic financial statements in an appropriate operational, economic, or historical context. We have applied certain limited procedures to the required supplementary information in accordance with auditing standards generally accepted in the United States of America, which consisted of inquiries of management about the methods of preparing the information and comparing the information for consistency with management's responses to our inquiries, the basic financial statements, and other knowledge we obtained during our audit of the basic financial statements. We do not express an opinion or provide any assurance on the information because the limited procedures do not provide us with sufficient evidence to express an opinion or provide any assurance.

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 62 and 63 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

December 22, 2016

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

Management's Discussion and Analysis (Unaudited)

June 30, 2016

This section presents management's discussion and analysis (MD&A) of the Teachers' Retirement System's (System) financial position and performance for the year ended June 30, 2016. 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, 2016.

Financial Highlights

The System's financial highlights as of June 30, 2016 were as follows:

- The System's fiduciary net position restricted for pension and postemployment healthcare benefits decreased by \$317.2 million during fiscal year 2016.
- The System's plan member and employer contributions increased by \$570,000 during fiscal year 2016.
- The State of Alaska directly appropriated \$130.1 million during fiscal year 2016.
- The System's net investment income decreased \$279.4 million to a \$43.5 million loss during fiscal year 2016.
- The System's pension benefit expenditures totaled \$435.7 million during fiscal year 2016.
- The System's postemployment healthcare benefit expenditures totaled \$123.0 million in fiscal year 2016.

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 the 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 held in trust 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, 2016.

Combining Statement of Changes in Fiduciary Net Position – This statement presents how the System's net position held in trust for pension and postemployment healthcare benefits changed during the fiscal years ended June 30, 2016. 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, 2016 and the sources and uses of those funds during fiscal year 2016.

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Notes to Financial Statements – The notes to the 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 five 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				
	2016	2015	Increase (decrease)		2014
			Amount	Percentage	
Assets:					
Cash and cash equivalents	\$ 74,899	159,119	(84,220)	(52.9)%	\$ 204,330
Due from State of Alaska					
General Fund	5,976	8,798	(2,822)	(32.1)	3,933
Contributions receivable	4,757	4,039	718	17.8	4,317
Other receivables	87	87	—	—	3
Due from Retiree Health Fund	—	—	—	—	—
Investments, at fair value	7,792,741	8,027,200	(234,459)	(2.9)	6,113,985
Other assets	711	711	—	—	1,497
Total assets	<u>7,879,171</u>	<u>8,199,954</u>	<u>(320,783)</u>	<u>(3.9)</u>	<u>6,328,065</u>
Liabilities:					
Accrued expenses	4,693	4,748	(55)	(1.2)	3,989
Claims payable	13,924	14,451	(527)	(3.6)	18,979
Forfeitures payable to employers	8,977	7,592	1,385	18.2	5,997
Due to State of Alaska General Fund	—	4,425	(4,425)	(100.0)	374
Total liabilities	<u>27,594</u>	<u>31,216</u>	<u>(3,622)</u>	<u>(11.6)</u>	<u>29,339</u>
Net position	<u>\$ 7,851,577</u>	<u>8,168,738</u>	<u>(317,161)</u>	<u>(3.9)%</u>	<u>\$ 6,298,726</u>

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Description	Changes in system net position				
	2016	2015	Increase (decrease)		2014
			Amount	Percentage	
Net position, beginning of year	\$ 8,168,738	6,298,726	1,870,012	29.7%	\$ 5,344,972
Additions:					
Contributions	163,821	163,251	570	0.3	162,959
Nonemployer contribution - State of Alaska	130,108	2,000,000	(1,869,892)	(93.5)	316,846
Net investment income	(43,534)	235,889	(279,423)	(118.5)	997,262
Other additions	9,848	15,441	(5,593)	(14.3)	6,254
Total additions	<u>260,243</u>	<u>2,414,581</u>	<u>(2,154,338)</u>	<u>(89.2)</u>	<u>1,483,321</u>
Deductions:					
Pension and postemployment healthcare benefits	558,653	526,094	32,559	6.2	513,395
Refund of contributions	9,560	9,232	328	3.6	7,739
Administrative	9,191	9,243	(52)	(0.6)	8,433
Total deductions	<u>577,404</u>	<u>544,569</u>	<u>32,835</u>	<u>6.0</u>	<u>529,567</u>
Less adjustment to beginning of position	—	—	—	—	—
Increase in net position	<u>(317,161)</u>	<u>1,870,012</u>	<u>(2,187,173)</u>	<u>(117.0)</u>	<u>953,754</u>
Net position, end of year	<u>\$ 7,851,577</u>	<u>8,168,738</u>	<u>(317,161)</u>	<u>(3.9)%</u>	<u>\$ 6,298,726</u>

Financial Analysis of the System

The statements of fiduciary net position as of June 30, 2016 and 2015 show net position restricted for pension benefits, postemployment healthcare benefits, and individuals of \$7,851,577,000 and \$8,168,738,000, respectively. The entire amount is available to cover the System's obligations to pay pension and postemployment healthcare benefits to its members and their beneficiaries, as well as administrative costs.

This represents a decrease in the System's net position restricted for pension benefits, postemployment healthcare benefits, and individuals of \$317,161,000 or 3.9% from fiscal year 2015 to 2016 and an increase of \$1,870,012,000 or 29.7% from fiscal year 2014 to 2015. Over the long term, plan member, employer, and nonemployer contributions, as well as investment income earned, are anticipated to sufficiently fund the pension benefit and postemployment healthcare costs of the System.

During the Twenty-Ninth Alaska State Legislature and as part of the State of Alaska Fiscal Year 2016 Operating Budget, House Bill 2001 appropriated \$130.1 million from the General Fund to the Department of Administration for deposit in the Defined Benefit Pension and the Alaska Retiree Healthcare Trust funds.

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.

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System Asset Allocation

During fiscal years 2016 and 2015, the Board adopted the following asset allocation for the Defined Benefit Pension Plan (DB Plan) and Defined Contribution Pension Plan's (DCR Plan) retiree major medical insurance fund, health reimbursement, and occupational death and disability fund:

	2016	
	Pension and Healthcare Trust	
	Allocation	Range
Broad domestic equity	26.0%	± 6%
Global equity ex-U.S.	25.0	± 4
Private equity	9.0	± 5
Real assets	17.0	± 8
Absolute return	5.0	± 4
Fixed composite	12.0	± 5
Alternative equity strategies	3.0	± 2
Cash equivalents	3.0	± 3
Total	100.0%	
Expected return five-year geometric mean	7.20%	
Projected standard deviation	15.30	
	2015	
	Pension and Healthcare Trust	
	Allocation	Range
Broad domestic equity	26.0%	± 6%
Global equity ex-U.S.	25.0	± 4
Private equity	9.0	± 5
Real assets	17.0	± 8
Absolute return	5.0	± 4
Fixed composite	12.0	± 8
Alternative equity strategies	3.0	-2/+4
Cash equivalents	3.0	-3/+8
Total	100.0%	
Expected return five-year geometric mean	7.22%	
Projected standard deviation	15.01	

For fiscal years 2016 and 2015, the DB Plan's investments generated a (0.36)% and 3.30% 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 of Alaska appropriation, investment income, and other additions as follows:

	Additions (In thousands)				
	2016	2015	Increase (decrease)		2014
			Amount	Percentage	
Plan member contributions	\$ 67,864	68,002	(138)	(0.2)%	68,313
Employer contributions	95,957	95,249	708	0.7	94,646
Nonemployer contributions – State of Alaska	130,108	2,000,000	(1,869,892)	(93.5)	316,846
Net investment income (loss)	(43,534)	235,889	(279,423)	(118.5)	997,262
Other additions	9,848	15,441	(5,593)	(36.2)	6,254
Total	\$ 260,243	2,414,581	(2,154,338)	(89.2)%	1,483,321

The System's employer contributions increased from \$95,249,000 in fiscal year 2015 to \$95,957,000 in fiscal year 2016, an increase of \$708,000 or 0.7%. The System's employer contributions increased from \$94,646,000 in fiscal year 2014 to \$95,249,000 in fiscal year 2015, an increase of \$603,000 or 0.6%. The increase in employer contributions is attributable to increased contributions from the defined benefit unfunded liability portion of DCR Plan salaries.

The State of Alaska provided \$130,108,000 for fiscal year 2016 and \$2 billion for fiscal year 2015 in nonemployer contributions per Alaska Statute (AS) 14.25.085. The employer on-behalf amount (or additional state contribution as defined in AS 14.25.085) 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 12.56% is established in AS 14.25.070(a). In fiscal year 2015, in an effort to bolster the funding levels of both pension and healthcare defined benefit plans, the Alaska legislature appropriated an amount in excess of the actuarially determined contribution rate, in anticipation that this additional funding would decrease future nonemployer contributions.

The System's net investment income in fiscal year 2016 decreased by \$279,423,000 or 118.5% from amounts recorded in fiscal year 2015. The System's net investment income in fiscal year 2015 decreased by \$761,373,000 or 76.3% from amounts recorded in fiscal year 2014. Over the long term, investment earnings play a significant role in funding plan benefits. Over the last two years, the investment environment has been challenging to plans across the country. 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		
	2016	2015	2014
System returns	(0.36)%	3.30%	18.46%
Domestic equities	0.58	7.85	25.45
International equities	(9.15)	(3.28)	23.41
Private equity	4.71	13.77	24.19
Real assets	4.76	3.69	12.71
Absolute return	(3.09)	9.24	6.51
Fixed income	5.15	(0.73)	5.14
Alternative equity	3.41	(0.88)	24.55
Cash equivalents	0.55	0.27	0.26
Actuarial 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)				
	2016	2015	Increase (decrease)		2014
			Amount	Percentage	
Pension benefits	\$ 435,699	416,354	19,345	4.6%	\$ 396,614
Postemployment healthcare benefits	122,954	109,740	13,214	12.0	116,781
Refund of contributions	9,560	9,232	328	3.6	7,739
Administrative	9,191	9,243	(52)	(0.6)	8,433
Total	\$ 577,404	544,569	32,835	6.0%	\$ 529,567

The System's pension benefit payments in 2016 increased \$19,345,000 or 4.6% from fiscal year 2015 and increased \$19,740,000 or 5.0% from fiscal year 2014. The increase in pension benefits in fiscal year 2016 is the result of an increase in the number of retirees.

The System's postemployment healthcare benefit payments in fiscal year 2016 increased \$13,214,000 or 12.0% from fiscal year 2015 and decreased \$7,041,000 or 6.0% from fiscal year 2014 to 2015. The System has seen an increase in

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plan utilization for healthcare as the number of retirees in the DB Plan continue to increase. The System continues to look at ways for cost containment while providing benefits applicable to the plan.

The System's refund of contributions increased \$328,000 or 3.6% from fiscal year 2015 and increased \$1,493,000 or 19.3% from fiscal year 2014. The increase in refunds is entirely in the DCR Plan, where refunds increased \$636,000 between fiscal year 2015 to 2016, and increased \$1,689,000 from fiscal year 2014 to 2015. 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 2016 decreased \$52,000 or 0.6% from fiscal year 2015 and increased \$810,000 or 9.6% from fiscal year 2014. The decrease in administrative costs in fiscal year 2015 is related to increases in management, consulting, and other professional services, offset by a decrease in Patient Protection Affordable Care Act transitional reinsurance program fees.

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Net Pension Liability

Governmental Accounting Standards Board Statement (GASB) No. 67, requires the DB Plan to report the Total Pension Liability (TPL), Fiduciary Net Position (FNP), and the Net Pension Liability (NPL). The TPL determines the total obligation for the DB 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 DB Plan's FNP determines the assets available to pay the DB 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 DB Plan. The difference between the TPL and FNP is the NPL, or the unfunded portion of the TPL.

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

	<u>2016</u>	<u>2015</u>
Total pension liability	\$ 7,225,545	7,107,406
Plan fiduciary net position	<u>(4,942,201)</u>	<u>(5,246,955)</u>
Employers' net pension liability	<u>\$ 2,283,344</u>	<u>1,860,451</u>
Plan fiduciary net position as a percentage of the total pension liability	68.40%	73.82%

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Funding

Retirement benefits are financed by accumulations from employers, plan members, State of Alaska 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 14.25.070(a) sets the employer effective contribution rate at 12.56%. The difference between the actuarially determined contribution rate adopted by the Board and the statutory employer effective rate is paid by the State of Alaska as a direct nonemployer contribution per AS 14.25.085.
- AS 14.25.085 provides that additional state contributions are made each July 1 or as 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 established by AS 14.25.050 for the DB Plan and AS 14.25.340 for the DCR Plan.
- The Board works with an external consultant to determine the proper asset allocation strategy.

Legislation

During fiscal year 2016, the Twenty-Ninth Alaska State Legislature enacted one law that affects the System:

House Bill 256, Section 28(b) appropriates \$116.7 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 and the retiree healthcare trust as partial payment of the participating employers' contribution for fiscal year ending June 30, 2017. This appropriation is to fund the difference between the statutory required contribution of 12.56% 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 Alaska Statute 14.25.085 – Additional State Contributions.

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

Fiscal year 2016 was a year of negative investment returns. Net investment income decreased from \$235,889,000 in fiscal year 2015 to a loss of \$43,534,000 in fiscal year 2016, a decrease of \$279,423,000 or negative 118.5%. The return on the System's investments was significantly below the 8.00% actuarially assumed rate of return with the System's rate of return of (0.36)% at June 30, 2016. In fiscal year 2015, the System's investments returned 3.30%, less than the actuarially assumed return of 8.00%. 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.

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The consulting actuary recommended a decrease from the System's actuarially determined contribution rate of 70.75% in fiscal year 2015 to 29.27% in fiscal year 2016. The Board adopted the fiscal year 2016 actuarially determined contribution rate of 29.27%, which represented a decrease of 42.73%. The statutory employer effective contribution rate remained at 12.56% for fiscal years 2016 and 2015.

The June 30, 2015 and 2014 actuarial valuation reports for the DB Plan reported funding ratios based on valuation assets of 83.3% and 61.2%, respectively, as well as unfunded liabilities of \$1.6 billion and \$3.8 billion, respectively.

The System expected this decrease in the DB Plan's recommended actuarially determined contribution rate and the corresponding increase in the pension and healthcare funding ratios as of the June 30, 2015 actuarial valuation report with the infusion of the \$2 billion appropriated from the Constitutional Budget Reserve Fund during fiscal year 2015. Additionally, due to statutory changes implemented by the Alaska Legislature in conjunction with the \$2 billion infusion to the DB Plan, the statute (1) established the level percentage of pay approach as a replacement to the level dollar approach and (2) reset the 25-year amortization period beginning July 1, 2014. Actuarial projections reflect that the additional State contribution would be significantly reduced for a period of time.

For fiscal years 2016 and 2015, the DCR Plan's employer contribution rate was established by Alaska statute at 12.56%. The DCR Plan's actuarially determined occupational death and disability rate was adopted by the Board to be 0.00%. The DCR Plan retiree medical plan actuarially determined contribution rate was adopted by the Board to be 1.05% and 2.04%, 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 Teachers' 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

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(With comparative totals for June 30, 2015)

(In thousands)

	Defined Benefit Pension	Defined Contribution Pension	Alaska Retiree Healthcare Trust	Other Postemployment Benefit Plans			System Total June 30, 2016	System Total June 30, 2015
				Occupational Death and Disability	Retiree Medical	Healthcare Reimbursement Arrangement		
Assets:								
Cash and cash equivalents (note 3):								
Short-term fixed income pool	\$ 37,839	5,947	24,703	34	1,217	2,004	71,744	157,658
Empower money market fund - nonparticipant directed	—	3,155	—	—	—	—	3,155	1,461
Total cash and cash equivalents	37,839	9,102	24,703	34	1,217	2,004	74,899	159,119
Receivables:								
Contributions	4,729	13	10	—	2	3	4,757	4,039
Due from State of Alaska General Fund	322	3,413	1,157	—	465	619	5,976	8,798
Other account receivable	87	—	—	—	—	—	87	87
Total receivables	5,138	3,426	1,167	—	467	622	10,820	12,924
Investments (note 3), at fair value:								
Fixed income securities:								
U.S. Treasury fixed income pool	227,541	—	116,519	144	1,032	3,069	348,305	437,297
Taxable municipal bonds	55,950	—	28,651	35	254	755	85,645	75,307
Tactical fixed income pool	33,088	—	19,816	26	330	687	53,947	40,454
High yield fixed income pool	173,939	—	89,074	110	788	2,346	266,254	206,320
International fixed income pool	78,664	—	40,282	50	356	1,061	120,413	127,353
Emerging markets debt pool	33,705	—	17,260	21	153	455	51,594	53,978
Total fixed income securities	602,887	—	311,599	386	2,913	8,373	926,158	940,709
Broad domestic equity:								
Large cap pool	1,062,684	—	544,181	672	4,819	14,335	1,626,691	1,768,356
Small cap pool	226,057	—	115,759	143	1,025	3,049	346,033	382,597
Total broad domestic equity	1,288,741	—	659,940	815	5,844	17,384	1,972,724	2,150,953
Broad international equity:								
International equity pool	983,607	—	503,687	622	4,460	13,268	1,505,644	1,648,254
International equity small cap pool	66,801	—	34,207	42	303	901	102,254	107,781
Frontier market pool	—	—	—	—	—	—	—	1,805
Emerging markets equity pool	141,355	—	72,385	89	641	1,907	216,377	209,231
Total broad international equity	1,191,763	—	610,279	753	5,404	16,076	1,824,275	1,967,071
Alternative equity:								
Alternative equity	168,091	—	86,076	106	762	2,267	257,302	228,880
Convertible bond pool	42,259	—	21,640	27	192	570	64,688	65,684
Total alternative equity	210,350	—	107,716	133	954	2,837	321,990	294,564
Private equity pool	394,247	—	201,887	249	1,788	5,318	603,489	609,257
Absolute return pool	325,343	—	166,602	206	1,475	4,389	498,015	450,342
Real assets:								
Real estate pool	314,200	—	160,649	198	1,422	4,232	480,701	438,844
Real estate investment trust pool	75,450	—	38,637	48	342	1,018	115,495	108,619
Infrastructure private pool	68,611	—	35,134	43	311	925	105,024	95,753
Infrastructure public pool	44,420	—	22,747	28	201	599	67,995	83,565
Master limited partnership pool	104,493	—	53,509	66	474	1,410	159,952	174,984
Energy pool	15,357	—	7,864	10	70	207	23,508	33,898
Farmland pool	173,323	—	88,756	110	786	2,338	265,313	256,376
Timber pool	80,837	—	41,395	51	367	1,090	123,740	127,800
Treasury inflation protected securities pool	11,923	—	6,105	7	54	161	18,250	44,379
Total real assets	888,614	—	454,796	561	4,027	11,980	1,359,978	1,364,218
Other investment funds, at fair value:								
Pooled investment funds	—	159,045	—	—	—	—	159,045	132,377
Collective investment funds	—	127,067	—	—	—	—	127,067	117,709
Total other investment funds	—	286,112	—	—	—	—	286,112	250,086
Total investments	4,901,945	286,112	2,512,819	3,103	22,405	66,357	7,792,741	8,027,200
Other assets	—	—	711	—	—	—	711	711
Total assets	4,944,922	298,640	2,539,400	3,137	24,089	68,983	7,879,171	8,199,954
Liabilities:								
Accrued expenses	2,721	65	1,896	—	10	1	4,693	4,748
Claims payable (note 6)	—	—	13,924	—	—	—	13,924	14,451
Forfeiture payable	—	8,977	—	—	—	—	8,977	7,592
Due to State of Alaska General Fund	—	—	—	—	—	—	—	4,425
Total liabilities	2,721	9,042	15,820	—	10	1	27,594	31,216
Net position held in trust for pension benefits, postemployment healthcare benefits, and individuals	\$ 4,942,201	289,598	2,523,580	3,137	24,079	68,982	7,851,577	8,168,738

See accompanying notes to financial statements.

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Combining Statement of Changes in Fiduciary Net Position
Year Ended June 30, 2016
(With comparative totals for June 30, 2015)
(In thousands)

	Defined Benefit Pension	Defined Contribution Pension	Other Postemployment Benefit Plans				System Total June 30, 2016	System Total June 30, 2015
			Alaska Retiree Healthcare Trust	Occupational Death and Disability	Retiree Medical	Healthcare Reimbursement Arrangement		
Additions:								
Contributions:								
Employers	\$ 33,478	20,280	26,580	1	6,317	9,301	95,957	95,249
Plan members	42,654	24,904	306	—	—	—	67,864	68,002
Nonemployer State of Alaska	90,589	—	39,519	—	—	—	130,108	2,000,000
Total contributions	166,721	45,184	66,405	1	6,317	9,301	293,929	2,163,251
Investment income (loss):								
Net appreciation (depreciation) in fair value	(112,740)	1,567	(54,159)	(66)	(275)	(1,095)	(166,768)	117,838
Interest	19,281	49	9,723	12	75	238	29,378	27,979
Dividends	72,980	—	36,921	45	286	903	111,135	105,189
Total investment income (loss)	(20,479)	1,616	(7,515)	(9)	86	46	(26,255)	251,006
Less investment expense	10,861	843	5,555	1	4	15	17,279	15,117
Net investment income (loss)	(31,340)	773	(13,070)	(10)	82	31	(43,534)	235,889
Other:								
Other	95	8	9,744	1	—	—	9,848	15,441
Total additions	135,476	45,965	63,079	(8)	6,399	9,332	260,243	2,414,581
Deductions:								
Pension and postemployment benefits	435,699	—	122,954	—	—	—	558,653	526,094
Refunds of contributions	1,883	7,677	—	—	—	—	9,560	9,232
Administrative	2,648	938	5,511	8	86	—	9,191	9,243
Total deductions	440,230	8,615	128,465	8	86	—	577,404	544,569
Net increase (decrease)	(304,754)	37,350	(65,386)	(16)	6,313	9,332	(317,161)	1,870,012
Net position held in trust for pension benefits, postemployment healthcare benefits, and individuals:								
Balance, beginning of year	5,246,955	252,248	2,588,966	3,153	17,766	59,650	8,168,738	6,298,726
Balance, end of year	\$ 4,942,201	289,598	2,523,580	3,137	24,079	68,982	7,851,577	8,168,738

See accompanying notes to financial statements.

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(1) Description

The State of Alaska Teachers' Retirement System (TRS or the System) is a component unit of the State of Alaska (the State). The System is governed by the Alaska Retirement Management Board (the Board), which 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 Public Employees' Retirement System (PERS) or TRS; two trustees who are members of PERS; and two trustees who are members of TRS.

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

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

At June 30, 2016 and 2015, the number of participating local government employers and public organizations including the State was as follows:

State of Alaska	1
School districts	53
Other	3
Total employers	57

Inclusion in the Defined Benefit Pension Plan (DB Plan) and Defined Contribution Retirement Pension Plan (DCR Plan) is a condition of employment for permanent school district, University of Alaska, and State Department of Education employees who meet the eligibility requirements for participation.

Defined Benefit Pension Plan

General

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

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The DB Plan's membership consisted of the following at June 30, 2016:

Inactive plan members or beneficiaries currently receiving benefits	12,444
Inactive plan members entitled to but not yet receiving benefits	2,913
Active plan members	<u>5,181</u>
Total DB Plan membership	<u><u>20,538</u></u>

Pension Benefits

Vested members hired prior to July 1, 1990 are entitled to pension benefits beginning at normal retirement age, 55, or early retirement age, 50. For members hired after June 30, 1990, the normal and early retirement ages are 60 and 55, respectively. Members may also retire at any age and receive a normal benefit when they accumulate the required credited service.

The normal annual pension benefit is based on years of service and average base salary. The average base salary is based upon the members' three highest contract years' salaries.

The benefit related to all years of credited service prior to July 1, 1990 and for years of service through a total of 20 years is equal to 2% of the employee's average base salary. The benefit for each year over 20 years of service subsequent to June 30, 1990 is equal to 2.5% of the employee's base salary.

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 benefits are payable under the 1% supplemental contributions provision.

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.

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Contributions

Contributions 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 members contribute 8.65% of their base salary as required by statute. Employer effective contribution rates are 12.56% of annual payroll. Alaska Statute 14.25.085 provides that additional State contributions be made each July 1, or as 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 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 DCR Plan payroll. The DBUL amount is computed as the difference between:

- (A) The amount calculated for the statutory employer contribution rate of 12.56% 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 employee 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 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 7.0% per annum, compounded semiannually.

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Defined Contribution Retirement 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, 2016, membership in the DC Plan consisted of 4,378 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 8.0% contribution rate for DCR Plan members. Employers are required to contribute 7.0% of the member's compensation.

Participant Distributions and Refunds of Contributions

A member is eligible to elect 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. Investment options are disclosed in note 3.

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.

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Defined Benefit Other Postemployment Benefit Plans

Alaska Retiree Healthcare Trust Plan

Beginning July 1, 2007, the Alaska Retiree Healthcare Trust Plan (ARHCT), a healthcare trust fund of the State, was established. The ARHCT is self-funded and provides major medical coverage to retirees of the System. The System retains the risk of loss of allowable claims for eligible members. The ARHCT began paying member healthcare claims on March 1, 2008. Prior to that, healthcare claims were paid for by the Retiree Health Fund (RHF).

Membership in the plan was as follows as of June 30, 2016:

Inactive plan members or beneficiaries currently receiving benefits	12,444
Inactive plan members entitled to but not yet receiving benefits	2,913
Active plan members	5,181
Total DB Plan membership	20,538

OPEB Benefits

When pension benefits begin, major medical benefits are provided without cost to (1) all members first hired before July 1, 1990, (2) members hired after July 1, 1990 with 25 years of membership service, and (3) members who are disabled or age 60 or older, regardless of their initial hire dates. Members first hired after June 30, 1990 may receive major medical benefits prior to age 60 by paying premiums.

Contributions

Employer contribution rates are actuarially determined and adopted by the Board. The 2016 employer effective contribution rate is 12.56% of member's compensation.

Occupational Death and Disability Plan

The Occupational Death and Disability Plan provides death benefits for beneficiaries of plan participants and long-term disability benefits to all active members with the System. Members in the Death and Disability Plan consisted of the following at June 30, 2016:

Active plan members	4,378
Participating employers	57
Open claims	—

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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, 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.

When benefits are payable under the 1% supplemental contribution provision, the DB Plan member's spouse is eligible for a spouse's pension if there is/are no dependent child(ren). If there is/are dependent child(ren), a survivor's allowance may be payable to the DB Plan member's spouse, or guardian of the dependent child(ren). The amount of the pension or allowance is determined by the DB Plan member's base salary. DB Plan members first hired after June 30, 1982 are not eligible to participate in this provision.

If an active DB Plan member dies from occupational causes, the spouse may receive a monthly pension from the DB Plan. When death is due to occupational causes and there is no surviving spouse, the DB Plan member's dependent child(ren) may receive a monthly pension until the child(ren) is(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 is 40% of the member's base salary at the time of death. 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 base salary at the time of death and the credited service that would have accrued had the DB Plan member lived and continued to work until normal retirement. If benefits are payable under the 1% supplemental contribution provision, benefits are not payable under this provision. 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 base salary 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).

The monthly survivor's pension section for survivors of DCR Plan employees is 40% of the employee's 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.

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Disability Benefits

If a DB Plan member has been in membership service for five or more years for which contributions have been made, is not eligible for normal retirement benefits, and becomes permanently disabled, the DB Plan member is entitled to a monthly benefit. The annual disability benefit is equal to 50% of the base salary at the time of the disability plus an additional 10% of his/her base salary for each dependent child up to a maximum of four children. At normal retirement age, a disabled System member receives normal retirement benefits.

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 employee'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 2016, the rate is 7.00%.

Retiree Medical Plan

The retiree medical plan is established under AS 14.25.480 – Medical benefits. The Department of Administration, Division of Retirement & Benefits, who administers the System's health plans, is in the process of formalizing and finalizing the retiree medical plan. Members will be eligible for the DC Plan's health benefits plan beginning in June 2016. Currently, no members are eligible to use this plan until they have at least 10 years of service.

Defined Contribution Other Postemployment Benefit Plan

The Healthcare Reimbursement Arrangement Plan was established to allow medical expenses to be reimbursed from individual savings accounts established for eligible participants. For each member of the plan, an employer shall contribute an amount equal to 3.0% of the average annual compensation of all employees of all employers in the System. As of June 30, 2016, there were 6,842 members and 57 participating employers.

(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 revenues 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.

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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 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 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 are comprised of commingled investment funds, alongside other investors, through ownership of equity shares.

Contributions Receivable

Contributions from the System's members and employers 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.

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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 Section 401(a) and 414(d) of the Internal Revenue Code and are exempt from federal income taxes under Section 501(a).

GASB Statement No. 67

GASB Statement No. 67, Financial Reporting for Pension Plans, requires the disclosures of the total pension liability, fiduciary net position, and net pension liability for single-employer and cost-sharing multiple-employer defined benefit pension plans. GASB Statement No. 67 also requires certain additional note disclosures for defined benefit pension plans including the annual money-weighted rate of return on plan investments. GASB Statement No. 67 revised the reporting requirements for required supplementary information to include schedules that provide trend information related to (1) changes in the net pension liability, (2) the actuarially and contractually determined contributions of employer contributing entities, and (3) the annual money-weighted rate of return on plan investments.

(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 the assets under the Prudent Investor Rule. Fiduciary responsibility for the Board's Invested Assets is pursuant to Alaska Statute 37.10.210-390.

Alaska Statute 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.

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 DC 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, Dow Jones Dividend 100 Index Fund in the Alternative Equity Strategies Pool, Real Estate Investment Trust Pool, Treasury Inflation Protected Securities (TIPS) Pool, and cash holdings of certain external

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managers 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, 2016 for the defined benefit pension plan is -0.67%.

For additional information on 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>.

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(4) Net Pension Liability – Defined Benefit Pension Plan

The components of the net pension liability of the participating employers at June 30, 2016 were as follows (in thousands):

Total pension liability	\$	7,225,545
Plan fiduciary net position		<u>(4,942,201)</u>
Employers' net pension liability	\$	<u>2,283,344</u>
Plan fiduciary net position as a percentage of the total pension liability		68.40%

Actuarial Assumptions

The total pension liability was determined by an actuarial valuation as of June 30, 2015, using the following actuarial assumptions, applied to all periods included in the measurement, and rolled forward to the measurement date of June 30, 2016:

Inflation	3.12%
Salary increases	Graded by service, from 8.11% to 3.87%
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 rate of return of 4.88%.

Post-termination mortality rates were based on 94% of the male rates and 97% of the female rates of the RP-2000 Mortality Table, 2000 Base Year projected to 2018 with Projection Scale BB, with a three-year setback for males and four-year setback for females. The rates for pre-termination mortality were 68% of the male rates and 60% of the female rates of the post-termination mortality rates. Deaths are assumed to result from nonoccupational causes 85% of the time.

The actuarial assumptions used in the June 30, 2015 actuarial valuation were based on the results of an actuarial experience study for the period July 1, 2009 to June 30, 2013, resulting in changes in actuarial assumptions effective for the June 30, 2014 actuarial valuation adopted by the Board to better reflect expected future experience. The assumptions used in the June 30, 2015 actuarial valuation are the same as those used in the June 30, 2014 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 with the target asset allocation percentage and by adding expected inflation. Best estimates of arithmetic real rates of return for each major asset class included in the pension plan's target asset allocation as of June 30, 2015 (see the discussion of the pension plan's investment policy) are summarized in the following table:

Asset class	Long-term expected real rate of return
Domestic Equity	5.35%
Global Equity (non-U.S.)	5.55
Private Equity	6.25
Fixed Income Composite	0.80
Real Estate	3.65
Alternative Equity	4.70
Cash equivalents	—

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 nonemployer 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.

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

The following presents the net pension liability of the System calculated using the discount rate of 8%, 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 (7%) or one-percentage-point higher (9%) than the current rate:

	1% Decrease (7%)	Current discount rate (8%)	1% Increase (9%)
Net pension liability	\$ 3,111,338	2,283,343	1,589,141

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(5) Defined Benefit OPEB Funding Status

The funded status of the retiree healthcare trust, occupational death and disability plan, and retiree medical benefits is as follows (in thousands):

	<u>Actuarial valuation date</u>	<u>Actuarial accrued liability (AAL) entry age</u>	<u>Actuarial valuation assets</u>	<u>Funded ratio</u>	<u>Unfunded actuarial accrued liability (UAAL)</u>	<u>Covered payroll</u>	<u>UAAL as a percentage of covered payroll</u>
Healthcare trust	June 30, 2015	\$ 4,840,935	2,686,272	55.5%	\$ 2,154,663	\$ 503,166	428.2%
Occupational death and disability plan	June 30, 2015	29	3,114	10,737.9	(3,085)	255,186	(1.2)
Retiree medical	June 30, 2015	42,743	17,733	41.5	25,010	255,186	9.8

The funding ratio as of June 30, 2015 has increased. The increase in funding ratio was primarily due to positive experiences in demographic experience and retiree medical costs compared to expected costs that led to this increase.

Actuarial valuations of an ongoing plan involve estimates of the value of reported amounts and assumptions about the probability of occurrence of events far into the future. Examples include assumptions about future employment, mortality, and healthcare cost trend. Actuarially determined amounts are subject to continual revisions as actual results are compared with past expectations and new estimates are made about the future. The schedules of funding progress, presented as required supplementary information following the notes to the financial statements, present multiyear trend information about whether the actuarial values of plan assets are increasing or decreasing over time relative to the actuarial accrued liabilities for benefits.

The accompanying schedules of contributions (unaudited) from employers present trend information about the amounts contributed to the plan by employers in comparison to the actuarially required contribution (ARC), an amount that is actuarially determined in accordance with the parameters of GASB Statement No. 43. The ARC represents a level of funding that, if paid on an ongoing basis, is projected to cover normal cost for each year and amortize any unfunded actuarial liabilities (or funding excess) over a period not to exceed 30 years.

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Projections of benefits for financial reporting purposes are based on the substantive plan (the plan as understood by the employer and plan members) and include the types of benefits provided at the time of each valuation and the historical pattern of sharing benefit costs between the employer and the plan members to that point. The actuarial method and assumptions used include techniques that are designed to reduce the effects of short-term volatility in actuarial accrued liabilities and the actuarial value of assets, consistent with the long-term perspective of the calculations. Additional information as of the latest actuarial valuation is as follows:

June 30, 2015

	Defined Benefit
Actuarial cost method	Entry age normal; level percentage of pay normal cost basis for pension and healthcare
Amortization method	Level percentage of pay, closed for pension; level dollar, closed for healthcare
Equivalent single amortization period	25 years as of June 30, 2014
Asset valuation method	5-year smoothed market value starting FY 2015
Actuarial assumptions:	
Investment rate of return	8.00% for pension (net of expenses), 4.31% for healthcare; includes price inflation at 3.12%
Projected salary increases	8.11% grading down to 3.87% after 22 years
Cost-of-living adjustment	Postretirement pension adjustment

June 30, 2015

	ODD and Retiree Medical
Actuarial cost method	Entry age normal; level percentage of pay normal cost basis for occupational death and disability, and level dollar normal cost basis for retiree medical
Amortization method	Level percentage of pay for occupational death and disability, level dollar for retiree medical, closed with bases established annually
Equivalent single amortization period	20 years to reflect retiree medical liabilities without regard to Medicare Part D
Asset valuation method	5-year smoothed market 80%/120% of fair value corridor
Actuarial assumptions:	
Investment rate of return	8.00% for pension, 5.08% for healthcare; includes price inflation at 3.12% occupational death and disability, and retiree medical
Projected salary increases	8.11% for first 5 years of service grading down to 3.87% after 22 years

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GASB Statement No. 43 requires that the discount rate used in the valuation be the estimated long-term yield on investments that are expected to finance postemployment benefits. Depending on the method by which a plan is financed, the relevant investments could be plan assets, employer assets, or a combination of plan and employer assets. The investment return should reflect the nature and the mix of both current and expected investments and the basis used to determine the actuarial value of assets.

The System's retiree healthcare benefits are partially funded. GASB Statement No. 43 outlines two reasonable methods of developing a blended discount rate when a plan is partially funded. These methods base the proportion of assumed plan and employer asset returns on (1) the funded ratio and (2) the percentage of the ARC actually being contributed to the plan. The State has utilized the second methodology to develop a discount rate of 4.31% as of June 30, 2013, to be used for June 30, 2016 disclosure.

The System's retiree medical benefits are fully funded. Therefore, the 8.00% discount rate used for GASB Statement No. 25 reporting is also applied herein for GASB Statement No. 43 reporting.

Based on GASB accounting rules, the retiree drug subsidy (RDS) the State receives under Medicare Part D has not been recognized for GASB Statement No. 43 disclosure purposes.

Financial Section

State of Alaska
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Notes to Financial Statements

June 30, 2016

(With summarized financial information for June 30, 2015)

(6) Claims Payable

The liability for claims incurred but not reported represents the estimated amounts 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.

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

	<u>2016</u>	<u>2015</u>
Beginning of year:		
Due to State of Alaska General Fund for outstanding warrants	\$ 4,192	—
Incurred but not reported	<u>14,451</u>	<u>18,979</u>
Total, beginning of year	18,643	18,979
Benefit deductions	122,954	109,740
Benefits paid	<u>(127,099)</u>	<u>(110,076)</u>
Total, end of year	<u>\$ 14,498</u>	<u>18,643</u>
End of year:		
Due to State of Alaska General Fund for outstanding warrants	\$ —	4,192
Warrants outstanding	574	—
Incurred but not reported	<u>13,924</u>	<u>14,451</u>
Total, end of year	<u>\$ 14,498</u>	<u>18,643</u>

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June 30, 2016
(With summarized financial information for June 30, 2015)

(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 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 Plan was approved for participation in the Medicare Part D program beginning calendar year 2006.

REQUIRED SUPPLEMENTARY INFORMATION

(Unaudited)

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)

	<u>2016</u>	<u>2015</u>	<u>2014</u>	<u>2013</u>	<u>2012</u>
Total pension liability:					
Service cost	\$ 61,011	63,608	64,324	69,113	69,548
Interest	550,392	540,981	515,325	517,511	501,252
Changes of benefit terms	—	—	—	—	—
Differences between expected and actual experience	(55,682)	(5,693)	—	1,108	10,986
Changes of assumptions	—	156,854	—	—	—
Benefit payments, including refunds of member contributions	(437,582)	(418,545)	(399,001)	(397,956)	(378,113)
Net change in total pension liability	118,139	337,205	180,648	189,776	203,673
Total pension liability – beginning	7,107,406	6,770,201	6,589,553	6,399,777	6,196,104
Total pension liability – ending (a)	7,225,545	7,107,406	6,770,201	6,589,553	6,399,777
Plan fiduciary net position:					
Contributions – employer	33,478	36,374	37,571	37,372	38,189
Contributions – member	42,654	45,506	47,724	50,201	52,020
Contributions – nonemployer entity (State)	90,589	1,662,700	208,890	196,945	157,387
Total net investment income (loss)	(31,340)	152,561	599,958	373,868	2,190
Other miscellaneous income	95	9	27	19	17
Benefit payments, including refunds of member contributions	(437,582)	(418,545)	(399,001)	(382,933)	(363,839)
Administrative expenses	(2,648)	(2,789)	(3,160)	(2,989)	(2,847)
Net change in plan fiduciary net position	(304,754)	1,475,816	492,009	272,483	(116,883)
Plan fiduciary net position – beginning	5,246,955	3,771,139	3,279,130	3,006,647	3,123,530
Plan fiduciary net position – ending (b)	4,942,201	5,246,955	3,771,139	3,279,130	3,006,647
Plan's net pension liability (a) - (b)	\$ 2,283,344	1,860,451	2,999,062	3,310,423	3,393,130
Plan fiduciary net position as a percentage of the total pension liability	73.82%	73.82%	55.70%	49.76%	46.98%
Covered-employee payroll	\$ 473,734	490,667	514,035	550,044	561,971
Net pension liability as a percentage of covered-employee payroll	481.99%	379.17%	583.44%	601.85%	603.79%

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
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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>2016</u>	<u>2015</u>	<u>2014</u>	<u>2013</u>	<u>2012</u>
Actuarially determined contribution	\$ 359,790	321,971	240,366	259,786	229,509
Contributions in relation to the actuarially determined contribution	<u>124,067</u>	<u>1,699,074</u>	<u>246,461</u>	<u>234,317</u>	<u>195,576</u>
Contribution deficiency (excess)	<u>\$ 235,723</u>	<u>(1,377,103)</u>	<u>(6,095)</u>	<u>25,469</u>	<u>33,933</u>
Covered-employee payroll	\$ 473,734	490,667	514,035	550,044	561,971
Contributions as a percentage of covered-employee payroll	26.19%	346.28%	47.95%	42.60%	34.80%

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

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

Required Supplementary Information (Unaudited)
Schedule of Employer and Nonemployer Contributions
Defined Benefit Pension Plan
Last 10 Fiscal Years (continued)

(In thousands)

	<u>2011</u>	<u>2010</u>	<u>2009</u>	<u>2008</u>	<u>2007</u>
Actuarially determined contribution	\$ 167,978	170,788	94,388	134,544	169,974
Contributions in relation to the actuarially determined contribution	<u>142,147</u>	<u>134,275</u>	<u>131,533</u>	<u>142,550</u>	<u>105,775</u>
Contribution deficiency (excess)	<u>\$ 25,831</u>	<u>36,513</u>	<u>(37,145)</u>	<u>(8,006)</u>	<u>64,199</u>
Covered-employee payroll	\$ 584,068	564,887	557,026	549,148	554,245
Contributions as a percentage of covered-employee payroll	24.34%	23.77%	23.61%	25.96%	19.08%

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

	<u>2016</u>	<u>2015</u>	<u>2014</u>
Annual money-weighted rate of return, net of investment expense	(0.36)%	3.30%	18.41%

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
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Required Supplementary Information (Unaudited)

Schedules of Funding Progress

Defined Benefit OPEB Plans

June 30, 2016
 (In thousands)

Alaska Retiree Healthcare Trust Plan

Actuarial valuation year ended June 30	Actuarial accrued liabilities (AAL)	Actuarial value of plan assets	Funded ratio	Unfunded actuarial accrued liabilities (UAAL)	Covered payroll	UAAL as a percentage of covered payroll
2008	\$ 4,648,055	1,266,890	27.3%	\$ 3,381,165	549,148	615.7%
2009	4,604,820	1,357,239	29.5	3,247,581	557,026	583.0
2010	3,076,388	1,479,260	48.1	1,597,128	564,887	282.7
2011	3,635,492	1,591,988	43.8	2,043,504	584,068	349.9
2012	5,046,942	1,674,160	33.2	3,372,782	561,971	600.2
2013	5,002,345	1,803,763	36.1	3,198,582	550,044	581.5
2014	3,114,113	2,248,135	72.2	865,978	523,580	165.4
2015	4,840,935	2,686,272	55.5	2,154,663	503,166	428.2

Occupational Death and Disability Benefits Plan

Actuarial valuation year ended June 30	Actuarial accrued liabilities (AAL)	Actuarial value of plan assets	Funded ratio	Unfunded actuarial accrued liabilities (UAAL)	Covered payroll	UAAL as a percentage of covered payroll
2008	\$ 44	420	954.5%	\$ (376)	56,369	(0.7)%
2009	14	1,071	7,650.0	(1,057)	89,708	(1.2)
2010	18	1,577	8,761.1	(1,559)	118,813	(1.3)
2011	57	2,193	3,847.4	(2,136)	170,606	(1.3)
2012	63	2,348	3,727.0	(2,285)	200,043	(1.1)
2013	80	2,532	3,165.0	(2,452)	206,771	(1.2)
2014	23	2,820	12,260.9	(2,797)	229,971	(1.2)
2015	29	3,114	10,737.9	(3,085)	255,186	(1.2)

Retiree Medical Benefits Plan

Actuarial valuation year ended June 30	Actuarial accrued liabilities (AAL)	Actuarial value of plan assets	Funded ratio	Unfunded actuarial accrued liabilities (UAAL)	Covered payroll	UAAL as a percentage of covered payroll
2008	\$ 899	1,308	145.5%	\$ (409)	56,369	(0.7)%
2009	1,690	2,353	139.2	(663)	89,708	(0.7)
2010	2,809	3,895	138.7	(1,086)	118,813	(0.9)
2011	4,386	5,373	122.5	(987)	170,606	(0.6)
2012	19,427	6,937	35.7	12,490	200,043	6.2
2013	25,152	8,614	34.2	16,538	206,771	8.0
2014	18,290	10,791	59.0	7,499	229,971	3.3
2015	42,743	17,733	41.5	25,010	255,186	9.8

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

Financial Section

State of Alaska
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Required Supplementary Information (Unaudited)
Schedules of Contributions from Employers and the State of Alaska
Defined Benefit OPEB Plans

June 30, 2016
(In thousands)

Alaska Retiree Healthcare Trust Plan

Year ended June 30	Actuarial valuation year ended June 30 ⁽¹⁾	Annual required contribution	Percentage contributed		
			By employer	By State of Alaska (note 3)	Total percentage contributed (note 3)
2008	2005	\$ 185,271	23.6%	85.7%	109.3%
2009	2006	164,171	28.7	62.1	90.8
2010 ⁽²⁾	2007	312,922	13.6	38.8	52.4
2011	2008	167,686	25.8	51.5	77.3
2012	2009	192,700	18.8	46.6	65.4
2013	2010	330,411	10.7	33.3	44.0
2014	2011	320,797	10.0	35.6	45.6
2015	2012	352,417	7.6	100.1	107.7

⁽¹⁾ Actuarial valuation related to annual required contribution for fiscal year.

⁽²⁾ In the year ended June 30, 2010, the postemployment healthcare annual required contribution and percentage contributed included the Mercer legal settlement, net of legal fees, as well as the Medicare Part D subsidy contributed by the State to the healthcare fund.

Occupational Death and Disability Benefits Plan

Year ended June 30	Annual required contribution	Percentage of ARC contributed
2008	\$ 408	100.0%
2009	623	100.0
2010	442	100.0
2011	474	100.0
2012	—	100.0
2013	—	100.0
2014	—	100.0
2015	—	100.0

Retiree Medical Benefits Plan

Year ended June 30	Annual required contribution	Percentage of ARC contributed
2008	\$ 763	85.0%
2009	1,162	85.0
2010	1,628	87.0
2011	1,422	81.0
2012	1,420	82.0
2013	1,241	89.0
2014	1,334	89.0
2015	6,099	93.0

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

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Notes to Required Supplementary Information (Unaudited)

June 30, 2016

(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 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 Buck Consultants. The significant actuarial assumptions used in the defined benefit pension and postemployment healthcare benefit plan valuation as of June 30, 2015 are as follows:

- (a) Actuarial cost method – Entry Age Normal Actuarial Cost method of funding. Any funding surplus or unfunded accrued liability is 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.
- (b) Valuation of assets – The actuarial asset value was reinitialized to equal fair value of assets as of June 30, 2014. Beginning in 2015, 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, such as 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. The valuation is prepared based on the participant census data that was readily available. Certain pension fields have been used to clarify the retiree medical data provided. This serves as a proxy until additional retiree medical data can be provided.
- (d) Investment return/discount rate – 8.00% per year (geometric), compounded annually, net of expenses.
- (e) Salary scale – Inflation 3.12% per year and productivity 0.50% per year.
- (f) Payroll growth – 3.62% per year (inflation + productivity).

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June 30, 2016

- (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 (pre-termination) – Based upon the 2010–2013 actual experience. 68% of male rates and 60% of female rates of post-termination mortality. Deaths are assumed to result from nonoccupational causes 85% of the time. The mortality assumptions include an allowance for future mortality improvement. The mortality table used was set in 2014 with an actual deaths to expected deaths ratio of 110%.
- (i) Mortality (post-termination) – Based upon the 2010–2013 actual experience study. 94% of male and 97% of female rates of RP-2000, 2000 base year, projected to 2018 with Projection Scale BB, with a three-year setback for males and a four-year setback for females. The mortality assumptions include an allowance for future mortality improvement. The mortality table used was set in 2014 with an actual deaths to expected deaths ratio of 110%.
- (j) Turnover – Select and ultimate rates based upon the 2010–2013 actual withdrawal experience.
- (k) Disability – Incidence rates based upon the 2010–2013 actual experience. Post-disability mortality in accordance with the RP-2000 Disabled Retiree Mortality Table, 2000 Base Year, projected to 2018 with Projection Scale BB.
- (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. 85% of male members and 75% of female members are assumed to be married.
- (n) Dependent children – Benefits to dependent children have been valued assuming members who are married and between the ages of 25 and 45 have two dependent children.
- (o) Contribution refunds – 5% 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) Teacher 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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June 30, 2016

- (r) Cost of living allowance (COLA) – Of those benefit recipients who are eligible for the COLA, 60% are assumed to remain in Alaska and receive the COLA.
- (s) Sick leave – 4.5 days of unused sick leave for each year of service are assumed to be available to be credited once the member retires, terminates, or dies.
- (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 members are assumed to earn 0.75 years of credited service per year.
- (w) Re-employment option – All re-employed retirees are assumed to return to work under the Standard Option.
- (x) Service – Total credited service is provided by the State. The actuary assumes that this service is the only service that should be used to calculate benefits. Additionally, the State provides claimed service (including Bureau of Indian Affairs Service). Claimed service is used for vesting and eligibility purposes.
- (y) 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.
- (z) Per capita claims cost – Sample claims cost rates adjusted to age 65 for FY16 medical benefits are shown below:

	Medical	Prescription drugs
Pre-Medicare	\$ 11,724	2,753
Medicare Parts A and B	1,461	2,753
Medicare Part B Only	6,700	2,753
Medicare Part D	N/A	496

- (aa) Third-party administrator fees – \$194.18 per person per year; assumed trend rate of 5% per year.
- (bb) Medicare Part B Only – For actives 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.

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June 30, 2016

- (cc) 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, 9.4% is applied to the FY16 pre-Medicare medical claims costs to get the FY17 medical claims cost.

Fiscal year	Medical Pre-65	Medical Post-65	Prescription drugs
2016	9.4%	5.9%	5.7%
2017	8.8	5.8	5.4
2018	8.2	5.7	5.1
2019	7.6	5.6	4.8
2020	7.0	5.6	4.6
2021	6.5	5.6	4.4
2022	6.0	5.6	4.2
2025	5.6	5.6	4.0
2050	4.4	4.0	4.0
2100	4.4	4.0	4.0

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 effectively begins estimating trend amounts beginning in 2014 and projects out to 2090. This model has been populated with assumptions that are specific to the State of Alaska.

- (dd) Aging factors:

Age	Medical	Prescription drugs
0–44	2.0%	4.5%
45–54	2.5	3.5
55–64	3.5	3.0
65–73	4.0	1.5
74–83	1.5	0.5
84–93	0.5	—
94 +	—	—

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June 30, 2016

- (ee) Retired member contributions for medical benefits – Currently, contributions are required for TRS members who are under age 60 and have less than 25 years of service. Eligible Tier 1 members are exempt from contribution requirements. Annual FY16 contributions based on monthly rates shown below for calendar 2015 and 2016 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 who are assumed to retire prior to age 60 with less than 25 years of service and who are not disabled:

<u>Coverage category</u>	<u>Calendar 2016</u>		<u>Calendar 2015</u>
	<u>Annual contribution</u>	<u>Monthly contribution</u>	<u>Monthly contribution</u>
Retiree only	\$ 9,324	777	823
Retiree and spouse	18,648	1,554	1,647
Retiree and child(ren)	13,164	1,097	1,163
Retiree and family	22,500	1,875	1,987
Composite	13,848	1,154	1,223

- (ff) 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, 6.6% is applied to the FY16 retired member medical contributions to get the FY17 retired member medical contributions.

<u>Fiscal year</u>	<u>Trend Assumption</u>
2016	6.6%
2017	6.2
2018	5.8
2019	5.4
2020	5.0
2021	4.7
2025	4.1
2050	4.0
2100	4.0

Graded trend rates for retired member medical contributions were reinitialized for the June 30, 2014 valuation. Note that actual FY16 retired member medical contributions are reflected in the valuation, so trend on such contribution during FY16 is not applicable.

- (gg) 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.

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Notes to Required Supplementary Information (Unaudited)

June 30, 2016

The significant actuarial assumptions used in the defined contribution occupational death and disability and retiree medical benefits plan valuation as of June 30, 2015 are as follows:

- (a) Actuarial cost method – Liabilities and contributions are computed using entry age normal actuarial cost method. Any funding surplus 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, the net amortization period will not exceed 30 years. These requirements are being amended. Under the new accounting standards that will become applicable to postemployment benefit plans other than pension plans (GASB Statement Nos. 74 and 75), the GASB requirements will not directly control amortization periods used for funding of 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 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 audited financial statements. Valuation assets are constrained to a range of 80% to 120% of fair value of assets.
- (c) Valuation of retiree medical benefits – Due to the lack of experience for the DCR Plan only, base claims costs are based on those described in the actuarial valuation as of June 30, 2015 for TRS DB 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, and an indexing of the retiree out-of-pocket dollar amounts. To account for higher initial copays, deductibles, and out-of-pocket limits, upcoming FY16 claims costs were reduced 11.9% for medical and 7.1% for prescription drugs. The healthcare trend was reduced 0.2% each year to reflect the fact that the medical benefit to be offered to members will have annual indexing of member cost sharing features such as deductibles and out-of-pocket amounts. The valuation is prepared based on the participant census data that was readily available. Certain pension fields have been used to clarify the retiree medical data provided. This serves as a proxy until additional retiree medical data can be provided.
- (d) Investment return/discount rate – 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).
- (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 (pre-termination) – Based upon the 2010–2013 actual experience. 68% of male rates and 60% of female rates of post-termination mortality rates. Deaths are assumed to result from occupational causes 15% of the time. 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 110%.

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June 30, 2016

- (i) Mortality (post-termination) – Based upon the 2010–2013 actual experience 94% of male and 97% of female rates of RP-2000 Mortality Table, 2000 Base Year, projected to 2018 with Projection Scale BB, with a three-year setback for males and a four-year setback for females. Disability mortality in accordance with the RP-2000 Disabled Retiree Mortality 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 110%.
- (j) Turnover – Select and ultimate rates based upon the 2010–2013 actual withdrawal experience.
- (k) Disability – Incidence rates based upon the 2010–2013 actual experience. Disabilities are assumed to result from occupational causes 15% of the time.
- (l) Retirement – Retirement rates based upon the 2010–2013 actual experience. Deferred vested members are assumed to retire at their earliest unreduced retirement date.
- (m) Marriage and age difference – Wives are assumed to be three years younger than husbands. 85% of male members and 75% of female members are assumed to be married at termination from active service.
- (n) Per capita claims cost – Sample claims cost rates (before base claims cost adjustments described below) adjusted to age 65 for FY16 medical benefits are shown below:

	Medical	Prescription drugs
Pre-Medicare	\$ 11,724	2,753
Medicare Parts A and B	1,461	2,753
Medicare Part B Only	6,700	2,753
Medicare Part D	N/A	496

Members are assumed to attain Medicare eligibility at age 65.

- (o) Third-party administrator fees – \$194.18 per person per year; assumed trend rate of 5% per year.
- (p) 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: 0.881 for the medical plan and 0.929 for the prescription drug plan.
- (q) 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.

Financial Section

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

Notes to Required Supplementary Information (Unaudited)

June 30, 2016

- (q) Teacher 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.
- (s) 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, 9.4% is applied to the FY16 pre-Medicare medical claims cost to get the FY17 medical claims costs:

<u>Fiscal year</u>	<u>Medical Pre-65</u>	<u>Medical Post-65</u>	<u>Prescription drugs</u>
2016	9.4%	5.9%	5.7%
2017	8.8	5.8	5.4
2018	8.2	5.7	5.1
2019	7.6	5.6	4.8
2020	7.0	5.6	4.6
2021	6.5	5.6	4.4
2022	6.0	5.6	4.2
2025	5.6	5.6	4.0
2050	4.4	4.0	4.0
2100	4.4	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 effectively begins estimating trend amounts beginning in 2014 and projects out to 2090. This model has been adopted by the Society of Actuaries, and has been populated with assumptions that are specific to the State of Alaska.

Each of the above trend rates was reduced by 0.2% to reflect the fact that the medical benefit offered to members will have annual indexing of member cost sharing.

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

Notes to Required Supplementary Information (Unaudited)

June 30, 2016

(t) Aging factors:

Age	Medical	Prescription drugs
0-44	2.0%	4.5%
45-54	2.5	3.5
55-64	3.5	3.0
65-73	4.0	1.5
74-83	1.5	0.5
84-93	0.5	—
94 +	—	—

(u) Retiree medical participation:

Decrement due to disability		Decrement due to retirement	
Age	Percentage of participation	Age	Percentage of 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+	94.00	65+	
			Years of service
			<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.

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

Notes to Required Supplementary Information (Unaudited)

June 30, 2016

Changes in Actuarial Assumptions and Methods Since the Prior Valuation

Defined benefit pension and postemployment healthcare benefit plan

There have been no changes in actuarial assumptions since the prior valuation. Healthcare claim costs are updated annually.

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.

There have been no material changes in the asset or valuation methods since the prior valuation. To increase the efficiency of the data process, assumptions are used for individual data questions which are deemed to have an immaterial impact on liabilities and contribution rates.

Defined contribution occupational death and disability and retiree medical benefits plan

There have been no changes in assumptions or methods since the prior valuation. Healthcare claim costs are updated annually.

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.

There have been no material changes in the asset or valuation methods since the prior valuation. To increase the efficiency of the data process, assumptions are used for individual data questions which are deemed to have an immaterial impact on liabilities and contributions rates.

SUPPLEMENTAL SCHEDULES

Financial Section

State of Alaska
Teachers' Retirement System
(A Component Unit of the State of Alaska)
Schedule of Administrative and Investment Deductions
Years ended June 30, 2016 and 2015
(In thousands)

	<u>Administrative</u>	<u>Investment</u>	<u>Totals</u>	
			<u>2016</u>	<u>2015</u>
Personal services:				
Wages	\$ 1,612	85	1,697	1,717
Benefits	984	33	1,017	1,023
Total personal services	<u>2,596</u>	<u>118</u>	<u>2,714</u>	<u>2,740</u>
Travel:				
Transportation	9	38	47	57
Per diem	2	6	8	22
Total travel	<u>11</u>	<u>44</u>	<u>55</u>	<u>79</u>
Contractual services:				
Management and consulting	5,266	16,687	21,953	19,359
Accounting and auditing	99	11	110	416
Data processing	513	284	797	750
Communications	38	19	57	69
Advertising and printing	19	3	22	25
Rentals/leases	135	33	168	159
Legal	104	30	134	162
Medical specialists	22	—	22	20
Repairs and maintenance	—	—	—	5
Transportation	28	2	30	23
Other professional services	46	19	65	74
Total contractual services	<u>6,270</u>	<u>17,088</u>	<u>23,358</u>	<u>21,062</u>
Patient Protection and Affordable Care Act:				
Transitional Reinsurance Program	297	—	297	378
Total Patient Protection and Affordable Care Act	<u>297</u>	<u>—</u>	<u>297</u>	<u>378</u>
Other:				
Equipment	5	10	15	23
Supplies	12	19	31	78
Total other	<u>17</u>	<u>29</u>	<u>46</u>	<u>101</u>
Total administrative and investment deductions	<u>\$ 9,191</u>	<u>17,279</u>	<u>26,470</u>	<u>24,360</u>

See accompanying independent auditors' report.

State of Alaska
Teachers' Retirement System
(A Component Unit of the State of Alaska)
Schedule of Payments to Consultants
Other than Investment Advisors
Years ended June 30, 2016 and 2015
(In thousands)

Firm	Services	2016	2015
Buck Consultants, a Xerox Company	Actuarial services	\$ 316	395
KPMG LLP	Auditing services	95	107
State Street Bank Corporation	Custodian banking services	416	374
Applied Microsystems Inc.	Data processing consultants	157	203
Computer Task Group, Inc.	Data processing consultants	15	47
Wostmann Group LLC	Data processing consultants	117	101
SHI International	Data processing consultants	133	—
Interactive Intelligence Group	Data processing consultants	8	—
State of Alaska, Department of Law	Legal services	104	127
State of Alaska, Department of Health and Social Services	Medical specialists and consulting	97	15
		\$ 1,458	1,369

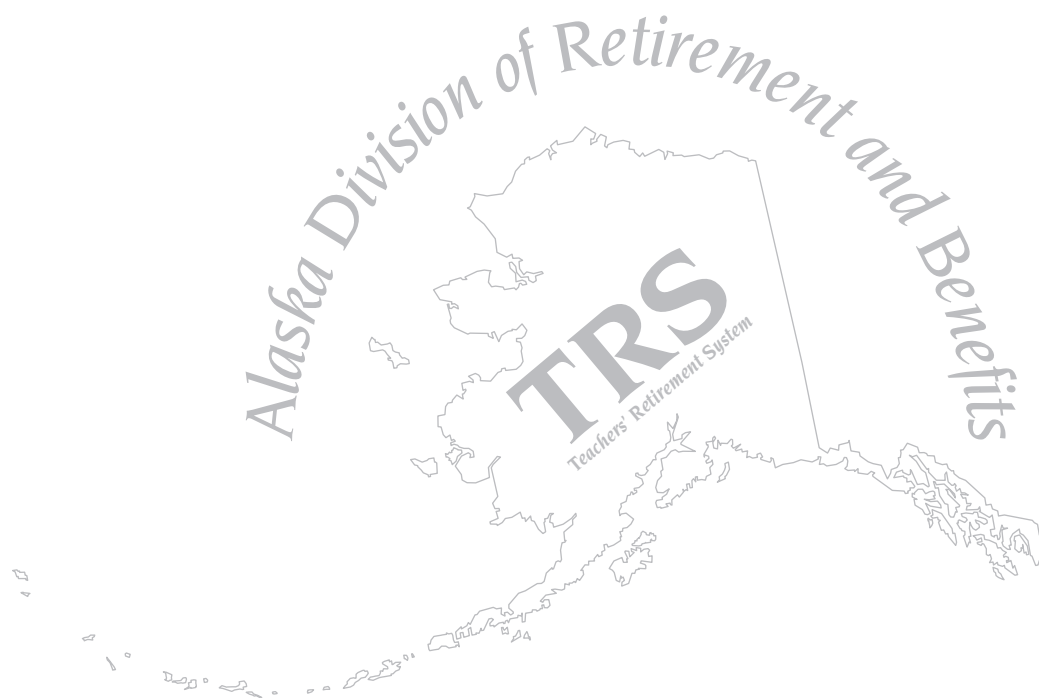
This schedule presents payments to consultants receiving greater than \$1,000.

See accompanying independent auditors' report.





INVESTMENT SECTION





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

Main 303.861.1900
Fax 303.832.8230

www.callan.com

September 14, 2016

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, 2016.

Callan Associates Inc. (Callan) independently 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, the Townsend Group, calculates returns for the real estate segment of the portfolio. Callan incorporates that data into the total plan returns.

Callan serves as ARMB's 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 were made using methodology similar to Global Investment Performance Standards.

ARMB's primary investment objective is to prudently and expertly invest assets, in accordance with governing law and industry practices, in a manner that will help ensure assets under supervision are sufficient to pay promised benefits to its members and their beneficiaries. In pursuit of this objective, ARMB periodically evaluates liabilities, expected contributions and potential earnings. This analysis is used to consider a wide range of potentially viable investment strategies. 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 asset allocation policy. This policy benchmark is a custom index comprised of equity, fixed income, real estate and other market indices weighted in the same proportions as ARMB's investment policy.

Equity markets in the U.S. recovered slowly but surely after a rough start to fiscal year 2016. The Russell 3000 Index, a measure of broad U.S. equity, clawed its way back from a 7.25% deficit at the end of September and finished June up 2.14% for the trailing 12 months. Returns for equities outside of the U.S. did not fare as well. International stocks, as measured by the MSCI ACWI ex-U.S. Index, lost 10.24% for the fiscal year. A broad measure of the total global equity market (MSCI All Country World Index) fell 3.73%.

Investment Section

A flattening yield curve during the period boosted fixed income performance. The Barclays Capital Aggregate Bond Index, a widely used gauge of the investment grade domestic bond market, gained 6.00%. Some absolute return strategies, such as hedge fund-of-funds, posted losses for much of the fiscal year. The Callan Absolute Return Hedge Fund-of-Funds Style median return was -3.24% (net-of-fee). Private real estate investments (NCREIF Property Index) turned in another solid year, returning 10.64%. Publicly traded real estate, as measured by the NAREIT Equity Index, performed over twice as well and increased 23.62%.

ARMB's various asset groups performed as follows:

Domestic stocks	1.01%
Int'l Stocks	-9.63%
Alternative Equity	3.54%
Fixed Income	5.14%
Real Assets	4.81%
Private Equity	4.71%
Absolute Return	-3.09%

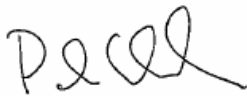
For the fiscal year, the Public Employees Retirement System (PERS) had a time-weighted total return of -0.36% and the Teachers Retirement System (TRS) also had a time-weighted total return of -0.36%. Both systems underperformed their strategic policy benchmark target return of 0.05% and the median return for Callan's Public Fund database of 0.54%.

Over longer-term periods, PERS and TRS have closely tracked their target index returns. For example, PERS' 7-year annualized return was 9.28% while TRS's return was slightly higher at 9.35%. These returns were in line, but slightly above, their target return of 9.14%. Over the longest period for which Callan has detailed data (24.75 years), PERS and TRS have achieved annualized total returns of 7.50% and 7.55%, respectively, while the policy benchmark return was 7.47%.

Both systems are well diversified and currently have asset allocation policies that, in our opinion, are consistent with achievement of a long-term "real" return of 4.5% or better.

In summary, fiscal 2016 was a year in which asset class returns were varied. The well-diversified portfolio produced a 70th percentile ranking within the Public Fund peer group, but is on track over the long-term to produce the desired results.

Sincerely,



Paul Erlendson
Senior Vice President

Department of Revenue Treasury Division Staff As of June 30, 2016

Commissioner Randall Hoffbeck	Chief Investment Officer Gary Bader	Investment Officers Bob G. Mitchell Stephen R. Sikes Zachary Hanna Steve Verschoor Shane Carson Sean Howard	Casey Colton Nicholas Orr Victor Djajalie Michael Barnhill Kevin Lui Emily Peyton Ross Alexander
Deputy Commissioner Jerry Burnett	Comptroller Scott Jones, CPA		
Director Pamela Leary, CPA	Cash Management Michelle M. Prebula, MBA, CPA, CCM	ARMB Liaison Officer Judy Hall	

External Money Managers and Consultants

Domestic Equity Large Capitalization

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

Domestic Equity Small Capitalization

Barrow, Hanley, Mewhinney & Strauss
Dallas, TX
Frontier Capital Management
Boston, MA
Jennison Associates LLC
New York, NY
Lord Abbett & Co.
Jersey City, NJ
Luther King Capital Management
Fort Worth, TX
State Street Global Advisors
San Francisco, CA
Sycamore Capital Management
St. Louis, MO

Domestic Equity MicroCap

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

Domestic Equity Index Fund

State Street Global Advisors
San Francisco, CA

International Small Cap

Mondrian Investment Partners
London, England
Schroders Investment Management NA
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 Guardian Trust Co.
Los Angeles, CA
Lazard Asset Management
New York, NY
McKinley Capital Management, Inc.
Anchorage, AK
Parametric Clifton
Seattle, WA
State Street Global Advisors
San Francisco, CA

Emerging Market Income

Lazard Asset Management
New York, NY
NFJ Investment Group
Dallas, TX

International Fixed Income

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

High Yield/Convertible Bond/Tactical Bond

Advent Capital Management
New York, NY
Columbia Threadneedle Investment Management
Boston, MA
Eaton Vance Trust Company
Boston, MA
Fidelity Investment Asset Management
Smithfield, RI
MacKay Shields LLC
New York, NY

Investment Section

External Money Managers and Consultants (cont.)

Taxable Municipal Bonds

Guggenheim Partners LLC
Santa Monica, CA
Western Asset Management Company
Pasadena, CA

Master Limited Partnerships

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

Absolute Return

Allianz Global Investors
New York, NY
Crestline Investors, Inc.
Fort Worth, TX
Global Assets Management Inc.
Los Angeles, CA
KKR
New York, NY

Private Equity

Abbott Capital Management, L.P.
New York, NY
Pathway Capital Management, LLC
Irvine, CA

Real Assets – Real Estate Core Separate Accounts

LaSalle Investment Management
Chicago, IL
Sentinel Real Estate Corporation
New York, NY
UBS Realty Investors, LLC
San Francisco, CA

Real Assets – Commingled Real Estate Funds

Almanac Realty Investors
Alpharetta, GA
BlackRock Realty
San Francisco, CA
Colony Capital
Los Angeles, CA
Coventry Real Estate Fund II, LLC
New York, NY
Clarion Partners
New York, NY
J.P. Morgan Investment Management Inc.
New York, NY
Silverpeake Real Estate Partners
New York, NY
Lowe Hospitality Investment Partners, LLC
Los Angeles, CA
Sentinel Real Estate Corporation
New York, NY
Tishman Speyer Properties
New York, NY
UBS Realty Investors, LLC
Hartford, CT

Real Assets – Energy

EIG Global Energy Partners
Washington, DC

Real Assets – Infrastructure

Brookfield Investment Management
Encinitas, CA
Industry Funds Management
New York, NY
JP Morgan Asset Management
San Francisco, CA
Lazard Asset Management
New York, NY

Real Assets – Farmland and Timber

Hancock Agricultural Investment Group
Boston, MA
UBS AgriVest, LLC
Hartford, CT
Hancock Timber Resource Group
Charlotte, NC
Timberland Investment Resources LLC
Brookline, MA

Supplemental Benefits System, Deferred Compensation Plan and Defined Contribution Plan

BlackRock
San Francisco, CA
Allianz Global Investors
San Francisco, CA
State Street Global Advisors
Boston, MA
T. Rowe Price Investment Services
Baltimore, MD
Brandes Investment Partners
San Diego, CA

Global Master Custodian

State Street Bank & Trust Co.
Boston, MA

Investment Consultants

Callan Associates, Inc.
Denver, CO
The Townsend Group
San Francisco, CA

Investment Advisory Council

William Jennings
Colorado Springs, CO
Jerrold Mitchell
Wayland, MA
Robert Shaw
San Francisco, CA

Independent Auditors

KPMG, LLP
Anchorage, AK

Actuaries

Buck Consultants
Denver, CO
Gabriel Roeder Smith
Denver, CO

Teachers' Retirement System Investment Report

INVESTMENTS

The investment goals of the State of Alaska Teachers' Retirement System (TRS) 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., alternative equity strategies, 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
Alternative Equities Strategies	50% S&P 500 Index 30% CBOE Buy Write Index 20% Bank of America Yield Alternative Index
Private Equity	1/3 S&P 500 Index 1/3 Russell 2000 Index 1/3 MSCI EAFE Index
Real Assets	50% NCREIF Property Index 15% Barclays TIPS Index 10% NCREIF Farmland Index 10% NCREIF Timberland Index 5% FTSE NAREIT All Equity REIT Index 10% S&P Global Infrastructure
Fixed Income	80% Barclays Intermediate Treasury Index 10% Bank of America Merrill Lynch US High Yield Master II Constrained Index 7% Citigroup World Gov. Bond Ex-U.S. Index 3% JP Morgan Global Bond Index - Emerging Markets Global Diversified Index
Absolute Return	91 Day Treasury Bill + 5%
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 2016 fiscal year, ARMB's target asset allocation was 26% domestic equities, 25% global equities ex-U.S., 3% alternative equity strategies, 9% private equity, 17% real assets, 12% fixed income, 5% absolute return, and 3% cash equivalents. The target asset allocation is expected to generate a return of 7.2% with a standard deviation of 15.3%.

Investment Section

Teachers' Retirement System Schedule of Investment Results Fiscal Years Ended June 30

	2012	2013	2014	2015	2016	Annualized	
						3 Year	5 Year
Total Fund							
TRS	0.51%	12.59%	18.46%	3.30%	(0.36%)	6.86%	6.67%
<i>Actuarial Earnings Rate</i>	8.00	8.00	8.00	8.00	8.00	8.00	8.00
U.S. Common Stock Returns							
TRS Domestic Equities	1.83	21.24	25.45	7.85	0.58	10.92	10.99
<i>Custom Composite Index</i>	3.84	21.46	25.22	7.29	2.14	11.13	11.60
Fixed Income							
TRS	4.82	0.57	5.14	(0.73)	5.15	3.15	2.96
<i>Custom Composite Index</i>	5.08	(0.04)	3.31	0.41	4.79	2.82	2.69
Real Assets							
TRS	10.45	10.65	12.71	3.69	4.76	7.16	8.50
<i>Custom Composite Index</i>	11.41	8.35	10.98	7.99	8.87	9.27	9.51
International Stock Returns							
TRS International Equities	(13.66)	15.03	23.41	(3.28)	(9.15)	2.74	1.49
<i>MSCI ACWI ex-US</i>	(14.15)	14.14	22.27	(4.85)	(9.80)	1.62	0.56
Private Equity							
TRS	9.44	11.68	24.19	13.77	4.71	13.95	12.58
<i>Custom Composite Index</i>	(3.61)	21.24	24.01	3.33	(4.41)	7.00	7.44
Absolute Return							
TRS	(2.05)	8.41	6.51	9.24	(3.09)	4.08	3.67
<i>3-month Treasury Bill +5%</i>	5.06	5.11	5.05	5.02	5.19	5.09	5.09
Alternative Equity							
TRS	—	—	24.55	(0.88)	3.41	7.86	—
<i>Custom Composite Index</i>	—	—	18.70	4.26	2.09	8.11	—
Cash Equivalents							
TRS	0.42	0.25	0.26	0.27	0.55	0.36	0.35
<i>3-month Treasury Bill</i>	0.06	0.11	0.05	0.02	0.19	0.09	0.09

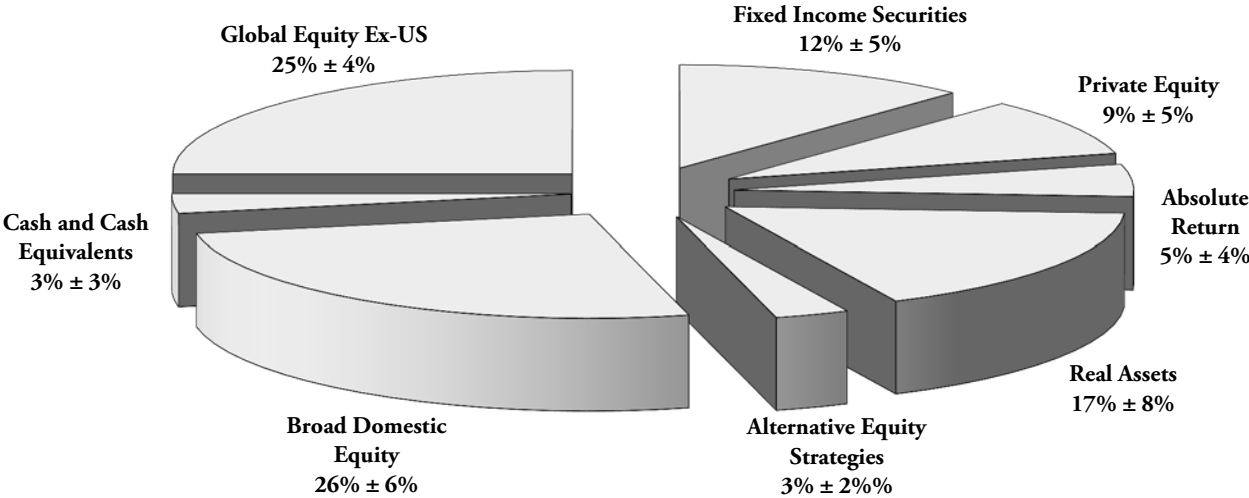
MSCI ACWI =Morgan Stanley Capital International All Country World Index

Returns for periods longer than one year are reported on an annualized basis.

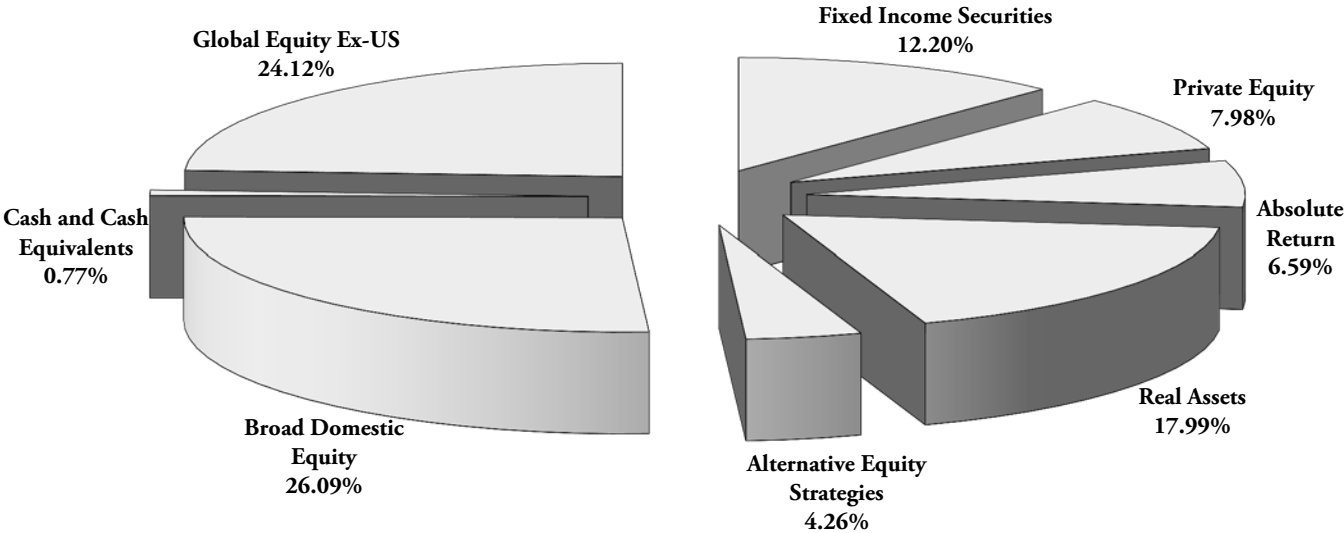
Basis of calculation: Time-Weighed rate of return based on the market rate of return.

**Teachers' Retirement System
Asset Allocation
June 30, 2016**

Policy



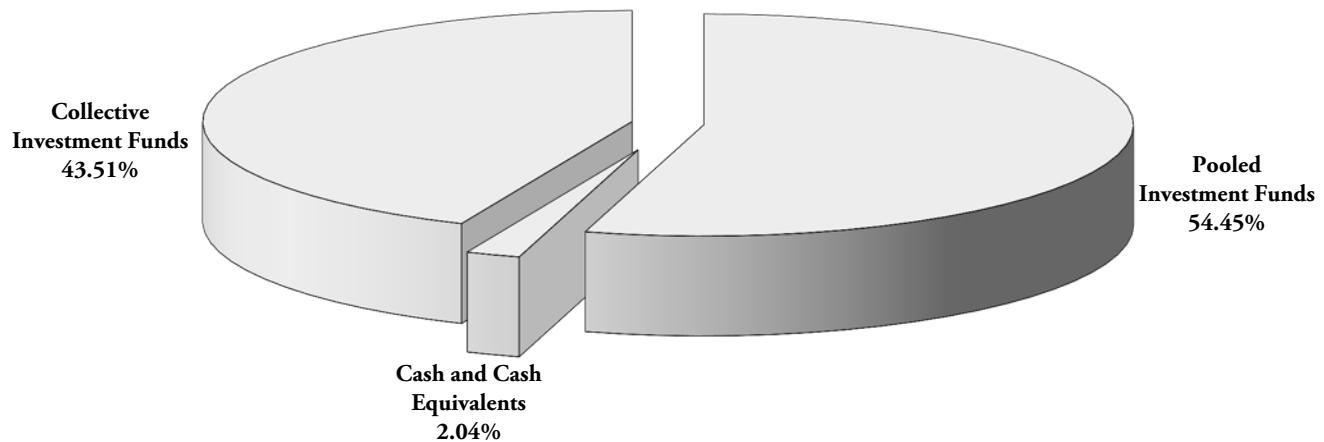
Actual — Defined Benefit Pension



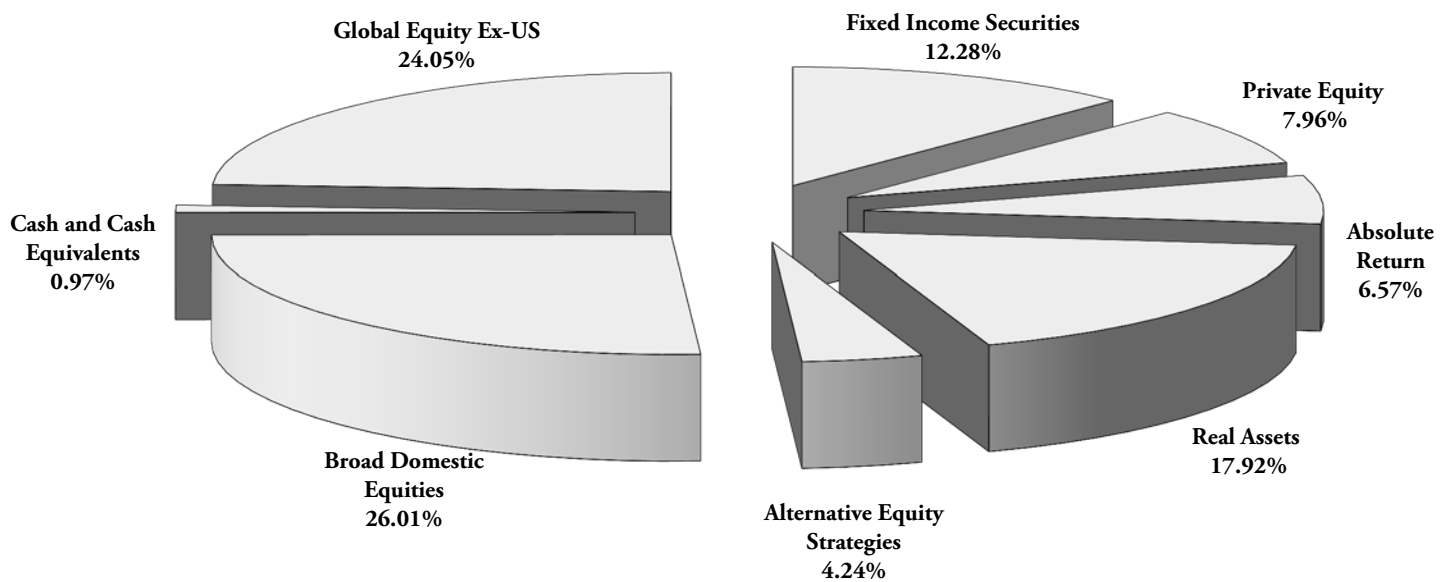
Investment Section

Teachers' Retirement System Asset Allocation June 30, 2016

Actual — Defined Contribution Participant Directed

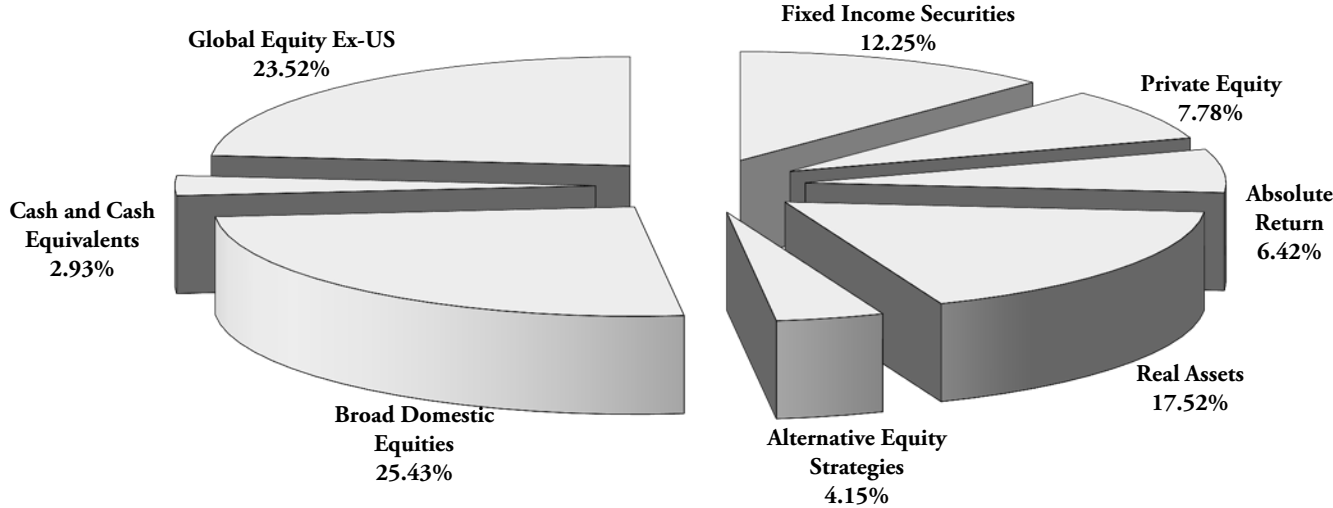


Actual — Defined Benefit Alaska Retiree Healthcare Trust

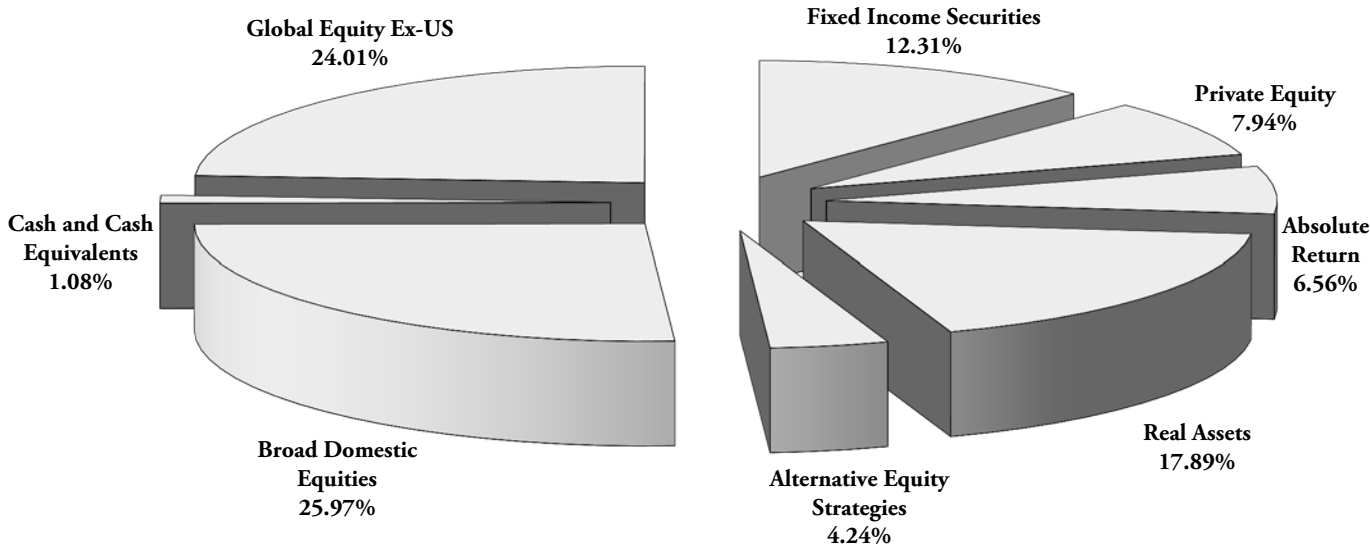


Teachers' Retirement System
Asset Allocation
June 30, 2016

Actual — Health Reimbursement Arrangement



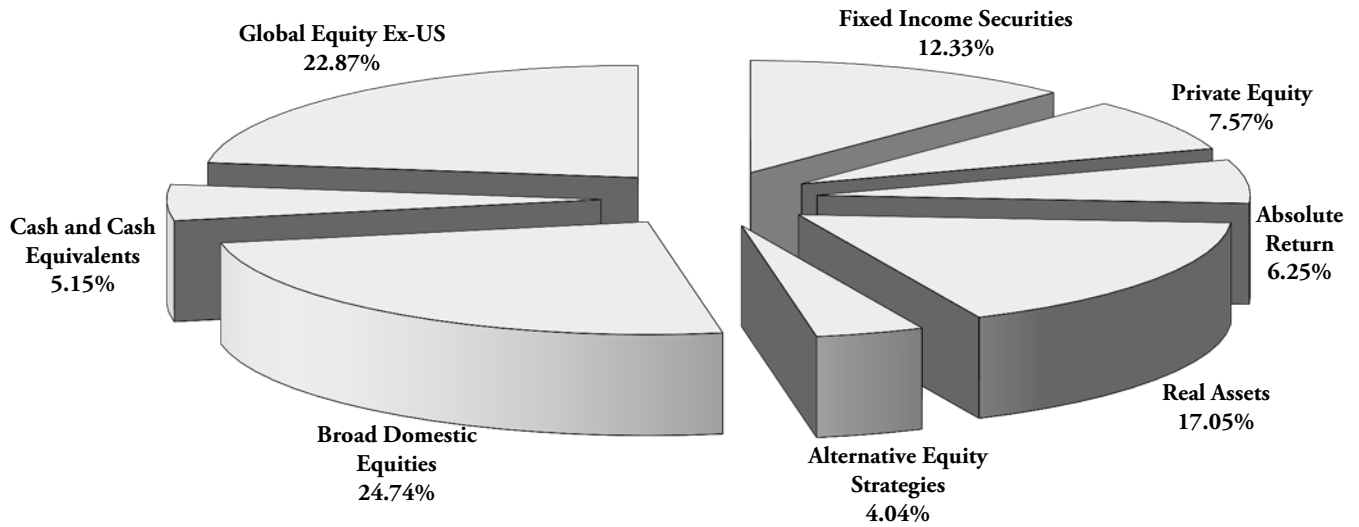
Actual — Occupational Death & Disability



Investment Section

Teachers' Retirement System
Asset Allocation
June 30, 2016

Actual — Retiree Medical Plan



Alaska Retirement Management Board

Top Ten Holdings by Asset Type

June 30, 2016

Invested assets under the fiduciary responsibility of the Alaska Retirement Management Board (ARMB) have been commingled in various investment pools to minimize costs and maximize returns. Treasury Division has created twenty-six different mutual fund-like pools to accomplish the investment asset allocation policies of the ARMB. 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

Rank	Largest Fixed Income Holdings	Fair Value	Par Value
1	US Treasury 1.25% 2/29/2020	\$51,208,390	\$50,455,493
2	US Treasury 2.125% 5/15/2025	30,690,989	29,055,485
3	US Treasury 2.625% 11/15/2020	26,998,073	25,198,733
4	US Treasury 1.75% 9/30/2019	18,504,787	17,943,357
5	US Treasury 1.5% 5/31/2020	17,915,593	17,507,990
6	US Treasury 0.0% 8/15/2019	15,831,874	16,230,295
7	US Treasury 1.625% 7/31/2020	15,224,666	14,805,378
8	US Treasury 1.375% 8/31/2020	14,109,288	13,855,456
9	US Treasury 1.25% 1/31/2020	14,084,543	13,881,745
10	US Treasury 0.875% 12/31/2016	11,600,175	11,573,464

Equities

Rank	Largest Equity Holdings	Fair Value
1	Apple Inc.	\$45,534,649
2	Microsoft Corp.	37,472,601
3	Johnson & Johnson	32,687,322
4	Exxon Mobil Corp.	31,824,889
5	Verizon Communications Inc.	25,950,242
6	Pfizer Inc.	25,720,057
7	Amazon.com Inc.	22,636,900
8	Procter & Gamble Co./The	22,369,286
9	AT&T Inc.	22,225,032
10	Facebook Inc.	21,917,715

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

Investment Section

Teachers' Retirement System Schedule of Investment Management Fees Year Ended June 30, 2016

	Total Fair Value	Fees
Fixed Income		
Municipal Bond Pool		
* Guggenheim Partners	\$ 43,724,297	\$ 85,521
* Western Asset Management	41,921,239	91,318
Total Municipal Bond Pool	<u>85,645,536</u>	<u>176,839</u>
High Yield Pool		
* Mackay Shields, LLC	72,936,942	515,821
* Eaton Vance High Yield	69,706,238	148,245
* Columbia Threadneedle	70,296,388	105,788
Total High Yield	<u>212,939,568</u>	<u>769,854</u>
Emerging Debt Pool		
** Lazard Emerging Income	51,593,486	515,821
Alternative Fixed Income		
* Pyramis Global Advisors	41,078,759	141,119
International Fixed Income		
* Mondrian Investment Partners	120,413,364	479,394
Broad Domestic Equity Pools		
* Allianz Global Investors	114,216,567	346,932
* Barrow, Hanley, Mewhinney & Strauss, INC (LC)	109,110,206	400,082
* Barrow, Hanley, Mewhinney & Strauss, INC (SC)	27,895,848	157,354
* DePrince, Race & Zollo Inc.-Micro Cap	25,342,197	243,903
* Fidelity (FIAM) Small Company	65,566,612	96,511
* Frontier Capital Management	59,574,529	250,859
* Jennison Associates LLC	27,489,819	229,941
* Lazard Asset Management	115,964,759	306,756
* Lord Abbett & Co. (Micro)	24,964,294	259,718
* Lord Abbett & Co. (SC)	23,559,160	190,343
* Luther King Cap. Management	26,061,515	145,520
* McKinley Capital	111,787,430	388,827
* Quantitative Management Associates	107,078,335	299,781
* SSgA Future Small Cap	3,766,146	3,685
* SSgA Futures Large Cap	4,925,101	4,731
* SSgA Russell 1000 Growth	342,864,314	40,473
* SSgA Russell 1000 Value	314,650,281	42,943
* SSgA Russell 200	267,631,718	28,456
* SSgA Russell 2000 Growth	5,834,916	2,950
* SSgA Russell 2000 Value	10,249,243	5,399
* SSgA Volatility - Russell 1000	28,813,997	26,434
* SSgA Volatility - Russell 2000	19,254,112	20,027
* Sycamore Capital Management	32,522,849	255,864
* Zebra Capital Management	23,952,456	135,159
Total Domestic Equities	<u>1,893,076,404</u>	<u>3,882,648</u>
Global Equity Ex-U.S.		
* Allianz Global Investors	80,505,000	401,185
* Arrow Street Capital	95,843,869	402,473
* Baillie Gifford Overseas Limited	119,738,208	463,676
* Blackrock ACWI Ex-US IMI	250,166,716	114,083
* Brandes Investment Partners	216,825,675	1,069,982
* Capital Guardian Trust Co.	220,482,771	864,908
* Lazard Freres	111,635,996	214,484
* McKinley Capital Mgmt.	159,169,023	779,982
* Mondrian Investment Partners	50,344,892	366,255
* Schroder Investment Management	51,909,956	423,761
* State Street Global Advisors	251,276,420	153,109
Total International Equities	<u>1,607,898,526</u>	<u>5,253,898</u>
Alternative Equity Strategies		
Alternative Equity Pool		
* Analytic SSgA Account	99,553,696	130,728
* Quantitative Management Associates MPS	65,750,251	162,860
** Relational Investors, LLC	355,164	-
Total Alternative Equity	<u>165,659,111</u>	<u>293,588</u>
Convertible Bond Pool		
* Advent Capital	64,687,200	386,174
Private Equity Pool		
* Abbott Capital Management	252,929,256	658,886
** Angelo Gordon & Co.	1,157,442	27,684
** BlumCapital Partners-Strategic	-	4,640
** Glendon Opportunities	7,530,389	143,453
** Lexington Partners	16,233,423	471,777
** Merit Capital Partners	6,046,069	50,795
** Neuberger Berman Secondary Opportunities	7,113,330	205,382
** New Mountain Partners	4,136,672	111,515
** NGP XI	3,192,294	200,638
** Onex Partners	6,860,346	33,415
* Pathway Capital Management	269,215,213	850,952
** Resolute	2,486,012	850,952
** Warburg Pincus	15,785,514	230,064
Total Private Equities	<u>592,685,960</u>	<u>3,840,153</u>

Teachers' Retirement System
Schedule of Investment Management Fees (cont.)
Year Ended June 30, 2016

	Total Fair Value	Fees
Absolute Return Pool		
** Allianz Global Investors	\$ 75,838,271	\$ 4,656,477
** Crestline Investors Inc.	116,366,309	721,642
** Global Asset Management	99,514,093	820,248
** Prisma Capital Partners	135,002,981	997,901
** Crestline Specialty	6,315,319	172,521
** KKR Apex Equity	32,104,043	358,562
** Zebra Global Equity	23,020,359	10,512
** Zebra Global Equity Advantage	9,853,959	3,630
Total Absolute Return	498,015,334	7,741,493
Real Assets		
Real Estate Pool		
** Almanac Realty Securities IV	17,904	24
** Almanac Realty Securities V	2,866,780	56,499
** Almanac Realty Securities VII	3,994,709	171,193
** BlackRock Diamond	1,029,102	48,536
** Colony Investors VIII, L.P.	4,345,983	128,321
** Cornerstone Apartment Venture III	15,446	-
** Coventry	658,201	88,427
** Clarion Development Venture III	2,944,669	11,530
** Clarion Development Venture 4	13,834,307	35,885
** JPM Strategic	88,722,452	748,464
** KKR	14,523,133	185,534
** LaSalle Separate	69,647,370	327,352
** LaSalle Medical Office Fund II	65,857	6,234
** Lowe Hospitality	312,762	2,825
** Sentinel Separate	70,796,594	369,305
** Silverpeak Real Estate Partners II	5,005,705	236,118
** Silverpeak Real Estate Partners III	2,323,052	26,659
** Tishman Speyer Fund VI	11,987,474	66,385
** Tishman Speyer Fund VII	2,488,488	36,230
** UBS Consolidated	31,041,647	323,004
** UBS Separate	154,079,971	707,291
Total Real Estate	480,701,606	3,575,816
Infrastructure Public Pool		
* Brookfield Investment Management	31,952,656	238,892
* Lazard Asset Management	36,042,779	258,099
Total Infrastructure Public Pool	67,995,435	496,991
Infrastructure Private Pool		
* IFM Global Infrastructure Fund	-	-
Master Limited Partnerships Pool		
* Advisory Research Inc	74,731,055	323,133
* Tortoise MLP	85,219,807	466,298
Total Master Limited Partnerships Pool	159,950,862	789,431
Energy Pool		
** EIG Energy Fund XV	10,582,242	129,687
** EIG Energy Fund XD	1,264,644	23,108
** EIG Energy Fund XIV-A	3,479,725	206,628
** EIG Energy Fund XVI	8,181,069	198,204
Total Energy Pool	23,507,680	557,627
Farmland Pool		
** Hancock Agriculture Investment Group	177,625,774	671,642
** UBS Agrinvest	87,686,907	1,434,829
Total Farmland	265,312,681	2,106,471
Timber Pool		
** Hancock Natural Resource Group	32,169,160	221,399
** Timberland Investment Resources	91,571,049	758,810
Total Timber Pool	123,740,209	980,209
Custodian		
* State Street Bank		373,484
Investment Advisory		
* Callan Associates		74,329
* Investment Advisory Council		27,627
* Townsend Group		33,200
Total Investment Advisory		135,156
Investment Performance		
* Callan Associates		89,733
Total External Management Fees		\$ 32,585,899

*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

Investment Section

Teachers' Retirement System Investment Summary Schedule June 30, 2016

Investments (at Fair Value)	Asset Allocation		Fair Value	% of Total Assets
	Policy	Range		
Defined Benefit - Pension				
Cash and Cash Equivalents				
Short-term Fixed Income Pool	3.00%	± 3%	\$ 37,839,246	
Total Cash and Cash Equivalents			37,839,246	0.77%
Fixed Income Securities				
U.S. Treasury Fixed Income Pool			227,540,898	
Taxable Municipal Bond Pool			55,950,538	
Tactical Fixed Income			33,087,645	
High Yield Pool			173,938,860	
International Fixed Income Pool			78,663,673	
Emerging Debt Pool			33,705,006	
Total Fixed Income Securities	12.00%	± 5%	602,886,620	12.20%
Broad Domestic Equity				
Large Cap Pool			1,062,684,060	
Small Cap Pool			226,056,987	
Total Broad Domestic Equity	26.00%	± 6%	1,288,741,047	26.09%
Global Equity Ex-U.S.				
International Equity Pool			983,607,295	
International Equity Small Cap Pool			66,801,072	
Emerging Markets Equity Pool			141,354,601	
Total Global Equity Ex-U.S.	25.00%	± 4%	1,191,762,968	24.12%
Alternative Equity Strategies				
Alternative Equity Strategies			168,090,880	
Convertible Bond Pool			42,258,871	
Total Alternative Equities	3.00%	± 2%	210,349,751	4.26%
Private Equity				
Private Equity Pool			394,247,440	
Total Private Equity	9.00%	± 5%	394,247,440	7.98%
Absolute Return				
Absolute Return Pool			325,343,583	
Total Absolute Return	5.00%	± 4%	325,343,583	6.59%
Real Assets				
Real Estate Pool			314,199,619	
Real Estate Investment Trust Pool			75,450,436	
Infrastructure Private Pool			68,611,138	
Infrastructure Public Pool			44,420,077	
Master Limited Partnership Pool			104,492,743	
Energy Pool			15,357,104	
Farmland Pool			173,323,541	
Timber Pool			80,837,036	
Treasury Inflation Protected Securities Pool			11,922,622	
Total Real Assets	17.00%	± 8%	888,614,316	17.99%
Total Invested Assets	100.00%		\$ 4,939,784,971	100.00%

Investment Section

Teachers' Retirement System Investment Summary Schedule June 30, 2016

Investments (at Fair Value)	Asset Allocation		Fair Value	% of Total Assets
	Policy	e		
Defined Contribution - Participant Directed				
Cash and Cash Equivalents				
Short-term Fixed Income Pool	100.00%	0%	\$ 5,947,279	
Total Cash and Cash Equivalents			5,947,279	2.04%
Pooled Investment Funds (1)				
T. Rowe Price				
Target 2010 Trust			475,112	
Target 2015 Trust			2,582,717	
Target 2020 Trust			6,440,663	
Target 2025 Trust			10,143,152	
Target 2030 Trust			11,073,963	
Target 2035 Trust			16,745,608	
Target 2040 Trust			17,786,397	
Target 2045 Trust			28,505,483	
Target 2050 Trust			39,777,702	
Target 2055 Trust			12,906,253	
Target 2060 Trust			8,591	
Alaska Balanced Fund			7,265,547	
Long-Term Balanced Fund			5,333,740	
Total Pooled Investment Funds			159,044,928	54.45%
Collective Investment Funds (1)				
State Street Global Advisors				
Money Market Fund			229,809	
Alaska Money Market			2,908,505	
S&P Stock Index Fund			19,171,966	
Russell 3000 Index			17,299,299	
Real Estate Investment Trust Index			6,342,384	
World Equity Ex-U.S. Index			15,813,052	
Long U.S. Treasury Bond Index			295,971	
Treasury Inflation Protected Securities			3,735,484	
World Government Bond Ex-U.S. Index			2,338,771	
Global Balanced Fund			3,553,582	
Barclays				
Daily Government/Corporate Bond			14,318,207	
Intermediate Bond Fund			4,244,260	
Brandes Institutional				
Alaska International Equity Fund			10,542,386	
RCM				
Socially Responsible Fund			1,237,948	
T. Rowe Price				
Small-Cap Fund			25,035,751	
Total Collective Investment Funds			127,067,375	43.51%
Total Invested Assets			\$ 292,059,582	100.00%

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

Investment Section

Teachers' Retirement System Investment Summary Schedule June 30, 2016

Defined Benefit - Alaska Retiree Health Care Trust				
Investments (at Fair Value)	Asset Allocation		Fair Value	% of Total Assets
	Policy	Range		
Cash and Cash Equivalents				
Short-term Fixed Income Pool	3.00%	± 3%	\$ 24,702,583	
Total Cash and Cash Equivalents			<u>24,702,583</u>	0.97%
Fixed Income Securities				
U.S. Treasury Fixed Income Pool			116,519,370	
Taxable Municipal Bond Pool			28,651,207	
Tactical Fixed Income			19,815,879	
High Yield Pool			89,070,783	
International Fixed Income Pool			40,282,171	
Emerging Debt Pool			17,259,692	
Total Fixed Income Securities	12.00%	± 5%	<u>311,599,102</u>	12.28%
Broad Domestic Equity				
Large Cap Pool			544,180,304	
Small Cap Pool			115,759,485	
Total Broad Domestic Equity	26.00%	± 6%	<u>659,939,789</u>	26.01%
Global Equity Ex-U.S.				
International Equity Pool			503,686,594	
International Equity Small Cap Pool			34,207,560	
Emerging Markets Equity Pool			72,385,004	
Total Global Equity Ex-U.S.	25.00%	± 4%	<u>610,279,158</u>	24.05%
Alternative Equity Strategies				
Alternative Equity Strategies			86,076,144	
Convertible Bond Pool			21,639,964	
Total Alternative Equities	3.00%	± 2%	<u>107,716,108</u>	4.24%
Private Equity				
Private Equity Pool			201,886,619	
Total Private Equity	9.00%	± 5%	<u>201,886,619</u>	7.96%
Absolute Return				
Absolute Return Pool			166,602,264	
Total Absolute Return	5.00%	± 4%	<u>166,602,264</u>	6.57%
Real Assets				
Real Estate Pool			160,649,375	
Real Estate Investment Trust Pool			38,636,732	
Infrastructure Private Pool			35,134,459	
Infrastructure Public Pool			22,746,675	
Master Limited Partnership Pool			53,508,746	
Energy Pool			7,864,081	
Farmland Pool			88,755,690	
Timber Pool			41,395,108	
Treasury Inflation Protected Securities Pool			6,105,348	
Total Real Assets	<u>17.00%</u>	± 8%	<u>454,796,214</u>	17.92%
Total Invested Assets	<u>100.00%</u>		<u>\$ 2,537,521,837</u>	<u>100.00%</u>

Investment Section

Teachers' Retirement System Investment Summary Schedule June 30, 2016

Investments (at Fair Value)	Health Reimbursement Arrangement		Fair Value	% of Total Assets
	Policy	Range		
Cash and Cash Equivalents				
Short-term Fixed Income Pool	3.00%	± 3%	\$ 2,003,508	
Total Cash and Cash Equivalents			<u>2,003,508</u>	2.93%
Fixed Income Securities				
U.S. Treasury Fixed Income Pool			3,069,316	
Taxable Municipal Bond Pool			754,721	
Tactical Fixed Income			687,381	
High Yield Pool			2,346,274	
International Fixed Income Pool			1,061,100	
Emerging Debt Pool			454,650	
Total Fixed Income Securities	12.00%	± 5%	<u>8,373,442</u>	12.25%
Broad Domestic Equity				
Large Cap Pool			14,334,623	
Small Cap Pool			3,049,300	
Total Broad Domestic Equity	26.00%	± 6%	<u>17,383,923</u>	25.43%
Global Equity Ex-U.S.				
International Equity Pool			13,267,951	
International Equity Small Cap Pool			901,084	
Emerging Markets Equity Pool			1,906,742	
Total Global Equity Ex-U.S.	25.00%	± 4%	<u>16,075,777</u>	23.52%
Alternative Equity Strategies				
Alternative Equity Strategies			2,267,390	
Convertible Bond Pool			570,033	
Total Alternative Equities	3.00%	± 2%	<u>2,837,423</u>	4.15%
Private Equity				
Private Equity Pool			5,318,033	
Total Private Equity	9.00%	± 5%	<u>5,318,033</u>	7.78%
Absolute Return				
Absolute Return Pool			4,388,583	
Total Absolute Return	5.00%	± 4%	<u>4,388,583</u>	6.42%
Real Assets				
Real Estate Pool			4,231,775	
Real Estate Investment Trust Pool			1,017,756	
Infrastructure Private Pool			925,500	
Infrastructure Public Pool			599,185	
Master Limited Partnership Pool			1,409,510	
Energy Pool			207,153	
Farmland Pool			2,337,974	
Timber Pool			1,090,417	
Treasury Inflation Protected Securities Pool			160,825	
Total Real Assets	17.00%	± 8%	<u>11,980,095</u>	17.52%
Total Invested Assets	100.00%		\$ <u>68,360,784</u>	100.00%

Investment Section

Teachers' Retirement System Investment Summary Schedule June 30, 2016

Investments (at Fair Value)	Occupational Death and Disability			% of Total Assets
	Asset Allocation Policy	Range	Fair Value	
Cash and Cash Equivalents				
Short-term Fixed Income Pool	3.00%	± 3%	\$ 33,903	
Total Cash and Cash Equivalents			<u>33,903</u>	1.08%
Fixed Income Securities				
U.S. Treasury Fixed Income Pool			143,849	
Taxable Municipal Bond Pool			35,371	
Tactical Fixed Income			25,998	
High Yield Pool			109,963	
International Fixed Income Pool			49,730	
Emerging Debt Pool			21,308	
Total Fixed Income Securities	12.00%	± 5%	<u>386,219</u>	12.31%
Broad Domestic Equity				
Large Cap Pool			671,817	
Small Cap Pool			142,910	
Total Broad Domestic Equity	26.00%	± 6%	<u>814,727</u>	25.97%
Global Equity Ex-U.S.				
International Equity Pool			621,826	
International Equity Small Cap Pool			42,230	
Emerging Markets Equity Pool			89,363	
Total Global Equity Ex-U.S.	25.00%	± 4%	<u>753,419</u>	24.01%
Alternative Equity Strategies				
Alternative Equity Strategies			106,265	
Convertible Bond Pool			26,716	
Total Alternative Equities	3.00%	± 2%	<u>132,981</u>	4.24%
Private Equity				
Private Equity Pool			249,239	
Total Private Equity	9.00%	± 5%	<u>249,239</u>	7.94%
Absolute Return				
Absolute Return Pool			205,679	
Total Absolute Return	5.00%	± 4%	<u>205,679</u>	6.56%
Real Assets				
Real Estate Pool			198,329	
Real Estate Investment Trust Pool			47,699	
Infrastructure Private Pool			43,375	
Infrastructure Public Pool			28,081	
Master Limited Partnership Pool			66,059	
Energy Pool			9,708	
Farmland Pool			109,573	
Timber Pool			51,104	
Treasury Inflation Protected Securities Pool			7,538	
Total Real Assets	17.00%	± 8%	<u>561,466</u>	17.89%
Total Invested Assets	100.00%		\$ 3,137,633	100.00%

Investment Section

Teachers' Retirement System Investment Summary Schedule June 30, 2016

Investments (at Fair Value)	Retiree Medical Plan		Fair Value	% of Total Assets
	Asset Allocation Policy	Range		
Cash and Cash Equivalents				
Short-term Fixed Income Pool	3.00%	± 3%	\$ 1,216,756	
Total Cash and Cash Equivalents			1,216,756	5.15%
Fixed Income Securities				
U.S. Treasury Fixed Income Pool			1,031,748	
Taxable Municipal Bond Pool			253,699	
Tactical Fixed Income			329,823	
High Yield Pool			788,698	
International Fixed Income Pool			356,688	
Emerging Debt Pool			152,830	
Total Fixed Income Securities	12.00%	± 5%	2,913,486	12.33%
Broad Domestic Equity				
Large Cap Pool			4,818,570	
Small Cap Pool			1,025,019	
Total Broad Domestic Equity	26.00%	± 6%	5,843,589	24.74%
Global Equity Ex-U.S.				
International Equity Pool			4,460,010	
International Equity Small Cap Pool			302,899	
Emerging Markets Equity Pool			640,949	
Total Global Equity Ex-U.S.	25.00%	± 4%	5,403,858	22.87%
Alternative Equity Strategies				
Alternative Equity Strategies			762,181	
Convertible Bond Pool			191,616	
Total Alternative Equities	3.00%	± 2%	953,797	4.04%
Private Equity				
Private Equity Pool			1,787,651	
Total Private Equity	9.00%	± 5%	1,787,651	7.57%
Absolute Return				
Absolute Return Pool			1,475,218	
Total Absolute Return	5.00%	± 4%	1,475,218	6.25%
Real Assets				
Real Estate Pool			1,422,507	
Real Estate Investment Trust Pool			342,118	
Infrastructure Private Pool			311,106	
Infrastructure Public Pool			201,416	
Master Limited Partnership Pool			473,805	
Energy Pool			69,634	
Farmland Pool			785,908	
Timber Pool			366,542	
Treasury Inflation Protected Securities Pool			54,061	
Total Real Assets	17.00%	± 8%	4,027,097	17.05%
Total Invested Assets	100.00%		\$ 23,621,452	100.00%

Investment Section

Teachers' Retirement System Recaptured Commission Fees Year Ended June 30, 2016

<u>Fund</u>	<u>Broad Domestic Equity Pool</u>	<u>Global Equity Ex-U.S.</u>	<u>Total</u>
Defined Benefit Plan - Pension	\$29,101	\$17,889	\$46,990
Postemployment Benefit - Alaska Retiree Healthcare Trust	14,575	8,936	23,511
Postemployment Benefit - Occupational Death & Disability	18	11	29
Postemployment Benefit - Retiree Medical Plan	106	63	169
Postemployment Benefit - Health Reimbursement Arrangement	345	209	554
Total Recapture Commission Fees	\$44,145	\$27,108	\$71,253

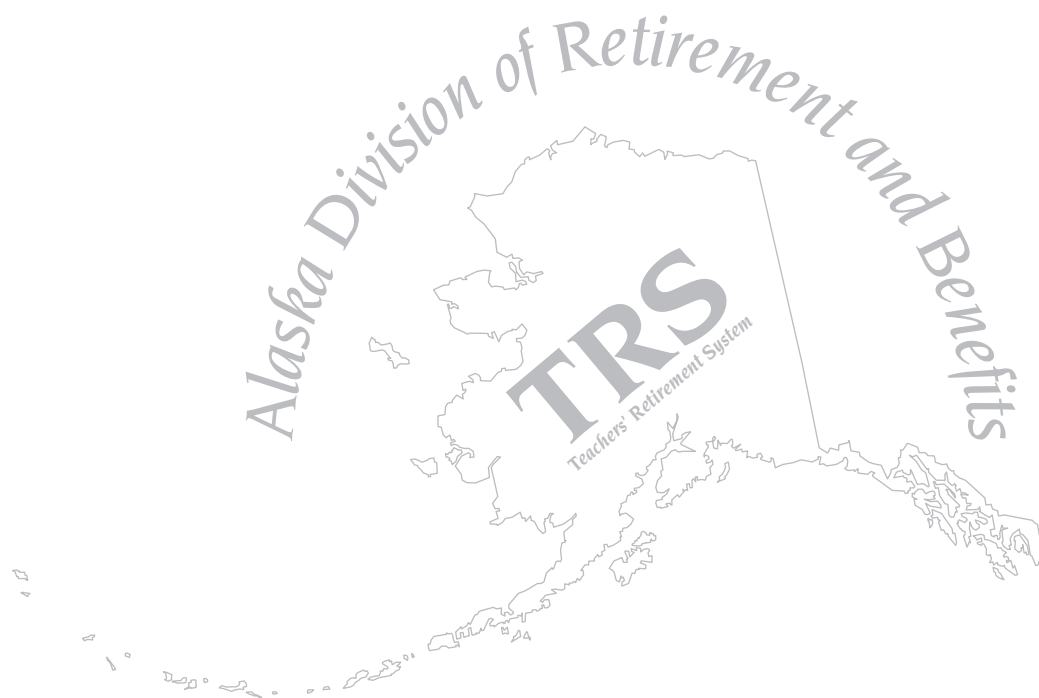
The ARMB's Commission Recapture program has been in place since 1995, first working with various brokers then switching to the State Street program in 2005. Under a commission recapture program a portion of the commissions and mark-ups on trades (placed through the State Street broker network) flow directly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



ACTUARIAL SECTION





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June 27, 2016

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 Teachers' Retirement System (TRS) as of June 30, 2015 performed by Buck Consultants, LLC.

The actuarial valuation is based on financial information provided in the financial statements audited by KPMG LLP and member data provided by the Division of Retirement and Benefits and summarized in this report. The benefits considered are those delineated in Alaska statutes effective June 30, 2015. The actuary did not verify the data submitted, but did perform tests for consistency and reasonableness. Valuation census data used for the retiree medical valuation utilized available retiree medical information. Certain pension data fields have been used to clarify the retiree medical data provided to us. Details regarding this information can be found in Section 6.2.d.

All costs, liabilities and other factors under the System 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. Buck Consultants, LLC 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 System as of June 30, 2015.

TRS 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 TRS is to pay required contributions that remain level as a percent of total TRS 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, System expenses, and amortize the Unfunded Actuarial Accrued Liability as a level percentage of payroll over a closed 25- year period and as required by Alaska state statutes. The closed 25-year period was established effective June 30, 2014.

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The compensation used to determine required contributions is the total compensation of all active members in TRS, 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.

The Board and staff of the State of Alaska may use this report for the review of the operations of TRS. 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 Buck to review any statement you wish to make on the results contained in this report. Buck will not accept any liability for any such statement made without the review by Buck.

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 (other than the sensitivity analyses shown in Sections 3.2 and 4.7).

In our opinion, the actuarial assumptions used are reasonable, taking into account the experience of the System and reasonable long-term expectations, and represent our best estimate of the anticipated long-term experience under the System. The actuary performs an analysis of System 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 claim cost rates effective June 30, 2015 to better reflect expected future healthcare experience. Based on recent experience, the healthcare cost trend assumptions are still reasonable and were not changed. A summary of the actuarial assumptions and methods used in this actuarial valuation are shown in Section 6.

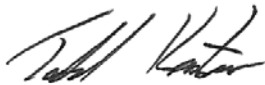
The assumptions and methods used to determine the healthcare Actuarial Required Contributions (ARC) of the Employers to TRS as outlined in this report and all supporting schedules meet the parameters and requirements for disclosure of Governmental Accounting Standards Board (GASB) Statement No. 43, Financial Reporting for Postemployment Benefit Plans Other Than Pension Plans. Based on member data and asset information provided by the Division of Retirement and Benefits, we have prepared the trend data schedule under GASB No. 43 that is included in the Financial Section of the CAFR. 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 report for pension-related information needed for the CAFR.

David Kershner is a Fellow of the Society of Actuaries and Todd Kanaster and Larry Langer are Associates of the Society of Actuaries. All are Members of the American Academy of Actuaries and meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinions contained in this report. This report has been prepared in accordance with all applicable Actuarial Standards of Practice. We are available to answer any questions on the material contained in the report, or to provide explanations or further details as may be appropriate.

Respectfully submitted,



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

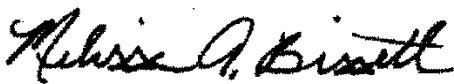


Todd D. Kanaster, ASA, MAAA, FCA
Senior Consultant



Larry Langer, ASA, 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 her qualification to render opinions in such matters in accordance with the Qualification Standards of the American Academy of Actuaries.



Melissa A. Bissett, FSA, MAAA
Senior Consultant, Health & Productivity

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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

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 2015, 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. Changes in Methods Since the Prior Valuation

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

D. Valuation of Medical Benefits

This section outlines the detailed methodology used to develop the initial per capita claims cost rates for TRS postemployment healthcare plan. Note that methodology reflects the results of our annual experience rate update for the period July 1, 2015 to June 30, 2016. Healthcare cost trend and retiree contribution increase assumptions remain unchanged from the prior year (June 30, 2014) 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 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, 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.

We analyzed HealthSmart and Aetna reporting for fiscal 2012 through 2015 and derived recommended base claims cost rates as described in the following steps:

1. 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. Dental, vision and audio claims (DVA) are excluded from data analyzed for this valuation as those are retiree-pay all benefits where rates are assumed to be self-supporting.
2. 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.
 - a. Claims and enrollment data for July 2011 (FY12) through June 2015 (FY15), with claims paid through July 2015 were provided by HealthSmart and Aetna and are included in our analysis.

Available historic management level reporting from HealthSmart does not show claims or enrollment separately for Medicare and non-Medicare plan participants, but does include overall statistics as to the percentage of claims and enrollment attributable to both groups. Historical claim level reporting and estimated impacts of Medicare coordination and plan design were used to augment cost data by Medicare status. Aetna does provide separate experience by Medicare status and will be incorporated into per capita rate development as credible experience emerges.

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For the June 30, 2015 valuation, we were informed that pharmacy claims reported did not reflect rebates. Based upon aggregate rebates in proportion to 2014 incurred claims for all State of Alaska plans (active and retiree), Buck reduced reported pharmacy incurred claims by 7% to estimate the rebates for the retiree population beginning January 1, 2014. As more detailed rebate information becomes available, we will update as appropriate.

3. 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 these "no-Part A" individuals, the State is the primary payer for hospital bills and other Part A services. Thus, claims costs are higher for the no-Part A group. To date, claim experience is not available separately for participants with both Medicare Parts A and B and those with Part B only. Therefore, higher no-Part A claims are spread across the entire retired population and have been applied to future claims of current active employees projected to retire in the future. 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 and will be lower. The smaller the no-Part A population, the more accrued liabilities will decrease.

Based on census data received from Aetna, about 0.35% of the current retiree (including dependents) 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.

4. Develop estimated Retiree Drug Subsidy reimbursement - Actual subsidy payments to the State were received for CY2007-CY2014, and the first six months of CY2015. Buck obtained this information based upon recorded and available information in the RDS Subsidy website. The projected subsidy for FY 2016 was determined based on the historic 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.
5. Adjust for network change – based upon projections for network savings of 3% (improved discounts, pharmacy rebates etc.), adjustments were applied to claims in the experience base prior to January 1, 2014.
6. Adjust for claim fluctuation, anomalous experience, etc. – explicit adjustments are often made for anticipated large claims or other anomalous experience. Because we accounted for both Alaska-specific and national trend factors as described below, we did not make any additional smoothing adjustments. Buck compared data utilized to alternate sources provided by the State and Aetna to assess accuracy and reasonableness of data.
7. The steps above result in separate incurred claims cost rates for medical and prescription benefits for non-Medicare, Medicare Part B only and Medicare Part A&B members for the past four fiscal years.

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Medical claims cost rates reflect differing average ages and levels of Medicare coordination for each group. Prescription claims cost rates reflect differing average ages. We deemed incurred claim data from HealthSmart and Aetna provided data to be complete for fiscal 2012, 2013 and 2014. Fiscal 2015 medical claim data was completed using a factor of 0.91; fiscal 2015 prescription claim data was deemed complete. These factors were derived from completion patterns through July 2015 for AlaskaCare retiree claims. Incurred claim cost rates are projected forward to the valuation year using a blend of Alaska plan-specific trend and national trend rates over the same period, with Alaska experience receiving 75% weight, national trend 25%. These weighted trend factors for this purpose for the current valuation are as follows:

Experience Period	Alaska-Specific and National Average Weighted Trend from Experience Period to Valuation Year		Weighting Factors
	Medical	Prescription	
FY 2011 to FY 2012	8.3%	5.1%	10.0%
FY 2011 to FY 2013	8.9%	7.1%	20.0%
FY 2012 to FY 2014	7.7%	6.5%	35.0%
FY 2013 to FY 2015	6.4%	7.1%	35.0%

We have some run-out claims data, thus less estimation for complete claims in fiscal 2015, so we increased the credibility weight slightly for the most recent period. Incurred but not reported claim liability is separately determined and accounted for outside of this valuation.

For per capital claim cost development, medical claims were trended on a composite basis for pre-Medicare vs. Medicare due to limited reporting as noted in #2 above. Trend assumptions used for rate development are assessed annually and as additional/improved reporting becomes available, we will incorporate into rate development as appropriate.

All claims cost rates developed provided in management level reporting have been compared to similar rates developed from provided experience data to assess reasonableness data.

8. Develop separate administration costs – no adjustments were made for internal administrative costs. Third party retiree plan administration fees for fiscal 2016 are based upon rates in effect at the midpoint of the year, January 2016 as agreed upon in the Aetna contracts. We also include PCORI fees under the Affordable Care Act. We estimated the 2016 rates based upon the 2014 rate of \$2.08 per member per year. The annual per participant per year rate for medical and prescription benefits (including PCORI) is \$194.18.

9. Healthcare Reform legislation passed on March 23, 2010 included several provisions with potential implications for the State of Alaska Retiree Health Plan liability. Buck evaluated the impact of the following provisions; however, none of the impacts other than noted fees have been included in the valuation results. Legislation passed in December 2015 deferred the effective date of this tax until 2020; though thresholds still start indexing in 2018. This did not change our estimated impact of the tax.

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Because the State plan is retiree-only, and was in effect at the time the legislation was enacted, not all provisions are required. 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.

The Plan will be subject to the high cost plan excise tax (Cadillac tax); however, the impact is not expected to significantly impact the OPEB liability and not until far into the future. Based upon guidance available at the time of disclosure, Buck 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 thresholds in each projection year. Projected enrollment was based upon the 2015 enrollment data provided by Aetna, and 2015 valuation headcount projections. 2015 valuation census projections reflected an increase in the proportion of retirees that are Medicare eligible.
- We included administrative fees and applied Retiree Drug Subsidy reimbursements to the Medicare rates. We tested the results excluding the impact of the Retiree Drug Subsidy and results are still well below 0.01% of accrued liability.
- We assumed claim costs would increase according to valuation trend assumptions from the June 30, 2014 valuation, and that the cost thresholds would increase at 3.0%.
- Buck determined the impact to be less than \$250,000 (0.01%) of the June 30, 2015 healthcare accrued liability. In addition, any additional per capita costs due to the tax were not expected to significantly impact trend over the long term.

Patient-centered outcomes research fees are included in the admin fees. As Transitional Reinsurance fees are only in effect until 2016, we excluded these for valuation purposes.

We have not identified any other specific provisions of healthcare reform that would be expected to have a significant impact on the measured obligation. As additional guidance on the legislation is issued, we will continue to monitor any potential impacts.

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The following table summarizes data sources and assumptions and the relative impact changes in each have on healthcare cost projections for 2015 as compared to 2014:

Healthcare Cost Rate Data Source or Assumption Change, 2015 vs. 2014	Gain/Loss Impact on 2015 Valuation Results
Claim lag specific to medical and prescription experience	Negligible
Individual claims level data	- No impact on cost data used for 2015, though potentially a source of future modifications - No impact on morbidity assumptions used for 2015, though potentially a source of future modifications.
Explicit TPA fees	Negligible
Actual RDS payments received	Negligible
Aggregate claims data	Gain due to experience, mainly Medicare eligible, but dampened by weighting methodology
Census Data - Medicare Part B only participation*	Gain due to update census

* We have prepared our valuation based on the participant census data that was readily available. Certain pension fields have been used to clarify the retiree medical data provided. This serves as a proxy until additional retiree medical data can be provided.

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. This pension census data included retiree medical enrollment information that indicated the retirement system and an indication regarding eligibility for system-paid benefits.
- Certain adjustments and assumptions were made to determine the number of people enrolled in retiree medical:
 - Where there is an indication of non-system paid health benefits, we reflected the coverage level (e.g. single vs. couple) indicated on the pension data in valuing the retiree medical plan.
 - Where system-paid health benefits coverage is indicated, the premium dollar amount indicated on the data is a composite rate that does not specify the number of people enrolled.
 - Buck understands that retiree medical coverage/eligibility is in place while a pension benefit is payable.
 - For individuals who are receiving a pension benefit, Buck references the pension benefit payment form (single life annuity, joint & survivor, etc.) along with marital status to determine the number of people to value for medical purposes:
 - Where there is a single life-annuity indicated and the marital status is single, we valued one member for health coverage.

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- Where there is a single life-annuity indicated and the marital status is married, we valued two members until the retiree dies. Upon the retiree's death, medical coverage for the spouse is assumed to cease and that spouse is no longer valued.
 - Where there is a joint & survivor annuity, we assumed a member and spouse are covered and upon the retiree's death, health coverage is assumed to continue to the surviving spouse.
- 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: Since pension data is used to estimate health care coverage, the retiree medical liabilities and resultant figures regarding funded status and proposed employer contribution rates may be different if we had data that could directly determine the level of health coverage for each retiree.
 - Unresolved matters: We have received retiree medical enrollment data, but we have not completed the reconciliation of retiree medical enrollment data to the retiree medical valuation census data. Based on information provided to us, it appears that our valuation may assume that a greater number of individuals are enrolled in the retiree medical coverage than are indicated in the enrollment statistics provided by the carrier. This is because our data assumptions for use of pension data as a proxy for individual retiree medical coverage conservatively include in the valuation any potential dependent. The carrier enrollment information with lower enrollment figures are conservatively used to develop per capita costs, resulting in higher per capita costs than if the counts from the proxy data were used.
 - Potential uncertainty or bias: Until we complete the comparison between retiree medical enrollment and the proxy data, we cannot specify the magnitude of the difference. There is potential for bias, and we believe there is conservatism in our methodology. That is, it is possible there are more people included in the valuation than are enrolled in the retiree medical plan.

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The following table summarizes the monthly premium per benefit recipient since 1977.

Time Period	Monthly Premium Per Retiree For Health Coverage	Annual Percentage Change	Average Compound Annual Increase Since FY78
2/1/77-1/31/78	\$57.64	66.0%	—%
2/1/78-1/31/79	69.10	20.0	20.0
2/1/79-1/31/80	64.70	(6.0)	6.0
2/1/80-1/31/81	96.34	49.0	19.0
2/1/81-1/31/82	96.34	—	14.0
2/1/82-1/31/83	115.61	20.0	15.0
2/1/83-1/31/84	156.07	35.0	18.0
2/1/84-1/31/85	191.85	23.0	19.0
2/1/85-1/31/86	168.25	(12.0)	14.0
2/1/86-1/31/87	165.00	(2.0)	12.0
2/1/87-1/31/88	140.25	(15.0)	9.0
2/1/88-1/31/89	211.22	51.0	13.0
2/1/89-1/31/90	252.83	20.0	13.0
2/1/90-1/31/91	243.98	(4.0)	12.0
2/1/91-1/31/92	243.98	—	11.0
2/1/92-1/31/93	226.90	(7.0)	10.0
2/1/93-1/31/94	309.72	37.0	11.0
2/1/94-1/31/95	336.05	9.0	11.0
2/1/95-1/31/96	350.50	4.0	11.0
2/1/96-1/31/97	350.50	—	10.0
2/1/97-1/31/98	368.00	5.0	10.0
2/1/98-12/31/98	368.00	—	9.0
1/1/99-12/31/99	442.00	20.0	10.0
1/1/00-12/31/00	530.00	20.0	10.0
1/1/01-12/31/01	610.00	15.0	10.0
1/1/02-12/31/02	668.00	10.0	10.0
1/1/03-12/31/03	720.00	8.0	10.0
1/1/04-12/31/04	806.00	12.0	10.0
1/1/05-12/31/05	850.00	5.0	10.0
1/1/06-12/31/06	876.00	3.0	10.0
1/1/07-12/31/07	876.00	—	10.0
1/1/08-12/31/08	876.00	—	9.0
1/1/09-12/31/09	937.00	7.0	9.0
1/1/10-12/31/10	1,068.00	14.0	9.0
1/1/11-12/31/11	1,176.00	10.0	9.0
1/1/12-12/31/12	1,200.00	2.0	9.0
1/1/13-12/31/13	1,223.00	2.0	9.0
1/1/14-12/31/14	1,223.00	—	9.0
1/1/15-12/31/15	1,223.00	—	8.0
1/1/16-12/31/16	1,154.04	(6.0)	8.0

As shown in the table above, the monthly retiree medical premium for the January 1, 2016 to December 31, 2016 time period will decrease to \$1,154. This represents a decrease of 6% from the previous year's medical premium. The health cost trend rates used for this valuation are described in Section 6.3. Over the last 10 years, annual premium rate changes have ranged from a 6% decrease to a 14% increase. Also, over the last ten years, the increase in the premium rate has been about 2.8% compounded annually. Segal developed and provided 2016 retiree contribution rates.

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June 30, 2015 Valuation – FY 2016 Claims Cost Rates

	Medical		
	Pre-Medicare	Medicare A&B	Medicare B Only
Fiscal 2012 Incurred Claims	\$233,811,415	\$71,498,254	\$1,587,430
Membership	29,500	33,631	208
Paid Claims Cost Rate	\$7,926	\$2,126	\$7,632
Trend to FY2016	1.353	1.353	1.353
FY2016 Paid Cost Rate	\$10,721	\$2,876	\$10,323
Manual Adjustment*	0.970	0.970	0.970
FY 2016 Incurred Cost Rate	\$10,399	\$2,789	\$10,014
Fiscal 2013 Incurred Claims	\$239,986,289	\$73,469,050	\$1,901,151
Membership	27,037	37,913	217
Paid Claims Cost Rate	\$8,876	\$1,938	\$8,761
Trend to FY2016	1.249	1.249	1.249
FY2016 Paid Cost Rate	\$11,086	\$2,420	\$10,942
Manual Adjustment*	0.970	0.970	0.970
FY 2016 Incurred Cost Rate	\$10,754	\$2,348	\$10,614
Fiscal 2014 Incurred Claims	\$222,724,835	\$68,391,357	\$2,049,847
Membership	24,507	42,348	223
Paid Claims Cost Rate	\$9,088	\$1,615	\$9,192
Trend to FY2016	1.146	1.146	1.146
FY2016 Paid Cost Rate	\$10,418	\$1,851	\$10,538
Manual Adjustment*	0.985	0.985	0.985
FY 2016 Incurred Cost Rate	\$10,262	\$1,824	\$10,380
Fiscal 2015 Incurred Claims	\$221,696,106	\$72,331,402	\$1,567,300
Membership	24,046	43,980	242
Paid Claims Cost Rate	\$9,220	\$1,645	\$6,476
Trend to FY2016	1.064	1.064	1.064
FY2016 Paid Cost Rate	\$9,814	\$1,751	\$6,894
Manual Adjustment*	1.000	1.000	1.000
FY 2016 Incurred Cost Rate	\$9,814	\$1,751	\$6,894
Weighted Average 7/1/2015-6/30/2016 Incurred Claims Cost Rates:			
At average age	\$10,217	\$1,999	\$9,170
At age 65	\$11,724	\$1,461	\$6,700

* "Manual Adjustment" is the estimated savings due to the change in claims administrator effective January 1, 2014.

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June 30, 2015 Valuation – FY 2016 Claims Cost Rates (cont.)

	Prescription Drugs			Total
	Pre-Medicare	Medicare A&B	Medicare B Only	
Fiscal 2012 Incurred Claims	\$50,508,869	\$95,412,095	\$590,097	\$453,408,160
Membership	29,500	33,631	208	63,339
Paid Claims Cost Rate	\$1,712	\$2,837	\$2,837	\$7,158
Trend to FY2016	1.285	1.285	1.285	
FY2016 Paid Cost Rate	\$2,200	\$3,645	\$3,645	\$9,526
Manual Adjustment*	0.967	0.967	0.967	
FY2016 Incurred Cost Rate	\$2,127	\$3,525	\$3,525	\$9,231
Fiscal 2013 Incurred Claims	\$52,633,265	\$99,470,696	\$569,334	\$468,029,785
Membership	27,037	37,913	217	65,167
Paid Claims Cost Rate	\$1,947	\$2,624	\$2,624	\$7,182
Trend to FY2016	1.222	1.222	1.222	
FY2016 Paid Cost Rate	\$2,379	\$3,206	\$3,206	\$8,907
Manual Adjustment*	0.967	0.967	0.967	
FY2016 Incurred Cost Rate	\$2,301	\$3,101	\$3,101	\$8,631
Fiscal 2014 Incurred Claims	\$41,879,298	\$121,714,936	\$640,931	\$457,401,204
Membership	24,507	42,348	223	67,078
Paid Claims Cost Rate	\$1,709	\$2,874	\$2,874	\$6,819
Trend to FY2016	1.141	1.141	1.141	
FY2016 Paid Cost Rate	\$1,950	\$3,280	\$3,280	\$7,804
Manual Adjustment*	0.984	0.984	0.984	
FY2016 Incurred Cost Rate	\$1,918	\$3,225	\$3,225	\$7,683
Fiscal 2015 Incurred Claims	\$61,185,727	\$129,308,154	\$711,515	\$486,800,204
Membership	24,046	43,980	242	68,268
Paid Claims Cost Rate	\$2,545	\$2,940	\$2,940	\$7,131
Trend to FY2016	1.071	1.071	1.071	
FY2016 Paid Cost Rate	\$2,725	\$3,149	\$3,149	\$7,707
Manual Adjustment*	1.000	1.000	1.000	
FY2016 Incurred Cost Rate	\$2,725	\$3,149	\$3,149	\$7,707
Weighted Average 7/1/2015-6/30/2016 Incurred Claims Cost Rates:				
At average age	\$2,298	\$3,204	\$3,204	\$8,036
At age 65	\$2,753	\$2,753	\$2,753	\$7,516

* "Manual Adjustment" is the estimated savings due to the change in claims administrator effective January 1, 2014.

Actuarial Section

State of Alaska
Teachers' Retirement System
Defined Benefit Retirement Plan
Description of Actuarial Methods and Valuation Procedures

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 pre-Medicare 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, 2015 through June 30, 2016

Age	Medical and Medicare Parts A & B	Medical and Medicare Part B Only	Prescription Drug	Medicare Retiree Drug Subsidy
45	\$6,493	\$6,493	\$1,452	\$ —
50	7,346	7,346	1,725	—
55	8,311	8,311	2,048	—
60	9,871	9,871	2,375	—
65	1,461	6,700	2,753	496
70	1,778	8,152	2,966	534
75	2,111	9,679	3,163	570
80	2,274	10,427	3,243	584

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

The demographic and economic assumptions used in the June 30, 2015 valuation are described below. These assumptions were adopted by the Board in December 2014. These assumptions were the result of an experience study performed as of June 30, 2013.

1. Investment Return/Discount Rate 8.00% per year (geometric), compounded annually, net of expenses.
2. Salary Scale Inflation – 3.12% per year. Productivity – 0.5% 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)* Based upon the 2010-2013 actual experience. (See Table 2). 68% of male rates and 60% of female rates of post-termination mortality. Deaths are assumed to result from non-occupational causes 85% of the time.
6. Mortality (Post-termination)* Based upon the 2010-2013 actual experience. (See Table 3). 94% of male and 97% of female rates of RP-2000, 2000 Base Year projection to 2018 with Projection Scale BB, with a 3-year setback for males and a 4-year setback for females.
7. Turnover Select and ultimate rates based upon the 2010-2013 actual withdrawal 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. (See Table 7).
9. Retirement Retirement rates based upon the 2010-2013 actual experience in accordance with Table 6. 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.
10. Marriage and Age Difference Wives are assumed to be three years younger than husbands. 85% of male members and 75% of female members are assumed to be married.
11. Dependent Children Benefits to dependent children have been valued assuming members who are married and between the ages of 25 and 45 have two dependent children.

*The mortality assumptions include an allowance for future mortality improvement. The mortality table used was set in 2014 with an Actual Deaths to Expected Deaths ratio of 110%.

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

- | | |
|---------------------------------------|---|
| 12. Contribution Refunds | 5% of terminating members with vested benefits are assumed to have their contributions refunded. 100% of those with non-vested benefits are assumed to have their contributions refunded. |
| 13. Imputed Data | Data changes from the prior year which are deemed to have an immaterial impact on liabilities and contributions 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. |
| 14. Teacher 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. |
| 15. COLA | Of those benefit recipients who are eligible for the COLA, 60% are assumed to remain in Alaska and receive the COLA. |
| 16. Sick Leave | 4.5 days of unused sick leave for each year of service are assumed to be available to be credited once the member is retired, terminates or dies. |
| 17. Postretirement Pension Adjustment | 50% and 75% of assumed inflation, or 1.56% and 2.34% respectively, is valued for the annual automatic Postretirement Pension Adjustment (PRPA) as specified in the statute. |
| 18. Expenses | The investment return assumption is net of all expenses. |
| 19. Part-time Status | Part-time employees are assumed to earn 0.75 years of credited service per year. |
| 20. Re-Employment Option | We assume all re-employed retirees return to work under the Standard Option. |
| 21. Service | Total credited service is provided by the State. We assume that this service is the only service that should be used to calculate benefits. Additionally, the State provides claimed service (including Bureau of Indian Affairs Service). Claimed service is used for vesting and eligibility purposes. |
| 22. 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. |

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

23. Per Capita Claims Cost Sample claims cost rates adjusted to age 65 for FY16 medical benefits are shown below.

	Medical	Prescription drugs
Pre-Medicare	\$ 11,724	\$ 2,753
Medicare Parts A & B	1,461	2,753
Medicare Part B Only	6,700	2,753
Medicare Part D	N/A	496

24. Third Party Administrator Fees \$194.18 per person per year; assumed trend rate of 5% per year.

25. Medicare Part B Only For actives and retirees not yet Medicare-eligible, participation is set based on whether the employee/retiree will have 40 quarter of employment after March 31, 1986, depending upon date of hire and/or re-hire.

26. 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, 9.4% is applied to the FY16 pre-Medicare medical claims costs to get the FY17 medical claims costs.

Fiscal year	Medical pre-65	Medical post-65	Prescription drugs
2016	9.4%	5.9%	5.7%
2017	8.8	5.8	5.4
2018	8.2	5.7	5.1
2019	7.6	5.6	4.8
2020	7.0	5.6	4.6
2021	6.5	5.6	4.4
2022	6.0	5.6	4.2
2025	5.6	5.6	4.0
2050	4.4	4.0	4.0
2100	4.4	4.0	4.0

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 effectively begins estimating trend amounts beginning in 2014 and projects out to 2090. The model has been populated with assumptions that are specific to the State of Alaska.

27. Aging Factors

Age	Medical	Prescription drugs
0-44	2.0%	4.5%
45-54	2.5	3.5
55-64	3.5	3.0
65-73	4.0	1.5
74-83	1.5	0.5
84-93	0.5	—
94 +	—	—

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

28. Retired Member Contributions for Medical Benefits

Currently contributions are required for TRS members who are under age 60 and have less than 25 years of service. Eligible Tier 1 members are exempt from contribution requirements. Annual FY16 contributions based on monthly rates shown below for calendar 2015 and 2016 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 who are assumed to retire prior to age 60 with less than 25 years of service and who are not disabled:

Coverage category	Calendar 2016		Calendar 2015
	Annual contribution	Monthly contribution	Monthly contribution
Retiree only	\$ 9,324	777	823
Retiree and spouse	18,648	1,554	1,647
Retiree and child(ren)	13,164	1,097	1,163
Retiree and family	22,500	1,875	1,987
Composite	13,848	1,154	1,223

29. Trend Rate for Retired Member Medical Contribution

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, 6.6% is applied to the FY16 retired member medical contributions to get the FY17 retired member medical contributions.

Fiscal year:	
2016	6.6%
2017	6.2
2018	5.8
2019	5.4
2020	5.0
2021	4.7
2025	4.1
2050	4.0
2100	4.0

Graded trend rates for retired member medical contributions were reinitialized for the June 30, 2014 valuation. Note that actual FY16 retired member medical contributions are reflected in the valuation so trend on such contribution during FY16 is not applicable.

30. 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.

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

Table 1
Alaska TRS
Salary Scale

Years of Service	Percent Increase
0	8.11%
1	7.51
2	6.91
3	6.41
4	6.11
5	6.11
6	5.90
7	5.69
8	5.55
9	5.40
10	5.26
11	5.11
12	4.96
13	4.84
14	4.72
15	4.60
16	4.49
17	4.37
18	4.27
19	4.17
20	4.07
21	3.97
22+	3.87

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

Table 2
Alaska TRS
Mortality Table (Pre-termination)

Age	Male	Female	Age	Male	Female
20	0.000182	0.000098	53	0.001295	0.000855
21	0.000191	0.000101	54	0.001483	0.000908
22	0.000200	0.000104	55	0.001615	0.000985
23	0.000209	0.000105	56	0.001766	0.001054
24	0.000216	0.000105	57	0.001901	0.001132
25	0.000222	0.000106	58	0.002117	0.001221
26	0.000226	0.000107	59	0.002409	0.001344
27	0.000228	0.000109	60	0.002643	0.001501
28	0.000228	0.000111	61	0.002917	0.001659
29	0.000229	0.000114	62	0.003229	0.001837
30	0.000231	0.000118	63	0.003599	0.002080
31	0.000238	0.000123	64	0.004021	0.002367
32	0.000249	0.000130	65	0.004504	0.002723
33	0.000269	0.000137	66	0.005057	0.003118
34	0.000302	0.000146	67	0.005594	0.003582
35	0.000340	0.000169	68	0.006202	0.004036
36	0.000382	0.000193	69	0.007017	0.004546
37	0.000425	0.000217	70	0.007828	0.005130
38	0.000468	0.000240	71	0.008702	0.005696
39	0.000509	0.000262	72	0.009643	0.006297
40	0.000547	0.000283	73	0.010813	0.006959
41	0.000584	0.000305	74	0.011964	0.007841
42	0.000618	0.000330	75	0.013285	0.008701
43	0.000653	0.000357	76	0.014797	0.009678
44	0.000692	0.000389	77	0.016508	0.010757
45	0.000736	0.000427	78	0.018423	0.011923
46	0.000787	0.000470	79	0.020534	0.013163
47	0.000846	0.000517	80	0.022841	0.014502
48	0.000913	0.000567	81	0.025382	0.015972
49	0.000979	0.000620	82	0.028208	0.017607
50	0.001050	0.000674	83	0.031344	0.019438
51	0.001126	0.000731	84	0.035081	0.021486
52	0.001208	0.000791	85	0.039193	0.023782

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

Table 3
Alaska TRS
Mortality Table (Post-termination)

Age	Male	Female	Age	Male	Female
50	0.001544	0.001124	85	0.057637	0.039636
51	0.001656	0.001219	86	0.064248	0.043940
52	0.001777	0.001318	87	0.072770	0.048789
53	0.001904	0.001424	88	0.082264	0.054261
54	0.002181	0.001513	89	0.092884	0.060450
55	0.002375	0.001641	90	0.104794	0.068659
56	0.002597	0.001756	91	0.118129	0.077983
57	0.002795	0.001887	92	0.132941	0.088452
58	0.003113	0.002035	93	0.149196	0.100021
59	0.003543	0.002240	94	0.165479	0.112560
60	0.003887	0.002501	95	0.182705	0.125866
61	0.004289	0.002765	96	0.200693	0.139699
62	0.004749	0.003062	97	0.219249	0.153813
63	0.005293	0.003466	98	0.233940	0.164973
64	0.005913	0.003946	99	0.252821	0.178741
65	0.006624	0.004538	100	0.267022	0.188730
66	0.007436	0.005196	101	0.285888	0.201393
67	0.008227	0.005970	102	0.299408	0.209540
68	0.009121	0.006727	103	0.318102	0.220440
69	0.010318	0.007576	104	0.331094	0.226232
70	0.011511	0.008550	105	0.349384	0.237489
71	0.012798	0.009494	106	0.360058	0.246863
72	0.014180	0.010494	107	0.368483	0.258063
73	0.015902	0.011599	108	0.374013	0.270683
74	0.017595	0.013068	109	0.376000	0.284323
75	0.019536	0.014502	110	0.376000	0.298577
76	0.021760	0.016130	111	0.376000	0.313043
77	0.024276	0.017929	112	0.376000	0.327318
78	0.027093	0.019871	113	0.376000	0.340998
79	0.030198	0.021938	114	0.376000	0.353678
80	0.033590	0.024170	115	0.376000	0.364959
81	0.037326	0.026620	116	0.376000	0.374435
82	0.041482	0.029345	117	0.376000	0.381702
83	0.046095	0.032397	118	0.376000	0.386359
84	0.051589	0.035811	119	0.376000	0.388000

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

Table 4
Alaska TRS
Turnover Assumptions

Select Rates of Turnover During the First 8 Year of Employment

Service	Male	Female
0	0.204	0.170
1	0.204	0.170
2	0.168	0.140
3	0.144	0.120
4	0.120	0.100
5	0.108	0.090
6	0.090	0.075
7	0.072	0.060

Ultimate Rates of Turnover
After the First 8 Years of Employment

Age	Male	Female	Age	Male	Female
15	0.031209	0.037185	40	0.030159	0.036224
16	0.031170	0.037157	41	0.030085	0.036155
17	0.031138	0.037138	42	0.030010	0.036086
18	0.031107	0.037129	43	0.029866	0.035976
19	0.031091	0.037120	44	0.029721	0.035867
20	0.030847	0.036848	45	0.029577	0.035757
21	0.030831	0.036848	46	0.029432	0.035648
22	0.030799	0.036839	47	0.029288	0.035538
23	0.030776	0.036839	48	0.029046	0.035380
24	0.030736	0.036830	49	0.028805	0.035221
25	0.030705	0.036830	50	0.028563	0.035063
26	0.030673	0.036820	51	0.028248	0.034847
27	0.030642	0.036762	52	0.027878	0.034595
28	0.030610	0.041480	53	0.027468	0.034296
29	0.030579	0.046198	54	0.046305	0.059961
30	0.030555	0.050917	55	0.045414	0.059285
31	0.030540	0.055635	56	0.044334	0.058410
32	0.030516	0.060353	57	0.043012	0.057288
33	0.030500	0.055569	58	0.041567	0.056018
34	0.030455	0.050784	59	0.039826	0.054401
35	0.030431	0.046000	60	0.037868	0.052569
36	0.030407	0.041215	61	0.035694	0.050523
37	0.030383	0.036431	62	0.033170	0.048197
38	0.030308	0.036362	63	0.030294	0.045540
39	0.030234	0.036293	64	0.027176	0.042653
			65+	0.054000	0.066000

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

Table 5
Alaska TRS Disability Table

Age	Unisex
20	0.000560
21	0.000563
22	0.000565
23	0.000574
24	0.000583
25	0.000593
26	0.000602
27	0.000611
28	0.000611
29	0.000612
30	0.000612
31	0.000613
32	0.000613
33	0.000622
34	0.000631
35	0.000641
36	0.000650
37	0.000659
38	0.000674
39	0.000689
40	0.000703
41	0.000718
42	0.000733
43	0.000770
44	0.000806
45	0.000843
46	0.000879
47	0.000916
48	0.000975
49	0.001034
50	0.001093
51	0.001152
52	0.001211
53	0.001356
54	0.001501

Actuarial Section

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

Table 6
Alaska TRS Retirement Table

Age at Retirement	Retirement Rate		
	Reduced	Unreduced	
	Unisex Rates	Male	Female
<45	N/A	0.03	0.03
46	N/A	0.05	0.05
47	N/A	0.05	0.08
48	N/A	0.05	0.08
49	N/A	0.05	0.08
50	0.08	0.05	0.13
51	0.08	0.08	0.12
52	0.08	0.15	0.12
53	0.08	0.15	0.13
54	0.16	0.15	0.14
55	0.08	0.20	0.16
56	0.08	0.17	0.16
57	0.08	0.15	0.16
58	0.08	0.20	0.16
59	0.16	0.20	0.22
60	N/A	0.25	0.22
61	N/A	0.18	0.22
62	N/A	0.18	0.20
63	N/A	0.18	0.20
64	N/A	0.18	0.25
65	N/A	0.30	0.20
66	N/A	0.25	0.20
67	N/A	0.25	0.20
68	N/A	0.25	0.25
69	N/A	0.35	0.25
70	N/A	0.30	0.25
71	N/A	0.30	0.35
72	N/A	0.30	0.35
73	N/A	0.30	0.35
74	N/A	0.30	0.35
75-84	N/A	0.50	
85+	N/A	1.00	

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

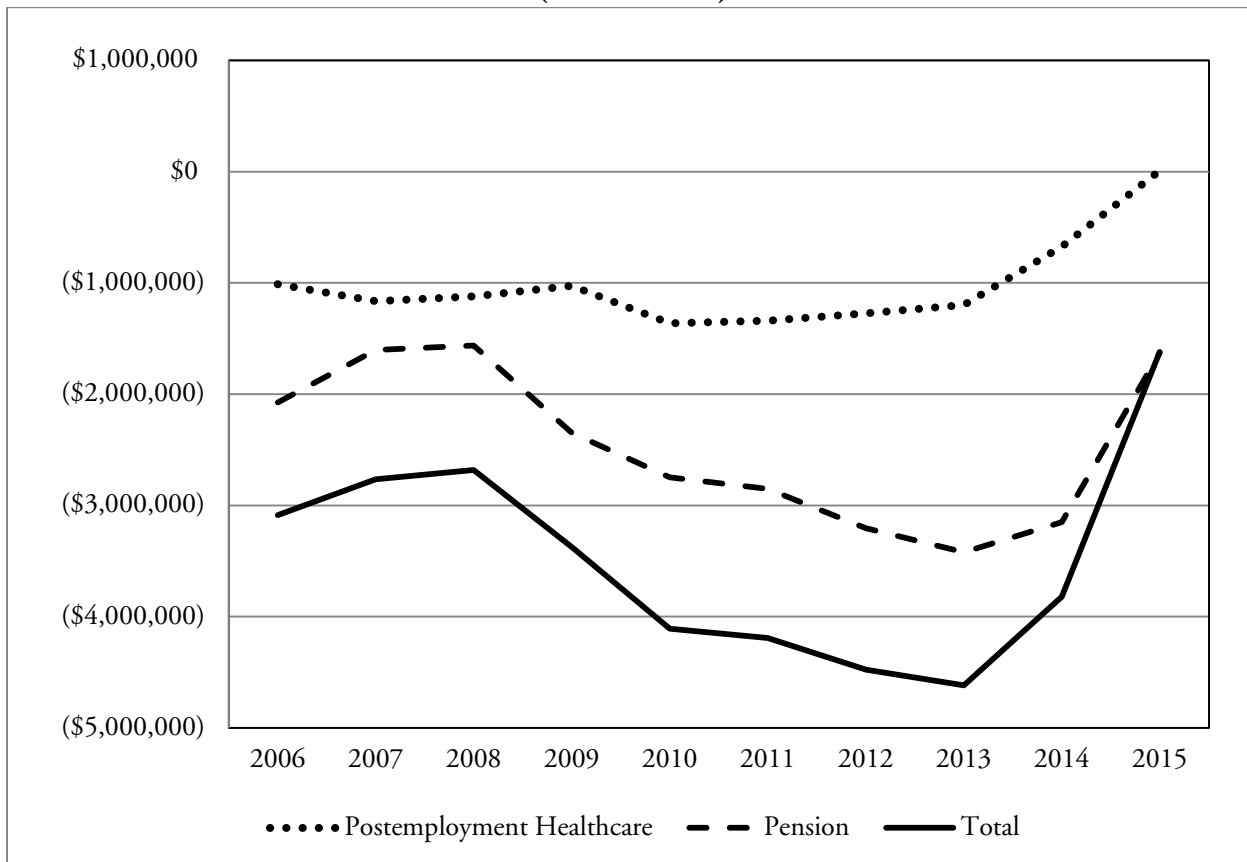
Table 7
 Alaska TRS
 Disabled Mortality Rates

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

Teachers' 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
2006	\$ (1,012,540)	\$ (2,075,617)	\$ (3,088,157)	57.3%
2007	(1,163,423)	(1,601,581)	(2,765,004)	61.5
2008	(1,120,634)	(1,561,568)	(2,682,202)	64.8
2009	(1,026,288)	(2,348,268)	(3,374,556)	57.0
2010	(1,361,547)	(2,747,113)	(4,108,660)	53.6
2011	(1,340,703)	(2,850,155)	(4,190,858)	54.1
2012	(1,272,507)	(3,204,783)	(4,477,290)	52.1
2013	(1,198,791)	(3,419,240)	(4,618,031)	51.9
2014	(671,535)	(3,150,223)	(3,821,758)	61.2
2015	8,879	(1,629,073)	(1,620,194)	83.3

**10-YEAR TREND OF UNFUNDED LIABILITY
(In thousands)**



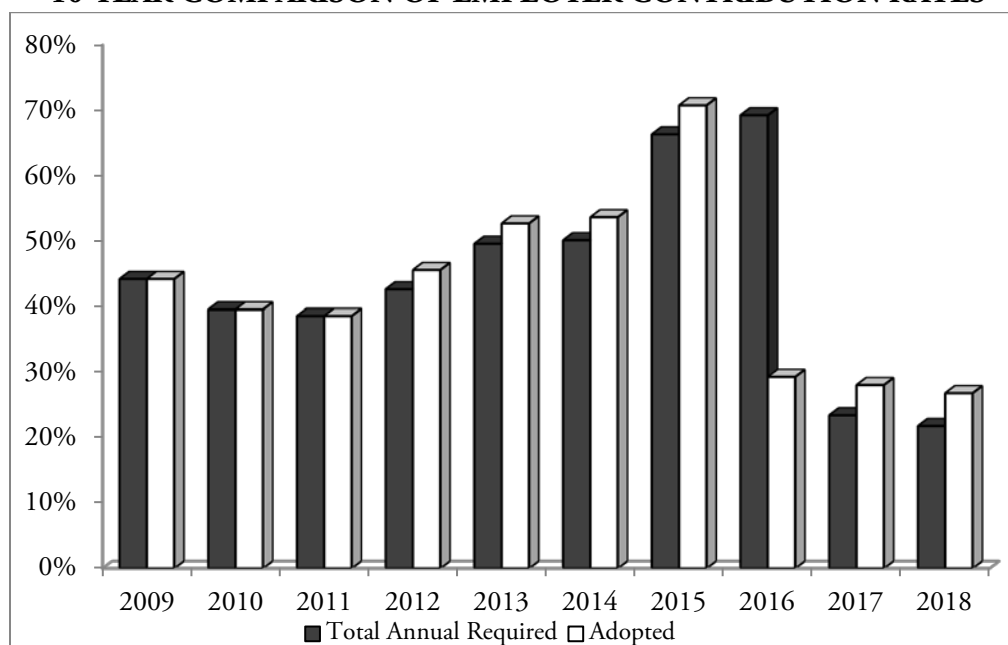
Teachers' Retirement System Defined Benefit Retirement Plan Employer Contribution Rates					
Year Ended June 30	Actuarially Determined				Adopted
	Actuarial Valuation Year Ended June 30	Normal Cost ¹	Past Service	Total Annual Required	
2009	2006	9.37%	34.80%	44.17%	44.17%
2010	2007	7.59	31.94	39.53	39.53
2011	2008	7.56	31.00	38.56	38.56
2012	2009	6.57	36.04	42.61	45.55
2013	2010	7.47	42.09	49.56	52.67
2014	2011	6.59	43.51	50.10	53.62
2015	2012	6.40	59.91	66.31	70.75
2016	2013	5.70	63.54	69.24	29.27
2017	2014	4.63	18.77	23.40	28.02
2018	2015	3.99	17.76	21.75	26.78

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 EMPLOYER CONTRIBUTION RATES



Actuarial Section

Teachers' 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
June 30, 2015	5,502	\$ 456,636	\$ 82,995	2.4%	58
June 30, 2014	5,861	474,873	81,023	2.1	58
June 30, 2013	6,352	504,260	79,386	2.6	58
June 30, 2012	6,845	529,468	77,351	3.6	58
June 30, 2011	7,303	545,155	74,648	3.5	58
June 30, 2010	7,832	564,887	72,125	6.5	58
June 30, 2009	8,226	557,026	67,715	5.2	58
June 30, 2008	8,531	549,148	64,371	5.8	58
June 30, 2007	9,107	554,245	60,859	2.9	58
June 30, 2006	9,710	574,409	59,156	6.6	58

Teachers' Retirement System Defined Benefit Retirement Plan Schedule of Pension Benefit Recipients Added to and Removed from Rolls								
Year Ended	Added to Rolls		Removed from Rolls		Rolls – End of Year		Percent Increase/ (Decrease) In Annual Pension Allowances	Average Annual Pension Allowances
	No.*	Annual Pension Allowances*	No.*	Annual Pension Allowances*	No.	Annual Pension Allowances		
June 30, 2015	888	\$ 34,120,658	482	\$ 3,531,501	12,418	\$ 433,863,303	7.59%	\$ 34,938
June 30, 2014	226	5,964,256	181	(1,150,187)	11,750	403,274,146	1.80	34,321
June 30, 2013	576	19,387,542	172	1,652,575	11,705	396,159,703	4.69	33,845
June 30, 2012	473	17,104,564	188	(617,561)	11,301	378,424,736	4.91	33,486
June 30, 2011	564	19,546,369	146	1,464,766	11,016	360,702,611	5.28	32,744
June 30, 2010	533	16,980,817	190	5,495,399	10,598	342,621,008	3.47	32,329
June 30, 2009	368	9,788,639	139	(2,857,118)	10,255	331,135,590	3.97	32,290
June 30, 2008	481	14,265,236	133	806,945	10,026	318,489,833	4.41	31,766
June 30, 2007	432	12,388,703	140	(14,114,559)	9,678	305,031,542	9.52	31,518
June 30, 2006	487	12,731,292	121	(50,838)	9,386	278,528,280	4.81	29,675

*Numbers are estimated, and include other internal transfers.

Teachers' 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, 2015	\$ 714,422	\$ 5,192,935	\$ 1,144,367	\$ 5,442,651	100.0%	90.7%	— %
June 30, 2014 ^{1 2}	718,694	5,042,250	1,160,418	3,771,139	100.0	60.5	—
June 30, 2013	726,139	4,726,282	1,137,132	3,170,313	100.0	51.7	—
June 30, 2012	727,435	4,532,982	1,139,360	3,194,994	100.0	54.4	—
June 30, 2011	717,819	4,352,035	1,126,250	3,345,949	100.0	60.4	—
June 30, 2010 ¹	716,675	4,153,119	1,137,187	3,259,868	100.0	61.2	—
June 30, 2009	692,105	3,815,020	956,862	3,115,719	100.0	63.5	—
June 30, 2008	654,662	3,700,812	876,180	3,670,086	100.0	81.5	—
June 30, 2007	638,420	3,567,894	837,134	3,441,867	100.0	78.6	—
June 30, 2006 ^{1 2}	615,207	3,432,703	811,426	3,296,934	100.0	78.1	—
June 30, 2005	589,169	3,200,339	545,077	3,184,976 ³	100.0	81.1	—

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

Actuarial Section

Teachers' 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, 2015	\$ —	\$ 1,870,987	\$ 806,406	\$ 2,686,272	100.0%	100.0%	100.0%
June 30, 2014 ^{1 2}	—	2,008,223	911,447	2,248,135	100.0	100.0	26.3
June 30, 2013	—	2,012,114	990,440	1,803,763	100.0	89.6	—
June 30, 2012	—	1,933,288	1,013,379	1,674,160	100.0	86.6	—
June 30, 2011	—	1,879,564	1,053,127	1,591,988	100.0	84.7	—
June 30, 2010 ¹	—	1,755,961	1,084,846	1,479,260	100.0	84.2	—
June 30, 2009	—	1,477,788	905,739	1,357,239	100.0	91.8	—
June 30, 2008 ¹	—	1,480,864	906,660	1,266,890	100.0	85.6	—
June 30, 2007	—	1,344,131	801,824	982,532	100.0	73.1	—
June 30, 2006 ^{1 2}	—	1,493,219	877,296	844,766	100.0	56.6	—
June 30, 2005	—	1,493,837	670,134	773,963 ³	100.0	51.8	—

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 ration of fair value of assets as of June 30, 2005

Teachers' 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				
	2015	2014	2013	2012	2011
Health Experience	(4.07)%	(8.59)%	(1.21)%	(2.02)%	(0.72)%
Salary Experience	(0.34)	(0.43)	(0.30)	—	(0.03)
Investment Experience	0.62	(6.31)	2.44	4.18	0.46
Demographic Experience	(0.52)	1.75	0.38	(0.36)	(0.03)
Contribution Shortfall	—	1.24	1.62	0.71	0.86
(Gain) or Loss During Year From Experience	(4.31)	(12.34)	2.93	2.51	0.54
Non-recurring changes					
Assumption and Method Changes	—	(33.50)	—	13.70	—
System Benefit Changes	—	—	—	—	—
Composite (Gain) or Loss During Year	(4.31)	(45.84)	2.93	16.21	0.54
Beginning Total Employer/State Contribution Rate	23.40	69.24	66.31	50.10	49.56
Ending Employer/State Contribution Rate	<u>19.09%</u>	<u>23.40%</u>	<u>69.24%</u>	<u>66.31%</u>	<u>50.10%</u>
Fiscal Year Employer/State Contribution Rates	19.09%*	23.40%	24.48%	44.25%	50.10%
Fiscal Year Above Rate is Applied	FY18	FY17	FY16	FY15	FY14

* 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 24.48%.

Actuarial Section

Teachers' 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		
	2015	2014	2013	2015	2014	2013
Health Experience	N/A	N/A	N/A	(4.07)%	(8.59)%	(1.21)%
Salary Experience	(0.34)%	(0.43)%	(0.30)%	N/A	N/A	N/A
Investment Experience	0.40	(3.97)	2.09	0.22	(2.34)	0.35
Demographic Experience	(0.52)	1.75	0.38	N/A	N/A	N/A
Contribution Shortfall	—	1.10	1.34	—	0.14	0.28
(Gain) or Loss During Year From Experience	(0.46)	(1.55)	3.51	(3.85)	(10.79)	(0.58)
Non-recurring changes						
Assumption and Method Changes	—	(28.73)	—	—	(4.77)	—
System Benefit Changes	—	—	—	—	—	—
Composite (Gain) or Loss During Year	(0.46)	(30.28)	3.51	(3.85)	(15.56)	(0.58)
Beginning Total Employer/State Contribution Rate	17.78	48.06	44.55	5.62	21.18	21.76
Ending Total Employer/State Contribution Rate	<u>17.32%</u>	<u>17.78%</u>	<u>48.06%</u>	<u>1.77%</u>	<u>5.62%</u>	<u>21.18%</u>
Fiscal Year Employer/State Contribution Rates	17.32%*	17.78%	15.85%	1.77%*	5.62%	8.63%
Fiscal Year Above Rate is Applied	FY18	FY17	FY16	FY18	FY17	FY16

*Expected. Actual Rate to be determined.

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

1. Effective Date

July 1, 1955, with amendments through June 30, 2014. Chapter 97, 1990 Session Laws of Alaska, created a two-tier retirement system. Members who were first hired under the TRS before July 1, 1990 (Tier 1) are eligible for different benefits than members hired after June 30, 1990 (Tier 2). 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 Teachers' 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 TRS funds.

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

3. Employers Included

Currently, there are 58 employers participating in the TRS, including the State of Alaska, 53 school districts, and four other eligible organizations.

4. Membership

Membership in the Alaska TRS is mandatory for the following employees hired before July 1, 2006:

- certificated full-time and part-time elementary and secondary teachers, certificated school nurses, and certificated employees in positions requiring teaching certificates;
- positions requiring a teaching certificate as a condition of employment in the Department of Education and Early Development and the Department of Labor and Workforce Development;
- University of Alaska full-time and part-time teachers, and full-time administrative employees in positions requiring academic standing if approved by the TRS administrator;
- certain full-time or part-time teachers of Alaska Native language or culture who have elected to be covered under the TRS;
- members on approved sabbatical leave under AS 14.20.310;
- certain State legislators who have elected to be covered under the TRS; and
- a teacher who has filed for worker's compensation benefits due to an on-the-job assault and who, as a result of the physical injury, is placed on leave without pay.

Employees participating in the University of Alaska's Optional Retirement Plan or other retirement plans funded by the State are not covered by the TRS.

State of Alaska
Teachers' Retirement System
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Employees who work half-time in the TRS and Public Employees' Retirement System (PERS) simultaneously are eligible for half-time TRS and PERS 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.

5. Credited Service

TRS members receive a year of membership credit if they work a minimum of 172 days during the school year (July 1 through June 30 of the following year). Fractional credit is determined based on the number of days worked. Part-time members who work at least 50% of full-time receive membership credit for each day in proportion to full-time service. Credit is granted for all Alaskan public school service.

Members may claim other types of service, including:

- Outside teaching service in out-of-state schools or Alaska private schools (not more than ten years may be claimed);
- Military service (not more than five years of military service or ten years of combined outside and military service may be claimed);
- Alaska Bureau of Indian Affairs (BIA) service;
- Retroactive Alaskan service that was not creditable at the time it occurred, but later became creditable because of legislative change;
- Unused sick leave credit after members retire; and
- Leave of absence without pay.

Except for retroactive Alaska service that occurred before July 1, 1955, and unused sick leave, contributions are required for all claimed service.

Members receiving TRS disability benefits continue to earn TRS credit while disabled.

Survivors who are receiving occupational death benefits continue to earn TRS service credit while occupational survivor benefits are being paid.

6. Employer Contributions

TRS 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 dollar amount over a closed 25-year period.

Employer rates cannot be less than the normal cost rate.

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7. Additional State Contribution

Pursuant to AS14.25.070 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 (12.56%) will be sufficient to pay the total contribution rate adopted by The State of Alaska Retirement Management Board.

8. Member Contributions

Mandatory Contributions: Members are required to contribute 8.65% of their base salaries. Members' contributions are deducted from gross salaries before federal income taxes are withheld.

Contributions for Claimed Service: Member contributions are also required for most of the claimed service described in (5) above.

1% Supplemental Contributions: Members who joined the system before July 1, 1982 and elected to participate in the supplemental contributions provision are required to contribute an additional 1% of their salaries. Supplemental contributions are deducted from gross salaries after federal income taxes are withheld. Under the supplemental provision, an eligible spouse or dependent child will receive a survivor's allowance or spouse's pension if the member dies (see 13 below). Supplemental contributions are only refundable upon death (see 13 below).

Interest: Members' contributions earn 4.5% interest, compounded annually on June 30.

Refund of Contributions: Terminated members may receive refunds of their member contribution accounts which includes their mandatory 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.

Reinstatement of Contributions: Refunded accounts and the corresponding TRS service may be reinstated upon reemployment in the TRS 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, 1990 (Tier 1) and age 60 or early retirement at age 55 if they were hired on or after July 1, 1990 (Tier 2). Additionally, they must have at least:
 - i. eight years of paid-up membership service;
 - ii. 15 years of paid-up creditable service, the last five years of which are membership service, and they were first hired under the TRS before July 1, 1975;
 - iii. five years of paid-up membership service and three years of paid-up Alaska Bureau of Indian Affairs service;
 - iv. 12 years of combined part-time and full-time paid-up membership service;

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- v. two years of paid-up membership service if they are vested in the Public Employees' Retirement System (PERS); or
 - vi. one year of paid-up membership service if they are retired from the PERS.
- b. Members may retire at any age when they have:
- i. 25 years of paid-up creditable service, the last five years of which are membership service;
 - ii. 20 years of paid-up membership service;
 - iii. 20 years of combined paid-up membership and Alaska Bureau of Indian Affairs service, the last five years of which are membership service; or
 - iv. 20 years of combined paid-up part-time and full-time membership 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 to retire at any age under (b) above. Members may receive early, actuarially reduced benefits when they reach early retirement age and complete the service required.

Members may select joint and survivor options and a last survivor option. Under those options and early retirement, benefits are actuarially adjusted so that members receive the actuarial equivalents of their normal benefit amounts.

Benefit Calculation: Retirement benefits are calculated by multiplying the average base salary (ABS) times the total TRS service times the percentage multiplier. The ABS is determined by averaging the salaries earned during the three highest school years. Members must earn at least 115 days of credit in a school year to include it in the ABS calculation. The TRS pays a minimum benefit of \$25.00 per month for each year of service when the calculated benefit is less.

The percentage multipliers are 2% for the first 20 years and 2.5% for all remaining service. Service before July 1, 1990 is calculated at 2%.

Indebtedness: Members who terminate and refund their TRS contributions are not eligible to retire unless they return to TRS employment and pay back their refunds plus interest or accrue additional service which qualifies them for retirement. TRS refunds must be paid in full if the corresponding service is to count toward the minimum service requirements for retirement. Refunded TRS service is included in total service for the purpose of calculating retirement benefits. However, 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

Retirees who return to work in a permanent full-time or part-time TRS position after a Normal Retirement are eligible to return under the Standard Option.

Under the Standard Option, retirement and retiree healthcare benefits are suspended while retired members are reemployed under the TRS. During reemployment, members earn additional TRS service and contributions are withheld from their wages.

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Members retired under the RIP who return to employment under the TRS, Public Employees' Retirement System (PERS), Judicial Retirement System (JRS) or the University of Alaska's Optional Retirement Plan will:

- a. forfeit the three years of incentive credits that they received;
- b. owe the TRS 110% of the benefits that they received under the RIP, which may include costs for health insurance, excluding amounts that they paid to participate; 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

When pension benefits begin, major medical benefits are provided by the TRS to (1) all employees first hired before July 1, 1990 (Tier 1) and their surviving spouses and (2) members and their surviving spouses who have twenty-five years of membership service, are disabled or age sixty or older, regardless of their initial hire dates. Employees first hired after June 30, 1990 (Tier 2) and their surviving spouses may receive major medical benefits prior to age sixty by paying premiums.

12. Disability Benefits

Monthly disability benefits are paid to permanently disabled members until they die, recover or become eligible for normal retirement. To be eligible, members must have at least five years of paid-up membership service.

Disability benefits are equal to 50% of the member's base salary at the time of disability. The benefit is increased by 10% of the base salary for each minor child, up to a maximum of 40%. Members continue to earn TRS service until eligible for normal retirement.

Members are appointed to normal retirement on the first of the month after they become eligible.

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 supplemental contributions provision or occupational and nonoccupational death provisions, the designated beneficiary receives the lump sum benefit described below.

Occupational Death: When an active member dies from occupational causes, a monthly survivor's pension may be paid to the spouse, unless benefits are payable under the supplemental contributions provision (below). The pension equals 40% of the member's base salary 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 average base salary on the date of death and service, including service accumulated from the date of the member's death to the normal retirement date.

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Nonoccupational Death: When a vested member dies from nonoccupational causes, the surviving spouse may elect to receive a monthly 50% joint and survivor benefit or a lump sum benefit, unless benefits are payable under the supplemental contributions provision (below). The monthly benefit is calculated on the member's average base salary and TRS service accrued at the time of death.

Lump Sum Benefit: Upon the death of an active member who has less than one year of service or an inactive member who is not vested, the designated beneficiary receives the member's contribution account, which includes mandatory contributions, indebtedness payments, and interest earned. Any supplemental contributions will also be refunded. If the member has more than one year of TRS service or is vested, the beneficiary also receives \$1,000 and \$100 for each year of TRS service, up to a maximum of \$3,000. An additional \$500 may be payable if the member is survived by dependent children.

Supplemental Contributions Provision: Members are eligible for supplemental coverage if they joined the TRS before July 1, 1982, elected to participate in the supplemental provision, and made the required contributions. A survivor's allowance or spouse's pension (below) may be payable if the member made supplemental contributions for at least one year and dies while in membership service or while disabled under the TRS. In addition, the allowance and pension may be payable if the member dies while retired or in deferred vested status if supplemental contributions were made for at least five years.

- a. **Survivor's Allowance:** If the member is survived by dependent children, the surviving spouse and dependent children are entitled to a survivor's allowance. The allowance for the spouse is equal to 35% of the member's base salary at the time of death or disability, plus 10% for each dependent child up to a maximum of 40%. The allowance terminates and a spouse's pension becomes payable when there is no longer an eligible dependent child.
- b. **Spouse's Pension:** The spouse's pension is equal to 50% of the retirement benefit that the deceased member was receiving or the unreduced retirement benefit that the deceased member would have received if retired at the time of death. The spouse's pension begins on the first of the month after the member's death or termination of the survivor's allowance.
- c. **Death After Retirement:** If a joint and survivor option was selected at retirement, the eligible spouse receives continuing, lifetime monthly benefits after the member dies. A survivor's allowance or spouse's pension may be payable if the member participated in the supplemental contributions provision. If a joint and survivor option was not selected and benefits are not payable under the supplemental contributions provision, the designated beneficiary receives the member's contribution account, less any benefits already paid and the member's last benefit check.

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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 TRS disability; or
- 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 under age 60 if the recipient has been receiving benefits for at least eight years.

Ad hoc PRPAs, up to a maximum of 4%, may be granted to eligible recipients who were first hired before July 1, 1990 (Tier 1) if the CPI increases and the funding 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. The following benefit recipients are eligible:

- a. members who were first hired under the TRS before July 1, 1990 (Tier 1) and their survivors;
- b. members who were first hired under the TRS after June 30, 1990 (Tier 2) 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. This valuation reflects a better understanding of the coverage for alternate payees under a domestic relations order.



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June 27, 2016

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 Teachers' Retirement System Defined Contribution Retirement (TRS DCR) Plan as of June 30, 2015 performed by Buck Consultants, LLC.

The actuarial valuation is based on financial information provided in the financial statements audited by KPMG LLP and member data provided by the Division of Retirement and Benefits and summarized in this report. The benefits considered are those delineated in Alaska statutes effective June 30, 2015. The actuary did not verify the data submitted, but did perform tests for consistency and reasonableness. Valuation census data used for the retiree medical valuation utilized available retiree medical information. Certain pension data fields have been used to clarify the retiree medical data provided to us. Details regarding this information can be found in Section 5.2.c.

All costs, liabilities and other factors under the Plan 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. Buck Consultants, LLC 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 Plan as of June 30, 2015.

TRS DCR is funded by Employer Contributions in accordance with the funding policy adopted by the Alaska Retirement Management Board (Board). The funding objective for TRS DCR is to pay required contributions that remain level as a percent of TRS 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 TRS 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 TRS 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 Buck to review any statement you wish to make on the results contained in this report. Buck will not accept any liability for any such statement made without the review by Buck.

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, 2015 to better reflect expected future healthcare experience. Based on recent experience, the healthcare cost trend assumptions are still reasonable and were not changed. A summary of the actuarial assumptions and methods used in this actuarial valuation are shown in Sections 5.2 and 5.3.

The assumptions and methods used to determine the healthcare Actuarial Required Contributions (ARC) of the Employers to TRS DCR as outlined in this report and all supporting schedules meet the parameters and requirements for disclosure of Governmental Accounting Standards Board (GASB) Statement No. 43, Financial Reporting for Postemployment Benefit Plans Other Than Pension Plans. Based on member data and asset information provided by the Division of Retirement and Benefits, we have prepared the trend data schedule under GASB No. 43 that is included in the Financial Section of the CAFR. We have also prepared the member data tables shown in Section 3 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.

Actuarial Section

David Kershner and Melissa Bissett are Fellows of the Society of Actuaries and Todd Kanaster and Larry Langer are Associates of the Society of Actuaries. All are Members of the American Academy of Actuaries and meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinions contained in this report. Mr. Kershner, Mr. Kanaster and Mr. Langer take professional responsibility for the overall appropriateness of the analysis, assumptions and results. This report has been prepared in accordance with all applicable Actuarial Standards of Practice. We are available to answer any questions on the material contained in the report, or to provide explanations or further details as may be appropriate.

Respectfully submitted,



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

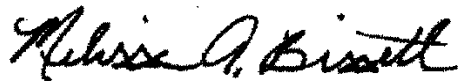


Todd D. Kanaster, ASA, MAAA, FCA
Senior Consultant



Larry Langer, ASA, 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 her qualification to render opinions in such matters in accordance with the Qualification Standards of the American Academy of Actuaries.



Melissa A. Bissett, FSA, MAAA
Senior Consultant, Health & Productivity

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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 Actuarial 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 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. These requirements are being amended. Under the new accounting standards that will become applicable to Postemployment Benefit Plans Other Than Pension Plans (GASB 74 and 75), the GASB requirements will not directly control amortization periods used for funding of the plan. Per KPMG, the new accounting standards under GASB 67 (and 68) are not applicable to the Occupational Death & Disability benefits under TRS DCR.

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.

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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 will be 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.

C. Valuation of Retiree Medical Benefits

The methodology used for the valuation of the retiree medical benefits is described in Section 6.2(d) of the State of Alaska Teachers' Retirement System Defined Benefit Plan Actuarial Valuation Report as of June 30, 2015.

Due to the lack of experience for TRS DCR only, base claims costs are based on those described in the actuarial valuation as of June 30, 2015 for TRS 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 and an indexing of the retiree out-of-pocket dollar amounts. To account for higher initial copays, deductibles and out-of-pocket limits, upcoming FY16 claims costs were reduced 11.9% for medical and 7.1% for prescription drugs. The health care trend rate was reduced 0.2% each year to reflect the fact that the medical benefit to be offered to 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 prior to Medicare are valued with commencement deferred to Medicare eligibility, as such members will be required to pay the full plan premium. Explicit subsidies for disabled and normal retirement are determined using the plan-defined percentages of total projected plan costs, again with no implicit subsidy assumed.

We have prepared our valuation based on the participant census data that was readily available. Certain pension fields have been used to clarify the retiree medical data provided. This serves as a proxy until additional retiree medical data can be provided.

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. This pension census data included retiree medical enrollment information that indicated the retirement system and an indication regarding eligibility for system-paid benefits.
- Certain adjustments and assumptions were made to determine the number of people enrolled in retiree medical:
 - Where there is an indication of non-system paid health benefits, we reflected the coverage level (e.g. single vs. couple) indicated on the pension data in valuing the retiree medical plan.

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- Where system-paid health benefits coverage is indicated, the premium dollar amount indicated on the data is a composite rate that does not specify the number of people enrolled.
- Buck understands that retiree medical coverage/eligibility is in place while a pension benefit is payable.
- For individuals who are receiving a pension benefit, Buck references the pension benefit payment form (single life annuity, joint & survivor, etc.) along with marital status to determine the number of people to value for medical purposes:
 - Where there is a single life-annuity indicated and the marital status is single, we valued one member for health coverage.
 - Where there is a single life-annuity indicated and the marital status is married, we valued two members until the retiree dies. Upon the retiree's death, medical coverage for the spouse is assumed to cease and that spouse is no longer valued.
 - Where there is a joint & survivor annuity, we assumed a member and spouse are covered and upon the retiree's death, health coverage is assumed to continue to the surviving spouse.
- 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: Since pension data is used to estimate health care coverage, the retiree medical liabilities and resultant figures regarding funded status and proposed employer contribution rates may be different if we had data that could directly determine the level of health coverage for each retiree.
- Unresolved matters: We have received retiree medical enrollment data, but we have not completed the reconciliation of retiree medical enrollment data to the retiree medical valuation census data. Based on information provided to us, it appears that our valuation may assume that a greater number of individuals are enrolled in the retiree medical coverage than are indicated in the enrollment statistics provided by the carrier. This is because our data assumptions for use of pension data as a proxy for individual retiree medical coverage conservatively include in the valuation any potential dependent. The carrier enrollment information with lower enrollment figures are conservatively used to develop per capita costs, resulting in higher per capita costs than if the counts from the proxy data were used.
- Potential uncertainty or bias: Until we complete the comparison between retiree medical enrollment and the proxy data, we cannot specify the magnitude of the difference. There is potential for bias, and we believe there is conservatism in our methodology. That is, it is possible there are more people included in the valuation than are enrolled in the retiree medical plan.

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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. Buck 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. We did look at the impact of including these provisions, but there was no decision made to adopt them, and no requirement to do so.

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; recent legislation passed in December 2015 delayed it to 2020. Based upon guidance available at the time of disclosure, Buck determined the impact on plan liabilities to be immaterial (less than \$75,000 (0.4%)) 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.

We have not identified any other specific provisions of healthcare reform that would be expected to have a significant impact on the measured obligation. As additional guidance on the legislation is issued, we will continue to monitor any potential impacts.

E. Changes in Methods From the Prior Valuation

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

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Summary of Actuarial Assumptions and Changes in Assumptions

The demographic and economic assumptions used in the June 30, 2015 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 TRS defined benefit plan as of June 30, 2013.

1. Investment Return / Discount Rate 8.00% per year (geometric), compounded annually, net of expenses.
2. Salary Scale Inflation – 3.12% per year. Productivity – 0.5% 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)* Based upon the 2010-2013 actual experience. (See Table 2.) 68% of males rate and 60% of female rates of post-termination mortality. Deaths are assumed to result from occupational causes 15% of the time.
6. Mortality (Post-termination)*
Based upon the 2010-2013 actual experience. (See Table 3.) 94% of male and 94% of male and 97% of female rates of RP-2000, 2000 Base Year projected to 2018 with Projection Scale BB, with a 3-year setback for males and 4-year setback for females.

Disability Mortality in accordance with the RP-2000 Disability Retiree Mortality Table, 2000 Base Year, project to 2018 with Projection Scale BB.
7. Turnover Select and ultimate rates based upon the 2010-2013 actual withdrawal experience. (See Table 4.)
8. Disability Incidence rates based upon the 2010-2013 actual experience, in accordance with Table 5. Disabilities are assumed to result from occupational causes 15% of the time.
9. Retirement Retirement rates based upon the 2010-2013 actual experience in accordance with Table 6. Deferred vested members are assumed to retire at their earliest unreduced retirement date.
10. Marriage and Age Difference Wives are assumed to be three years younger than husbands. 85% of male members and 75% of female members are assumed to be married at termination from active service.

*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 110%.

Actuarial Section

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Summary of Actuarial Assumptions and Changes in Assumptions

11. Per Capita Claims Cost Sample claims cost rates (before base claims cost adjustments described below) adjusted to age 65 for FY16 medical benefits are shown below:

		Medical	Prescription drugs
Pre-Medicare	\$	11,724	2,753
Medicare Parts A & B		1,461	2,753
Medicare Part B Only		6,700	2,753
Medicare Part D		N/A	496

Members are assumed to attain Medicare eligibility at age 65.

12. Third Party Administrator Fees \$194.18 per person per year; assumed trend rate of 5% per year.

13. 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:

- 0.881 for the medical plan.
- 0.929 for the prescription drug plan.

14. 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.

15. Teacher 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.

16. 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, 9.4% is applied to the FY16 pre-Medicare medical claims costs to get the FY17 medical claims costs.

Fiscal year	Medical pre-65	Medical post-65	Prescription drugs
2016	9.4%	5.9%	5.7%
2017	8.8	5.8	5.4
2018	8.2	5.7	5.1
2019	7.6	5.6	4.8
2020	7.0	5.6	4.6
2021	6.5	5.6	4.4
2022	6.0	5.6	4.2
2025	5.6	5.6	4.0
2050	4.4	4.0	4.0
2100	4.4	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. This model effectively begins estimating trend amounts beginning in 2014 and projects out to 2090. The model has been populated with assumptions that are specific to the State of Alaska.

Each of the above trend rates was reduced by 0.2% to reflect the fact that the medical benefits offered to members will have annual indexing of member cost sharing.

17. Aging Factors

Age	Medical	Prescription drugs
0-44	2.0%	4.5%
45-54	2.5	3.5
55-64	3.5	3.0
65-73	4.0	1.5
74-83	1.5	0.5
84-93	0.5	—
94 +	—	—

18. Retiree Medical Participation

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+	94.00	65+	Years of Service
			<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 trend in participation from a range of other plans.

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Summary of Actuarial Assumptions and Changes in Assumptions

Table 1
Alaska TRS DCR Plan
Salary Scale

Years of Service	Percent Increase
0	8.11%
1	7.51
2	6.91
3	6.41
4	6.11
5	6.11
6	5.90
7	5.69
8	5.55
9	5.40
10	5.26
11	5.11
12	4.96
13	4.84
14	4.72
15	4.60
16	4.49
17	4.37
18	4.27
19	4.17
20	4.07
21	3.97
22+	3.87

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Summary of Actuarial Assumptions and Changes in Assumptions

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

Age	Male	Female	Age	Male	Female
20	0.0182%	0.0098%	55	0.1615%	0.0985%
21	0.0191	0.0101	56	0.1766	0.1054
22	0.0200	0.0104	57	0.1901	0.1132
23	0.0209	0.0105	58	0.2117	0.1221
24	0.0216	0.0105	59	0.2409	0.1344
25	0.0222	0.0106	60	0.2643	0.1501
26	0.0226	0.0107	61	0.2917	0.1659
27	0.0228	0.0109	62	0.3229	0.1837
28	0.0228	0.0111	63	0.3599	0.2080
29	0.0229	0.0114	64	0.4021	0.2367
30	0.0231	0.0118	65	0.4504	0.2723
31	0.0238	0.0123	66	0.5057	0.3118
32	0.0249	0.0130	67	0.5594	0.3582
33	0.0269	0.0137	68	0.6202	0.4036
34	0.0302	0.0146	69	0.7017	0.4546
35	0.0340	0.0169	70	0.7828	0.5130
36	0.0382	0.0193	71	0.8702	0.5696
37	0.0425	0.0217	72	0.9643	0.6297
38	0.0468	0.0240	73	1.0813	0.6959
39	0.0509	0.0262	74	1.1964	0.7841
40	0.0547	0.0283	75	1.3285	0.8701
41	0.0584	0.0305	76	1.4797	0.9678
42	0.0618	0.0330	77	1.6508	1.0757
43	0.0653	0.0357	78	1.8423	1.1923
44	0.0692	0.0389	79	2.0534	1.3163
45	0.0736	0.0427	80	2.2841	1.4502
46	0.0787	0.0470	81	2.5382	1.5972
47	0.0846	0.0517	82	2.8208	1.7607
48	0.0913	0.0567	83	3.1344	1.9438
49	0.0979	0.0620	84	3.5081	2.1486
50	0.1050	0.0674	85	3.9193	2.3782
51	0.1126	0.0731			
52	0.1208	0.0791			
53	0.1295	0.0855			
54	0.1483	0.0908			

Actuarial Section

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Summary of Actuarial Assumptions and Changes in Assumptions

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

Age	Male	Female	Age	Male	Female
50	0.1544%	0.1124%	85	5.7637%	3.9636%
51	0.1656	0.1219	86	6.4248	4.3940
52	0.1777	0.1318	87	7.2770	4.8789
53	0.1904	0.1424	88	8.2264	5.4261
54	0.2181	0.1513	89	9.2884	6.0450
55	0.2375	0.1641	90	10.4794	6.8659
56	0.2597	0.1756	91	11.8129	7.7983
57	0.2795	0.1887	92	13.2941	8.8452
58	0.3113	0.2035	93	14.9196	10.0021
59	0.3543	0.2240	94	16.5479	11.2560
60	0.3887	0.2501	95	18.2705	12.5866
61	0.4289	0.2765	96	20.0693	13.9699
62	0.4749	0.3062	97	21.9249	15.3813
63	0.5293	0.3466	98	23.3940	16.4973
64	0.5913	0.3946	99	25.2821	17.8741
65	0.6624	0.4538	100	26.7022	18.8730
66	0.7436	0.5196	101	28.5888	20.1393
67	0.8227	0.5970	102	29.9408	20.9540
68	0.9121	0.6727	103	31.8102	22.0440
69	1.0318	0.7576	104	33.1094	22.6232
70	1.1511	0.8550	105	34.9384	23.7489
71	1.2798	0.9494	106	36.0058	24.6863
72	1.4180	1.0494	107	36.8483	25.8063
73	1.5902	1.1599	108	37.4013	27.0683
74	1.7595	1.3068	109	37.6000	28.4323
75	1.9536	1.4502	110	37.6000	29.8577
76	2.1760	1.6130	111	37.6000	31.3043
77	2.4276	1.7929	112	37.6000	32.7318
78	2.7093	1.9871	113	37.6000	34.0998
79	3.0198	2.1938	114	37.6000	35.3678
80	3.3590	2.4170	115	37.6000	36.4959
81	3.7326	2.6620	116	37.6000	37.4435
82	4.1482	2.9345	117	37.6000	38.1702
83	4.6095	3.2397	118	37.6000	38.6359
84	5.1589	3.5811	119	100.0000	100.0000

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

Table 4
Alaska TRS DCR Plan
Turnover Assumptions

Select Rates of Turnover During the First 5 Year of Employment

<u>Service</u>	<u>Male</u>	<u>Female</u>
0	20.70%	21.80%
1	19.55%	18.70%
2	16.10%	15.40%
3	13.80%	13.20%
4	11.50%	11.00%
5	7.32%	8.05%

Ultimate Rates of Turnover
After the First 5 Years of Employment

<u>Age</u>	<u>Male</u>	<u>Female</u>	<u>Age</u>	<u>Male</u>	<u>Female</u>
15	6.2959%	6.6811%	40	6.1753%	6.5647%
16	6.2959	6.6811	41	6.1604	6.5516
17	6.2959	6.6811	42	6.1455	6.5386
18	6.2959	6.6811	43	6.1081	6.5175
19	6.2959	6.6811	44	6.0706	6.4965
20	6.2959	6.6811	45	6.0332	6.4754
21	6.2959	6.6811	46	5.9957	6.4544
22	6.2959	6.6811	47	5.9583	6.4333
23	6.2903	6.6773	48	5.9053	6.3975
24	6.2847	6.6735	49	5.8522	6.3617
25	6.2791	6.6697	50	5.7992	6.3259
26	6.2735	6.6659	51	5.7461	6.2901
27	6.2679	6.6621	52	5.6931	6.2543
28	6.2623	6.6583	53	5.5800	6.1818
29	6.2567	6.6544	54	5.4670	6.1093
30	6.2512	6.6506	55	5.3539	6.0367
31	6.2456	6.6467	56	5.2409	5.9642
32	6.2400	6.6429	57	5.1278	5.8917
33	6.2360	6.6351	58	5.1711	6.0021
34	6.2320	6.6273	59	5.2144	6.1125
35	6.2280	6.6194	60	5.2578	6.2230
36	6.2240	6.6116	61	5.3011	6.3334
37	6.2200	6.6038	62	5.3444	6.4438
38	6.2051	6.5908	63	5.7296	6.6292
39	6.1902	6.5777	64	6.1148	6.8146
			65+	6.5000	7.0000

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

Table 5
Alaska TRS DCR Plan
Disability Table

Age	Unisex
<19	0.0560%
20	0.0560
21	0.0563
22	0.0565
23	0.0574
24	0.0583
25	0.0593
26	0.0602
27	0.0611
28	0.0611
29	0.0612
30	0.0612
31	0.0613
32	0.0613
33	0.0622
34	0.0631
35	0.0641
36	0.0650
37	0.0659
38	0.0674
39	0.0689
40	0.0703
41	0.0718
42	0.0733
43	0.0770
44	0.0806
45	0.0843
46	0.0879
47	0.0916
48	0.0975
49	0.1034
50	0.1093
51	0.1152
52	0.1211
53	0.1356
54	0.1501

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

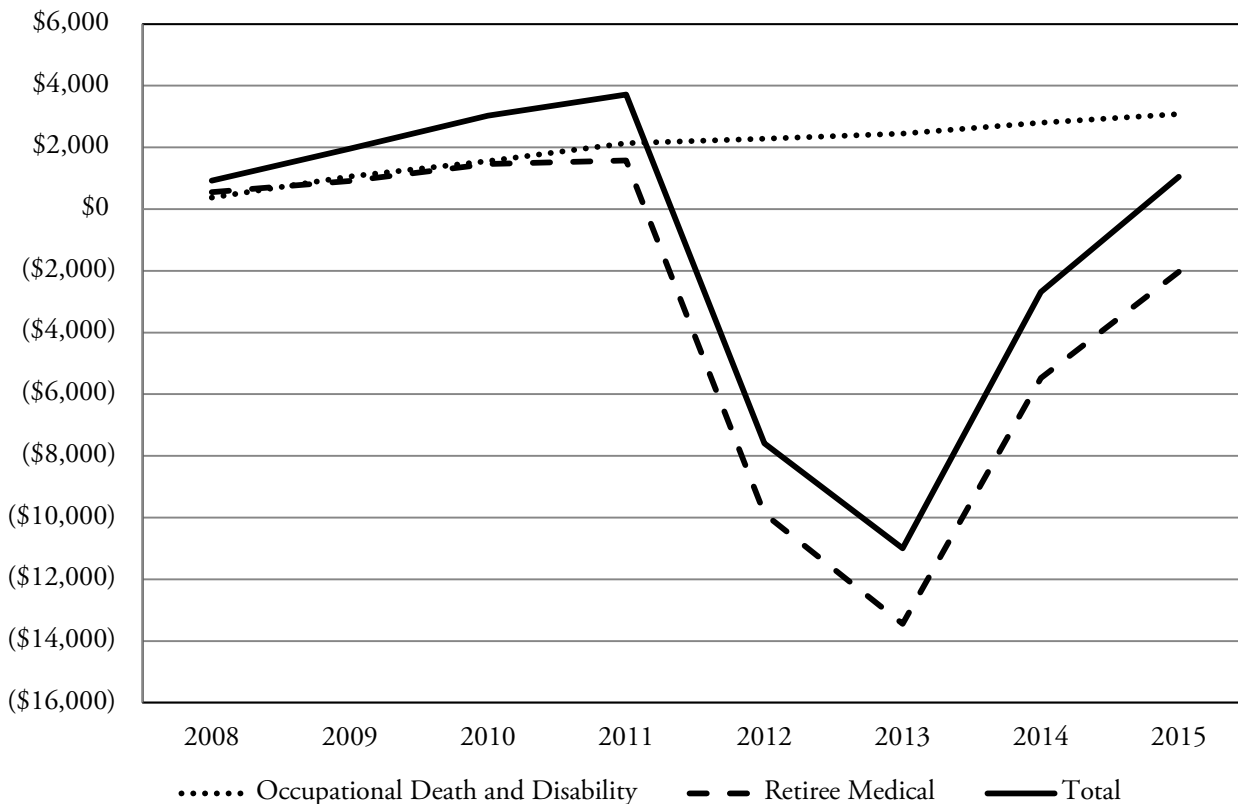
Table 6
Alaska TRS DCR Plan
Retirement Table

Age	Rate
<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

Teachers' 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
2008	\$ 376	\$ 551	\$ 927	215.73%
2009	1,057	907	1,964	234.5
2010	1,559	1,465	3,024	223.5
2011	2,136	1,572	3,708	196.1
2012	2,285	(9,874)	(7,589)	55.0
2013	2,452	(13,444)	(10,992)	50.3
2014	2,797	(5,482)	(2,685)	83.5
2015	3,085	(2,035)	(1,050)	105.3

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



**Teachers' 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	Occupational Death and Disability	Retiree Medical	Total Annual Required	Adopted
2009	N/A	0.62%	0.99%	1.61%	1.61%
2010	2007	0.32	1.03	1.35	1.35
2011	2008	0.28	0.68	0.96	0.96
2012	2009	—	0.58	0.58	0.58
2013	2010	—	0.49	0.49	0.49
2014	2011	—	0.47	0.47	0.47
2015	2012	—	2.04	2.04	2.04
2016	2013	—	2.04	2.04	2.04
2017	2014	—	1.05	1.05	1.05
2018	2015	—	0.91	0.91	0.91

Valuations are used to set contribution rates in future years.

**Teachers' 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, 2015	4,095	\$ 260,584	\$ 63,635	2.7%	58
June 30, 2014	3,547	219,701	61,940	2.4	58
June 30, 2013	3,272	197,944	60,496	3.5	58
June 30, 2012	3,057	178,761	58,476	4.7	58
June 30, 2011	2,708	151,269	55,860	5.6	58
June 30, 2010	2,246	118,813	52,900	5.7	58
June 30, 2009	1,792	89,708	50,061	6.4	58
June 30, 2008	1,198	56,369	47,053	6.2	58
June 30, 2007	641	28,410	44,322	—	58
June 30, 2006	—	—	—	—	58

Total and average annual earnings ("valuation pay") are the annualized earnings for the fiscal year ending on the valuation date.

Actuarial Section

Teachers' Retirement System Defined Contribution Retirement Plan Occupational Death and Disability Solvency Test (In thousands)							
Valuation Date	Occupational Death and Disability Aggregate Accrued Liability For:			Occupational Death and Disability Valuation Assets	Portion of Accrued Liabilities Covered by Assets:		
	(1) Active Member Contributions	(2) Inactive Members	(3) Active Members (Employer-Financed Portion)		(1)	(2)	(3)
June 30, 2015	\$ —	\$ —	\$ 29	\$ 3,114	100.0%	100.0%	100.0%
June 30, 2014 ¹	—	—	23	2,820	100.0	100.0	100.0
June 30, 2013	—	—	80	2,532	100.0	100.0	100.0
June 30, 2012	—	—	63	2,348	100.0	100.0	100.0
June 30, 2011	—	—	57	2,193	100.0	100.0	100.0
June 30, 2010 ¹	—	—	18	1,577	100.0	100.0	100.0
June 30, 2009 ¹	—	—	14	1,071	100.0	100.0	100.0
June 30, 2008	—	—	44	420	100.0	100.0	100.0
June 30, 2007	—	—	16	—	100.0	100.0	0.0
June 30, 2006	—	—	—	—	N/A	N/A	N/A

¹ Change in Assumptions

Teachers' Retirement System Defined Contribution Retirement Plan Retiree Medical Solvency Test (In thousands)							
	Retiree Medical Aggregate Accrued Liability For:				Portion of Accrued Liabilities Covered by Assets:		
Valuation Date	(1) Active Member Contributions	(2) Inactive Members	(3) Active Members (Employer- Financed Portion)	Retiree Medical Valuation Assets	(1)	(2)	(3)
June 20,2015	\$ —	\$ —	\$ 19,768	\$ 17,733	100.0%	100.0%	89.7%
June 20,2014 ¹	—	—	16,273	10,791	100.0	100.0	66.3
June 20,2013	—	—	22,058	8,614	100.0	100.0	39.1
June 20,2012 ¹	—	—	16,811	6,937	100.0	100.0	41.3
June 30, 2011	—	—	3,801	5,373	100.0	100.0	100.0
June 30, 2010 ¹	—	—	2,430	3,895	100.0	100.0	100.0
June 30, 2009 ¹	—	—	1,446	2,353	100.0	100.0	100.0
June 30, 2008 ¹	—	—	757	1,308	100.0	100.0	100.0
June 30, 2007	—	—	358	597	100.0	100.0	100.0
June 30, 2006	—	—	—	—	N/A	N/A	N/A

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
Teachers' 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, 2015.

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 58 employers participating in the TRS DCR, including the State of Alaska, 53 school districts, and four other eligible 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 elementary or secondary teachers, school nurses, or a person in a position requiring a teaching certificate as a condition of hire in a public school of the State of Alaska, the Department of Education and Early Development or in the Department of Labor and Workforce Development.
- Full-time or part-time teachers at the University of Alaska or persons occupying full-time administrative positions requiring academic standing who are not in the University's Optional Retirement Plan.

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

5. Member Contributions

Other than the member-paid premiums show on the next page, there are no member contributions for the occupational death & disability and retiree medical benefits.

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) 30 years of service or b) Medicare eligible and 10 years of service.

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

- No retiree medical benefits are provided until normal retirement eligibility. The member's premium is 100% until the member is Medicare eligible. The member's premium for dependent coverage is 100% until both the member and dependent are Medicare eligible.
- 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 an illustration of the potential medical benefits to be offered. The State Department of Administration has not yet established the provisions of the medical plan to be offered to TRS DCR retirees. An updated design is expected to be determined in 2016. The plan description below is used for valuation purposes and is based on prior communications with the Department of Administration.

Plan Feature	Member Cost Share (In-Network)	Member Cost Share (Out-of-Network)
Deductible (single/family)*	\$250/\$500	
Coinsurance **	20% after deductible	40% after deductible
Maximum Out-of-Pocket* (single/family)	\$2,500/\$5,000	\$5,000/\$10,000
Emergency Room Copay	\$100	\$100
Preventive Care	0% benefit limited to \$2,000/member/year	
Lifetime Max	\$3,000,000 with \$5,000 restore	

* Assumed to increase annually to mitigate impact of healthcare cost trend

** Includes pharmacy benefits

- The plan's coverage is supplemental to Medicare.
- The premium for Medicare-eligible retirees or for Medicare-eligible dependents of Medicare eligible retirees will be based on the member's years of service. The percentage of premium paid by the member is as follows:

Years of Service	Percent of Premium Paid by Member
Less than 15 years	30.00%
15 – 19	25.00
20 – 24	20.00
25 – 29	15.00
30 years or more	10.00

The premium for dependents who are not eligible for Medicare was assumed to be 100%, consistent with that of the retiree.

State of Alaska

Teachers' Retirement System Defined Contribution Retirement Plan

Summary of Plan Provisions and Changes in Plan Provisions

Members have a separate defined contribution Health Reimbursement Arrangement account that can be used to pay for premiums or other medical expenses.

- Coverage will continue for surviving spouses of covered retired members.

7. Occupational Disability Benefits

- Benefit is 40% of salary at date of disability.
- Disability Benefit Adjustment: The disability benefit is increased by 75% of the cost of living increase in the preceding calendar year of 9%, whichever is less.
- Member earns service while on occupational disability.
- 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.
- No retiree medical benefits are provided until normal retirement eligibility. The member's premium is 100% until they are Medicare eligible. Medicare-eligible premiums follow the service-based schedule above.

8. Occupational Death Benefits

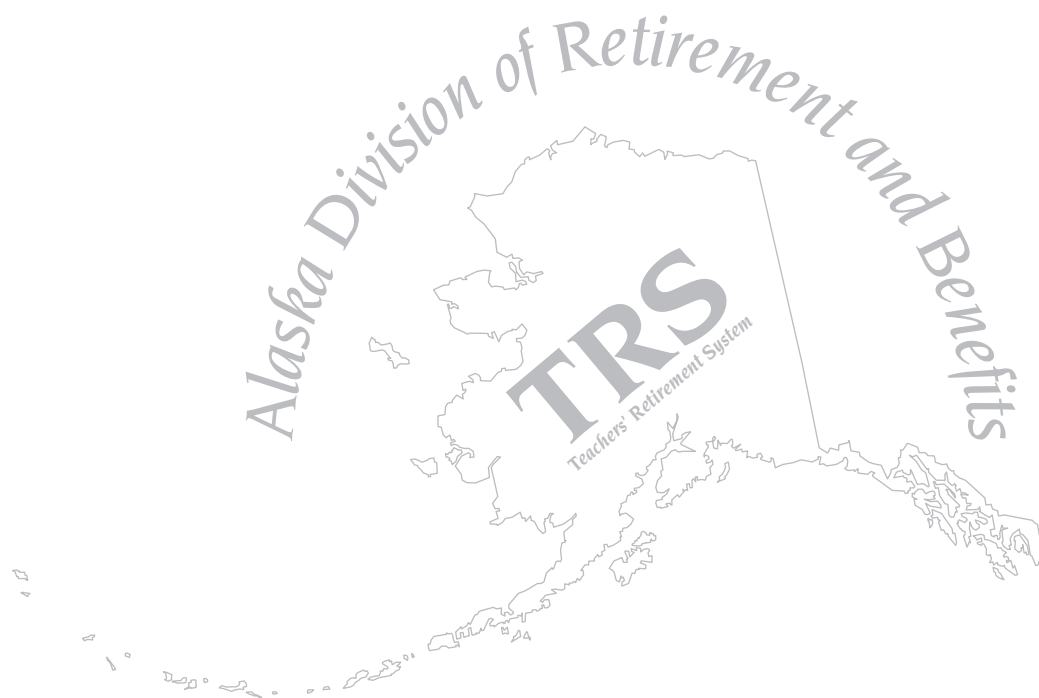
- Benefit is 40% of salary.
- Survivor's Pension Adjustment: 50% of the cost of living increase in the preceding calendar year or 6%, whichever is less, if the recipient is at least age 60 on July 1, or under age 60 if the recipient has been receiving TRS benefits for at least 8 years as of July 1.
- 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 retiree medical benefits are provided until the member would have been eligible for normal retirement. The surviving spouse's premium is 100% until the member would have been Medicare eligible. Medicare-eligible premiums follow the service-based schedule above.

9. Changes Since the Prior Valuation

There have been no changes since the prior valuation.



STATISTICAL SECTION



STATISTICAL SECTION OVERVIEW

The statistical section of the Teachers’ 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 154-161

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 162-174

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

Demographic Information 175-177

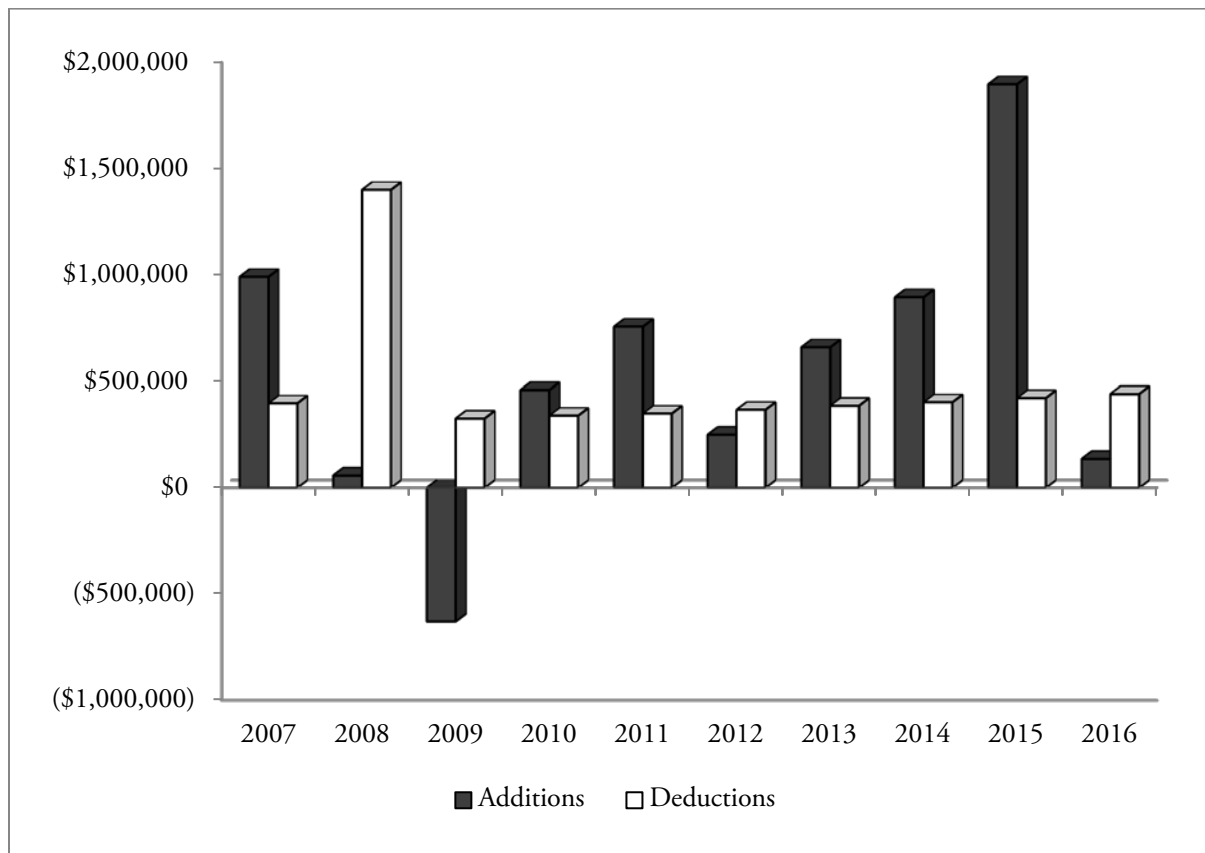
These schedules contain detailed demographic data to provide the reader a better understanding of the membership and employer participation in the System.

Statistical Section

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

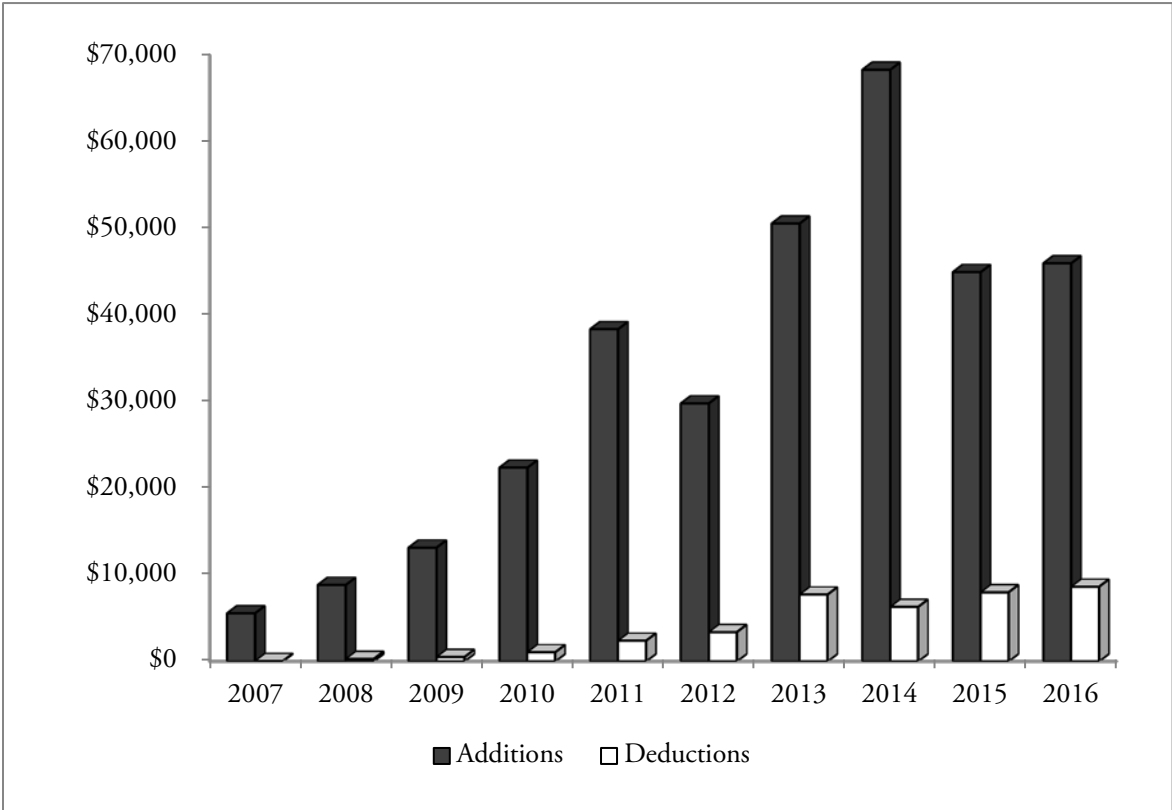
Year Ended June 30	Fiduciary Net Position, Beginning of Year	Additions	Deductions	Increase / (Decrease) in Fiduciary Net Position	Fiduciary Net Position, End of Year
2007	\$ 4,299,971	\$ 989,840	\$ 396,697	\$ 593,143	\$ 4,893,114
2008	4,893,114	57,423	1,399,739	(1,342,316)	3,550,798
2009	3,550,798	(629,058)	325,307	(954,365)	2,596,433
2010	2,596,433	458,984	338,860	120,124	2,716,557
2011	2,716,557	755,768	348,795	406,973	3,123,530
2012	3,123,530	249,803	366,686	(116,883)	3,006,647
2013	3,006,647	658,405	385,922	272,483	3,279,130
2014	3,279,130	894,170	402,161	492,009	3,771,139
2015	3,771,139	1,897,150	421,334	1,475,816	5,246,955
2016	5,246,955	135,476	440,230	(304,754)	4,942,201

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



Teachers' 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
2007	\$ —	\$ 5,543	\$ 36	\$ 5,507	\$ 5,507
2008	5,507	8,825	278	8,547	14,054
2009	14,054	13,132	498	12,634	26,688
2010	26,688	22,359	1,053	21,306	47,994
2011	47,994	38,355	2,377	35,978	83,972
2012	83,972	29,791	3,374	26,417	110,389
2013	110,389	50,560	7,715	42,845	153,234
2014	153,234	68,315	6,281	62,034	215,268
2015	215,268	44,952	7,972	36,980	252,248
2016	252,248	45,965	8,615	37,350	289,598

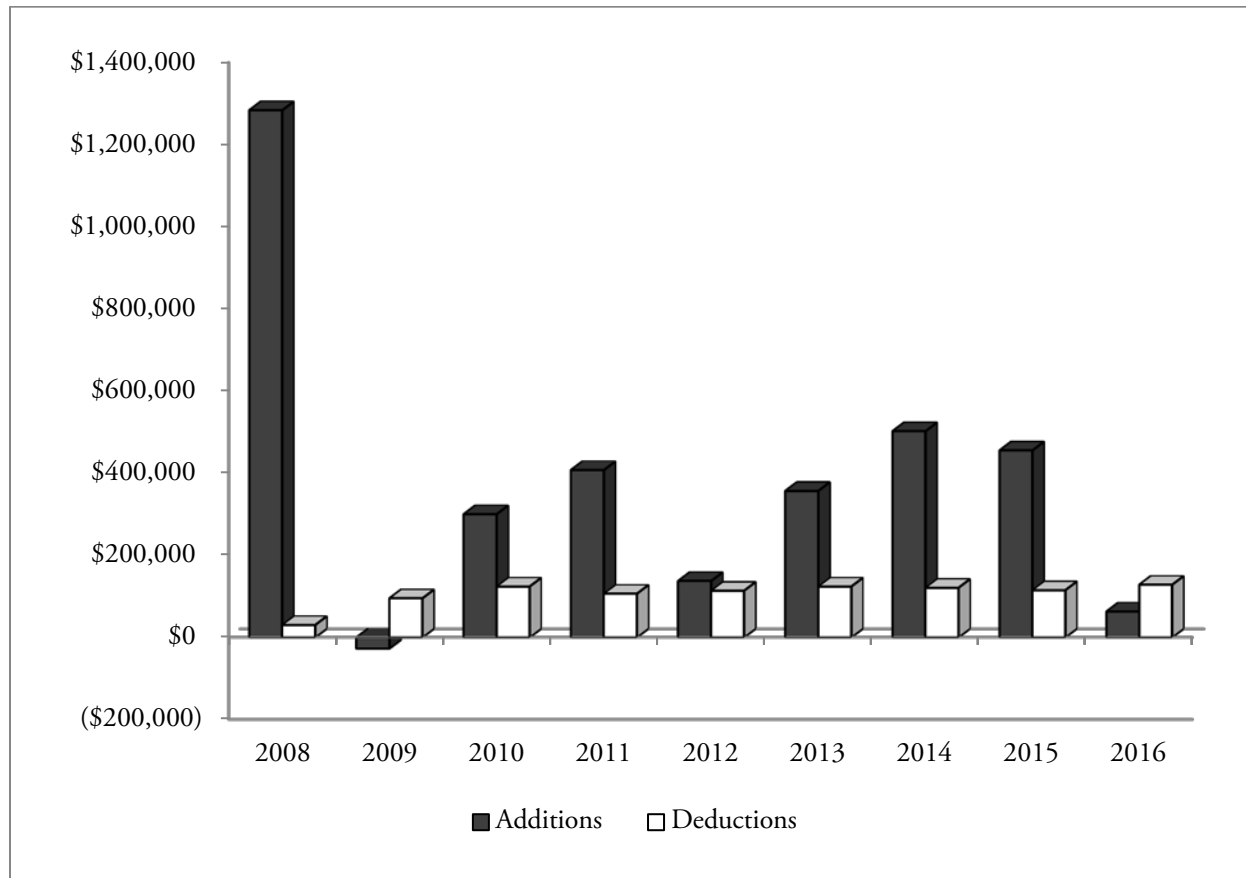
**10-YEAR COMPARISON OF ADDITIONS AND DEDUCTIONS
(In thousands)**



Statistical Section

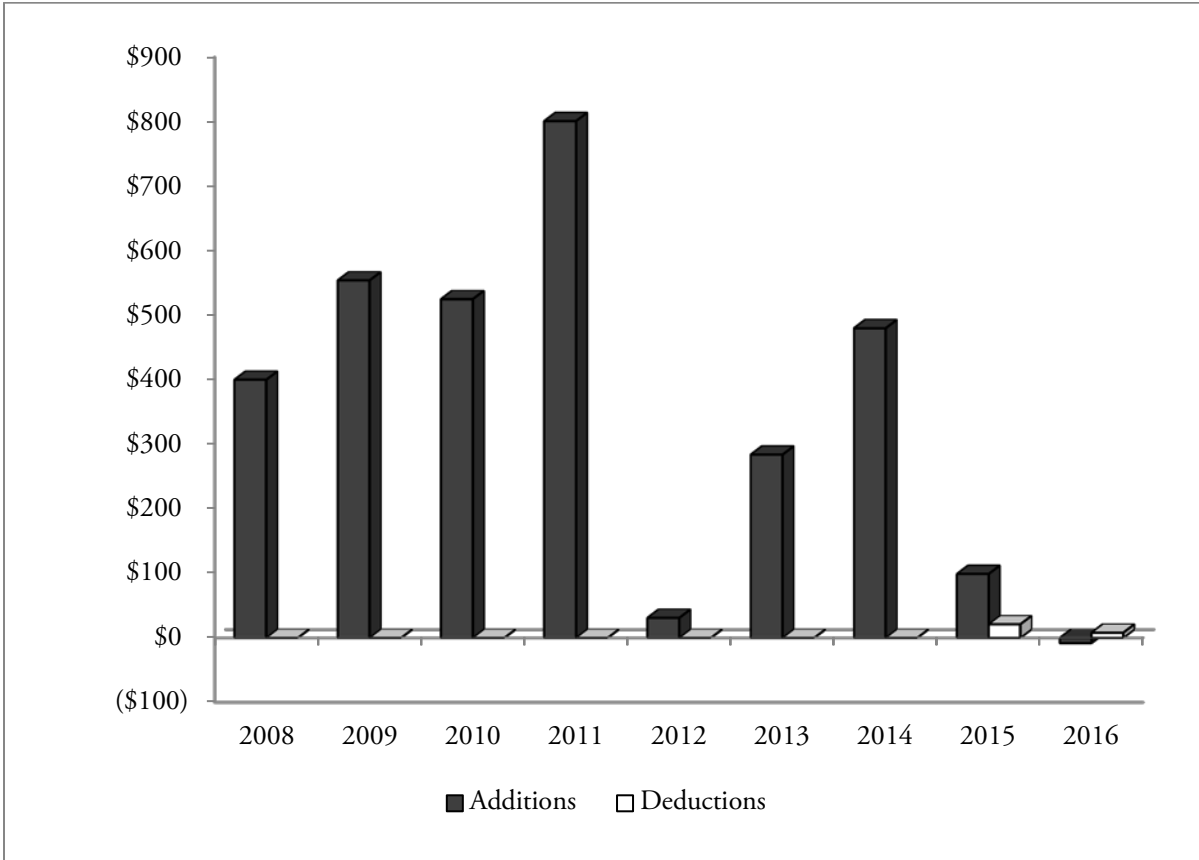
Teachers' Retirement System Defined Benefit Alaska Retiree Healthcare Trust Changes in Fiduciary Net Position (In thousands)					
Year Ended June 30	Fiduciary Net Position, Beginning of Year	Additions	Deductions	Increase / (Decrease) in Fiduciary Net Position	Fiduciary Net Position, End of Year
2008	\$ —	\$ 1,283,865	\$ 30,292	\$ 1,253,573	\$ 1,253,573
2009	1,253,573	(27,157)	95,383	(122,540)	1,131,033
2010	1,131,033	300,736	124,133	176,603	1,307,636
2011	1,307,636	408,179	106,485	301,694	1,609,330
2012	1,609,330	137,594	113,883	23,711	1,633,041
2013	1,633,041	357,454	124,074	233,380	1,866,421
2014	1,866,421	502,833	121,119	381,714	2,248,135
2015	2,248,135	456,055	115,224	340,831	2,588,966
2016	2,588,966	63,079	128,465	(65,386)	2,523,580

**9-YEAR COMPARISON OF ADDITIONS AND DEDUCTIONS
(In thousands)**



Teachers' Retirement System Defined Contribution Retirement Occupational Death & Disability 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
2008	\$ —	\$ 400	\$ —	\$ 400	\$ 400
2009	400	554	—	554	954
2010	954	525	—	525	1,479
2011	1,479	801	—	801	2,280
2012	2,280	31	—	31	2,311
2013	2,311	284	—	284	2,595
2014	2,595	480	—	480	3,075
2015	3,075	99	21	78	3,153
2016	3,153	(8)	8	(16)	3,137

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

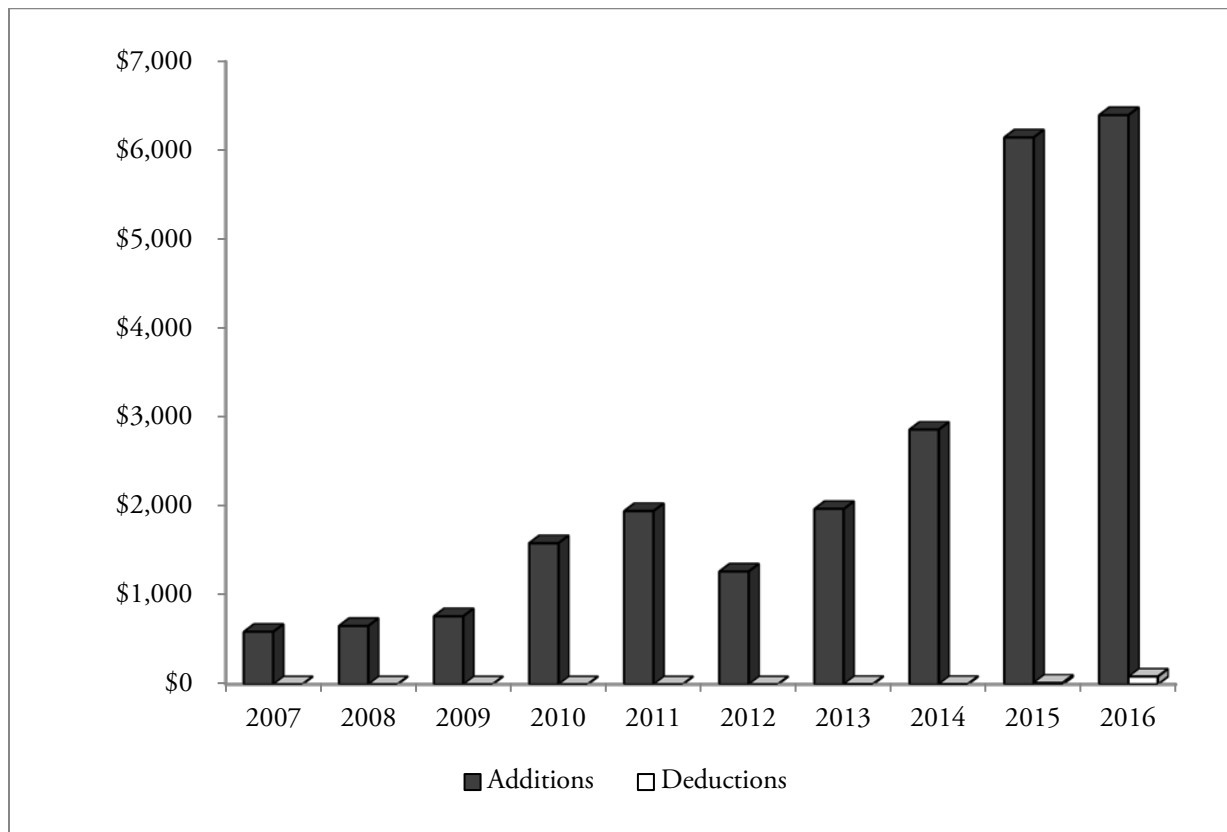


Statistical Section

Teachers' Retirement System Defined Contribution Retirement Medical Plan Changes in Fiduciary Net Position (In thousands)

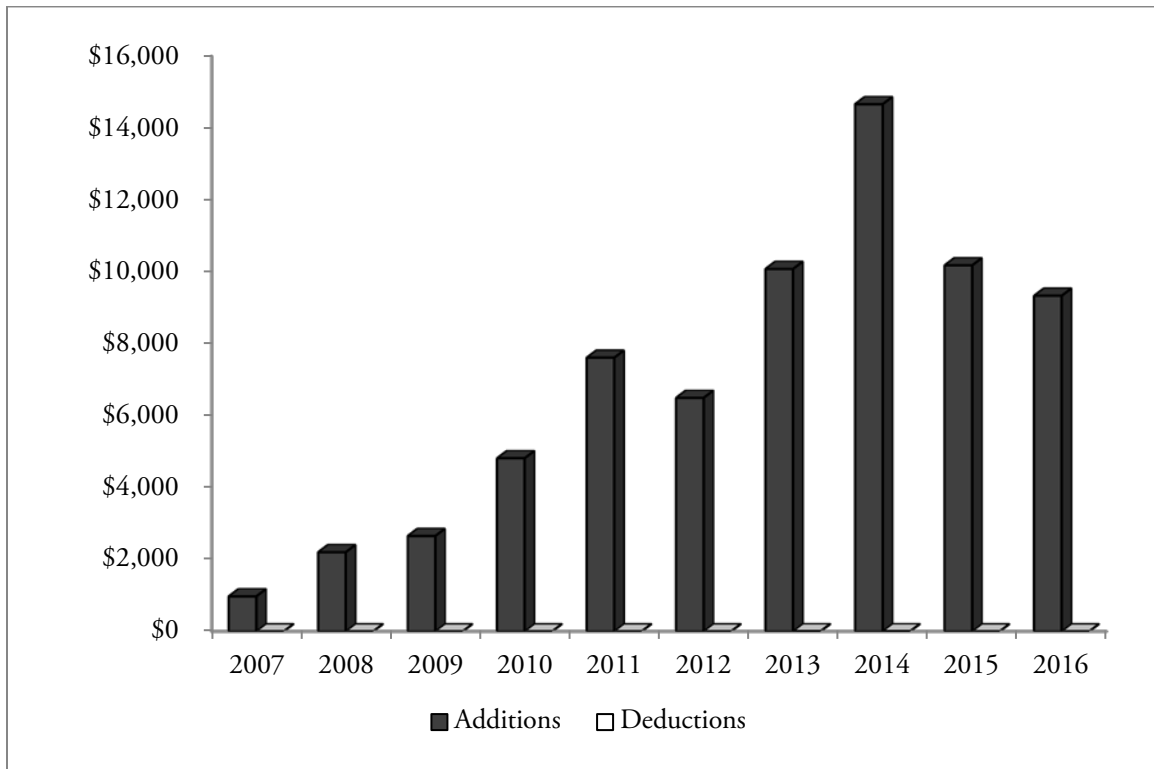
Year Ended June 30	Fiduciary Net Position, Beginning of Year	Additions	Deductions	Increase / (Decrease) in Fiduciary Net Position	Fiduciary Net Position, End of Year
2007	\$ —	\$ 590	\$ —	\$ 590	\$ 590
2008	590	656	—	656	1,246
2009	1,246	766	—	766	2,012
2010	2,012	1,586	—	1,586	3,598
2011	3,598	1,947	—	1,947	5,545
2012	5,545	1,267	—	1,267	6,812
2013	6,812	1,970	3	1,967	8,779
2014	8,779	2,861	3	2,858	11,637
2015	11,637	6,147	18	6,129	17,766
2016	17,766	6,399	86	6,313	24,079

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



Teachers' 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
2007	\$ —	\$ 974	\$ —	\$ 974	\$ 974
2008	974	2,202	—	2,202	3,176
2009	3,176	2,650	—	2,650	5,826
2010	5,826	4,814	—	4,814	10,640
2011	10,640	7,606	—	7,606	18,246
2012	18,246	6,491	—	6,491	24,737
2013	24,737	10,079	3	10,076	34,813
2014	34,813	14,662	3	14,659	49,472
2015	49,472	10,178	—	10,178	59,650
2016	59,650	9,332	—	9,332	68,982

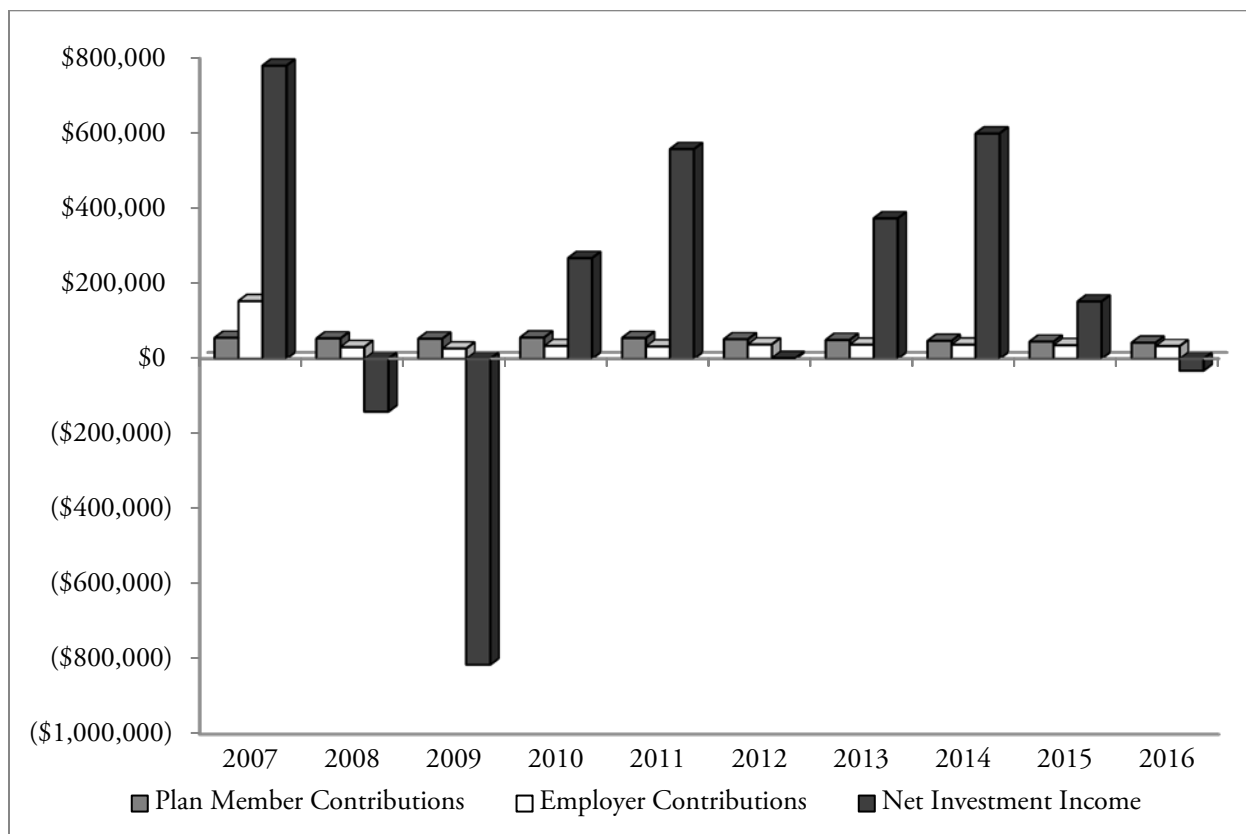
**10-YEAR COMPARISON OF ADDITIONS AND DEDUCTIONS
(In thousands)**



Statistical Section

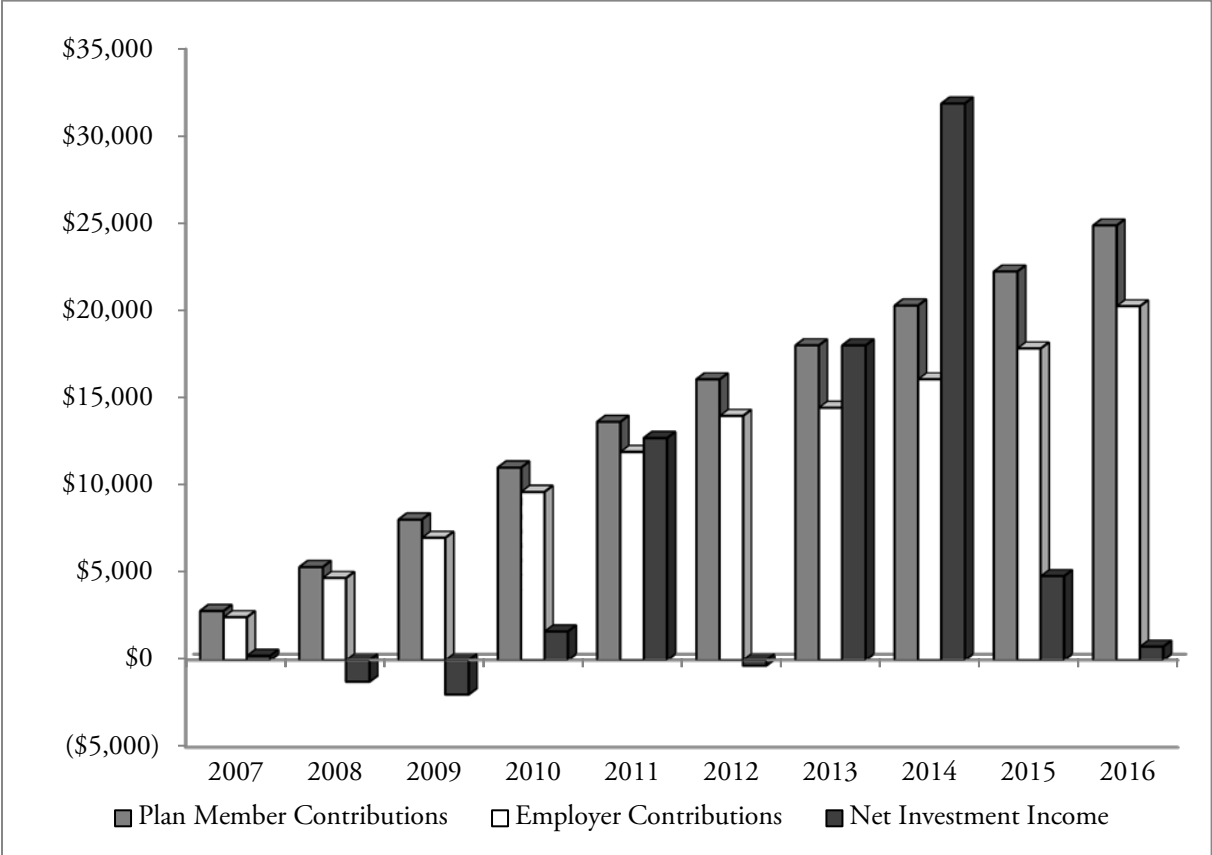
Teachers' Retirement System Defined Benefit Pension Additions by Source (In thousands)						
Year Ended June 30	Plan Member Contributions	Employer Contributions	State of Alaska	Net Investment Income (Loss)	Other	Total
2007	\$ 55,689	\$ 153,618	\$ —	\$ 780,512	\$ 21	\$ 989,840
2008	54,121	31,313	111,237	(139,282)	34	57,423
2009	53,544	27,110	104,423	(814,138)	3	(629,058)
2010	56,554	33,800	100,475	268,146	9	458,984
2011	55,347	32,804	109,343	558,220	54	755,768
2012	52,020	38,189	157,387	2,190	17	249,803
2013	50,201	37,372	196,945	373,868	19	658,405
2014	47,724	37,571	208,890	599,958	27	894,170
2015	45,506	36,374	1,662,700	152,561	9	1,897,150
2016	42,654	33,478	90,589	(31,340)	95	135,476

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



Teachers' 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
2007	\$ 2,827	\$ 2,465	\$ 251	\$ —	\$ 5,543
2008	5,347	4,717	(1,239)	—	8,825
2009	8,077	7,023	(1,968)	—	13,132
2010	11,051	9,658	1,650	—	22,359
2011	13,665	11,943	12,742	5	38,355
2012	16,095	14,003	(307)	—	29,791
2013	18,044	14,474	18,040	2	50,560
2014	20,326	16,098	31,887	4	68,315
2015	22,269	17,863	4,820	—	44,952
2016	24,904	20,280	773	8	45,965

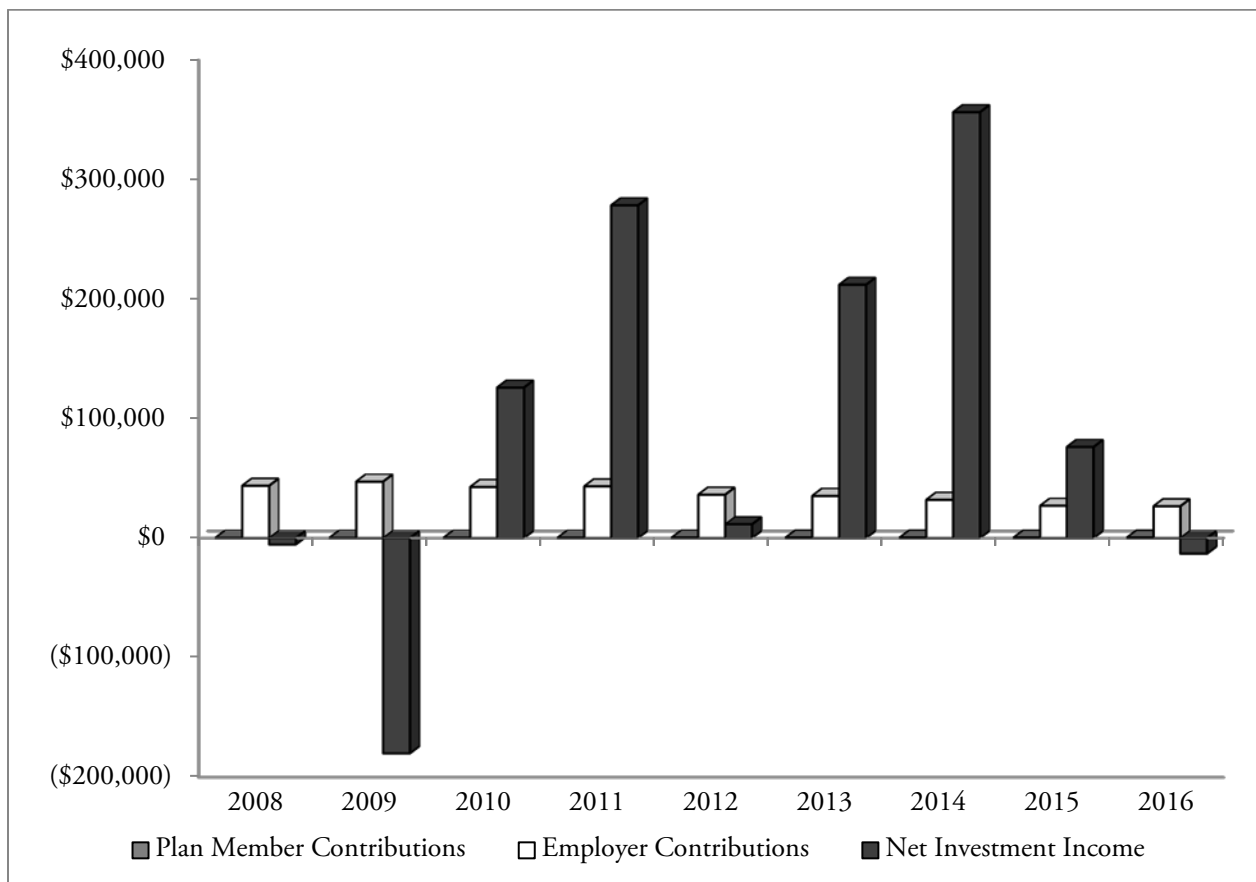
**10-YEAR COMPARISON OF ADDITIONS BY SOURCE
(In thousands)**



Statistical Section

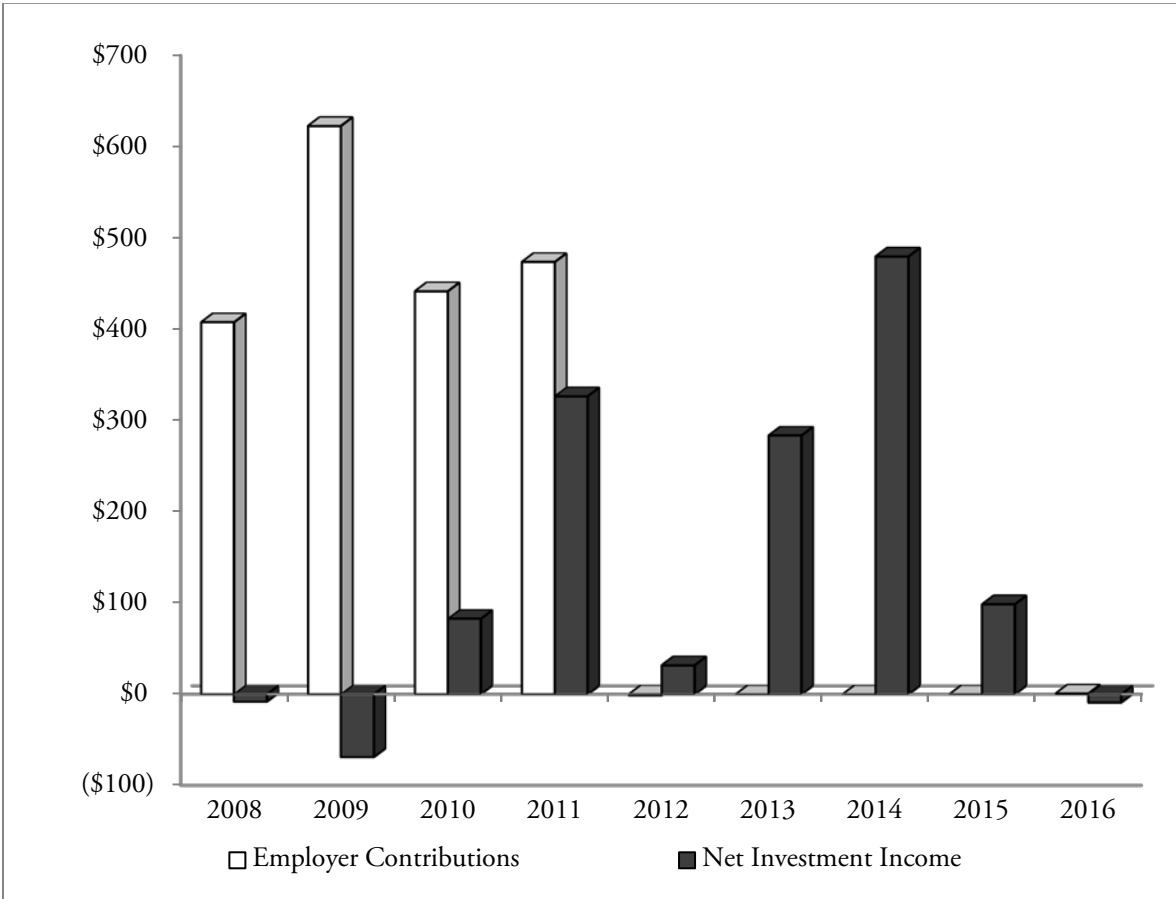
Teachers' Retirement System Defined Benefit Alaska Retiree Healthcare Trust Additions by Source (In thousands)							
Year Ended June 30	Plan Member Premiums	Employer Contributions	State of Alaska	Net Investment Income (Loss)	Transfer	Other	Total
2008	\$ 111	\$ 43,697	\$ 158,755	\$ (5,318)	\$1,086,620	\$ —	\$ 1,283,865
2009	116	47,174	101,877	(179,919)	—	3,595	(27,157)
2010	117	42,694	72,987	125,903	—	59,035	300,736
2011	138	43,217	81,507	278,366	—	4,951	408,179
2012	183	36,281	77,130	11,465	—	12,535	137,594
2013	250	35,293	105,832	211,927	—	4,152	357,454
2014	263	31,980	107,956	356,411	—	6,223	502,833
2015	227	26,922	337,300	76,174	—	15,432	456,055
2016	306	26,580	39,519	(13,070)	—	9,744	63,079

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



Teachers' Retirement System Defined Contribution Retirement Occupational Death & Disability Additions by Source (In thousands)				
Plan Ended June 30	Employer Contributions	Net Investment Income (Loss)	Other	Total
2008	\$ 408	\$ (8)	\$ —	\$ 400
2009	623	(69)	—	554
2010	442	83	—	525
2011	474	327	—	801
2012	(1)	32	—	31
2013	—	284	—	284
2014	—	480	—	480
2015	—	99	—	99
2016	1	(10)	1	(8)

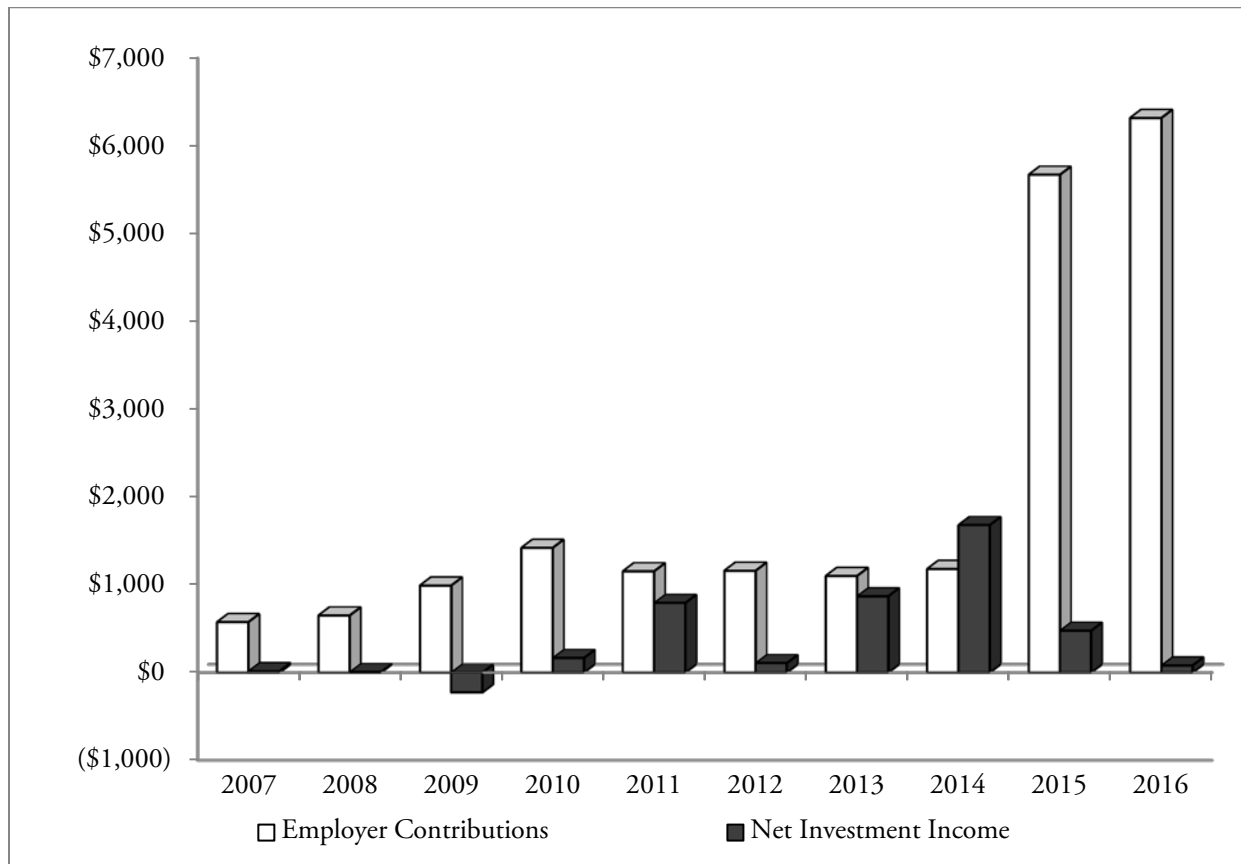
9-YEAR COMPARISON OF ADDITIONS BY SOURCE
(In thousands)



Statistical Section

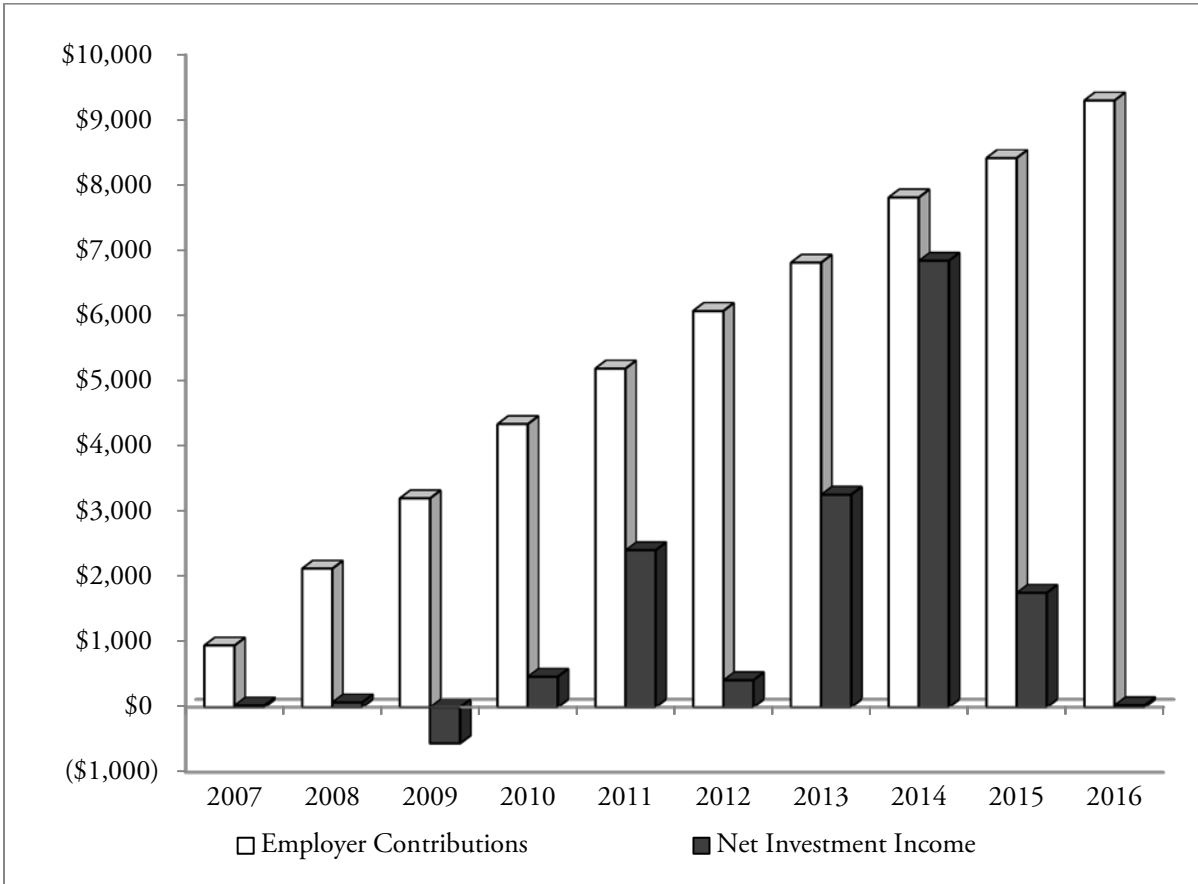
Teachers' Retirement System Defined Contribution Retirement Retiree Medical Plan Additions by Source (In thousands)			
Plan Ended June 30	Employer Contributions	Net Investment Income (Loss)	Total
2007	\$ 575	\$ 15	\$ 590
2008	651	5	656
2009	992	(226)	766
2010	1,421	165	1,586
2011	1,154	793	1,947
2012	1,160	107	1,267
2013	1,101	869	1,970
2014	1,181	1,680	2,861
2015	5,670	477	6,147
2016	6,317	82	6,399

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



Teachers' Retirement System Defined Contribution Retirement Health Reimbursement Arrangement Additions by Source (In thousands)			
Plan Ended June 30	Employer Contributions	Net Investment Income (Loss)	Total
2007	\$ 947	\$ 27	\$ 974
2008	2,127	75	2,202
2009	3,206	(556)	2,650
2010	4,344	470	4,814
2011	5,195	2,411	7,606
2012	6,077	414	6,491
2013	6,816	3,263	10,079
2014	7,816	6,846	14,662
2015	8,420	1,758	10,178
2016	9,301	31	9,332

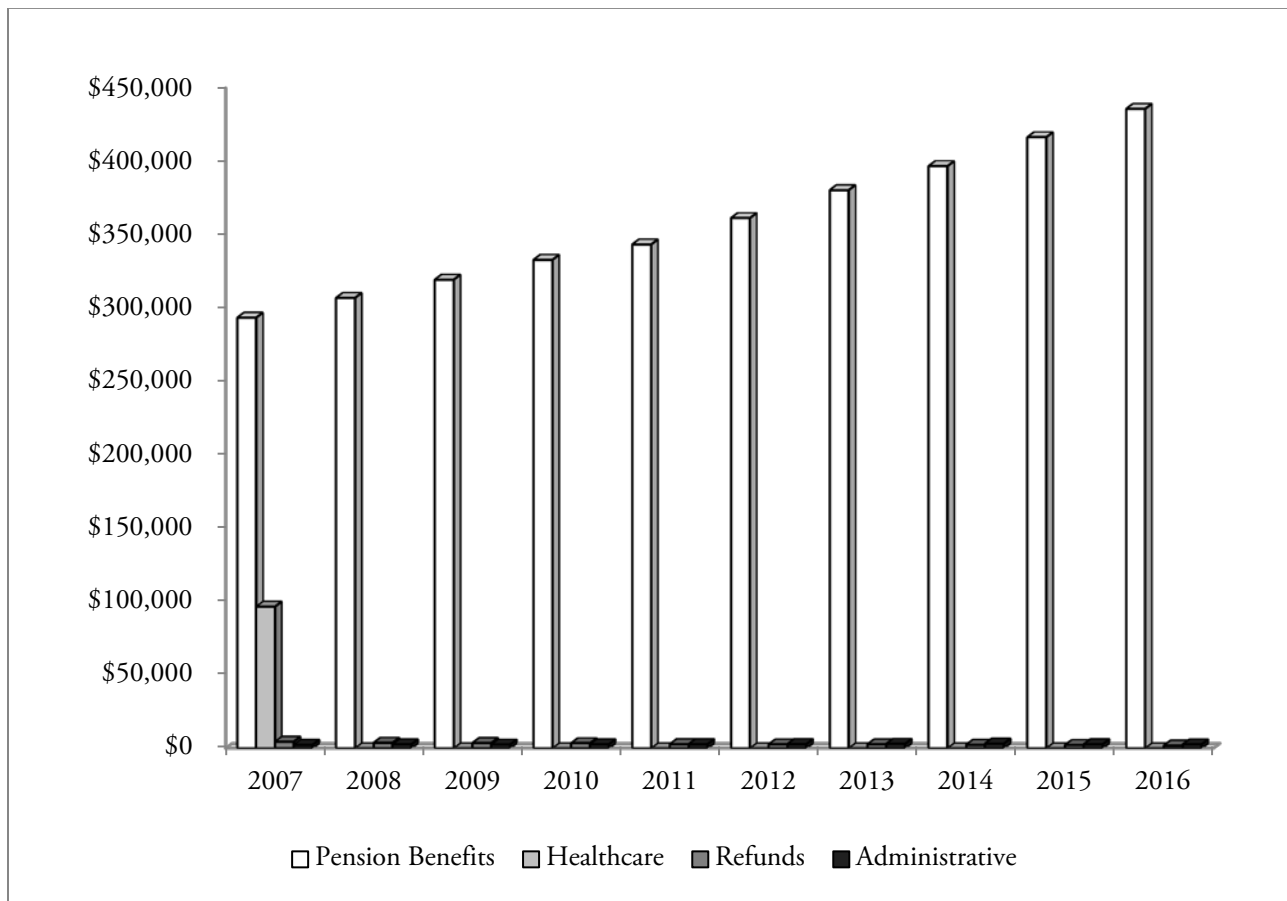
10-YEAR COMPARISON OF ADDITIONS BY SOURCE
(In thousands)



Statistical Section

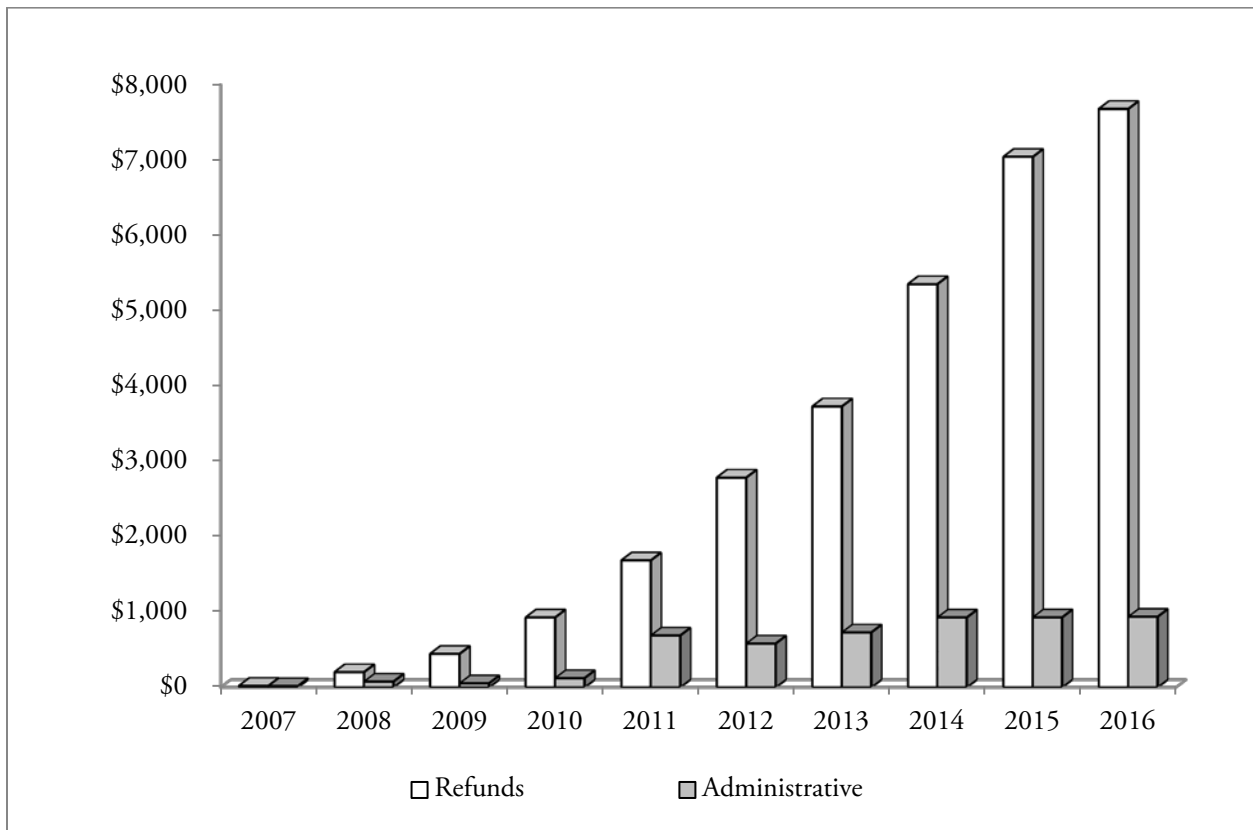
Teachers' Retirement System Defined Benefit Pension Deductions by Type (In thousands)						
Year Ended June 30	Pension Benefits	Healthcare	Refunds of Contributions	Administrative	Transfer	Total
2007	\$ 293,224	\$ 96,544	\$ 4,535	\$ 2,394	\$ —	\$ 396,697
2008	306,689	—	3,761	2,669	1,086,620	1,399,739
2009	319,148	—	3,622	2,537	—	325,307
2010	332,690	—	3,472	2,698	—	338,860
2011	343,191	—	2,798	2,806	—	348,795
2012	361,202	—	2,637	2,847	—	366,686
2013	380,265	—	2,668	2,989	—	385,922
2014	396,614	—	2,387	3,160	—	402,161
2015	416,354	—	2,191	2,789	—	421,334
2016	435,699	—	1,883	2,648	—	440,230

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



Teachers' 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
2007	\$ 20	\$ 16	\$ —	\$ 36
2008	202	76	—	278
2009	445	53	—	498
2010	930	123	—	1,053
2011	1,688	689	—	2,377
2012	2,791	583	—	3,374
2013	3,737	731	3,247	7,715
2014	5,352	929	—	6,281
2015	7,041	931	—	7,972
2016	7,677	938	—	8,615

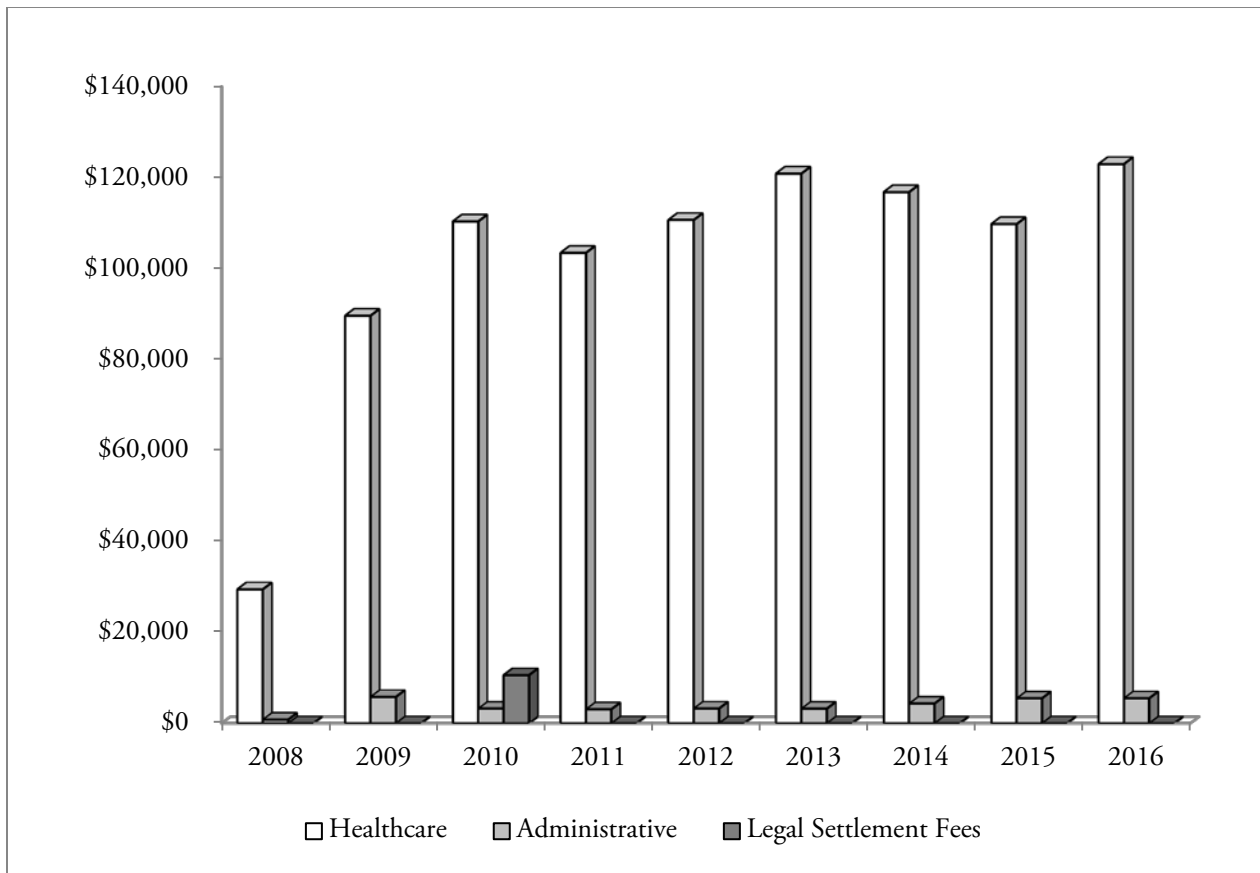
10-YEAR COMPARISON OF DEDUCTIONS BY TYPE
(In thousands)



Statistical Section

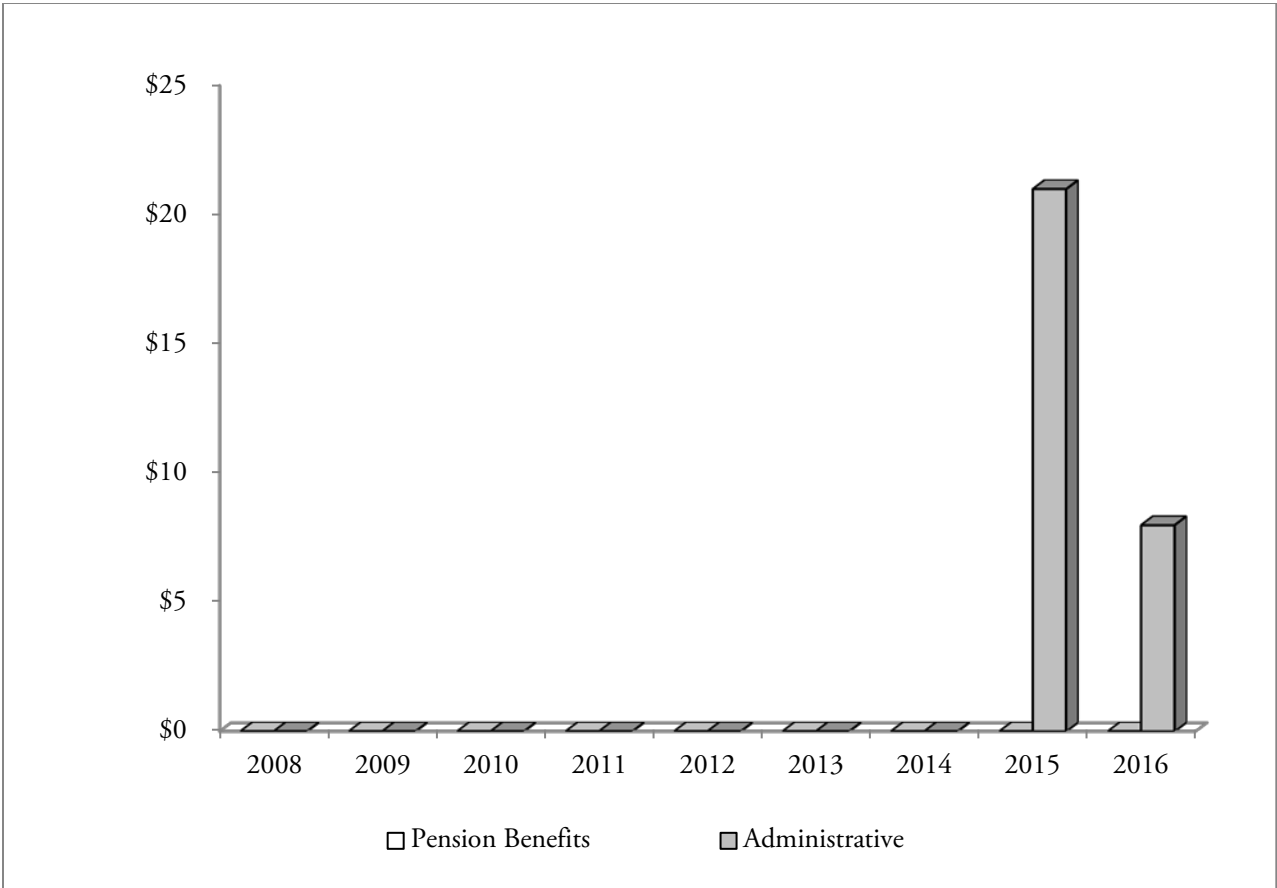
Teachers' Retirement System Defined Benefit Alaska Retiree Healthcare Trust Deductions by Type (In thousands)				
Plan Ended June 30	Healthcare	Administrative	Legal Settlement Fees	Total
2008	\$ 29,494	\$ 798	\$ —	\$ 30,292
2009	89,571	5,812	—	95,383
2010	110,313	3,228	10,592	124,133
2011	103,405	3,080	—	106,485
2012	110,632	3,251	—	113,883
2013	120,855	3,219	—	124,074
2014	116,781	4,338	—	121,119
2015	109,740	5,484	—	115,224
2016	122,954	5,511	—	128,465

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



Teachers' Retirement System Defined Contribution Retirement Occupational Death & Disability Deductions by Type (In thousands)			
Plan Ended June 30	Healthcare	Administrative	Total
2008	\$ —	\$ —	\$ —
2009	—	—	—
2010	—	—	—
2011	—	—	—
2012	—	—	—
2013	—	—	—
2014	—	—	—
2015	—	21	21
2016	—	8	8

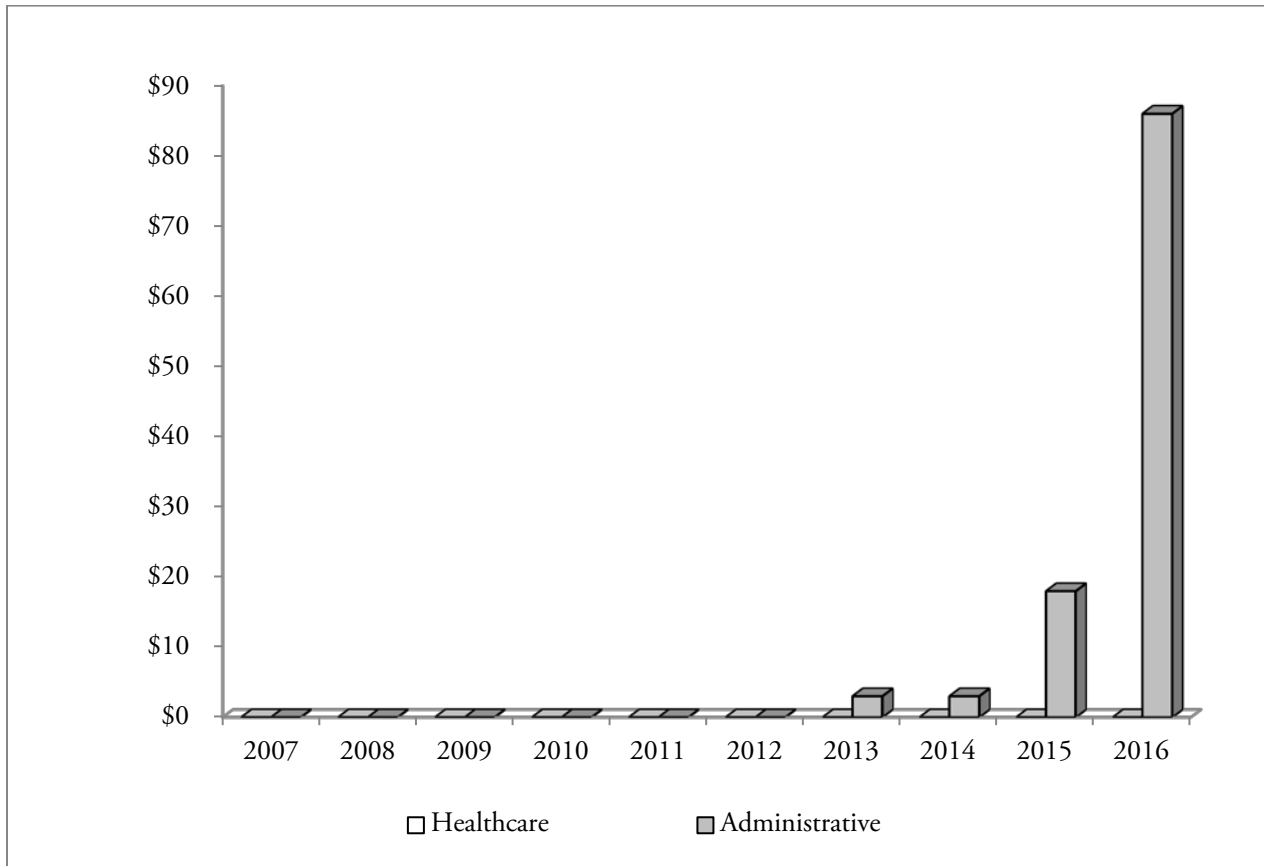
9-YEAR COMPARISON OF DEDUCTIONS BY TYPE
(In thousands)



Statistical Section

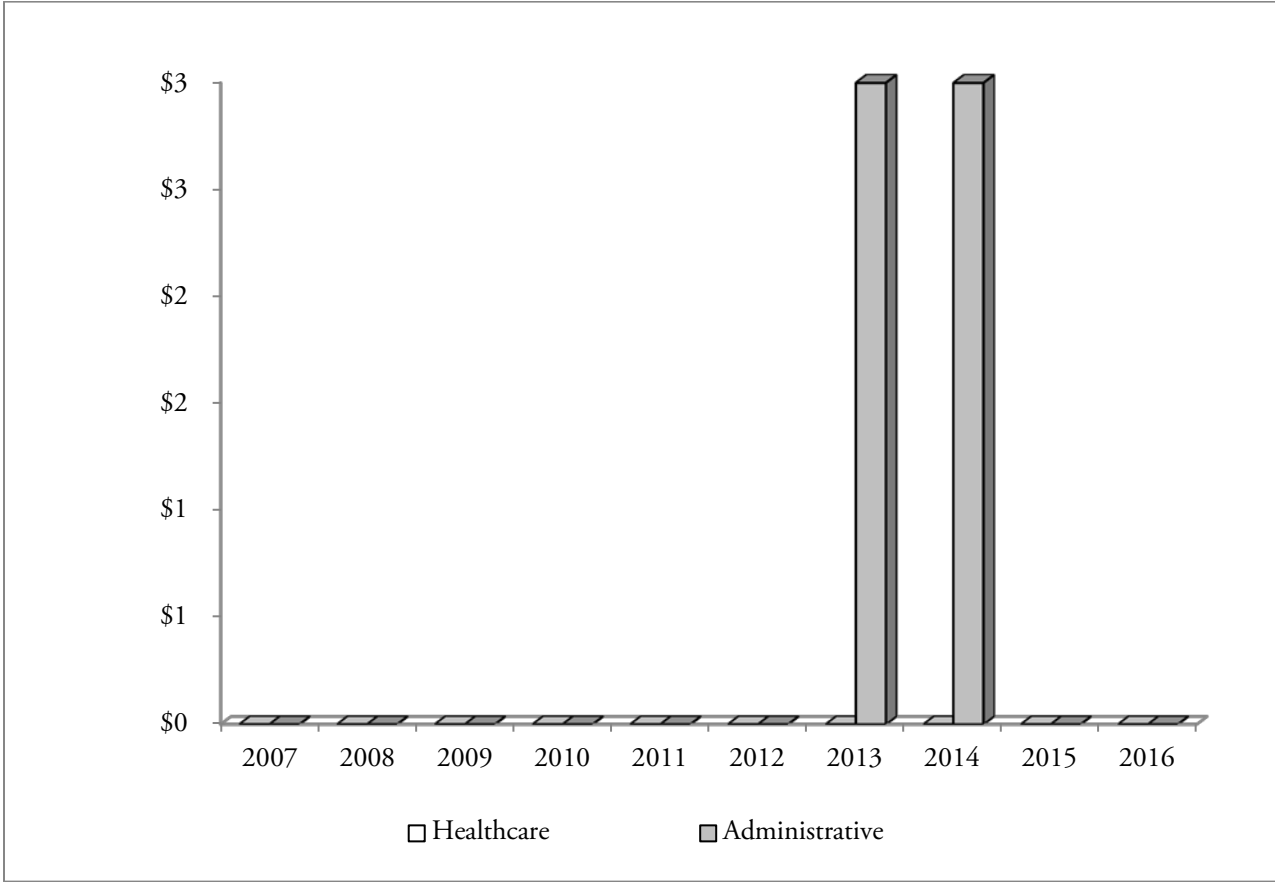
Teachers' Retirement System Defined Contribution Retirement Medical Plan Deductions by Type (In thousands)			
Plan Ended June 30	Healthcare	Administrative	Total
2007	\$ —	\$ —	\$ —
2008	—	—	—
2009	—	—	—
2010	—	—	—
2011	—	—	—
2012	—	—	—
2013	—	3	3
2014	—	3	3
2015	—	18	18
2016	—	86	86

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



Teachers' Retirement System Defined Contribution Retirement Health Reimbursement Arrangement Deductions by Type (In thousands)			
Plan Ended June 30	Healthcare	Administrative	Total
2007	\$ —	\$ —	\$ —
2008	—	—	—
2009	—	—	—
2010	—	—	—
2011	—	—	—
2012	—	—	—
2013	—	3	3
2014	—	3	3
2015	—	—	—
2016	—	—	—

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

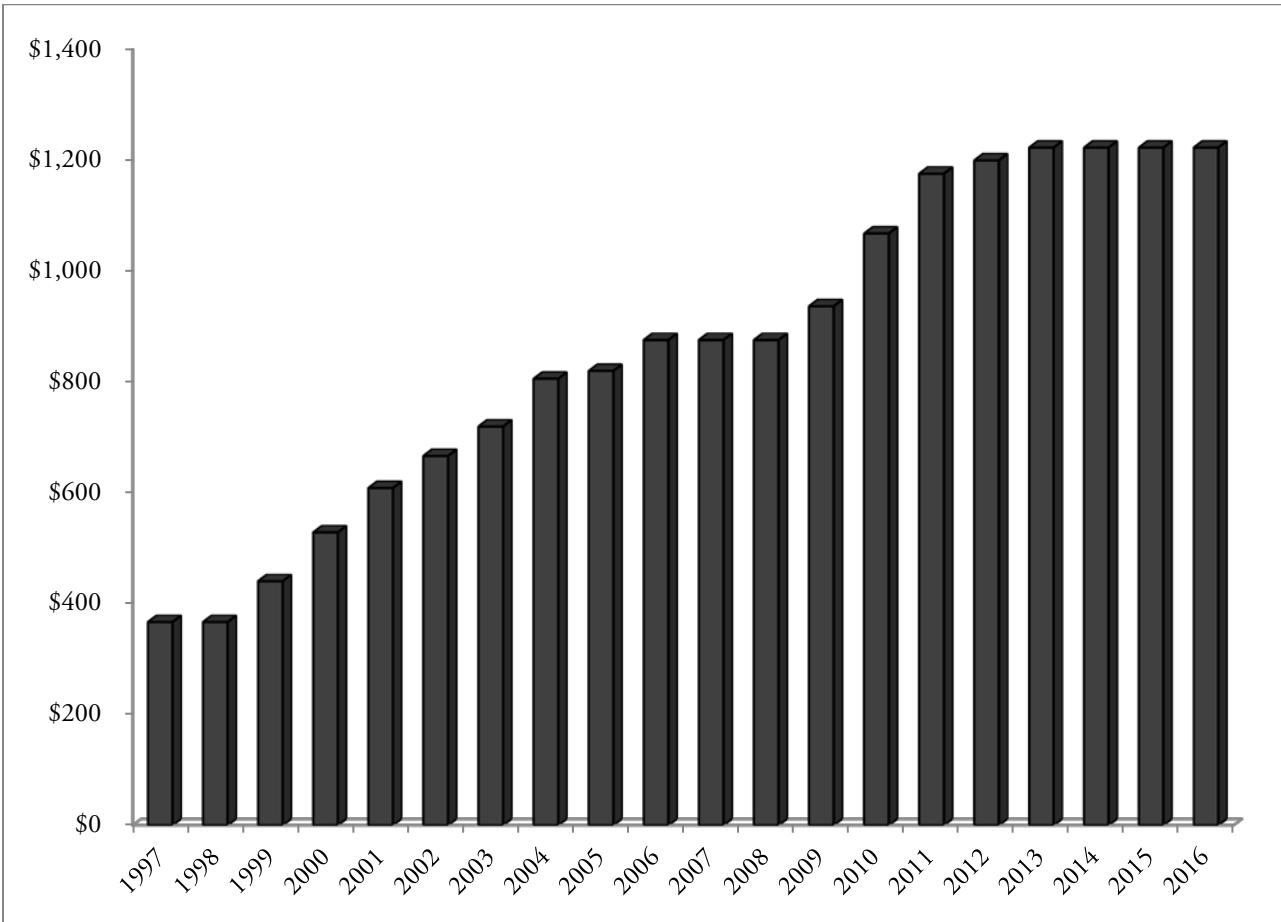


Statistical Section

Teachers' Retirement System Schedule of Average Pension Benefit Payments New Benefit Recipients							
	Years of Credited Service						
	0 - 4	5 - 9	10 - 14	15 - 19	20 - 24	25 - 29	30+
Period 7/1/09 - 6/30/10 ⁽¹⁾ : Average Monthly Benefit	\$482	\$1,020	\$1,343	\$2,263	\$2,992	\$4,120	\$6,263
Number of Recipients	14	50	63	85	109	79	49
Period 7/1/10 - 6/30/11 ⁽¹⁾ : Average Monthly Benefit	\$146	\$902	\$1,432	\$2,328	\$3,131	\$4,283	\$5,496
Number of Recipients	5	68	63	77	118	104	67
Period 7/1/11 - 6/30/12 ⁽¹⁾ : Average Monthly Benefit	\$353	\$1,064	\$1,512	\$2,241	\$3,276	\$4,320	\$5,739
Number of Recipients	11	43	62	61	118	81	58
Period 7/1/12 - 6/30/13 ⁽¹⁾ : Average Monthly Benefit	\$253	\$1,030	\$1,496	\$2,450	\$3,281	\$4,384	\$6,052
Number of Recipients	10	57	67	90	101	79	64
Period 7/1/13 - 6/30/14 ⁽¹⁾ : Average Monthly Benefit	\$235	\$904	\$1,435	\$2,398	\$3,016	\$4,073	\$7,485
Number of Recipients	8	31	31	28	22	18	12
Period 7/1/14 - 6/30/15 ⁽¹⁾ : Average Monthly Benefit	\$349	\$1,041	\$1,342	\$2,205	\$3,267	\$4,220	\$5,900
Number of Recipients	11	33	70	67	137	125	94
"Average Monthly Benefit" includes post-retirement pension adjustments and cost-of-living increases.							
⁽¹⁾ Does not include beneficiaries							

Teachers' Retirement System Schedule of Pension and Healthcare Benefits Deductions by Type (In thousands)						
Year Ended June 30	Service	Disability	Survivor	Dependent	Healthcare	Total
2007	\$ 281,879	\$ 2,193	\$ 9,146	\$ 6	\$ 96,544	\$ 389,768
2008	294,807	1,889	9,974	18	99,583	406,271
2009	306,748	1,692	10,688	20	103,093	422,241
2010	319,109	1,757	11,787	37	117,556	450,246
2011	329,308	1,337	12,499	47	133,152	476,343
2012	346,538	1,222	13,398	45	146,309	507,512
2013	364,387	1,377	14,467	34	160,337	540,602
2014	379,594	1,231	15,703	86	166,631	563,245
2015	398,280	1,211	16,781	82	109,740	526,094
2016	415,963	1,279	18,360	97	122,954	558,653

20-YEAR COMPARISON OF RETIREE MONTHLY COMPOSITE MEDICAL PREMIUMS



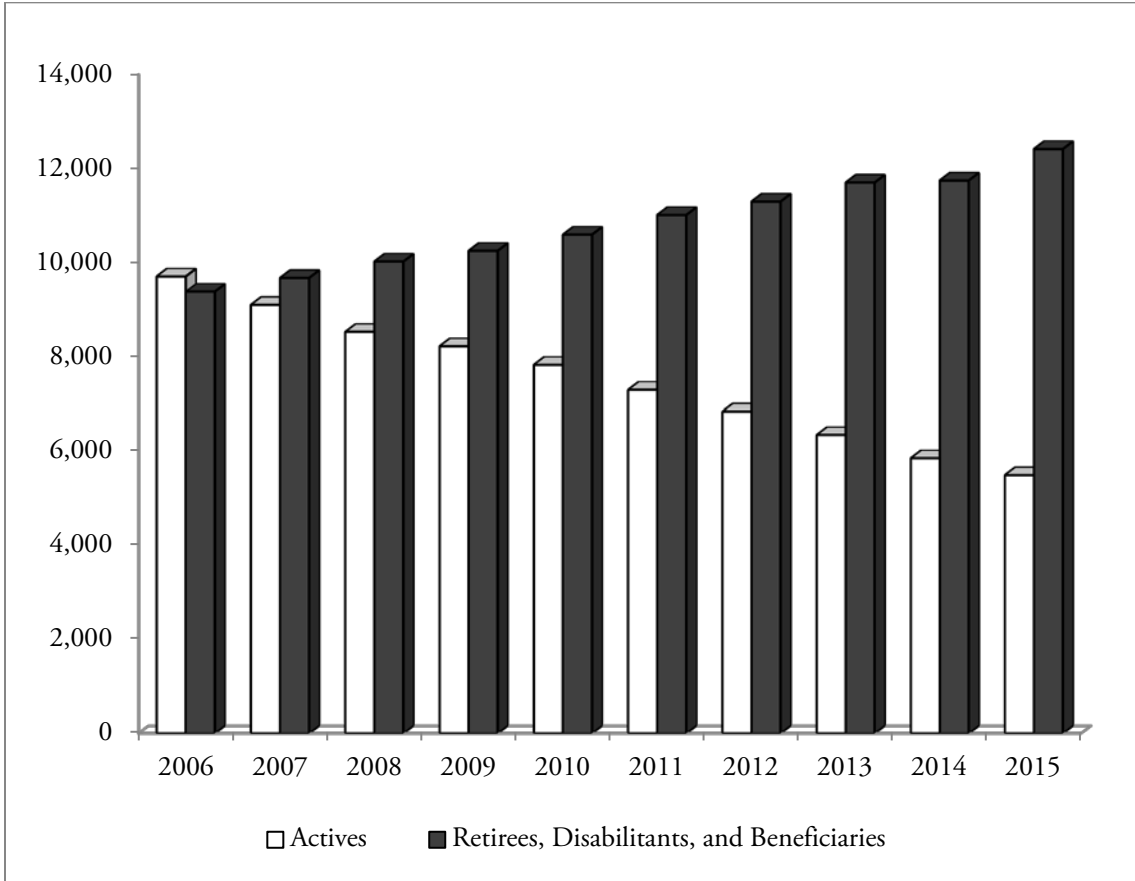
Statistical Section

Teachers' Retirement System Schedule of Pension Benefit Recipients by Type of Pension Benefit Valuation as of June 30, 2015				
Amount of Monthly Pension Benefit	Number of Recipients	Type of Pension Benefit		
		Regular Retirement	Survivor Payment	Disability
\$ 1 - 300	210	151	59	—
301 - 600	371	270	101	—
601 - 900	632	512	120	—
901 - 1,200	787	646	141	—
1,201 - 1,500	701	553	148	—
1,501 - 1,800	683	548	135	—
1,801 - 2,100	685	575	110	—
2,101 - 2,400	829	735	94	—
2,401 - 2,700	999	927	71	1
2,701 - 3,000	964	916	46	2
3,001 - 3,300	937	906	26	5
3,301 - 3,600	840	821	14	5
3,601 - 3,900	788	764	16	8
3,901 - 4,200	641	634	5	2
over 4,200	2,351	2,329	16	6
Totals	12,418	11,287	1,102	29

Teachers' Retirement System Schedule of Pension Benefit Recipients by Option Elected Valuation as of June 30, 2015					
Amount of Monthly Pension Benefit	Number of Recipients	Option Selected			
		Whole Life Annuity	75% Joint and Contingent Annuity	50% Joint and Contingent Annuity	66 2/3% Joint and Contingent Annuity
\$ 1 - 300	210	126	43	34	7
301 - 600	371	192	77	82	20
601 - 900	632	325	143	129	35
901 - 1,200	787	434	178	143	32
1,201 - 1,500	701	381	157	139	24
1,501 - 1,800	683	366	152	137	28
1,801 - 2,100	685	348	158	155	24
2,101 - 2,400	829	390	201	212	26
2,401 - 2,700	999	470	238	262	29
2,701 - 3,000	964	446	225	263	30
3,001 - 3,300	937	435	209	267	26
3,301 - 3,600	840	412	166	245	17
3,601 - 3,900	788	395	152	213	28
3,901 - 4,200	641	317	106	206	12
over 4,200	2,351	1,085	371	829	66
Totals	12,418	6,122	2,576	3,316	404

Teachers' Retirement System System Membership by Status					
Year Ended June 30	Active	Retirees Disabilitants & Beneficiaries	Vested Terminations	Nonvested Terminations w/Balance	Total
2006	9,710	9,386	795	3,085	22,976
2007	9,107	9,678	846	3,044	22,675
2008	8,531	10,026	873	2,971	22,401
2009	8,226	10,255	884	2,830	22,195
2010	7,832	10,598	840	2,789	22,059
2011	7,303	11,016	852	2,675	21,846
2012	6,845	11,301	868	2,559	21,573
2013	6,352	11,705	906	2,448	21,411
2014	5,861	11,750	1,274	2,328	21,213
2015	5,502	12,418	890	2,218	21,028

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



Statistical Section

Teachers' Retirement System Principal Participating Employers June 30, 2016			
Employer	Non-retired Members	Rank	Percentage of Total Non-retired Members
Anchorage School District	4,929	1	32.30%
Matanuska-Susitna Borough School District	1,592	2	10.43
Fairbanks North Star Borough School District	<u>1,324</u>	3	<u>8.68</u>
Total	<u>7,845</u>		<u>51.41%</u>

**Teachers' Retirement System
Participating Employers
June 30, 2016**

Alaska Department of Education	Lake and Peninsula Borough School District
Alaska Gateway School District	Lower Kuskokwim School District
Aleutian Region School District	Lower Yukon School District
Aleutians East Borough School District	
Anchorage School District	Matanuska-Susitna Borough School District
Annette Island School District	
	Nenana City School District
Bering Strait School District	Nome City School District
Bristol Bay Borough School District	North Slope Borough School District
	Northwest Arctic Borough School District
Chatham School District	
Chugach School District	Pelican City School District
Copper River School District	Petersburg City School District
Cordova City School District	Pribilof School District
Craig City School District	
	Saint Mary's School District
Delta-Greely School District	Sitka Borough School District
Denali Borough School District	Skagway City School District
Dillingham City School District	Southeast Island School District
	Southeast Regional Resource Center
Fairbanks North Star Borough School District	Southwest Region School District
	Special Education Service Agency
Galena City School District	
	Tanana School District
Haines Borough School District	
Hoonah City School District	Unalaska City School District
Hydaburg City School District	University of Alaska
Iditarod Area School District	Valdez City School District
Juneau School District, City and Borough of	Wrangell Public School District
Kake City School District	Yakutat School District
Kashunamiut School District	Yukon Flats School District
Kenai Peninsula Borough School District	Yukon-Koyukuk School District
Ketchikan Gateway Borough School District	Yupiit School District
Klawock City School District	
Kodiak Island Borough School District	
Kuspuk School District	





STATE OF ALASKA • DEPARTMENT OF ADMINISTRATION

• *Division of Retirement and Benefits* •

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