

# ALASKA

• Teachers' Retirement System •



A component unit of the State of Alaska

## Comprehensive Annual Financial Report

Fiscal Year Ended June 30, 2019

Mike Dunleavy, Governor



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# TEACHERS' RETIREMENT SYSTEM

## COMPREHENSIVE ANNUAL FINANCIAL REPORT

**A Component Unit of the State of Alaska**

*For the Fiscal Year Ended June 30, 2019*



**Mike Dunleavy, Governor**

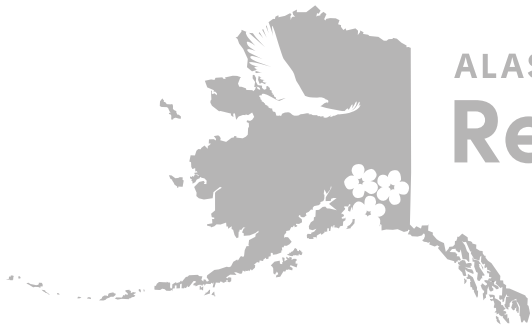
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ALASKA DIVISION OF  
**Retirement  
and Benefits**

*The Alaska Department of Administration complies with Title II of the 1990 Americans with Disabilities Act (ADA). This publication is available in alternative communication formats upon request. To make necessary arrangements, contact the ADA Coordinator for the Division of Retirement and Benefits, at (907) 465-4460 or contact the TDD for the hearing impaired at (907) 465-2805.*

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### Teachers' Retirement System Defined Contribution Retirement Plan

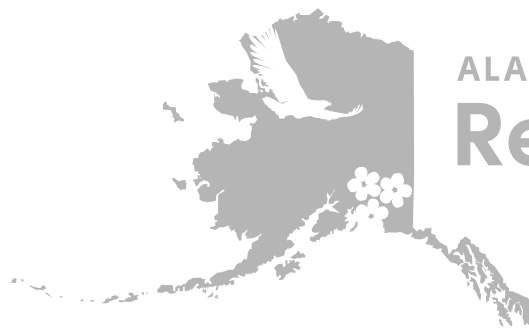
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# INTRODUCTORY SECTION



ALASKA DIVISION OF  
**Retirement  
and Benefits**





THE STATE  
of **ALASKA**  
GOVERNOR MIKE DUNLEAVY

## Department of Administration

### DIVISION OF RETIREMENT AND BENEFITS

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## LETTER OF TRANSMITTAL

December 16, 2019

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

We are pleased to present the Comprehensive Annual Financial Report (CAFR) of the Teachers' Retirement System (TRS) (System) for the fiscal year ended June 30, 2019. 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, 2019. All disclosures necessary to enable the reader to gain an understanding of the System's activities have been included.

KPMG LLP, Certified Public Accountants, has issued an unmodified opinion on the System's basic financial statements for the year ended June 30, 2019. 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

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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 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 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 continues to develop new employee videos for employers to use and make the plan information easy to access by members. The System has developed an Employer Tool Kit to assist employers in the every-day administration of plan benefit provisions under their responsibility. Video development continues to add to the library of information available to participants on a 24/7 basis on the Division's website. 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. Additionally, the System is in the beginning phase of a 4-year system replacement for our current system software program. The System continues to tighten timeframes for issuance of audited financial statements as well as GASB reporting schedules for employers.

The System continues to identify opportunities to reduce the cost of healthcare while maintaining or improving benefits for retirees. Effective January 1, 2019, AlaskaCare transitioned to a new pharmacy benefit manager, OptumRx, resulting in advantaged drug pricing and savings on prescription drug costs for all AlaskaCare plans. At the same time, the System implemented a group Medicare Part D prescription drug plan known as an enhanced Employer Group Waiver Plan (EGWP) for all Medicare-eligible members covered under the AlaskaCare retiree health plan. The enhanced EGWP leverages increased federal subsidies to the retiree healthcare trusts for prescription drugs covered by Medicare Part D, while also providing coverage for medications not covered by Medicare Part D through a "wrap" of additional benefits. Moving to an enhanced EGWP has resulted in the retiree healthcare trusts receiving significantly higher subsidies, while simultaneously maintaining and in some cases expanding, the prescription drug coverage retirees had prior to implementation of the enhanced EGWP.

# Introductory Section

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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.

## **Funding Requirements**

The System's consulting actuary, Buck Global, LLC (Buck), presented the results of the June 30, 2018, 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, 2018, 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 84.7%. The DB Plan's unfunded actuarial accrued liability (actuarial liability minus actuarial value of DB plan assets) totals approximately \$1.52 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, 2019, the DB Plan's investment portfolio was valued at \$8.3 billion and earned a 6.39% return for the fiscal year ended June 30, 2019. The DCR Plan's investment portfolio was valued at \$684.6 million for the fiscal year ended June 30, 2019. Over the past five years ending June 30, 2019, the DB Plan's investments earned an 6.35% 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, 2018. The Certificate of Achievement is a prestigious national award that recognizes conformance with the highest standards of preparation of state and local government financial reports.

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

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

Additionally, the Public Pension Coordinating Council (PPCC) awarded the Public Pension Standards Award for Funding and Administration certificate to the Division for the fiscal year ended June 30, 2019.

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 2020.

## **Acknowledgements**

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

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

# Introductory Section

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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,



Kelly Tshibaka  
Commissioner



Ajay Desai  
Division Director



Emily Ricci  
Chief Healthcare Policy Administrator



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, 2018**

*Christopher P. Morill*

Executive Director/CEO



Public Pension Coordinating Council

***Public Pension Standards Award  
For Funding and Administration  
2019***

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)

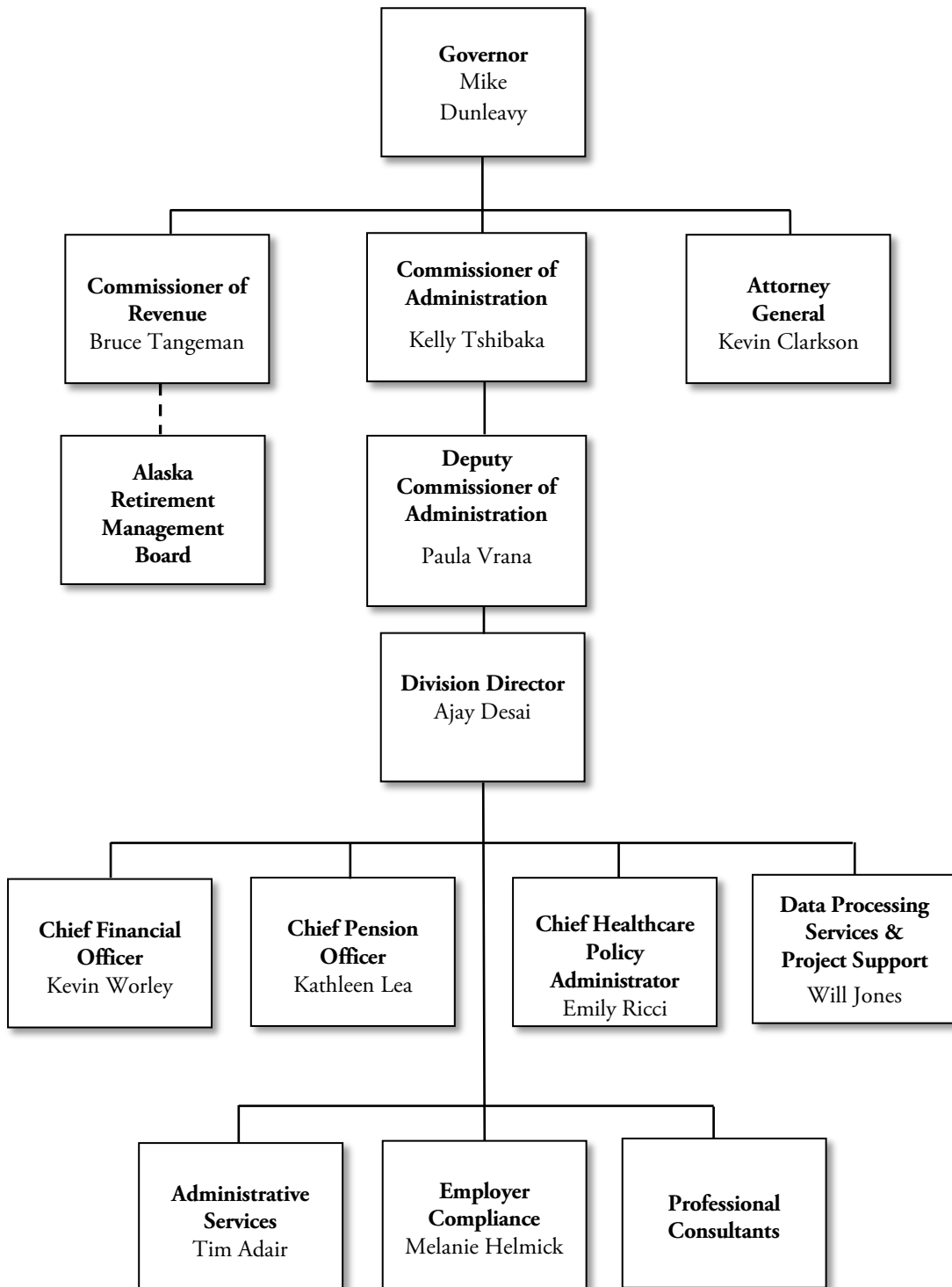
A handwritten signature in black ink, reading 'Alan H. Winkle'.

Alan H. Winkle  
Program Administrator



# ORGANIZATION CHART

As of June 30, 2019



# 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><b>Consulting Actuary</b> Buck Global LLC <i>Denver, Colorado</i></p>	<p><b>Legal Counsel</b> Kevin Dilg Kevin Higgins Jessica Leeah Bill Milks Rebecca Polizzotto Assistant Attorney Generals <i>Juneau, Alaska</i></p>	<p><b>Third-Party Healthcare Claim Administrators</b> Aetna Life Insurance Company <i>Lexington, Kentucky</i> CHCS Services, Inc. <i>Pensacola, Florida</i> Moda Health / Delta Dental of Alaska <i>Portland, Oregon</i> PayFlex Systems USA, Inc. <i>Omaha, Nebraska</i></p>
<p><b>Reviewing Actuary</b> Gabriel Roeder Smith <i>Denver, Colorado</i></p>	<p>Jessie Alloway Laura Fox Andrew Hodlofski Siobhan McIntyre Jeff Pickett Kate Vogel Margret Paton-Walsh Rachel Witty Laura Wolff <i>Anchorage, AK</i></p>	<p><b>Consulting Physicians</b> Managed Medical Review Organization <i>Novi, Michigan</i></p>
<p><b>Independent Auditors</b> KPMG LLP <i>Anchorage, Alaska</i></p>	<p>Ice Miller LLP <i>Indianapolis, Indiana</i></p>	
<p><b>Benefits Consultants</b> Buck Global LLC <i>Denver, Colorado</i> The Segal Company <i>Greenwood Village, Colorado</i></p>		
<p><b>IT Consultants</b> Alaska IT Group <i>Juneau, Alaska</i> Applied Microsystems, Inc. Computer Task Group <i>Anchorage, Alaska</i></p>		

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

## Alaska Retirement Management Board

As of June 30, 2019

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

**Tom Brice, Vice Chair**, retired as a Business Representative for the Alaska District Council of Laborers. Mr. Brice has extensive experience addressing human relations issues in the public sector from recruitment and retention problems to employee advocacy in dismissal cases. He sat on the Public Employees Local 71 negotiating team for state and municipal contracts for close to fourteen years. In Southeast Alaska, he administered the labor contracts for Laborers Local 942 and Public Employees Local 71. Prior to this position, Mr. Brice was the Apprenticeship Outreach Coordinator for the Alaska Works Partnership. Here he 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 B.A. from the University of Alaska Fairbanks. He is a member of Public Employees Local 71.

**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.

**Lorne Bretz** was appointed by Governor Dunleavy in March 2019. Lorne immigrated to Alaska in 1992, and with its vast beauty, it quickly became home. Volunteering in the community, hiking and off-road adventuring are some of Lorne's favorite hobbies. Mr. Bretz is the Plan Administrator for the Municipality of Anchorage Retiree Medical Funding Program Trust for Police Officers and Firefighters. He has a Masters in Business Administration, a Retirement Plans Associate designation and is a Certified Financial Planner professional. He has a passion for finances and a desire to support the needs of retirees and future retirees of the state he calls home.

**Allen Hippler** was appointed by Governor Dunleavy in March 2019. Allen Hippler is a Vice President of Commercial Lending at Northrim Bank, where he specializes in underwriting loans for Alaskan businesses. He has almost two decades of experience working in finance throughout the state, most notably Wasilla, Bethel, and Anchorage. Mr. Hippler has chaired the City of Bethel finance committee; was elected to and served on the Bethel City Council, and was named one of Alaska’s ‘Top Forty under Forty’ in 2009. He is active with the Alaska Chamber of Commerce, and currently is Vice Chairman of that organization. Previous service to the State of Alaska includes working as a Commissioner of the Alaska Health Care Commission. Mr. Hippler holds a B.A. in Economics from the University of Dallas.

# Introductory Section

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**Bruce Tangeman**, Commissioner of the Department of Revenue, was appointed by Governor Dunleavy in December 2018. Previously his roles included Vice President and Chief Financial Officer of the Alaska Gasline Development Corporation and Deputy Commissioner for the Department of Revenue with a focus on AKLNG negotiations and unwinding the ACES tax regime. Bruce was also Chief Financial Officer for Doyon Utilities overseeing privatization of Alaska's army utility assets as well as project manager for the Anchorage Landfill Gas Project. He most recently served as the Policy Director for the Alaska State Senate Majority. Bruce met his wife Betty 32 years ago at Indiana University where he majored in Finance and minored in Economics and Management and followed her back to her hometown of Juneau in 1991.

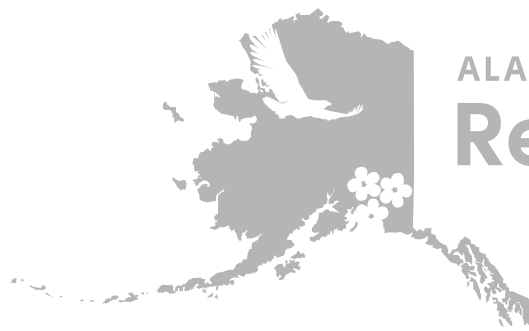
**Kelly Tshibaka**, Commissioner of the Department of Administration, was appointed by Governor Dunleavy in January 2019. Kelly Tshibaka is a born and raised Alaskan, having graduated from Stellar Secondary School in Anchorage in 1995. She has over sixteen years of leadership experience in federal government and intelligence oversight roles, including in audits, investigations, complex reviews, data analytics, and executive management. Most recently she was the Chief Data Officer for the United States Postal Service Office of the Inspector General where she was part of the executive team responsible for oversight of the US Postal Service, an agency with more than \$70 billion in annual revenue, \$13 billion in contracts, and 620,000 employees. Prior to that, she was the Acting Inspector General of the Federal Trade Commission, served as legal counsel to the Inspector General of the Office of the Director of National Intelligence, and performed sensitive reviews at the Department of Justice Office of the Inspector General. Tshibaka has dedicated her public service career to improving government agencies' efficiency and effectiveness. Tshibaka has a J.D. from Harvard Law School and a B.A. from Texas A&M University.

**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**



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## **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, 2019, and the related notes to the financial statements, which collectively comprise the System's basic financial statements as listed in the table of contents.

### ***Management's Responsibility for the Financial Statements***

Management is responsible for the preparation and fair presentation of these financial statements in accordance with U.S. generally accepted accounting principles; this includes the design, implementation, and maintenance of internal control relevant to the preparation and fair presentation of financial statements that are free from material misstatement, whether due to fraud or error.

### ***Auditors' Responsibility***

Our responsibility is to express an opinion on these financial statements based on our audit. We conducted our audit in accordance with auditing standards generally accepted in the United States of America. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free from material misstatement.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the financial statements. The procedures selected depend on the auditors' judgment, including the assessment of the risks of material misstatement of the financial statements, whether due to fraud or error. In making those risk assessments, the auditor considers internal control relevant to the entity's preparation and fair presentation of the financial statements 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.

### ***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, 2019, and the changes in fiduciary net position for the year then ended, in accordance with U.S. generally accepted accounting principles.

# Financial Section

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## *Other Matters*

### *Prior-Year Comparative Information*

We have previously audited the System's 2018 combining financial statements, and we expressed an unmodified opinion on those financial statements in our report dated November 21, 2018. In our opinion, the summarized comparative information presented herein as of and for the year ended June 30, 2018 is consistent, in all material respects, with the audited financial statements from which it has been derived.

### *Required Supplementary Information*

U.S. generally accepted accounting principles require that the management's discussion and analysis on pages 17–27 and the schedules of changes in employer net pension and other post-employment benefits liabilities and related ratios, schedules of employer and nonemployer contributions, and schedules of investment returns on pages 51–62 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 83–84 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**

October 23, 2019



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

## **Management's Discussion and Analysis (Unaudited)**

**June 30, 2019**

This section presents management's discussion and analysis (MD&A) of the Teachers' Retirement System's (the System) financial position and performance for the year ended June 30, 2019. 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, 2019.

### **Financial Highlights**

The System's financial highlights as of June 30, 2019 were as follows:

- The System's fiduciary net position restricted for pension benefits, postemployment healthcare benefits, and individuals increased by \$199.2 million during fiscal year 2019.
- The System's plan member and employer contributions decreased by \$314,000 during fiscal year 2019 when compared to fiscal year 2018.
- The State of Alaska (the State) directly appropriated \$128.2 million to the System during fiscal year 2019.
- The System's net investment income decreased \$178.3 million compared to fiscal year 2018 to \$525.3 million during fiscal year 2019.
- The System's pension benefit expenditures totaled \$470.4 million during fiscal year 2019.
- The System's postemployment healthcare benefit expenditures totaled \$143.2 million in fiscal year 2019.

### **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 restricted for pension benefits, postemployment healthcare benefits, and individuals. This statement reflects the System's investments at fair value, along with cash and cash equivalents, receivables, and other assets less liabilities at June 30, 2019.

*Combining Statement of Changes in Fiduciary Net Position* – This statement presents how the System's net position restricted for pension benefits, postemployment healthcare benefits, and individuals changed during the fiscal year ended June 30, 2019. 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, 2019, and the sources and uses of those funds during fiscal year 2019.

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## Management's Discussion and Analysis (Unaudited)

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

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

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

### Condensed Financial Information

Description	System net position (In thousands)				
	2019	2018	Increase (decrease)		2017
			Amount	Percentage	
<b>Assets:</b>					
Cash and cash equivalents	\$ 177,676	92,098	85,578	92.9 %	\$ 225,161
Contributions receivable	9,645	8,431	1,214	14.4	4,351
Due from State of Alaska					
General Fund	9,484	5,088	4,396	86.4	5,604
Other accounts receivables	1,256	100	1,156	1,156.0	1,451
Investments	8,972,425	8,888,692	83,733	0.9	8,406,762
Other assets	318	318	—	—	318
<b>Total assets</b>	<b>9,170,804</b>	<b>8,994,727</b>	<b>176,077</b>	<b>2.0</b>	<b>8,643,647</b>
<b>Liabilities:</b>					
Claims payable	12,561	14,408	(1,847)	(12.8)	12,788
Accrued expenses	3,313	1,703	1,610	94.5	1,466
Forfeitures payable to employers	873	10,639	(9,766)	(91.8)	10,282
Due to State of Alaska General Fund	2,664	—	2,664	100.0	1
Securities lending collateral payable	14,729	30,555	(15,826)	(51.8)	55,150
<b>Total liabilities</b>	<b>34,140</b>	<b>57,305</b>	<b>(23,165)</b>	<b>(40.4)</b>	<b>79,687</b>
<b>Net position</b>	<b>\$ 9,136,664</b>	<b>8,937,422</b>	<b>199,242</b>	<b>2.2 %</b>	<b>\$ 8,563,960</b>

**State of Alaska**  
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## Management's Discussion and Analysis (Unaudited)

June 30, 2019

### Condensed Financial Information (Continued)

Description	Changes in system net position (In thousands)				
	2019	2018	Increase (decrease)		2017
			Amount	Percentage	
Net position, beginning of year	\$ 8,937,422	8,563,960	373,462	4.4 %	\$ 7,851,577
Additions:					
Contributions – employers and plan members	163,950	164,170	(220)	(0.1)	163,904
Contributions – nonemployer State of Alaska	127,365	111,042	16,323	14.7	115,980
Net investment income	525,251	703,592	(178,341)	(25.3)	1,006,847
Employer group waiver plan	2,518	—	2,518	100.0	—
Medicare retiree drug subsidy	6,714	1,895	4,819	254.3	6,212
Pharmacy rebates	11,867	6,149	5,718	93.0	7,649
Other income	488	369	119	32.2	115
Total additions	<u>838,153</u>	<u>987,217</u>	<u>(149,064)</u>	<u>(15.1)</u>	<u>1,300,707</u>
Deductions:					
Pension and postemployment healthcare benefits	613,641	590,569	23,072	3.9	566,291
Refunds of contributions	14,687	13,219	1,468	11.1	12,296
Administrative	10,583	9,967	616	6.2	9,737
Total deductions	<u>638,911</u>	<u>613,755</u>	<u>25,156</u>	<u>4.1</u>	<u>588,324</u>
Increase in net position	<u>199,242</u>	<u>373,462</u>	<u>(174,220)</u>	<u>46.6</u>	<u>712,383</u>
Net position, end of year	<u>\$ 9,136,664</u>	<u>8,937,422</u>	<u>199,242</u>	<u>2.2 %</u>	<u>\$ 8,563,960</u>

### Financial Analysis of the System

The statements of fiduciary net position as of June 30, 2019 and 2018 show net position restricted for pension benefits, postemployment healthcare benefits, and individuals of \$9,136,664,000 and \$8,937,422,000, 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 an increase in the System's net position restricted for pension benefits, postemployment healthcare benefits, and individuals of \$199,242,000 or 2.2% from fiscal year 2018 to 2019, and an increase of \$373,462,000 or 4.4% from fiscal year 2017 to 2018. 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 30th Alaska State Legislature and as part of the State's Fiscal Year 2019 Operating Budget, House Bill 286 appropriated \$128,174,000 from the General Fund and the Alaska Higher Education Investment Fund to the Department of Administration for deposit in the Defined Benefit Pension fund. The amount of the appropriation allocated to the State

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of Alaska as an employer is included in Contributions – Employer. The remaining appropriation is reported as Contributions – Nonemployer State of Alaska.

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.

### System Asset Allocation

During fiscal years 2019 and 2018, the Board adopted the following asset allocation for the Defined Benefit Pension Plan (DB Plan) and Defined Contribution Retirement Pension Plan's (DCR Plan) retiree major medical insurance fund, health reimbursement arrangement fund, and occupational death and disability fund:

	2019		2018	
	Pension and Healthcare Trust		Pension and Healthcare Trust	
	Allocation	Range	Allocation	Range
Broad domestic equity	24.0%	± 6%	24.0%	± 6%
Global equity ex-U.S.	22.0	± 4	22.0	± 4
Fixed income	10.0	± 5	10.0	± 5
Opportunistic	10.0	± 5	10.0	± 5
Real assets	17.0	± 8	17.0	± 8
Absolute return	7.0	± 4	7.0	± 4
Private equity	9.0	± 5	9.0	± 5
Cash equivalents	1.0	+ 3/- 1	1.0	+ 3/- 1
Total	<u>100.0%</u>		<u>100.0%</u>	
Expected return 10-year geometric mean	6.60%		6.60%	
Projected standard deviation	14.70		14.70	

For fiscal years 2019 and 2018, the DB Plan's investments generated a 6.35% and 9.62% rate of return, respectively.

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## Management's Discussion and Analysis (Unaudited)

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### Contributions, Investment Income, and Other Additions

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

	Additions (In thousands)				
	2019	2018	Increase (decrease)		2017
			Amount	Percentage	
Contributions – plan members	\$ 67,201	66,505	696	1.0 %	\$ 66,766
Contributions – employers	96,749	97,665	(916)	(0.9)	97,138
Contributions – nonemployer					
State of Alaska	127,365	111,042	16,323	14.7	115,980
Net investment income	525,251	703,592	(178,341)	(25.3)	1,006,847
Employer group waiver plan	2,518	—	2,518	100.0	—
Medicare retiree drug subsidy	6,714	1,895	4,819	254.3	6,212
Pharmacy rebates	11,867	6,149	5,718	93.0	7,649
Other income	488	369	119	32.2	115
Total	<u>\$ 838,153</u>	<u>987,217</u>	<u>(149,064)</u>	<u>(15.1)%</u>	<u>\$ 1,300,707</u>

The System's employer contributions decreased from \$97,665,000 in fiscal year 2018 to \$96,749,000 in fiscal year 2019, a decrease of \$916,000 or 0.9%. The System's employer contributions increased from \$97,138,000 in fiscal year 2017 to \$97,665,000 in fiscal year 2018, an increase of \$527,000 or 0.5%. The 2018 to 2019 decrease in employer contributions is attributable to decreased defined benefit members that employers contribute for partially offset by the defined benefit unfunded liability portion of DCR Plan member salaries.

The State provided \$127,365,000 and \$111,042,000 for fiscal years 2019 and 2018, respectively, 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 statutory employer effective contribution rate of 12.56% is established in AS 14.25.070(a).

The System's net investment income in fiscal year 2019 decreased by \$178,341,000 or 25.3% from amounts in fiscal year 2018. The System's net investment income in fiscal year 2018 decreased by \$303,255,000 or 30.1% from amounts recorded in fiscal year 2017. Fiscal year 2019 saw rates below the assumed rate of return, while fiscal year 2018 saw rates of returns above the assumed rate of return. The investment returns received in fiscal year 2019 were lower than the returns seen in fiscal year 2018 due to market conditions, causing a decrease in returns in comparison between 2019 and 2018. Over the long term, investment earnings play a significant role in funding plan benefits. The Board continues to look at investment classes and strategies best suited to meet the expected earnings returns to meet future benefit payments.

Effective January 1, 2019, the Division implemented a group Medicare Part D prescription drug plan known as an enhanced Employer Group Waiver Plan (EGWP) for all Medicare-eligible members covered under the Plan. For the

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period January 1 to June 30, 2019, the Plan received \$2,518,000 in EGWP funds from the Center of Medicare and Medicaid Services (CMS) through the EGWP Plan Sponsor, OptumRx.

The Plan also participates in the Medicare Part D retiree drug subsidy (RDS) program. A provision of Medicare Part D provides sponsors of postemployment healthcare funds the opportunity to receive an RDS payment if the sponsor's fund 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 fund. The Plan received an additional \$4,819,000 in fiscal year 2019 over fiscal year 2018 due to the timing of filing for and receipt of the RDS.

Pharmacy rebates are reimbursed to the Plan by the third-party administrators. These rebates are recorded as revenue when received by the Plan. During fiscal year 2019, the Plan received \$11,867,000 compared to \$6,149,000 from fiscal year 2018 due to the timing of receipt of funds.

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

	<b>Year ended</b>		
	<b>2019</b>	<b>2018</b>	<b>2017</b>
System returns	6.39 %	9.62 %	13.36 %
Domestic equities	8.41	15.22	18.55
International equities	(0.08)	7.95	20.42
Private equity	17.66	26.65	17.04
Real assets	6.08	7.53	5.98
Absolute return	4.08	4.78	8.47
Fixed income	6.34	(0.71)	2.91
Opportunistic	7.21	5.63	—
Alternative equity	—	—	11.38
Cash equivalents	2.50	1.53	0.80
Actuarially assumed rate of return	7.38	8.00	8.00

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## Management's Discussion and Analysis (Unaudited)

June 30, 2019

### 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)				
	2019	2018	Increase (decrease)		2017
			Amount	Percentage	
Pension benefits	\$ 470,414	456,427	13,987	3.1 %	\$ 446,044
Postemployment benefits	143,227	134,142	9,085	6.8	120,247
Refund of contributions	14,687	13,219	1,468	11.1	12,296
Administrative	10,583	9,967	616	6.2	9,737
Total	\$ 638,911	613,755	25,156	4.1 %	\$ 588,324

The System's pension benefit payments in 2019 increased \$13,987,000 or 3.1% from fiscal year 2018 and increased \$10,383,000 or 2.3% from fiscal year 2017. The increase in pension benefits in fiscal year 2019 is the result of a continued increase in the number of retirees.

The System's postemployment benefit payments in fiscal year 2019 increased \$9,085,000 or 6.8% from fiscal year 2018 and increased \$13,895,000 or 11.6% from fiscal year 2017. The System has seen an increase in plan utilization for healthcare as the number of retirees in the DB Plan continue to increase. However, the increase is offset by those members and beneficiaries who transition over to Medicare due to age, and costs shift from the System to Medicare. The System continues to look at ways for cost containment while providing benefits applicable to the plan.

The System's refund of contributions increased \$1,468,000 or 11.1%, from fiscal year 2018 and increased \$923,000, or 7.5%, from fiscal year 2017. The increase in refunds is primarily in the DCR Plan, where refunds increased \$1,249,000 between fiscal year 2018 to 2019, and increased \$1,217,000 from fiscal year 2017 to 2018. Increases in refunds are attributed to the refund of DCR member accounts. 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 costs in fiscal year 2019 increased \$616,000 or 6.2% from fiscal year 2018 and increased \$230,000 or 2.4% from fiscal year 2017 to 2018. The increase in administrative costs in fiscal year 2019 is primarily related to fees paid to third-party administrators.

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## **Management's Discussion and Analysis (Unaudited)**

**June 30, 2019**

### **Net Pension Liability**

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

The components of the net pension liability of the participating employers were as follows (in thousands):

	<u>2019</u>	<u>2018</u>
Total pension liability	\$ 7,380,472	7,387,056
Plan fiduciary net position	(5,511,929)	(5,472,727)
Employers' net pension liability	<u>\$ 1,868,543</u>	<u>1,914,329</u>
Plan fiduciary net position as a percentage of the total pension liability	74.68 %	74.09 %

### **Net OPEB (Asset) Liability**

GASB Statement No. 74, *Financial Reporting for Postemployment Benefit Plans Other than Pension Plans*, requires the DB Other Postemployment Benefit (OPEB) Plans to report the total OPEB liability, fiduciary net position, and net OPEB liability for each plan. The total OPEB liability represents the total obligation for the Plan's postemployment healthcare benefits related to costs incurred as a result of years of service, changes in benefit terms, changes in actuarial assumptions, and any differences between the actuarial assumptions and actual experience. The Plan's fiduciary net position represents the assets available to pay the OPEB Plan's future payment stream. The assets are derived from contributions received from participating employers, plan members, and nonemployer contributions, as well as investment earnings, less benefit payments during the year and the related costs to administer the Plans. The difference between the total OPEB liability and fiduciary net position is the net OPEB liability, or the unfunded or overfunded portion of the total OPEB liability.



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The components of the net OPEB liability (asset) of the participating employers for the Plans as of June 30, 2019 were as follows (in thousands):

	<b>Alaska Retiree Healthcare Trust Plan (ARHCT)</b>	<b>Occupational Death and Disability (ODD)</b>	<b>Retiree Medical Plan (RMP)</b>
Total OPEB liability	\$ 2,776,498	307	38,231
Plan fiduciary net position	(2,929,319)	(4,328)	(42,067)
Employers' net OPEB liability (asset)	\$ (152,821)	(4,021)	(3,836)
Plan fiduciary net position as a percentage of the total OPEB liability	105.50 %	1,409.77 %	110.03 %

The components of the net OPEB liability (asset) of the participating employers for the Plans as of June 30, 2019 were as follows (in thousands):

	<b>Alaska Retiree Healthcare Trust Plan (ARHCT)</b>	<b>Occupational Death and Disability (ODD)</b>	<b>Retiree Medical Plan (RMP)</b>
Total OPEB liability	\$ 3,181,074	291	33,466
Plan fiduciary net position	(2,870,135)	(3,797)	(36,665)
Employers' net OPEB liability (asset)	\$ 310,939	(3,506)	(3,199)
Plan fiduciary net position as a percentage of the total OPEB liability	90.23 %	1,304.81 %	109.56 %

### Funding

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

- The employer contribution rate is adopted and set by the Board annually based on actuarial determinations made by the System's consulting actuary as reviewed by the Board's contracted actuary. AS 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 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.

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**June 30, 2019**

- Plan member contributions are established by AS14.25.050 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 2019, the 31st Alaska State Legislature enacted one law that affects the System. Conference Committee Substitute First Special Session House Bill 39, Section 35(b), appropriates \$141.1 million from the General Fund to the Department of Administration for deposit in the System's defined benefit plan account as partial payment of the participating employers' contribution for fiscal year ending June 30, 2020.

This appropriation is to fund the difference between the statutory employer 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. This additional state contribution is specified in AS 14.25.085 – Additional State Contributions.

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

Net investment income decreased from \$703,592,000 in fiscal year 2018 to \$525,251,000 in fiscal year 2019, a decrease of \$178,341,000 or 25.3%. The return on the System's investments was below the 7.38% actuarially assumed rate of return with the System's rate of return of 6.39% at June 30, 2019. In fiscal year 2018, the System's investments returned 9.62%, more 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.

The consulting actuary recommended an increase from the System's actuarially determined contribution rate of 26.78% in fiscal year 2018 to 28.90% in fiscal year 2019. The Board adopted the fiscal year 2019 actuarially determined contribution rate of 28.90%, which represented an increase of 2.12%. The statutory employer effective contribution rate remained at 12.56% for fiscal years 2019 and 2018.

The June 30, 2018 and 2017 actuarial valuation reports for the DB Plan reported funding ratios based on valuation assets of 84.7% and 82.0%, respectively, as well as unfunded liabilities of \$1.52 billion and \$1.83 billion, respectively.

For fiscal years 2019 and 2018, the DCR Plan's employer contribution rate was established by AS 14.25.070(a) at 12.56%. The DCR Plan's actuarially determined occupational death and disability rate for fiscal years 2019 and 2018 was adopted by the Board to be 0.08% and 0.00%, respectively. The DCR Plan retiree medical plan actuarially determined contribution rate for fiscal years 2019 and 2018 was adopted by the Board to be 0.79% and 0.91%, respectively.

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**Management's Discussion and Analysis (Unaudited)**

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**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

# Financial Section

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**Combining Statement of Fiduciary Net Position**  
**June 30, 2019**  
**(With summarized financial information for June 30, 2018)**  
**(In thousands)**

	Defined benefit pension	Defined contribution pension	Other Postemployment Benefit Plans				System total June 30, 2019	System total June 30, 2018
			Alaska Retiree Healthcare Trust	Occupational death and disability	Retiree medical	Health reimbursement arrangement		
<b>Assets:</b>								
Cash and cash equivalents (note 3):								
Short-term fixed income pool	\$ 103,177	1,215	55,081	81	782	2,339	162,675	61,215
Empower money market fund – non-participant directed		272					272	328
Securities lending collateral	9,426		5,015		71	210	14,729	30,555
Total cash and cash equivalents	112,603	1,487	60,096	88	853	2,549	177,676	92,098
<b>Receivables:</b>								
Contributions	9,645						9,645	8,431
Due from State of Alaska General Fund		6,215	1,434	34	338	1,463	9,484	5,088
Other accounts receivable	43		1,213				1,256	100
Total receivables	9,688	6,215	2,647	34	338	1,463	20,385	13,619
<b>Investments (note 3), at fair value:</b>								
U.S. Treasury Fixed Income Pool	577,915		308,702	451	4,381	13,105	904,554	770,602
<b>Broad domestic equity:</b>								
Large Cap Pool	1,117,298		596,821	871	8,469	25,336	1,748,795	1,672,443
Small Cap Pool	155,606		83,119	121	1,179	3,529	243,554	316,689
Total broad domestic equity	1,272,904		679,940	992	9,648	28,865	1,992,349	1,989,132
<b>Global equity ex U.S.:</b>								
International Equity Pool	931,723		497,693	727	7,062	21,128	1,458,333	1,445,410
International Equity Small Cap Pool	78,072		41,703	61	592	1,770	122,198	131,759
Emerging Markets Equity Pool	198,729		106,154	155	1,506	4,506	311,050	246,381
Total global equity ex U.S.	1,208,524		645,550	943	9,160	27,404	1,891,581	1,823,550
<b>Opportunistic:</b>								
Alternative Equity Strategies Pool	273,085		145,873	213	2,070	6,193	427,434	430,186
Opportunistic Fixed Income Pool	149,443		79,827	117	1,133	3,389	233,909	285,601
Other Opportunities Pool	24,682		13,184	19	187	560	38,632	109,635
Tactical Allocation Strategies Pool	88,445		47,244	69	670	2,006	138,434	99
Total opportunistic	535,655		286,128	418	4,060	12,148	838,409	825,521
Private Equity Pool	579,978		309,804	452	4,396	13,152	907,782	784,747
Absolute Return Pool	317,401		169,545	248	2,406	7,197	496,797	630,101
<b>Real assets:</b>								
Real Estate Pools	311,332		166,336	243	2,360	7,061	487,332	536,508
Real Estate Investment Trust Pool	61,859		33,043	48	469	1,403	96,822	65,631
Infrastructure Private Pool	117,664		62,852	92	892	2,668	184,168	166,071
Infrastructure Public Pool	35,118		18,759	27	266	796	54,966	83,319
Master Limited Partnership Pool	113,190		60,462	88	858	2,567	177,165	327,806
Energy Pool	18,572		9,921	14	141	421	29,069	32,340
Farmland Pool	176,721		94,398	138	1,340	4,007	276,604	272,381
Timber Pool	75,304		40,224	59	571	1,708	117,866	120,324
Treasury Inflation-Protected Securities Pool								18,377
Total real assets	909,760		485,995	709	6,897	20,631	1,423,992	1,622,757
<b>Other investment funds:</b>								
Participant directed at fair value:								
Collective investment funds		176,309					176,309	168,552
Pooled investment funds		320,284					320,284	273,730
Participant directed at contract value:								
Synthetic Investments		20,368					20,368	
Total other investment funds		516,961					516,961	442,282
Total investments	5,402,137	516,961	2,885,664	4,213	40,948	122,502	8,972,425	8,888,692
<b>Other assets</b>								
Total assets	5,524,428	524,663	2,948,725	4,335	42,139	126,514	9,170,804	8,994,727
<b>Liabilities:</b>								
Claims payable (note 6)			12,561				12,561	14,408
Accrued expenses	409	1,068	1,830				3,313	1,703
Forfeitures payable to employers		873					873	10,639
Due to State of Alaska General Fund	2,664						2,664	
Securities lending collateral payable	9,426		5,015		71	210	14,729	30,555
Total liabilities	12,499	1,941	19,406		72	215	34,140	57,305
Net position restricted for pension benefits, postemployment healthcare benefits, and individuals	\$ 5,511,929	522,722	2,929,319	4,328	42,067	126,299	9,136,664	8,937,422

See accompanying notes to financial statements.

**State of Alaska**  
**Teachers' Retirement System**  
**(A Component Unit of the State of Alaska)**  
**Combining Statement of Changes in Fiduciary Net Position**  
**Year ended June 30, 2019**  
**(With summarized financial information for June 30, 2018)**  
**(In thousands)**

	Defined benefit pension	Defined contribution pension	Other Postemployment Benefit Plans			System total June 30, 2019	System total June 30, 2018	
			Alaska Retiree Healthcare Trust	Occupational death and disability	Retiree medical			Health reimbursement arrangement
<b>Additions:</b>								
<b>Contributions:</b>								
Employers	\$ 36,805	25,814	17,957	312	3,085	12,776	96,749	97,665
Plan members	35,763	31,438	—	—	—	—	67,201	66,505
Nonemployer State of Alaska	127,365	—	—	—	—	—	127,365	111,042
<b>Total contributions</b>	<b>199,933</b>	<b>57,252</b>	<b>17,957</b>	<b>312</b>	<b>3,085</b>	<b>12,776</b>	<b>291,315</b>	<b>275,212</b>
<b>Investment income:</b>								
Net appreciation in fair value (note 2)	216,649	31,634	117,362	172	1,670	4,978	372,465	564,363
Interest	15,664	66	8,195	11	109	320	24,365	29,644
Dividends	84,587	—	44,599	61	589	1,726	131,562	113,080
<b>Total investment income</b>	<b>316,900</b>	<b>31,700</b>	<b>170,156</b>	<b>244</b>	<b>2,368</b>	<b>7,024</b>	<b>528,392</b>	<b>707,087</b>
Less investment expense	2,315	191	1,176	1	15	43	3,741	4,493
<b>Net investment income before securities lending activities</b>	<b>314,585</b>	<b>31,509</b>	<b>168,980</b>	<b>243</b>	<b>2,353</b>	<b>6,981</b>	<b>524,651</b>	<b>702,594</b>
Securities lending income	471	—	247	—	3	10	731	1,222
Less securities lending expense	84	—	44	—	1	2	131	224
<b>Net income from securities lending activities</b>	<b>387</b>	<b>—</b>	<b>203</b>	<b>—</b>	<b>2</b>	<b>8</b>	<b>600</b>	<b>998</b>
<b>Net investment income</b>	<b>314,972</b>	<b>31,509</b>	<b>169,183</b>	<b>243</b>	<b>2,355</b>	<b>6,989</b>	<b>525,251</b>	<b>703,592</b>
<b>Other income</b>								
Employer Group Waiver Plan	—	—	2,518	—	—	—	2,518	—
Medicare Retiree Drug Subsidy	—	—	6,711	—	3	—	6,714	1,895
Pharmacy rebates	—	—	11,858	—	9	—	11,867	6,149
Miscellaneous income	32	132	324	—	—	—	488	369
<b>Total other income</b>	<b>32</b>	<b>132</b>	<b>21,411</b>	<b>—</b>	<b>12</b>	<b>—</b>	<b>21,587</b>	<b>8,413</b>
<b>Total additions</b>	<b>514,937</b>	<b>109,893</b>	<b>208,551</b>	<b>555</b>	<b>5,452</b>	<b>19,765</b>	<b>838,153</b>	<b>987,217</b>
<b>Deductions:</b>								
Pension and postemployment benefits	470,414	—	143,126	24	44	33	613,641	590,569
Refunds of contributions	2,303	12,384	—	—	—	—	14,687	13,219
Administrative	3,018	1,317	6,241	—	6	1	10,583	9,967
<b>Total deductions</b>	<b>475,735</b>	<b>13,701</b>	<b>149,367</b>	<b>24</b>	<b>50</b>	<b>34</b>	<b>638,911</b>	<b>613,755</b>
<b>Net increase</b>	<b>39,202</b>	<b>75,192</b>	<b>59,184</b>	<b>531</b>	<b>5,402</b>	<b>19,731</b>	<b>199,242</b>	<b>373,462</b>
<b>Net position restricted for pension benefits, postemployment healthcare benefits, and individuals:</b>								
Balance, beginning of year	5,472,727	447,530	2,870,135	3,797	36,665	106,568	8,937,422	8,563,960
Balance, end of year	\$ 5,511,929	522,722	2,929,319	4,328	42,067	126,299	9,136,664	8,937,422

See accompanying notes to financial statements.

# Financial Section

**State of Alaska**  
**Teachers' Retirement System**  
**(A Component Unit of the State of Alaska)**  
**Notes to Financial Statements**  
**June 30, 2019**

**(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 administered by the Division of Retirement and Benefits within the Department of Administration. Benefit and contribution provisions are established by State law and may be amended only the State legislature. The Alaska Retirement Management Board (the Board), is responsible for overseeing the management and investment of the system. The Board consists of nine trustees as follows, two trustees 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 PERS members, and two trustees who are TRS members.

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

At June 30, 2019 and 2018, 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.

State of Alaska  
 Teachers' Retirement System  
 (A Component Unit of the State of Alaska)  
**Notes to Financial Statements**  
 June 30, 2019

***Defined Benefit Pension Plan***

**(a) 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.

The DB Plan's membership consisted of the following at June 30, 2019:

Inactive plan members or beneficiaries currently receiving benefits	13,239
Inactive plan members entitled to but not yet receiving benefits	799
Inactive plan members not entitled to benefits	1,811
Active plan members	4,087
Total DB Plan membership	19,936

**(b) 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.

**State of Alaska**  
**Teachers' Retirement System**  
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## **Notes to Financial Statements**

**June 30, 2019**

### **(c) 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. The statutory employer effective contribution rate is 12.56% of annual payroll, which for fiscal year 2019 is allocated 8.41% to the DB Pension Plan and 4.15% to the DB ARHCT Plan as determined by the actuary of the Plan. Alaska Statute (AS) 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.

### **(d) 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.



**State of Alaska**  
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**June 30, 2019**

## ***Defined Contribution Retirement Pension Plan***

### **(a) 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, 2019, membership in the DCR Plan consisted of 5,218 members.

### **(b) 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.

### **(c) 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.

### **(d) Participant Distributions and Refunds of Contributions**

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

### **(e) Participant Accounts**

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

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 recordkeeper and by the State. The investment management fees are netted out of the funds' performance.

# Financial Section

State of Alaska  
Teachers' Retirement System  
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## Notes to Financial Statements

June 30, 2019

### *Defined Benefit Other Postemployment Benefit Plans*

#### **(a) Alaska Retiree Healthcare Trust Plan**

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

Membership in the plan consisted of the following at June 30, 2019:

Inactive plan members or beneficiaries currently receiving benefits	13,239
Inactive plan members entitled to but not yet receiving benefits	799
Inactive plan members not entitled to benefits	1,811
Active plan members	4,087
	<hr/>
Total ARHCT Plan membership	<u>19,936</u>

#### **(i) 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.

#### **(ii) Contributions**

Employer contribution rates are actuarially determined and adopted by the Board. The 2019 statutory employer effective contribution rate is 12.56% of member's compensation, with 4.15% specifically allocated to ARHCT Plan.

#### **(b) Occupational Death and Disability Plan**

The Occupational Death and Disability Plan (ODD) provides death benefits for beneficiaries of plan participants and long-term disability benefits to all active members within the System. Members in the Death and Disability Plan consisted of the following at June 30, 2019:

Active plan members	5,218
Participating employers	57
Open claims	10

**State of Alaska**  
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**Notes to Financial Statements**  
**June 30, 2019**

**(i) Death Benefits**

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

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.

# Financial Section

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## Notes to Financial Statements

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**(ii) 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.

**(iii) Contributions**

An employer shall contribute to each member's account based on the member's compensation. For fiscal year 2019, the rate is 0.08%.

**(c) Retiree Medical Plan**

The RMP is established under AS 14.25.480 – Medical Benefits. The Department of Administration, Division of Retirement and Benefits, which administers the System's health plans, finalized the Retiree Medical Plan for members eligible for the DCR Plan's health benefits plan in July 2016. Members are not eligible to use this plan until they have at least 10 years of service and are Medicare age eligible.

Membership in the plan consists of the following at June 30, 2019:

Inactive plan members or beneficiaries currently receiving benefits	14
Inactive plan members entitled to but not yet receiving benefits	706
Inactive plan members not entitled to benefits	2,642
Active plan members	5,218
	<hr/>
Total RMP membership	8,580
	<hr/> <hr/>

**(i) OPEB Benefits**

The medical benefits available to eligible persons means that an eligible person may not be denied insurance coverage except for failure to pay the required premium. Major medical insurance coverage, to cover medical expenses, takes effect on the first day of the month following the date of the RMP administrator's approval

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of the election and stops when the person who elects coverage dies or fails to make the required premium payment. The coverage for persons 65 years of age or older is the same as that available for persons under 65 years of age. The benefits payable to those persons 65 years of age or older supplement any benefits provided under the federal old age, survivors, and disability insurance program. The medical and optional insurance premiums owed by the person who elects coverage may be deducted from the health reimbursement arrangement account until the account balance becomes insufficient to pay the premiums; at this time, the person who elects coverage shall pay the premiums directly.

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

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

**(ii) Contributions**

Employer contribution rates are actuarially determined and adopted by the Board. The 2019 employer effective contribution rate is 0.79% of member's compensation.

**Defined Contribution Other Postemployment Benefit Plan**

**(a) General**

The Health Reimbursement Arrangement (HRA) Plan is established under AS 39.30.300. The Department of Administration, Division of Retirement and Benefits administers the System's health plans. The HRA Plan allows for medical care expenses to be reimbursed from individual savings accounts established for eligible persons. The HRA Plan became effective July 1, 2006, at which time contributions by employers began.

Membership in the plan was as follows as of June 30, 2019:

Inactive plan members or beneficiaries currently receiving benefits	13
Inactive plan members entitled to but not yet receiving benefits	706
Inactive plan members not entitled to benefits	2,642
Active plan members	5,218
Total HRA Plan membership	8,579

# Financial Section

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## **Notes to Financial Statements**

**June 30, 2019**

**(b) OPEB Benefits**

Persons who meet the eligibility requirements of AS 14.25.470 are eligible for reimbursements from the individual account established for a member under the HRA Plan but do not have to retire directly from the System.

The Plan Administrator may deduct the cost of monthly premiums from the HRA individual account for the RMP insurance on behalf of an eligible person who elected the retiree major medical insurance under AS 14.25.480. Upon application of an eligible person, the HRA Plan administrator shall reimburse the costs for medical care expenses defined in 26 USC 213(d). Reimbursement is limited to the medical expenses of (1) an eligible member, the spouse of an eligible member, and the dependent children of an eligible member; or (2) a surviving spouse and the dependent children of an eligible member dependent on the surviving spouse. When the member's individual account balance is exhausted, any deductions from the HRA individual account end. If all eligible persons die before exhausting the member's individual account, the account balance reverts to the HRA Plan.

**(c) Contributions**

An employer shall contribute to the HRA Plan trust fund an amount equal to 3.00% of the average annual compensation of all employees of all employers in the TRS and PERS. The administrator maintains a record of each member to account for employer contributions on behalf of that member. The 2019 contribution amount was an annual contribution not to exceed \$2,103 and required for every pay period in which the employee is enrolled in the DCR Plan, regardless of the compensation paid during the year. An amount less than \$2,102.88 would be deposited to a member's account if that member worked less than a full year.

**(2) Summary of Significant Accounting Policies**

**(a) Basis of Accounting**

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

**(b) 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.

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## **Notes to Financial Statements**

**June 30, 2019**

**(c) *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.

**(d) *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 and synthetic investment contracts. 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 DCR 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 DCR 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.

Synthetic Investment Contracts (SICs) are included in the Plan's statements at contract value. The Board's investment manager entered into the investment contracts, on behalf of the Board, with four financial institutions who provide wrap contracts that cover separately managed SIC portfolios. The accounts are credited with earnings and investment deposits, less administrative expenses charged by the financial institutions and investment withdrawals. They are fully benefit-responsive. There are no reserves against contract value for the credit risk of the contract issuer or otherwise. The crediting interest rate is based on the approximate rate of interest that will amortize differences between contract and market value over the portfolio's average duration.

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**(e) Contributions Receivable**

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

**(f) Administrative Costs**

Administrative costs are paid from contributions. The Board has established a funding policy objective that the required contributions be sufficient to pay the plan administrative expenses, normal costs, and past service costs.

**(g) Other Income**

Other income consists of Medicare Part D Retiree Drug Subsidy (RDS) rebates, Employer Group Waiver Plan (EGWP) rebates, pharmacy rebates, and other miscellaneous items. The RDS are rebates provided to the plan sponsor. The State has elected to voluntarily put the RDS back into the trust and are treated as a contribution for purposes of calculating the net OPEB liability. The EGWP and pharmacy rebates are provided to the plan through the third-party administrators and are treated as a reduction to the benefit payments for purposes of calculating the net OPEB liability. RDS, EGWP, and pharmacy rebates are recognized on a cash basis.

**(h) Due from (to) State of Alaska General Fund**

Amounts due from the State of Alaska General Fund represent the amounts remitted by employers to the General Fund but not yet transmitted to the System. Amounts due to the State of Alaska General Fund represent the amounts paid by others on behalf of the System.

**(i) 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).

**(3) Investments**

The Board is the investment oversight authority for 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 AS 37.10.210-390.



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

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, collective investment funds and SICs for the DCR participant-directed pension plans under the Board's fiduciary responsibility.

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

The short-term fixed-income pool is a State pool managed by Treasury that holds investments on behalf of the Board as well as other State funds.

### *Rate of Return*

The money-weighted rate of return expresses investment performance, net of investment expense, adjusted for the changing amounts actually invested. The annual money-weighted rate of return, net of investment expense for the year ended June 30, 2019 for the DB Pension Plan is 5.85%, for the ARHCT Plan is 6.02%, for the ODD Plan is 6.15%, and for the RMP is 6.16%.

For additional information on securities lending, interest rate risk, credit risk, foreign exchange, derivatives, fair value, and counterparty credit risk, see the separately issued report on the Invested Assets of the State of Alaska Retirement and Benefits Plans at <http://treasury.dor.alaska.gov/armb/Reports-and-Policies/Annual-Audited-Financial-Schedules.aspx>.

#### **(4) Net Pension Liability – Defined Benefit Pension Plan**

The components of the net pension liability of the participating employers at June 30, 2019 were as follows (in thousands):

Total pension liability	\$ 7,380,472
Plan fiduciary net position	(5,511,929)
Employers' net pension liability	<u>\$ 1,868,543</u>
Plan fiduciary net position as a percentage of the total pension liability	74.68 %

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**(a) Actuarial Assumptions**

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

Inflation	2.50% per year
Salary increases	Range from 6.75% to 2.75% based on service
Investment rate of return	7.38%, net of pension plan investment expenses. This is based on an average inflation rate of 2.50% and a real return of 4.88%.
Mortality	Pre-termination and post-termination mortality rates were based upon the 2013–2017 actual mortality experience. Pre-termination mortality rates were based on 100% of the RP-2014 white-collar employee table with MP-2017 generational improvement. Post-termination mortality rates were based on 93% of male and 90% of female rates of the RP-2014 white-collar healthy annuitant table with MP-2017 generational improvement. Deaths are assumed to result from occupational causes 15% of the time.

The actuarial assumptions used in the June 30, 2018 actuarial valuation were based on the results of an actuarial experience study for the period from July 1, 2013 to June 30, 2017. As a result of this experience study, the Board adopted updated actuarial assumptions for the June 30, 2018 actuarial valuation to better reflect expected future experience.

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The long-term expected rate of return on pension plan investments was determined using a building-block method in which best-estimate ranges of expected future real rates of return (expected returns, net of pension plan investment expense and inflation) are developed for each major asset class. These ranges are combined to produce the long-term expected rate of return by weighting the expected future real rates of return by the target asset allocation percentage and by adding expected inflation. Best estimates of arithmetic real rates of return, excluding the inflation component of 2.90%, for each major asset class included in the pension plan's target asset allocation as of June 30, 2019 are summarized in the following table:

<u>Asset class</u>	<u>Long-term expected real rate of return</u>
Domestic equity	8.16%
Global equity (non-U.S.)	7.51
Intermediate treasuries	1.58
Opportunistic	3.96
Real assets	4.76
Private equity	11.39
Cash equivalents	0.83

**(b) Discount Rate**

The discount rate used to measure the total pension liability was 7.38%. The projection of cash flows used to determine the discount rate assumed that employer and State contributions will continue to follow the current funding policy, which meets State statutes. Based on those assumptions, the pension plan's fiduciary net position was projected to be available to make all projected future benefit payments of current plan members. Therefore, the long-term expected rate of return on pension plan investments was applied to all periods of projected benefit payments to determine the total pension liability in accordance with the method prescribed by GASB Statement No. 67. In the event benefit payments are not covered by the plan's fiduciary net position, a municipal bond rate would be used to discount the benefit payments not covered by the plan's fiduciary net position. The S&P Municipal Bond 20-Year High Grade Index rate was 2.79% as of June 30, 2019.

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*(c) Sensitivity of the Net Pension Liability to Changes in the Discount Rate*

The following presents the net pension liability of the System as of June 30, 2019, calculated using the discount rate of 7.38% as well as what the System's net pension liability would be if it were calculated using a discount rate that is one percentage point lower or one percentage point higher than the current rate (in thousands):

	<b>1.00% decrease (6.38%)</b>	<b>Current discount rate (7.38%)</b>	<b>1.00% increase (8.38%)</b>
Net pension liability	\$ 2,691,688	1,868,543	1,177,412

**(5) Net OPEB Liability (Asset)**

The components of the net OPEB liability (asset) of the participating employers for each Plan at June 30, 2019 are as follows (in thousands):

	<b>ARHCT Plan</b>	<b>ODD Plan</b>	<b>RMP</b>
Total OPEB liability	\$ 2,776,498	307	38,231
Plan fiduciary net position	(2,929,319)	(4,328)	(42,067)
Employers' net OPEB asset	\$ (152,821)	(4,021)	(3,836)
Plan fiduciary net position as a percentage of the total OPEB liability	105.50 %	1,409.77 %	110.03 %

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**(a) Actuarial Assumptions**

The total OPEB liability for each plan was determined by actuarial valuations as of June 30, 2018 using the following actuarial assumptions, applied to all periods in the measurement and rolled forward to the measurement date of June 30, 2019:

Inflation	2.50% per year
Salary increases	Graded by service, from 6.75% to 2.75%
Investment rate of return	7.38%, net of postretirement healthcare plan investment expenses. This is based on an average inflation rate of 2.50% and a real return of 4.88%.
Healthcare cost trend rates (ARHCT Plan and RMP)	Pre-65 medical: 7.5% grading down to 4.5% Post-65 medical: 5.5% grading down to 4.5% Prescription drug: 8.5% grading down to 4.5% EGWP: 8.5% grading down to 4.5%
Mortality	Pre-termination and post-termination mortality rates were based upon the 2013–2017 actual mortality experience. Pre-termination mortality rates were based on 100% of the RP-2014 white-collar employee table with MP-2017 generational improvement. Post-termination mortality rates were based on 93% of male and 90% of female rates of the RP-2014 white-collar healthy annuitant table with MP-2017 generational improvement.  Deaths are assumed to be occupational 15% of the time. Disability mortality in accordance with the RP-2014 disabled table with MP-2017 generational improvement.

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Participation rates reflect the expected plan election rate that varies by reason for decrement, duration that a member may pay full cost prior to Medicare eligibility and availability of alternative and/or lower cost options, particularly in the Medicare market. This assumption is based on observed trends in participation from a range of other plans. The following participation rates were used to measure the collective net OPEB liability of the Plan as of June 30, 2019:

<b>Decrement due to disability</b>		<b>Decrement due to retirement</b>	
<b>Age</b>	<b>Percent participation</b>	<b>Age</b>	<b>Percent participation</b>
<56	75.0 %	55	50.0 %
56	77.5	56	55.0
57	80.0	57	60.0
58	82.5	58	65.0
59	85.0	59	70.0
60	87.5	60	75.0
61	90.0	61	80.0
62	92.5	62	85.0
63	95.0	63	90.0
64	97.5	64	95.0
65+	100.0	65+	<b>Years of service</b>
			<15
			15–19
			20–24
			25–29
			30+
			75.0 %
			80.0
			85.0
			90.0
			95.0

The actuarial assumptions used in the June 30, 2018 actuarial valuation were based on the results of an actuarial experience study for the period from July 1, 2013 to June 30, 2017. As a result of this experience study, the Board adopted updated actuarial assumptions for the June 30, 2018 actuarial valuation to better reflect expected future experience.

In addition to the changes in assumptions resulting from the experience study, the following assumption changes have been made since the prior valuation:

1. An Employer Group Waiver Plan (EGWP) was implemented effective January 1, 2019. This arrangement replaced the Retiree Drug Subsidy (RDS) under Medicare Part D and resulted in larger projected subsidies to offset the cost of prescription drug coverage.
2. Based on recent experience, the healthcare cost trend assumptions were updated.
3. Per capita claims costs were updated reflecting recent experience.
4. Healthcare cost trends were updated to reflect a Cadillac Tax load.

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**June 30, 2019**

The long-term expected rate of return on postretirement healthcare 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 postretirement healthcare plan investment expense and inflation) are developed for each major asset class. These ranges are combined to produce the long-term expected rate of return by weighting the expected future real rates of return by the target asset allocation percentage and by adding expected inflation. Best estimates of arithmetic real rates of return, excluding the inflation component of 2.90%, for each major asset class included in the postretirement healthcare plan's target asset allocation as of June 30, 2019 are summarized in the following table:

<u>Asset class</u>	<u>Long-term expected real rate of return</u>
Domestic equity	8.16%
Global equity (non-U.S.)	7.51
Intermediate treasurys	1.58
Opportunistic	3.96
Real assets	4.76
Private equity	11.39
Cash equivalents	0.83

**(b) Discount Rate**

The discount rate used to measure the total OPEB liability as of June 30, 2019 was 7.38%. The projection of cash flows used to determine the discount rate assumed that employer and state contributions will continue to follow the current funding policy, which meets state statutes. Based on those assumptions, the postretirement healthcare 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 postretirement healthcare plan investments was applied to all periods of projected benefit payments to determine the total OPEB liability in accordance with the method prescribed by GASB Statement No. 74, *Financial Reporting for Postemployment Benefit Plans Other than Pension Plans*. In the event benefit payments are not covered by the plan's fiduciary net position, a municipal bond rate would be used to discount the benefit payments not covered by the plan's fiduciary net position. The S&P Municipal Bond 20-Year High Grade Index rate was 2.79% as of June 30, 2019.

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## Notes to Financial Statements

June 30, 2019

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

The following presents the net OPEB liability (asset) for each plan as of June 30, 2019 calculated using the discount rate of 7.38% as well as what the respective plan's net OPEB liability (asset) would be if it were calculated using a discount rate that is one percentage point lower or one percentage point higher than the current rate (in thousands):

	<b>1.00% decrease (6.38%)</b>	<b>Current discount rate (7.38%)</b>	<b>1.00% increase (8.38%)</b>
ARHCT Plan	\$ 229,315	(152,821)	(465,622)
ODD Plan	(4,035)	(4,021)	(4,013)
RMP	6,722	(3,836)	(11,688)

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

The following presents the net OPEB liability (asset) for each plan as of June 30, 2019 calculated using the healthcare cost trend rates as summarized in the 2018 actuarial valuation reports as well as what the respective plan's net OPEB liability would be if it were calculated using trend rates that are one percentage point lower or one percentage point higher than the current healthcare cost trend rates (in thousands):

	<b>1.00% decrease</b>	<b>Current healthcare cost trend rate</b>	<b>1.00% increase</b>
ARHCT Plan	\$ (500,124)	(152,821)	273,207
ODD Plan	N/A	N/A	N/A
RMP	(12,795)	(3,836)	8,575

**(6) Claims Payable**

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



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## **Notes to Financial Statements**

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

	<b>2019</b>	<b>2018</b>
Total, beginning of year	\$ 14,408	12,788
Healthcare benefits	143,170	134,082
Benefits paid	(145,017)	(132,462)
Total, end of year	\$ 12,561	14,408
End of year:		
Incurred but not reported	12,561	14,408
Total, end of year	\$ 12,561	14,408

**(7) Commitments and 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 an 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.

**(9) Employer Group Waiver Program**

Effective January 1, 2019, the Division of Retirement and Benefits (the Division) implemented a group Medicare Part D prescription drug plan known as an enhanced EGWP for all Medicare-eligible members covered under the ARHCT Plan and the RMP. The enhanced EGWP leverages increased federal subsidies to the ARHCT Plan and the RMP for prescription drugs covered by Medicare Part D while also providing coverage for medications not covered by Medicare Part D through a "wrap" of additional benefits. Moving to an enhanced EGWP has resulted in the ARHCT Plan and RMP receiving significantly higher subsidies, while simultaneously maintaining the prescription drug coverage retirees had prior to implementation of the enhanced EGWP. Currently, EGWP is the primary program used by the Division; however, there are still retirees that are covered by the RDS if they do not meet the requirements of EGWP.

## **REQUIRED SUPPLEMENTARY INFORMATION**

### **(Unaudited)**

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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)**

	2019	2018	2017	2016	2015	2014	2013	2012
Total pension liability:								
Service cost	\$ 60,810	64,961	68,376	61,011	63,608	64,324	69,113	69,548
Interest	575,706	572,791	559,165	550,392	540,981	515,325	517,511	501,252
Differences between expected and actual experience	(135,121)	(131,092)	(65,757)	(55,682)	(5,693)	—	1,108	10,986
Changes of assumptions	(35,262)	—	—	—	156,854	—	—	—
Benefit payments, including refunds of member contributions	(472,717)	(458,511)	(448,422)	(437,582)	(418,545)	(399,001)	(397,956)	(378,113)
Net change in total pension liability	(6,584)	48,149	113,362	118,139	337,205	180,648	189,776	203,673
Total pension liability – beginning	7,387,056	7,338,907	7,225,545	7,107,406	6,770,201	6,589,553	6,399,777	6,196,104
Total pension liability – ending (a)	7,380,472	7,387,056	7,338,907	7,225,545	7,107,406	6,770,201	6,589,553	6,399,777
Plan fiduciary net position:								
Contributions – employer	36,805	39,835	36,634	33,478	36,374	37,571	37,372	38,189
Contributions – member	35,763	37,674	39,878	42,654	45,506	47,724	50,201	52,020
Contributions – nonemployer entity (State)	127,365	111,757	116,700	90,589	1,662,700	208,890	196,945	157,387
Total net investment income (loss)	314,972	432,543	628,184	(31,340)	152,561	599,958	373,868	2,190
Benefit payments, including refunds of member contributions	(472,717)	(458,511)	(448,422)	(437,582)	(418,545)	(399,001)	(382,933)	(363,839)
Administrative expenses	(3,018)	(3,050)	(2,890)	(2,648)	(2,789)	(3,160)	(2,989)	(2,847)
Other income	32	184	10	95	9	27	19	17
Net change in plan fiduciary net position	39,202	160,432	370,094	(304,754)	1,475,816	492,009	272,483	(116,883)
Plan fiduciary net position – beginning	5,472,727	5,312,295	4,942,201	5,246,955	3,771,139	3,279,130	3,006,647	3,123,530
Plan fiduciary net position – ending (b)	5,511,929	5,472,727	5,312,295	4,942,201	5,246,955	3,771,139	3,279,130	3,006,647
Plan's net pension liability (a)–(b)	\$ 1,868,543	1,914,329	2,026,612	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	74.68%	74.09%	72.39%	68.40%	73.82%	55.70%	49.76%	46.98%
Covered payroll	\$ 392,609	425,841	449,629	473,734	490,667	514,035	550,044	561,971
Net pension liability as a percentage of covered payroll	475.93%	449.54%	450.73%	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

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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>2019</u>	<u>2018</u>	<u>2017</u>	<u>2016</u>	<u>2015</u>
Actuarially determined contribution	\$ 154,083	144,391	133,417	359,790	321,971
Contributions in relation to the actuarially determined contribution	<u>164,170</u>	<u>151,593</u>	<u>153,334</u>	<u>124,067</u>	<u>1,699,074</u>
Contribution deficiency (excess)	<u>\$ (10,087)</u>	<u>(7,202)</u>	<u>(19,917)</u>	<u>235,723</u>	<u>(1,377,103)</u>
Covered payroll	\$ 392,609	425,841	449,629	473,734	490,667
Contributions as a percentage of covered payroll	41.82%	35.60%	34.10%	26.19%	346.28%

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

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

	<u>2014</u>	<u>2013</u>	<u>2012</u>	<u>2011</u>	<u>2010</u>
Actuarially determined contribution	240,366	259,786	229,509	167,978	170,788
Contributions in relation to the actuarially determined contribution	<u>246,461</u>	<u>234,317</u>	<u>195,576</u>	<u>142,147</u>	<u>134,275</u>
Contribution deficiency (excess)	<u>(6,095)</u>	<u>25,469</u>	<u>33,933</u>	<u>25,831</u>	<u>36,513</u>
Covered payroll	514,035	550,044	561,971	584,068	564,887
Contributions as a percentage of covered payroll	47.95%	42.60%	34.80%	24.34%	23.77%

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

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**Required Supplementary Information (Unaudited)**

**Schedule of Investment Returns -**  
**Defined Benefit Pension Plan**

	<u>2019</u>	<u>2018</u>	<u>2017</u>	<u>2016</u>	<u>2015</u>	<u>2014</u>
Annual money-weighted rate of return, net of investment expense	5.85%	8.30%	13.04%	(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.

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**Required Supplementary Information (Unaudited)**

**Schedule of Changes in Employer Net OPEB Liability and Related Ratios - Alaska Retiree Health Trust Plan**

**(In thousands)**

	<u>2019</u>	<u>2018</u>	<u>2017</u>
Total OPEB liability:			
Service cost	\$ 34,729	32,821	31,605
Interest	252,021	232,774	224,435
Differences between expected and actual experience	(47,911)	(57,990)	(27,011)
Changes of assumptions	(509,775)	163,911	—
Benefit payments, including refunds of member contributions	(136,158)	(132,040)	(120,204)
EGWP rebates	2,518	—	—
Net change in total OPEB liability	<u>(404,576)</u>	<u>239,476</u>	<u>108,825</u>
Total OPEB liability – beginning	<u>3,181,074</u>	<u>2,941,598</u>	<u>2,832,773</u>
Total OPEB liability – ending (a)	<u>2,776,498</u>	<u>3,181,074</u>	<u>2,941,598</u>
Plan fiduciary net position:			
Contributions – employer	17,957	19,305	24,069
Contributions – RDS	6,711	1,894	—
Total net investment income	169,183	224,820	322,219
Benefit payments	(143,126)	(134,051)	(120,237)
EGWP rebates	2,518	—	—
Pharmacy rebates	11,858	6,149	33
ASO fees	(4,890)	(4,138)	—
Net benefit payments	<u>(133,640)</u>	<u>(132,040)</u>	<u>(120,204)</u>
Administrative expenses, net of ASO fees	(1,351)	(1,527)	(5,908)
Other	324	18	13,909
Net change in plan fiduciary net position	<u>59,184</u>	<u>112,470</u>	<u>234,085</u>
Plan fiduciary net position – beginning	<u>2,870,135</u>	<u>2,757,665</u>	<u>2,523,580</u>
Plan fiduciary net position – ending (b)	<u>2,929,319</u>	<u>2,870,135</u>	<u>2,757,665</u>
Plan's net OPEB liability (asset) (a)–(b)	<u>\$ (152,821)</u>	<u>310,939</u>	<u>183,933</u>
Plan fiduciary net position as a percentage of the total OPEB liability (asset)	105.50%	90.23%	93.75%
Covered payroll	\$ 392,609	425,841	449,629
Net OPEB liability (asset) as a percentage of covered payroll	(38.92%)	73.02%	40.91%

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

**Required Supplementary Information (Unaudited)**  
**Schedule of Employer and Nonemployer Contributions -**  
**Alaska Retiree Healthcare Trust Plan**

**Last 10 Fiscal Years**

(In thousands)

	<u>2019</u>	<u>2018</u>	<u>2017</u>	<u>2016</u>	<u>2015</u>
Actuarially determined contribution	\$ 19,944	19,518	42,171	336,595	352,417
Contributions in relation to the actuarially determined contribution	<u>17,957</u>	<u>19,305</u>	<u>24,069</u>	<u>66,099</u>	<u>364,222</u>
Contribution deficiency (excess)	\$ <u>1,987</u>	<u>213</u>	<u>18,102</u>	<u>270,496</u>	<u>(11,805)</u>
Covered payroll	\$ 392,609	425,841	449,629	473,734	490,667
Contributions as a percentage of covered payroll	4.57%	4.53%	5.35%	13.95%	74.23%

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



**State of Alaska**  
**Teachers' Retirement System**  
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**Required Supplementary Information (Unaudited)**  
**Schedule of Employer and Nonemployer Contributions -**  
**Alaska Retiree Health Trust Plan (continued)**  
  
**Last 10 Fiscal Years**  
  
**(In thousands)**

	<u>2014</u>	<u>2013</u>	<u>2012</u>	<u>2011</u>	<u>2010</u>
Actuarially determined contribution	\$ 320,797	330,411	192,700	167,686	312,922
Contributions in relation to the actuarially determined contribution	<u>139,936</u>	<u>141,125</u>	<u>113,411</u>	<u>124,724</u>	<u>115,681</u>
Contribution deficiency (excess)	\$ <u>180,861</u>	<u>189,286</u>	<u>79,289</u>	<u>42,962</u>	<u>197,241</u>
Covered payroll	\$ 514,035	550,044	561,971	584,068	564,887
Contributions as a percentage of covered payroll	27.22%	25.66%	20.18%	21.35%	20.48%

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

# Financial Section

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

**Required Supplementary Information (Unaudited)**

**Schedule of Investment Returns -**  
**Alaska Retiree Healthcare Trust Plan**

	<u>2019</u>	<u>2018</u>	<u>2017</u>
Annual money-weighted rate of return, net of investment expense	6.02%	8.33%	12.58%

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

**Required Supplementary Information (Unaudited)**

**Schedule of Changes in Employer Net OPEB Liability and Related Ratios - Occupational Death and Disability Plan**

**(In thousands)**

	<u>2019</u>	<u>2018</u>	<u>2017</u>
Total OPEB liability:			
Service cost	\$ 275	259	238
Interest	44	41	21
Differences between expected and actual experience	(274)	(248)	(15)
Changes of assumptions	(5)	—	—
Benefit payments, including refunds of member contributions	(24)	(24)	—
Net change in total OPEB liability	16	28	244
Total OPEB liability – beginning	291	263	19
Total OPEB liability – ending (a)	307	291	263
Plan fiduciary net position:			
Contributions – Employers	312	—	
Total net investment income	243	290	406
Benefit payments	(24)	(24)	—
Administrative expenses	—	—	(12)
Net change in plan fiduciary net position	531	266	394
Plan fiduciary net position – beginning	3,797	3,531	3,137
Plan fiduciary net position – ending (b)	4,328	3,797	3,531
Plan's net OPEB asset (a)–(b)	\$ (4,021)	(3,506)	(3,268)
Plan fiduciary net position as a percentage of the total OPEB asset	1,409.77%	1,304.81%	1,342.59%
Covered payroll	\$ 346,044	327,765	300,750
Net OPEB asset as a percentage of covered payroll	(1.16%)	(1.07%)	(1.09%)

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

**Required Supplementary Information (Unaudited)**  
**Schedule of Employer and Nonemployer Contributions -**  
**Occupational Death and Disability Plan**  
**Last 10 Fiscal Years**  
**(In thousands)**

	<u>2019</u>	<u>2018</u>	<u>2017</u>	<u>2016</u>	<u>2015</u>
Actuarially determined contribution	\$ 277	—	—	—	—
Contributions in relation to the actuarially determined contribution	<u>312</u>	<u>—</u>	<u>—</u>	<u>1</u>	<u>—</u>
Contribution deficiency (excess)	\$ <u>(35)</u>	<u>—</u>	<u>—</u>	<u>(1)</u>	<u>—</u>
Covered payroll	\$ 346,044	327,765	300,750	289,714	255,186
Contributions as a percentage of covered payroll	0.09%	0.00%	0.00%	0.00%	0.00%

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 -**  
**Occupational Death and Disability Plan (continued)**  
  
**Last 10 Fiscal Years**  
  
**(In thousands)**

	<u>2014</u>	<u>2013</u>	<u>2012</u>	<u>2011</u>	<u>2010</u>
Actuarially determined contribution	\$ —	—	—	474	442
Contributions in relation to the actuarially determined contribution	—	—	(1)	474	442
Contribution deficiency (excess)	\$ —	—	1	—	—
Covered payroll	\$ 229,971	206,771	200,043	170,606	118,813
Contributions as a percentage of covered payroll	0.00%	0.00%	0.00%	0.28%	0.37%

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

# Financial Section

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

**Required Supplementary Information (Unaudited)**

**Schedule of Investment Returns -**  
**Occupational Death and Disability Plan**

	<u>2019</u>	<u>2018</u>	<u>2017</u>
Annual money-weighted rate of return, net of investment expense	6.15%	8.24%	12.03%

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**  
**Teachers' Retirement System**  
**(A Component Unit of the State of Alaska)**  
**Required Supplementary Information (Unaudited)**  
**Schedule of Changes in Employer Net OPEB Liability and Related**  
**Ratios - Retiree Medical Plan**  
**(In thousands)**

	2019	2018	2017
Total OPEB liability:			
Service cost	\$ 3,684	3,247	2,703
Interest	2,971	2,347	1,934
Differences between expected and actual experience	2,696	(389)	(2)
Changes of assumptions	(4,551)	2,184	—
Benefit payments, including refunds of member contributions	(35)	(31)	(3)
Net change in total OPEB liability	4,765	7,358	4,632
Total OPEB liability – beginning	33,466	26,108	21,476
Total OPEB liability – ending (a)	38,231	33,466	26,108
Plan fiduciary net position:			
Contributions – employers	3,085	3,271	3,524
Contributions – RDS	3	—	—
Total net investment income	2,355	2,579	3,260
Benefit payments	(44)	(31)	(3)
Pharmacy rebates	9	—	—
Net benefit payments	(35)	(31)	(3)
Administrative expenses, net of ASO fees	(6)	(3)	(12)
Other	—	1	—
	5,402	5,817	6,769
Plan fiduciary net position – beginning	36,665	30,848	24,079
Plan fiduciary net position – ending (b)	42,067	36,665	30,848
Plan's net OPEB asset (a)–(b)	\$ (3,836)	(3,199)	(4,740)
Plan fiduciary net position as a percentage of the total OPEB asset	110.03%	109.56%	118.16%
Covered payroll	\$ 346,044	327,765	300,750
Net OPEB asset as a percentage of covered payroll	(1.11%)	(0.98%)	(1.58%)

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

**Required Supplementary Information (Unaudited)**  
**Schedule of Employer and Nonemployer Contributions -**  
**Retiree Medical Plan**  
**Last 10 Fiscal Years**  
**(In thousands)**

	<u>2019</u>	<u>2018</u>	<u>2017</u>	<u>2016</u>	<u>2015</u>
Actuarially determined contribution	\$ 2,734	2,983	3,158	6,837	6,099
Contributions in relation to the actuarially determined contribution	<u>3,085</u>	<u>3,271</u>	<u>3,524</u>	<u>6,317</u>	<u>5,670</u>
Contribution deficiency (excess)	\$ <u>(351)</u>	<u>(288)</u>	<u>(366)</u>	<u>520</u>	<u>429</u>
Covered payroll	\$ 346,044	327,765	300,750	289,714	255,186
Contributions as a percentage of covered payroll	0.89%	1.00%	1.17%	2.18%	2.22%

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 -**  
**Retiree Medical Plan (continued)**  
  
**Last 10 Fiscal Years**  
  
**(In thousands)**

	<u>2014</u>	<u>2013</u>	<u>2012</u>	<u>2011</u>	<u>2010</u>
Actuarially determined contribution	\$ 1,334	1,241	1,420	1,422	1,628
Contributions in relation to the actuarially determined contribution	<u>1,181</u>	<u>1,101</u>	<u>1,160</u>	<u>1,154</u>	<u>1,421</u>
Contribution deficiency (excess)	\$ <u>153</u>	<u>140</u>	<u>260</u>	<u>268</u>	<u>207</u>
Covered payroll	\$ 229,971	206,771	200,043	170,606	118,813
Contributions as a percentage of covered payroll	0.51%	0.53%	0.58%	0.68%	1.20%

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

# Financial Section

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

**Required Supplementary Information (Unaudited)**

**Schedule of Investment Returns -**  
**Retiree Medical Plan**

	<u>2019</u>	<u>2018</u>	<u>2017</u>
Annual money-weighted rate of return, net of investment expense	6.16%	7.92%	11.80%

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

## **Notes to Required Supplementary Information (Unaudited)**

**June 30, 2019**

### **(1) Actuarial Assumptions and Methods**

The actuarial valuation was prepared by Buck. The significant actuarial methods and assumptions used in the defined benefit pension and postemployment healthcare benefit plan valuation as of June 30, 2018 are as follows:

- (a) Actuarial cost method – Liabilities and contributions are computed using the Entry Age Normal Cost Method.

Effective June 30, 2018, the Board adopted a layered unfunded accrued actuarial liability (UAAL) amortization method: Layer #1 equals the sum of (i) the UAAL at June 30, 2018 based on the 2017 valuation, plus (ii) the FY18 experience gain/loss. Layer #1 is amortized over the remainder of the 25-year closed period that was originally established in 2014. Layer #2 equals the change in UAAL at June 30, 2018 due to the experience study and Employer Group Waiver Program (EGWP) implementation. Layer #2 is amortized over a separate closed 25-year period starting in 2018. Future layers will be created each year based on the change in UAAL occurring that year, and will be amortized over separate closed 25-year periods. The UAAL amortization continues to be on a level percent of pay basis. State of Alaska (the 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 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 UAAL 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 UAAL.

**State of Alaska**  
**Teachers' Retirement System**  
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## **Notes to Required Supplementary Information (Unaudited)**

**June 30, 2019**

- (b) Valuation of assets – The actuarial asset value was reinitialized to equal fair value of assets as of June 30, 2014. Beginning in FY15, the asset value method recognizes 20% of the gain or loss each year, for a period of five years. All assets are valued at fair value. Assets are accounted for on an accrued basis and are taken directly from financial statements.
- (c) Valuation of medical benefits – Base claims cost rates are incurred healthcare costs expressed as a rate per member per year. Ideally, claims cost rates should be derived for each significant component of cost that can be expected to require differing projection assumptions or methods (i.e., medical claims, prescription drug claims, administrative costs, etc). Separate analysis is limited by the availability and historical 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.
- (d) Investment return – 7.38% per year, net of expenses
- (e) Salary scale – Rates based upon the 2013–2017 actual experience. Inflation 2.50% per year and productivity 0.25% per year.
- (f) Payroll growth – 2.75% 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 2.50% annually.
- (h) Mortality (pre-termination) – Mortality rates based on the 2013–2017 actual experience. 100% of RP-2014 white-collar employee table with MP-2017 generational improvement.
- (i) Mortality (post-termination) – Mortality rates based on the 2013–2017 actual experience. 93% of male and 90% of female rates of RP-2017 generational improvement. Deaths are assumed to result from occupational causes 15% of the time.
- (j) Total turnover – Based upon the 2013–2017 actual experience
- (k) Disability – Incidence rates based on the 2013–2017 actual experience. Post-disability mortality in accordance with the RP-2014 disabled table with MP-2017 generational improvement. Deaths are assumed to be from non-occupational causes 85% of the time.
- (l) Retirement – Retirement rates based on the 2013–2017 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) Spouse age difference – Males are assumed to be three years older than their wives. Females are assumed to be two years younger than husbands.

**State of Alaska**  
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## **Notes to Required Supplementary Information (Unaudited)**

**June 30, 2019**

- (n) Percent married for pension – 85% of male members and 75% female members are assumed to be married at termination from active service.
- (o) Dependent spouse medical coverage election – Applies to members who do not have dual medical coverage. 65% of male members and 60% female member are assumed to be married and cover a dependent spouse.
- (p) Dependent children – Benefits to dependent children have been valued only for members currently covering their dependent children. These benefits are only valued through the dependent children's age 23 (unless the child is disabled).
- (q) Contribution refunds – 0% 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.
- (r) Imputed data – Data changes from the prior year that 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.
- (s) Active rehire assumption – The normal cost used for determining contribution rates and in the projections includes a rehire assumption to account for anticipated rehires. The normal cost shown in the report includes the following assumptions (which were developed based on the prior five years of rehire loss experience through June 30, 2017). For projections, these assumptions were assumed to grade to zero uniformly over a 20-year period. Pension – 15.57% and Healthcare – 12.03%.
- (t) Active data adjustment – To reflect participants who terminate employment before the valuation date and are subsequently rehired after the valuation date, participants who are listed as terminated in the June 30 census data file but active in the October 1 census data file are updated to active status as of June 30.
- (u) 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.
- (v) 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.
- (w) Postretirement pension adjustment (PRPA) – 50% and 75% of assumed inflation, or 1.25% and 1.875%, respectively, is valued for the annual automatic PRPA as specified in the statute.
- (x) Expenses – The investment return assumption is net of expenses. The Normal Cost as of June 30, 2018 was increased by the following amounts for administrative expenses (for projections, the % increase was assumed to remain constant in future years): Pension – \$6,888,000 and Healthcare – \$4,365,000.
- (y) Part-time status – Part-time members are assumed to earn 0.75 years of credited service per year.

# Financial Section

**State of Alaska**  
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## **Notes to Required Supplementary Information (Unaudited)**

**June 30, 2019**

- (z) Reemployment option – All reemployed retirees are assumed to return to work under the Standard Option.
- (aa) 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.
- (bb) 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.
- (cc) Per capita claims cost – Sample claims cost rates adjusted to age 65 for FY2019 medical and prescription drug benefits are shown below:

	<u>Medical</u>	<u>Prescription drugs</u>
Pre-Medicare	\$ 13,535	3,360
Medicare Parts A and B	1,468	3,764
Medicare Part B Only	4,667	3,764
Medicare Part D – RDS	N/A	527
Medicare Part D – EGWP	N/A	1,039

Members are assumed to attain Medicare eligibility at age 65. The EGWP cost shown above is for calendar year 2019. All other costs are for the 2019 fiscal year (July 1, 2018–June 30, 2019).

The EGWP subsidy is assumed to increase in future years by the trend rates shown on the following page. No future legislative changes or other events are anticipated to impact the EGWP subsidy. If any legislative or other changes occur in the future that impact the EGWP subsidy (which could either increase or decrease the Plan's actuarial accrued liability), those changes will be evaluated and quantified when they occur.

- (dd) Third-party administrator fees – \$300 per person per year; assumed trend rate of 4.5% per year.
- (ee) Medicare Part B Only – It's assumed that 5% of actives hired before April 1, 1986 and current retirees who are not yet Medicare eligible will not be eligible for Medicare Part A.

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**Notes to Required Supplementary Information (Unaudited)**

**June 30, 2019**

(ff) 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, 7.5% is applied to the FY19 pre-Medicare medical claims costs to get the FY20 medical claims costs:

<u>Fiscal year</u>	<u>Medical Pre-65</u>	<u>Medical Post-65</u>	<u>Prescription drugs/EGWP</u>	<u>RDS</u>
2019	7.5%	5.5%	8.5%	4.7%
2020	7.0	5.4	8.0	4.7
2021	6.5	5.4	7.5	4.6
2022	6.3	5.4	7.1	4.6
2023	6.1	5.4	6.8	4.6
2024	5.9	5.4	6.4	4.6
2025	5.8	5.4	6.1	4.6
2026	5.6	5.4	5.7	4.6
2027–2040	5.4	5.4	5.4	4.5
2041	5.3	5.3	5.3	4.5
2042	5.2	5.2	5.2	4.5
2043	5.1	5.1	5.1	4.5
2044	5.1	5.1	5.1	4.5
2045	5.0	5.0	5.0	4.5
2046	4.9	4.9	4.9	4.5
2047	4.8	4.8	4.8	4.5
2048	4.7	4.7	4.7	4.5
2049	4.6	4.6	4.6	4.5
2050+	4.5	4.5	4.5	4.5

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

# Financial Section

**State of Alaska**  
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## Notes to Required Supplementary Information (Unaudited)

June 30, 2019

The table below shows the amount each trend rate shown above was increased by to account for the Cadillac Tax:

Fiscal year	Pre-65	Post-65	Fiscal year	Pre-65	Post-65
2018-2030	-	-	2070	0.21 %	0.46 %
2031	-	0.15	2071	0.21	0.45
2032	-	0.34	2072	0.20	0.44
2033	-	0.30	2073	0.20	0.43
2034	-	0.28	2074	0.20	0.42
2035	-	0.26	2075	0.19	0.41
2036	-	0.26	2076	0.19	0.40
2037	-	0.21	2077	0.18	0.39
2038	0.10	0.22	2078	0.18	0.38
2039	0.09	0.20	2079	0.17	0.37
2040	0.08	0.16	2080	0.17	0.36
2041	0.08	0.14	2081	0.17	0.35
2042	0.06	0.12	2082	0.16	0.34
2043	0.04	0.06	2083	0.16	0.33
2044	0.04	0.07	2084	0.15	0.32
2045	0.04	0.06	2085	0.15	0.31
2046	0.03	0.05	2086	0.15	0.31
2047	0.04	0.10	2087	0.14	0.30
2048	0.04	0.43	2088	0.14	0.29
2049	0.05	0.57	2089	0.14	0.29
2050	0.05	0.52	2090	0.13	0.28
2051	0.06	0.60	2091	0.13	0.27
2052	0.06	0.63	2092	0.13	0.27
2053	0.07	0.69	2093	0.13	0.26
2054	0.10	0.69	2094	0.12	0.25
2055	0.30	0.68	2095	0.12	0.25
2056	0.30	0.67	2096	0.12	0.24
2057	0.29	0.66	2097	0.11	0.24
2058	0.29	0.64	2098	0.11	0.23
2059	0.28	0.62	2099	0.11	0.22
2060	0.27	0.60	2100	0.11	0.22
2061	0.27	0.58	2101	0.10	0.21
2062	0.26	0.57	2102	0.10	0.21
2063	0.25	0.56	2103	0.10	0.20
2064	0.25	0.54	2104	0.10	0.20
2065	0.24	0.53	2105	0.10	0.19
2066	0.24	0.51	2106	0.09	0.19
2067	0.23	0.50	2107	0.09	0.19
2068	0.30	0.49	2108	0.09	0.18
2069	0.22	0.47	2109	0.09	0.18



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

**Notes to Required Supplementary Information (Unaudited)**

**June 30, 2019**

(gg) Aging factors:

Age	Medical	Prescription drugs
0-44	2.0 %	4.5 %
45-54	2.5	3.5
55-64	2.5	1.5
65-74	3.0	2.0
75-84	2.0	(0.5)
85-95	0.3	(2.5)
96+	-	-

(hh) Retired member contributions for medical benefits – Currently, contributions are required for System members who are under age 60 and have less than 25 years of service. Eligible Tier 1 members are exempt from contribution requirements. Annual FY19 contributions based on monthly rates shown below for calendar 2018 and 2019 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. For dependent children, the System values one-third of the annual retiree contribution to estimate the per-child rate based on the assumed number of children in rates where children are covered:

Coverage category	Calendar 2019 Annual contribution	Calendar 2019 Monthly contribution	Calendar 2018 Monthly contribution
Retiree only	\$ 9,876	823	823
Retiree and spouse	19,764	1,647	1,647
Retiree and child(ren)	13,956	1,163	1,163
Retiree and family	23,844	1,987	1,987
Composite	14,676	1,223	1,223

# Financial Section

**State of Alaska**  
**Teachers' Retirement System**  
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## Notes to Required Supplementary Information (Unaudited)

June 30, 2019

- (ii) 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, 7.6% is applied to the FY2019 retired member medical contributions to get the FY20 retired member medical contributions.

Fiscal year	Trend assumption
2019	7.6%
2020	7.2
2021	6.8
2022	6.5
2023	6.3
2024	6.0
2025	5.9
2050	4.5
2100	4.5

Graded trend rates for retired member medical contributions were updated to the rates shown above for the June 30, 2018 valuation to reflect the updated ultimate trend assumption of 4.5% used for gross cost components. Actual FY19 retired member medical contributions are reflected in the valuation.

- (jj) Healthcare participation – 100% of System-paid members and their spouses are assumed to elect healthcare benefits as soon as they are eligible; 20% of non-System-paid members and their spouses are assumed to elect healthcare benefits as soon as they are eligible.

The significant actuarial methods and assumptions used in the defined contribution occupational death and disability and retiree medical benefits plan valuation as of June 30, 2018 are as follows:

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

**State of Alaska**  
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## **Notes to Required Supplementary Information (Unaudited)**

**June 30, 2019**

- (c) Valuation of retiree medical and prescription drug benefits – Due to the lack of experience for the Defined Contribution Retirement (DCR) retiree medical plan only, base claims costs are based on those described in the actuarial valuation as of June 30, 2018 for PERS Defined Benefit (DB) retiree medical plan were used with some adjustments. The claim costs were adjusted to reflect the differences between the DCR medical plan and the DB medical plan. These differences include network steerage, different coverage levels, different Medicare coordination for medical benefits, and an indexing of the retiree out-of-pocket dollar amounts. To account for higher initial copays, deductibles, and out-of-pocket limits, upcoming FY19 claims costs were reduced 2.1% for medical and 10.4% for prescription drugs. In addition, to account for the difference in Medicare coordination, projected FY19 medical claims costs for Medicare eligible retirees were further reduced 29.3%. The medical and prescription drug percentages were reduced 0.2% in each future year for the DCR medical benefits to reflect the fact that the medical benefit to be offered to DCR members will have an annual indexing of member cost-sharing features, such as deductibles and out-of-pocket amounts.

The State transitioned to EGWP for DCR participants effective January 1, 2019. In the prior valuation, the impact of transitioning to the EGWP was valued by increasing the RDS subsidy offset in 2019 by 60% to reflect estimated Medicare reimbursements under the EGWP arrangement. For this year's valuation, the estimated 2019 reimbursements under EGWP were provided by Segal Consulting (who worked with the EGWP administrator, Optum, to develop those estimates).

- (d) Investment return – 7.38% per year, net of expenses.
- (e) Salary scale rates based upon the 2013–2017 actual experience. Inflation 2.50% per year. Productivity 0.25% per year.
- (f) Payroll growth – 2.75% 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 2.50% annually.
- (h) Mortality (pre-termination) – Mortality rates based upon the 2013–2017 actual experience, RP-2014 white-collar employee table with MP-2017 generational improvement.
- (i) Mortality (post-termination) – Mortality rates based upon the 2013–2017 actual experience, 93% of male and 90% of female rates of RP-2014 white-collar healthy annuitant table with MP-2017 generational improvement.
- (j) Turnover – Select and ultimate rates based upon the 2013–2017 actual experience.
- (k) Disability – Incidence rates based upon the 2013–2017 actual experience. Disabilities are assumed to be occupational 15% of the time. Post-disability mortality in accordance with the RP-2014 disabled table with MP-2017 generational improvement.
- (l) Retirement – Retirement rates based upon the 2013–2017 actual experience.

**State of Alaska**  
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## Notes to Required Supplementary Information (Unaudited)

June 30, 2019

- (m) Spouse age difference – Males are assumed to be three years older than their wives. Females are assumed to be two years younger than husbands.
- (n) Percent married for occupational death and disability – 85% of male members and 75% of female members are assumed to be married at termination from active service.
- (o) Dependent spouse medical coverage election – Applies to members who do not have dual medical coverage. 65% of male members and 60% female members are assumed to be married and cover a dependent spouse.
- (p) Part-time status – Part-time employees are assumed to earn 0.75 years of service per year.
- (q) Per capita claims cost – Sample claims cost rates (before base claims cost adjustments described below) adjusted to age 65 for FY19 medical and prescription drug benefits are shown below:

	Medical	Prescription drugs
Pre-Medicare	\$ 13,535	3,360
Medicare Parts A and B	1,468	3,764
Medicare Part B Only	N/A	527
Medicare Part D	N/A	1,039

Members are assumed to attain Medicare eligibility at age 65. The EGWP cost shown above is for calendar year 2019. All other costs are for the 2019 fiscal year (July 1, 2018–June 30, 2019).

The EGWP subsidy is assumed to increase in future years by the trend rates shown on the following pages. No future legislative changes or other events are anticipated to impact the EGWP subsidy. If any legislative or other changes occur in the future that impact the EGWP subsidy (which could either increase or decrease the Plan's actuarial accrued liability), those changes will be evaluated and quantified when they occur.

- (r) Third-party administrator fees – \$300 per person per year; assumed trend rate of 4.5% per year.
- (s) Base claims cost adjustments – Due to higher initial copays, deductibles, out-of-pocket limits, and member cost sharing compared to the DB medical plan, the following cost adjustments are applied to the per capita claims cost rates above: 0.979 for the pre-Medicare, 0.686 for both the Medicare medical plan and Medicare coordination method (2.1% reduction for the medical plan and 29.3% reduction for the coordination method), and 0.896 for the prescription drug plan.
- (t) Active data adjustment – To reflect participants who terminate employment before the valuation date and are subsequently rehired after the valuation date, participants who are listed as terminated on the June 30 client data but active in the October 1 client records are updated to active status.
- (u) Administrative expenses – Beginning with the June 30, 2018 valuation, the normal cost is increased for administrative expenses expected to be paid from plan assets during the year. The amounts included in the June 30,

**State of Alaska**  
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**(A Component Unit of the State of Alaska)**

## Notes to Required Supplementary Information (Unaudited)

June 30, 2019

2018 normal cost, which are based on the average of actual administrative expenses during the last two fiscal years, are \$6,150 for occupational death and disability and \$7,700 for retiree medical.

- (v) Healthcare cost trend – The table below shows the rates used to project the cost from the shown fiscal year to the next fiscal year. For example, 7.5% is applied to the FY19 pre-Medicare medical claims cost to get the FY20 medical claims cost:

<u>Fiscal year</u>	<u>Medical Pre-65</u>	<u>Medical Post-65</u>	<u>Prescription drugs/EGWP</u>	<u>RDS</u>
2019	7.5%	5.5%	8.5%	4.7%
2020	7.0	5.4	8.0	4.7
2021	6.5	5.4	7.5	4.6
2022	6.3	5.4	7.1	4.6
2023	6.1	5.4	6.8	4.6
2024	5.9	5.4	6.4	4.6
2025	5.8	5.4	6.1	4.6
2026	5.6	5.4	5.7	4.6
2027–2040	5.4	5.4	5.4	4.5
2041	5.3	5.3	5.3	4.5
2042	5.2	5.2	5.2	4.5
2043	5.1	5.1	5.1	4.5
2044	5.1	5.1	5.1	4.5
2045	5.0	5.0	5.0	4.5
2046	4.9	4.9	4.9	4.5
2047	4.8	4.8	4.8	4.5
2048	4.7	4.7	4.7	4.5
2049	4.6	4.6	4.6	4.5
2050+	4.5	4.5	4.5	4.5

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

# Financial Section

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## Notes to Required Supplementary Information (Unaudited)

June 30, 2019

The table below shows the amount each trend rate shown on the previous page was increased to account for the Cadillac Tax.

Fiscal year	Pre-65	Post-65	Fiscal year	Pre-65	Post-65
2019-2044	– %	– %	2077	0.20 %	0.50 %
2045	–	0.12	2078	0.20	0.49
2046	–	0.29	2079	0.19	0.48
2047	–	0.27	2080	0.19	0.46
2048	–	0.25	2081	0.18	0.45
2049	–	0.25	2082	0.18	0.44
2050	–	0.20	2083	0.18	0.43
2051	–	0.20	2084	0.17	0.42
2052	0.06	0.16	2085	0.17	0.41
2053	0.06	0.16	2086	0.16	0.40
2054	0.06	0.15	2087	0.16	0.39
2055	0.06	0.15	2088	0.16	0.38
2056	0.05	0.14	2089	0.15	0.37
2057	0.06	0.14	2090	0.15	0.37
2058	0.05	0.13	2091	0.15	0.36
2059	0.05	0.12	2092	0.15	0.35
2060	0.05	0.15	2093	0.14	0.34
2061	0.05	0.61	2094	0.14	0.33
2062	0.05	0.59	2095	0.14	0.33
2063	0.05	0.61	2096	0.13	0.32
2064	0.05	0.64	2097	0.13	0.31
2065	0.05	0.65	2098	0.13	0.30
2066	0.05	0.64	2099	0.13	0.30
2067	0.14	0.64	2100	0.12	0.29
2068	0.24	0.63	2101	0.12	0.28
2069	0.24	0.61	2102	0.12	0.28
2070	0.23	0.60	2103	0.12	0.27
2071	0.23	0.58	2104	0.11	0.27
2072	0.22	0.57	2105	0.11	0.26
2073	0.22	0.55	2106	0.11	0.25
2074	0.21	0.54	2107	0.11	0.25
2075	0.21	0.53	2108	0.10	0.24
2076	0.20	0.51	2109	0.10	0.24

State of Alaska  
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## Notes to Required Supplementary Information (Unaudited)

June 30, 2019

(w) Aging factors:

Age	Medical	Prescription Drugs
0-44	2.0 %	4.5 %
45-54	2.5	3.5
55-64	2.5	1.5
65-74	3.0	2.0
75-84	2.0	(0.5)
85-94	0.3	(2.5)
95+	—	—

(x) Retiree medical participation:

Decrement due to disability		Decrement due to retirement	
Age	Percent participation	Age	Percent participation
<56	75.0 %	55	50.00 %
56	77.5	56	55.0
57	80.0	57	60.0
58	82.5	58	65.0
59	85.0	59	70.0
60	87.5	60	75.0
61	90.0	61	80.0
62	92.5	62	85.0
63	95.0	63	90.0
64	97.5	64	95.0
65+	100.0	65+	
			<b><u>Years of service</u></b>
			<15                      75.00 %
			15-19                     80.00
			20-24                     85.00
			25-29                     90.00
			30+                        95.00

Participation assumption is a combination of (i) the service-based rates for retirement from employment at age 65+ and (ii) the age-based rates for retirement from employment before age 65. These 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  
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## Required Supplementary Information (Unaudited)

### Schedule of Investment Returns – Retiree Medical Plan

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

#### (2) Changes in Actuarial Assumptions, Methods, and Benefits Since the Prior Valuation

##### *Defined Benefit Pension and Postemployment Healthcare Benefit Plan*

##### **(a) Changes in Methods Since the Prior Valuation – June 30, 2016 to June 30, 2018**

Effective June 30, 2018, the amortization of the UAAL was changed. As part of the experience study, the actuarial cost method for retiree healthcare benefits was changed from the Entry Age Level Dollar method to the Entry Age Level Percent of Pay method. There were no other changes in actuarial methods since the prior valuation.

##### **(b) Changes in Assumptions Since the Prior Valuation – June 30, 2016 to June 30, 2018**

Effective for the June 30, 2018 valuation, the Board adopted changes to the demographic and economic assumptions recommended by the actuary, based on the results of an experience analysis performed on the population experience from July 1, 2013 to June 30, 2017. The changes in assumptions/methods were adopted by the Board during the January 2019 Board meeting. The new assumptions/methods increased the Actuarial Accrued Liability as of June 30, 2018 by approximately \$14 million (pension) and \$81 million (healthcare). Healthcare claim costs are updated annually.

##### **(c) Changes in Benefit Provisions Since the Prior Valuation – June 30, 2016 to June 30, 2018**

There have been no changes in the System benefit provisions since the prior valuation. However, EGWP became effective as of January 1, 2019. This arrangement replaced the Retiree Drug Subsidy under Medicare Part D and resulted in larger projected subsidies to offset the cost of prescription drug coverage. This change decreased the healthcare actuarial accrued liability as of June 30, 2018 by approximately \$248 million.

##### *Defined Contribution Occupational Death and Disability and Retiree Medical Benefits Plan*

##### **(d) Changes in Methods Since the Prior Valuation – June 30, 2016 to June 30, 2018**

As part of the experience study, the actuarial cost method for the retiree healthcare plan was changed from the Entry Age Level Dollar method to the Entry Age Level Percent of Pay method. There were no other changes in actuarial methods since the prior valuation.

##### **(e) Changes in Assumptions Since the Prior Valuation – June 30, 2016 to June 30, 2018**

Effective for the June 30, 2018 valuation, the Board adopted changes to the demographic and economic assumptions recommended by the actuary, based on the results of an experience analysis performed on the population experience from July 1, 2013 to June 30, 2017. The changes in assumptions/methods were adopted by the Board during the January 2019 Board meeting. The effect of the new



**State of Alaska**  
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**Notes to Required Supplementary Information (Unaudited)**

**June 30, 2019**

assumptions/methods was to decrease the Actuarial Accrued Liability as of June 30, 2018 by approximately \$9.5 million. Healthcare claim costs are updated annually.

***(f) Changes in Benefit Provisions Since the Prior Valuation – June 30, 2016 to June 30, 2018***

There have been no changes in the TRS DCR benefit provisions valued since the prior valuation.

## **SUPPLEMENTAL SCHEDULES**

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

**Schedule of Administrative and Investment Deductions**  
**Years ended June 30, 2019 and 2018**  
**(In thousands)**

Schedule 1

	<u>Administrative</u>	<u>Investment</u>	<u>Totals</u>	
			<u>2019</u>	<u>2018</u>
Personal services:				
Wages	\$ 1,897	146	2,043	1,981
Benefits	1,129	61	1,190	1,365
Total personal services	<u>3,026</u>	<u>207</u>	<u>3,233</u>	<u>3,346</u>
Travel:				
Transportation	6	32	38	54
Per diem	1	6	7	9
Total travel	<u>7</u>	<u>38</u>	<u>45</u>	<u>63</u>
Contractual services:				
Management and consulting	6,400	2,951	9,351	9,405
Accounting and auditing	121	9	130	111
Data processing	522	362	884	873
Communications	31	12	43	62
Advertising and printing	23	1	24	23
Rentals/leases	146	43	189	182
Legal	61	44	105	166
Medical specialists	13	—	13	12
Repairs and maintenance	36	2	38	9
Transportation	55	1	56	60
Securities lending	—	131	131	224
Other professional services	101	18	119	63
Total contractual services	<u>7,509</u>	<u>3,574</u>	<u>11,083</u>	<u>11,190</u>
Other:				
Equipment	31	9	40	36
Supplies	10	44	54	49
Total other	<u>41</u>	<u>53</u>	<u>94</u>	<u>85</u>
Total administrative and investment deductions	<u>\$ 10,583</u>	<u>3,872</u>	<u>14,455</u>	<u>14,684</u>

See accompanying independent auditors' report.

# Financial Section

**State of Alaska**  
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**(A Component Unit of the State of Alaska)**

**Schedule of Payments to Consultants**  
**Other than Investment Advisors**

Years ended June 30, 2019 and 2018

(In thousands)

Schedule 2

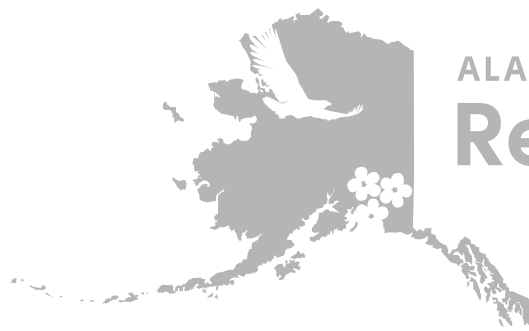
Firm	Services	2019	2018
Buck Global LLC (formerly Conduent Human Resource Services)	Actuarial services	\$ 344	401
Health Management Systems	Auditing services	—	94
KPMG LLP	Auditing services	115	96
State Street Bank and Trust	Custodial banking services	492	411
Alaska IT Group	Data processing services	123	132
Applied Microsystems Incorporated	Data processing services	160	131
Resource Data Inc.	Data processing services	20	—
SHI International Corporation	Data processing services	113	171
Sungard Availability Services	Data processing services	10	13
State of Alaska, Department of Law	Legal services	97	156
Agnew Beck Consulting	Management consulting services	10	—
The Segal Company Incorporated	Management consulting services	108	91
First Medical Advisory Group	Medical specialist and consulting	—	3
		\$ 1,592	1,699

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

See accompanying independent auditors' report.



# INVESTMENT SECTION



ALASKA DIVISION OF  
**Retirement  
and Benefits**



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October 16, 2019

Alaska Retirement Management Board  
State of Alaska, Department of Revenue  
Treasury Division  
333 Willoughby Avenue, 11<sup>th</sup> 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, 2019.

Callan LLC (Callan) calculates time-weighted performance statistics based on underlying custodial data provided by the Board's custodian, State Street Bank and Trust Company. The performance calculations were made using a time-weighted return methodology based upon current market values. Prior to April 1, 2019 ARMB's former real estate consultant, Townsend Group, calculated returns for the real estate segment of the portfolio. The Townsend data for those periods has been incorporated into ARMB's Total Fund returns. Callan took over as the real estate consultant on April 1, 2019 and we now calculate performance independently.

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

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

# Investment Section

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## **2019 Fiscal Year Market Overview**

U.S. equity markets posted a gain for the tenth consecutive fiscal year. The Russell 3000 Index, a measure of broad U.S. equity, returned 8.98% in the period. Non-U.S. stocks trailed their U.S. counterparts as major economies outside of the U.S. struggle to find growth and some regions grapple with geopolitical issues, most notably Brexit negotiations in Europe. The MSCI ACWI ex-U.S. IMI (Net), a broad benchmark reflecting developed and emerging market non-U.S. equity, gained only 0.26%. A broad measure of the total global equity market, MSCI All Country World Index (Net), rose 5.74%.

An unexpected retreat in interest rates, which declined significantly across all but the shortest parts of the yield curve, boosted fixed income performance. The Bloomberg U.S. Aggregate Bond Index, a widely-used gauge of the investment grade domestic bond market, rose 7.87% after posting negative returns in each of the two preceding fiscal years. Absolute return strategies significantly trailed the equity markets; the Callan Absolute Return Hedge Fund-of-Funds Style median return was 1.05% (net-of-fees). Private real estate, as measured by the NCREIF Property Index, was positive for the ninth year in a row. In fiscal year 2019, the NCREIF Property Index returned 6.51%. Publicly traded real estate, as measured by the FTSE NAREIT All Equity Index, outpaced the private markets meaningfully, gaining 13.01%.

ARMB's actual asset groupings delivered the following one-year returns through June 30, 2019<sup>1</sup>:

Domestic Stocks:	8.41%
Int'l Stocks:	(0.08%)
Opportunistic:	7.21%
Fixed Income:	6.34%
Real Assets:	6.08%
Private Equity:	17.66%
Absolute Return:	4.08%

For the fiscal year ended 30 June 2019, the Public Employees Retirement System (PERS) had a time-weighted total return of 6.40%. The Teachers Retirement System (TRS) had a time-weighted total return of 6.39%. Both systems' gross return exceeded their strategic policy target return of 5.65% and the median return for Callan's Public Fund Sponsor database of 6.19%.

Over longer trailing periods, PERS and TRS have outperformed their target index returns. PERS 5-year annualized return was 6.35%. TRS also returned 6.35% over this same period. Both outperformed the 5-year annualized benchmark return of 5.88%. The seven-year annualized return was 8.88% for PERS and 8.90% for TRS. Both were above the 7-year target return of 8.33%. Over 27.75 years – the longest period for which we have data – PERS and TRS achieved annualized total returns of 7.74% and 7.79%, respectively, while the policy benchmark return was 7.63%.

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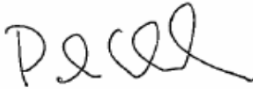
<sup>1</sup>Note PERS asset class returns are used to represent the asset class performance of all plans.



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

In summary, fiscal 2019 was a year in which the ARMB's broad asset class returns – those shown in the table on the preceding page – were mostly positive, with only Int'l Stocks posting a loss. PERS and TRS produced higher returns than the average public fund, both ranking in the 41st percentile within the Public Fund Sponsor peer group for the one-year period ended June 30, 2019.

Sincerely,



Paul Erlendson  
Senior Vice President

c: Bob Mitchell  
Steven Center

# Investment Section

## Department of Revenue Treasury Division Staff As of June 30, 2019

<b>Commissioner</b> Bruce Tangeman	<b>Chief Investment Officer</b> Bob G. Mitchell	<b>Investment Officers</b> Casey Colton Emily Howard Josh McLin Kekama Tuiofu Kevin Elliott Kevin Liu Kevin Buckland Mark Moon	Michelle Prebula Nicholas Orr Sean Howard Shane Carson Stephanie Pham Stephen Sikes Steve Verschoor Victor Djajalie
<b>Deputy Commissioner</b> Greg Samorajski	<b>Comptroller</b> Scott Jones, CPA		
<b>Treasury Division Director</b> Pamela Leary, CPA	<b>Cash Management</b> Bronze Ickes, CTP, AAP  <b>ARMB Liaison Officer</b> Stephanie Alexander		

## External Money Managers and Consultants

### Domestic Equity Small Capitalization

ArrowMark Partners  
*Denver, CO*  
BMO Global Asset Management  
*Chicago, IL*  
Frontier Capital Management  
*Boston, MA*  
Jennison Associates LLC  
*New York, NY*  
Sycamore Capital Management  
*Cincinnati, OH*  
T. Rowe Price Investment Services  
*Baltimore, MD*

### Domestic Equity Micro Capitalization

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

### International Small Capitalization

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

### Emerging Market Income

Lazard Asset Management  
*New York, NY*

### International Fixed Income

Mondrian Investment Partners  
*London, England*  
Schroder Investment Management NA  
*New York, NY*

### High Yield/Convertible Bond/Tactical Bond

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

### Tactical Asset Allocation

PineBridge Investments  
*New York, NY*  
McKinley Capital Management, Inc.  
*Anchorage, AK*  
Fidelity Investment Asset Management  
*Smithfield, RI*

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

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

### Absolute Return

Allianz Global Investors  
*New York, NY*  
Crestline Investors, Inc.  
*Fort Worth, TX*  
Global Assets Management Inc.  
*New York, NY*  
J.P. Morgan Asset Management  
*New York, NY*  
Man Group  
*London, UK*  
Prisma Capital  
*New York, NY*  
Zebra Capital Management  
*Stanford, CT*

### Alternative Equity

Analytic Investors  
*Los Angeles, CA*  
State Street Global Advisors  
*San Francisco, CA*

### Tactical Fixed Income

Fidelity Investment Asset Management  
*Merrimack, NH*

## External Money Managers and Consultants (cont.)

### Private Equity

Abbott Capital Management, L.P.  
*New York, NY*  
 Angelo, Gordon & Co.  
*New York, NY*  
 Advent International,  
*Boston, MA*  
 Dyal Capital Partners  
*New York, NY*  
 Glendon Capital  
*Santa Monica, CA*  
 KKR Lending Partners  
*New York, NY*  
 Lexington Partners  
*New York, NY*  
 Merit Capital Partners  
*Chicago, IL*  
 Neuberger Berman  
*New York, NY*  
 New Mountain Partners  
*New York, NY*  
 NGP  
*Irvine, TX*  
 Onex  
*New York, NY*  
 Pathway Capital Management, LLC  
*Irvine, CA*  
 Summit Partners  
*Boston, MA*  
 The Jordan Company  
*New York, NY*  
 Warburg Pincus  
*New York, NY*

### Taxable Municipal Bonds

**Western Asset Management Company**  
*Pasadena, CA*

### Supplemental Benefits System, Deferred Compensation Plan and Defined Contribution Plan

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

### Investment Consultants

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

### Investment Advisory Council

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

### Independent Auditors

KPMG, LLP  
*Anchorage, AK*

### Actuaries

Buck Global, LLC  
*Denver, CO*  
 Gabriel Roeder Smith  
*Denver, CO*

### Master Limited Partnerships

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

### Global Master Custodian

State Street Bank & Trust Co.  
*Boston, MA*

### Real Assets – Real Estate Core Separate Accounts

LaSalle Investment Management  
*Chicago, IL*  
 Sentinel Real Estate Corporation  
*New York, NY*  
 UBS Realty Investors, LLC  
*Hartford, CT*

### Real Assets – Energy

EIG Global Energy Partners  
*Washington, DC*

### Real Assets – Infrastructure

Brookfield Investment Management  
*New York, NY*  
 IFM  
*New York, NY*  
 JP Morgan Asset Management  
*New York, NY*  
 Lazard Asset Management  
*New York, NY*

# Investment Section

## External Money Managers and Consultants (cont.)

### **Real Estate – Commingled Real Estate Funds**

Almanac Realty Investors

*New York, NY*

BlackRock Realty

*New York, NY*

Clarion Partners

*New York, NY*

Colony NorthStar Capital

*Los Angeles, CA*

Coventry Real Estate Fund II, LLC

*New York, NY*

J.P. Morgan Investment Management Inc.

*New York, NY*

KKR & Co.

*New York, NY*

LaSalle Investment Management

*Chicago, IL*

Silverpeak Real Estate Partners

*New York, NY*

Tishman Speyer Properties

*New York, NY*

UBS Realty Investors, LLC

*Hartford, CT*

### **Real Assets – Farmland and Timber**

Hancock Agricultural Investment Group

*Boston, MA*

Hancock Timber Resource Group

*Boston, MA*

Timberland Investment Resources LLC

*Atlanta, GA*

UBS Farmland Investors, LLC

*Hartford, CT*

## 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., opportunistic, private equity, real assets, fixed income, absolute return, and cash equivalents. The performance of each asset class is compared with a benchmark comprised of one or more market indices. The performance for the total portfolio is compared with its policy portfolio, determined by calculating the weighted performance of the underlying asset class benchmarks at the portfolio's target asset allocation. The asset class benchmarks are illustrated below:

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

The target asset allocation is determined by the ARMB, utilizing capital market assumptions provided by its independent general investment consultant, Callan LLC. During the 2019 fiscal year, the ARMB's target asset allocation was 24% domestic equities, 22% global equities ex-U.S., 10% opportunistic, 9% private equity, 17% real assets, 10% fixed income, 7% absolute return, and 1% cash equivalents. Over the next 10 years, the target asset allocation is expected to generate a return of 6.6% with a standard deviation of 14.7%.

# Investment Section

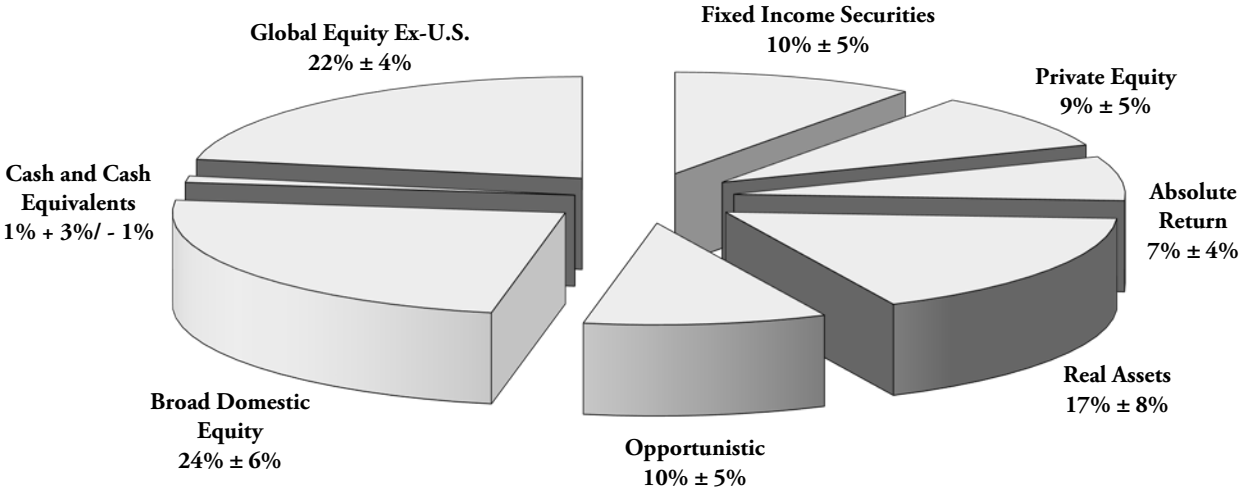
## Teachers' Retirement System Schedule of Investment Results Fiscal Years Ended June 30

	2015	2016	2017	2018	2019	Annualized	
						3 Year	5 Year
<b>Total Fund</b>							
TRS	3.30%	(0.36%)	13.36%	9.62%	6.39%	9.75%	6.35%
<i>Custom Composite Index</i>	-	-	-	-	5.65	9.01	5.88
<i>Actuarial Earnings Rate</i>	8.00	8.00	8.00	8.00	7.38	7.38	7.38
<b>Broad Domestic Equity</b>							
TRS	7.85	0.58	18.55	15.22	8.40	13.98	9.94
<i>Custom Composite Index</i>	7.29	2.14	18.51	14.78	8.98	14.02	10.19
<b>Fixed Income</b>							
TRS	(0.73)	5.15	2.91	(0.71)	6.34	2.80	2.55
<i>Custom Composite Index</i>	0.41	4.79	0.02	(0.76)	6.19	1.77	1.93
<b>Opportunistic</b>							
TRS	-	-	-	5.63	7.21	-	-
<i>Custom Composite Index</i>	-	-	-	8.39	9.72	-	-
<b>Real Assets</b>							
TRS	3.69	4.76	5.98	7.53	6.09	6.53	5.61
<i>Custom Composite Index</i>	7.99	8.87	5.66	4.29	7.23	5.72	6.79
<b>Global Equity Ex-US</b>							
TRS	(3.28)	(9.15)	20.42	7.95	(0.08)	9.11	2.68
<i>MSCI ACWI ex-US</i>	(4.85)	(9.80)	21.00	7.75	0.26	9.34	2.33
<b>Private Equity</b>							
TRS	13.77	4.71	17.04	26.65	17.66	20.37	15.75
<i>Custom Composite Index</i>	3.33	(4.41)	21.04	12.92	2.71	11.97	6.75
<b>Absolute Return</b>							
TRS	9.24	(3.09)	8.47	4.78	4.08	5.76	4.60
<i>3-month Treasury Bill +5%</i>	5.02	5.19	5.49	5.18	1.15	3.92	4.39
<b>Alternative Equity</b>							
TRS	(0.88)	3.41	11.38	-	-	-	-
<i>Custom Composite Index</i>	4.26	2.09	15.07	-	-	-	-
<b>Cash Equivalents</b>							
TRS	0.27	0.55	0.80	1.53	2.50	1.61	1.13
<i>3-month Treasury Bill</i>	0.02	0.19	0.49	1.36	2.31	1.38	0.87

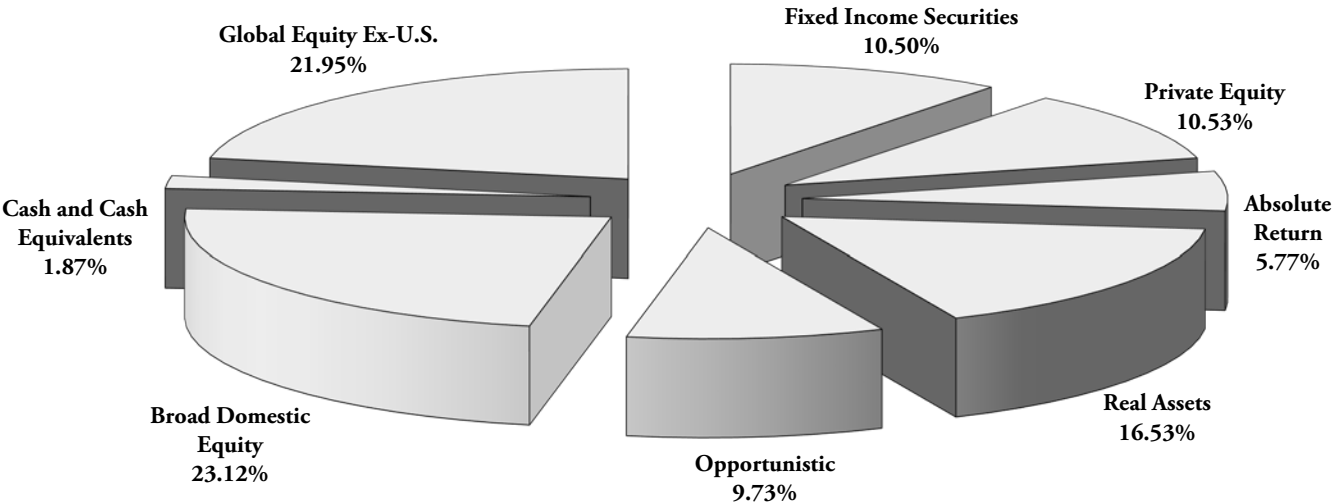
MSCI ACWI =Morgan Stanley Capital International All Country World Index  
Returns for periods longer than one year are reported on an annualized basis.  
Basis of calculation: Time-Weighed rate of return based on the market rate of return.

**Teachers' Retirement System  
Asset Allocation  
June 30, 2019**

**Policy**



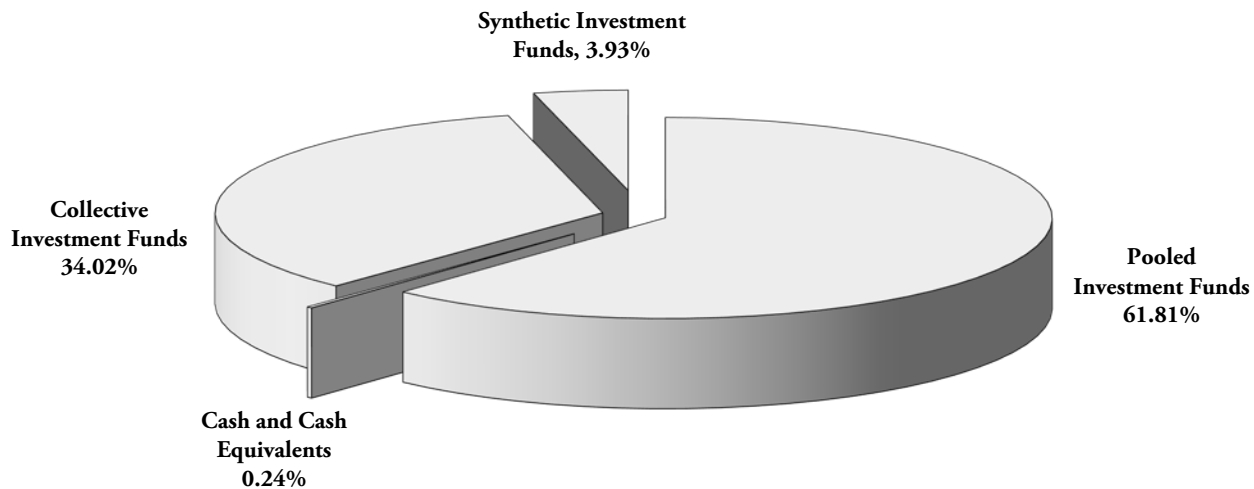
**Actual — Defined Benefit Pension**



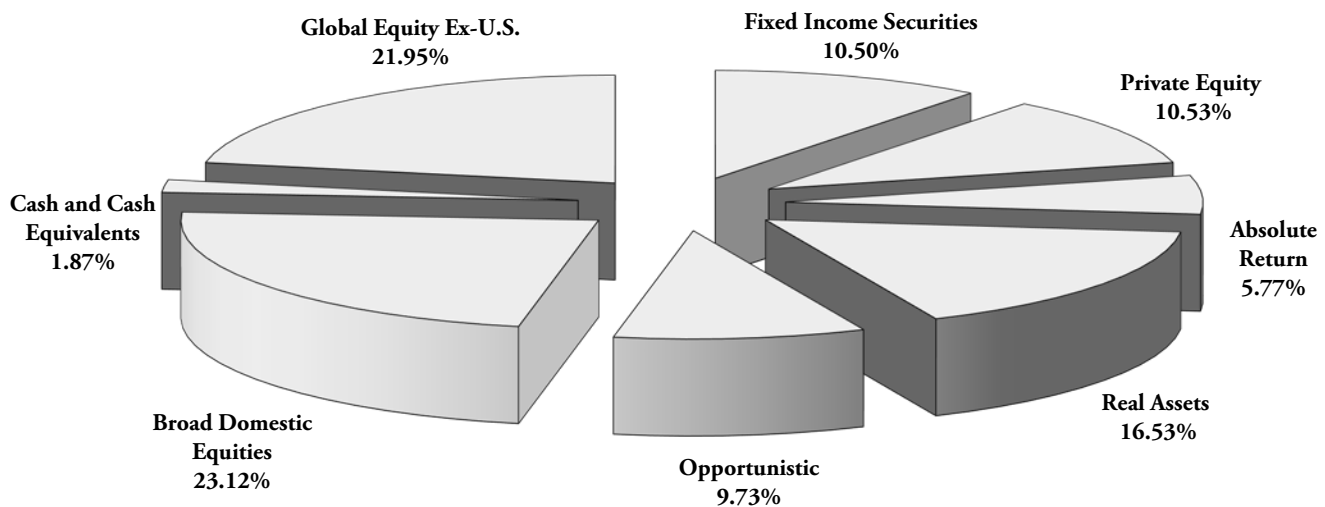
# Investment Section

## Teachers' Retirement System Asset Allocation June 30, 2019

### Actual — Defined Contribution Participant Directed



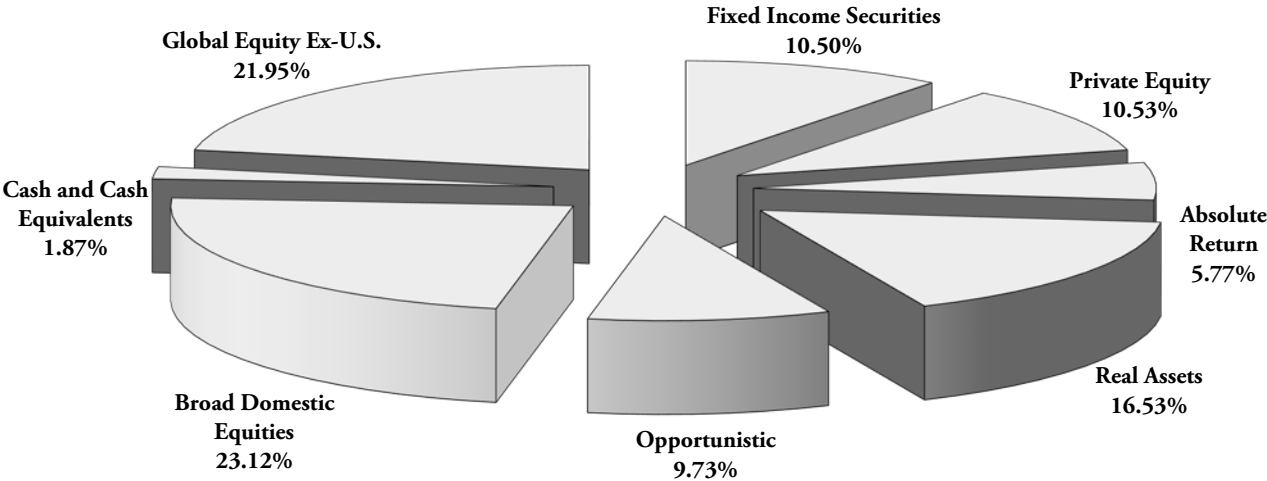
### Actual — Defined Benefit Alaska Retiree Healthcare Trust



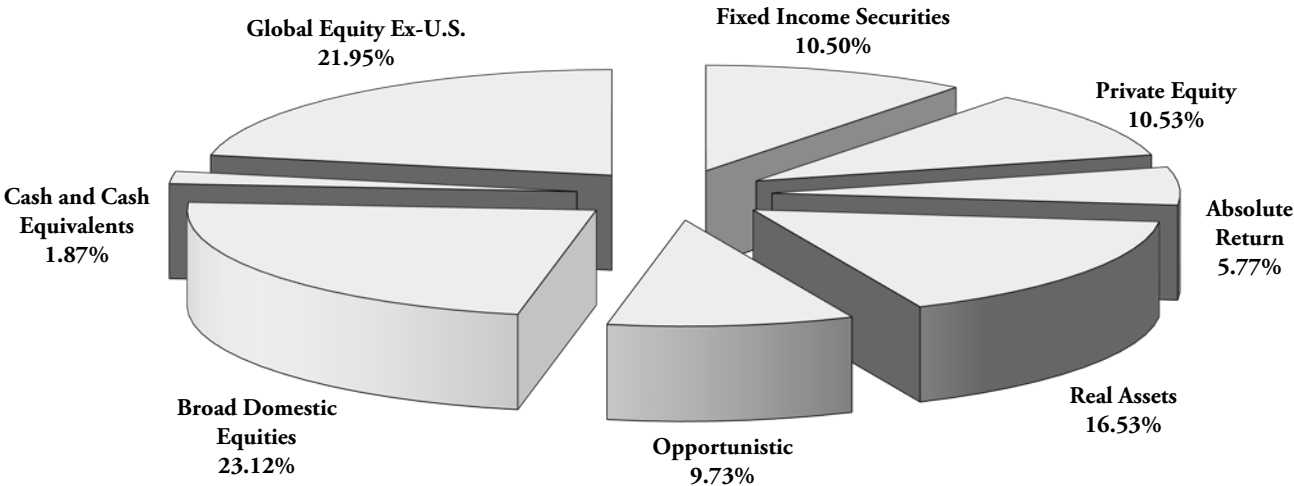


Teachers' Retirement System  
Asset Allocation  
June 30, 2019

Actual — Health Reimbursement Arrangement



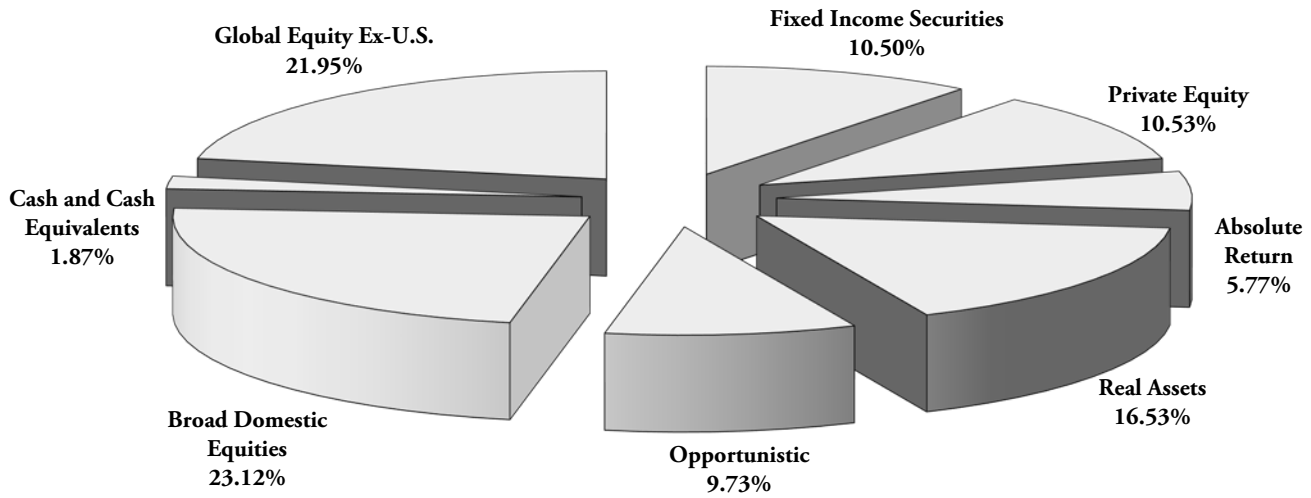
Actual — Occupational Death & Disability



# Investment Section

**Teachers' Retirement System  
Asset Allocation  
June 30, 2019**

**Actual — Retiree Medical Plan**



## Alaska Retirement Management Board

### Top Ten Holdings by Asset Type

June 30, 2019

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

#### Fixed Income

Rank	Largest Fixed Income Holdings	Fair Value	Par Value
1	US Treasury 2.250% 12/31/2023	\$72,717,613	\$71,182,735
2	US Treasury 1.500% 3/31/2023	71,695,163	72,296,694
3	US Treasury 2.750% 2/15/2024	53,305,006	51,047,739
4	US Treasury 2.000% 5/31/2024	34,374,414	33,974,943
5	US Treasury 2.000% 8/15/2025	33,908,630	33,587,190
6	US Treasury 2.125% 5/15/2025	29,123,893	28,640,583
7	US Treasury 2.375% 8/15/2024	23,810,121	23,132,414
8	US Treasury 2.375% 5/15/2027	20,191,245	19,529,825
9	US Treasury 2.875% 8/15/2028	19,266,887	17,929,201
10	US Treasury 2.875% 5/15/2028	18,913,184	17,613,500

#### Equities

Rank	Largest Equity Holdings	Market Value	Par Value
1	Microsoft Corp	\$53,160,882	\$396,841
2	Apple Inc	46,009,853	232,467
3	Amazon.com Inc.	36,541,447	19,297
4	Exxon Mobil Corp.	23,888,945	311,744
5	Proctor & Gamble Co./The	23,727,908	216,397
6	Pfizer Inc	21,820,287	503,700
7	Facebook Inc	21,615,496	111,997
8	Johnson & Johnson	20,489,934	147,113
9	Alphabet Inc	19,771,707	18,260
10	Berkshire Hathaway Inc	19,609,763	91,991

Additional investment information may be obtained from the Alaska 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, 2019

	<u>Fair Value</u>	<u>Fees</u>
<b>Investment Management</b>		
Total Opportunistic	\$ 838,407,827	2,475,221
Total Broad Domestic Equity	1,992,347,631	2,710,921
Total Global Equity Ex-U.S.	1,891,583,148	6,017,340
Total Private Equity	907,782,495	4,656,394
Total Absolute Return	496,797,138	4,512,531
Total Real Assets	1,423,991,677	9,803,589
 <b>Custodian</b>		
State Street Bank		401,874
 <b>Investment Advisory</b>		
Callan Associates		101,011
Investment Advisory Council		29,896
Townsend Group		32,520
Total Investment Advisory		<u>163,427</u>
 <b>Performance</b>		
Callan Associates		98,105
	<u>\$ 7,550,909,916</u>	<u>30,839,402</u>

# Investment Section

## Teachers' Retirement System Investment Summary Schedule June 30, 2019

Investments (at Fair Value)	Defined Benefit - Pension			% of Total Assets
	Asset Allocation Policy	Range	Fair Value	
<b>Cash and Cash Equivalents</b>				
Short-Term Fixed Income Pool			\$ 103,139,279	
Securities Lending Income			37,573	
Total Cash and Cash Equivalents	1.00%	+ 3% / - 1%	103,176,852	1.87%
<b>Fixed Income Securities</b>				
U.S. Treasury Fixed Income Pool			577,914,545	
Total Fixed Income Securities	10.00%	± 5%	577,914,545	10.50%
<b>Opportunistic</b>				
Alternative Equity Strategies			273,085,645	
Tactical Allocation Strategies			88,444,839	
Opportunistic Fixed Income			149,442,782	
Other Opportunities			24,681,850	
Total Opportunistic	10.00%	± 5%	535,655,116	9.73%
<b>Broad Domestic Equity</b>				
Large Cap Pool			1,117,297,887	
Small Cap Pool			155,605,702	
Total Broad Domestic Equity	24.00%	± 6%	1,272,903,589	23.12%
<b>Global Equity Ex-U.S.</b>				
International Equity Pool			931,722,625	
International Equity Small Cap Pool			78,072,200	
Emerging Markets Equity Pool			198,729,423	
Total Global Equity Ex-U.S.	22.00%	± 4%	1,208,524,248	21.95%
<b>Private Equity</b>				
Private Equity Pool			579,978,290	
Total Private Equity	9.00%	± 5%	579,978,290	10.53%
<b>Absolute Return</b>				
Absolute Return Pool			317,401,532	
Total Absolute Return	7.00%	± 4%	317,401,532	5.77%
<b>Real Assets</b>				
Real Estate Pool			311,332,335	
Real Estate Investment Trust Pool			61,858,775	
Infrastructure Private Pool			117,663,549	
Infrastructure Public Pool			35,118,273	
Master Limited Partnership Pool			113,189,983	
Energy Pool			18,572,484	
Farmland Pool			176,720,973	
Timber Pool			75,303,558	
Total Real Assets	17.00%	± 8%	909,759,930	16.53%
<b>Total Invested Assets</b>	<b>100.00%</b>		<b>\$ 5,505,314,102</b>	<b>100.00%</b>

# Investment Section

## Teachers' Retirement System Investment Summary Schedule June 30, 2019

Investments (at Fair Value)	Asset Allocation		Fair Value	% of Total Assets
	Policy	Range		
<b>Defined Contribution - Participant Directed</b>				
<b>Cash and Cash Equivalents</b>				
Short-Term Fixed Income Pool	100.00%	0%	\$ 1,214,822	
Total Cash and Cash Equivalents			1,214,822	0.24%
<b>Pooled Investment Funds (1)</b>				
T. Rowe Price				
Alaska Balanced Trust			10,971,639	
Long-Term Balanced Fund			6,899,883	
Target 2010 Trust			839,400	
Target 2015 Trust			3,761,835	
Target 2020 Trust			10,761,001	
Target 2025 Trust			19,658,141	
Target 2030 Trust			22,829,423	
Target 2035 Trust			33,873,374	
Target 2040 Trust			36,849,622	
Target 2045 Trust			55,009,161	
Target 2050 Trust			76,919,214	
Target 2055 Trust			41,394,465	
Target 2060 Trust			517,265	
Total Pooled Investment Funds			320,284,423	61.81%
<b>Collective Investment Funds (1)</b>				
State Street Global Advisors				
SSgA Treasury Money Market Fund			3,207,999	
S&P Stock Index Fund			44,778,704	
Russell 3000 Index			4,249,284	
U.S. Real Estate Investment Trust Index			6,988,406	
World Equity Ex-U.S. Index			27,138,397	
U.S. Treasury Inflation Protected Securities Index			7,458,203	
Passive U.S. Bond Index Fund			21,041,186	
Brandes Institutional				
Alaska International Equity Fund			17,885,787	
RCM				
Sustainable Core Opportunities Fund			7,918,370	
T. Rowe Price				
Small-Cap Stock Fund			35,642,607	
Total Collective Investment Funds			176,308,943	34.02%
<b>Synthetic Investment Funds (1)</b>				
T. Rowe Price				
Stable Value Fund			20,367,882	
Total Collective Investment Funds			20,367,882	3.93%
<b>Total Invested Assets</b>			<b>\$ 518,176,070</b>	<b>100.00%</b>

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

## Teachers' Retirement System Investment Summary Schedule June 30, 2019

Investments (at Fair Value)	Defined Benefit - Alaska Retiree Health Care Trust			% of Total Assets
	Asset Allocation		Fair Value	
	Policy	Range		
<b>Cash and Cash Equivalents</b>				
Short-Term Fixed Income Pool			\$ 55,061,399	
Securities Lending Income			19,992	
Total Cash and Cash Equivalents	1.00%	+ 3% / - 1%	55,081,391	1.87%
<b>Fixed Income Securities</b>				
U.S. Treasury Fixed Income Pool			308,701,513	
Total Fixed Income Securities	10.00%	± 5%	308,701,513	10.50%
<b>Opportunistic</b>				
Alternative Equity Strategies			145,872,694	
Tactical Allocation Strategies			47,244,105	
Opportunistic Fixed Income			79,827,050	
Other Opportunities			13,184,171	
Total Opportunistic	10.00%	± 5%	286,128,020	9.73%
<b>Broad Domestic Equity</b>				
Large Cap Pool			596,821,021	
Small Cap Pool			83,119,064	
Total Broad Domestic Equity	24.00%	± 6%	679,940,085	23.12%
<b>Global Equity Ex-U.S.</b>				
International Equity Pool			497,693,279	
International Equity Small Cap Pool			41,703,409	
Emerging Markets Equity Pool			106,154,230	
Total Global Equity Ex-U.S.	22.00%	± 4%	645,550,918	21.95%
<b>Private Equity</b>				
Private Equity Pool			309,803,893	
Total Private Equity	9.00%	± 5%	309,803,893	10.53%
<b>Absolute Return</b>				
Absolute Return Pool			169,544,674	
Total Absolute Return	7.00%	± 4%	169,544,674	5.77%
<b>Real Assets</b>				
Real Estate Pool			166,335,505	
Real Estate Investment Trust Pool			33,042,770	
Infrastructure Private Pool			62,851,707	
Infrastructure Public Pool			18,758,939	
Master Limited Partnership Pool			60,462,086	
Energy Pool			9,920,764	
Farmland Pool			94,398,095	
Timber Pool			40,224,498	
Total Real Assets	17.00%	± 8%	485,994,364	16.53%
<b>Total Invested Assets</b>	<b>100.00%</b>		<b>\$ 2,940,744,858</b>	<b>100.00%</b>

# Investment Section

## Teachers' Retirement System Investment Summary Schedule June 30, 2019

Investments (at Fair Value)	Health Reimbursement Arrangement			% of Total Assets
	Asset Allocation		Fair Value	
	Policy	Range		
<b>Cash and Cash Equivalents</b>				
Short-Term Fixed Income Pool	1.00%	+ 3% / - 1%	\$ 2,338,503	
Securities Lending Income			838	
Total Cash and Cash Equivalents			<u>2,339,341</u>	1.87%
<b>Fixed Income Securities</b>				
U.S. Treasury Fixed Income Pool			<u>13,104,955</u>	
Total Fixed Income Securities	10.00%	± 5%	<u>13,104,955</u>	10.50%
<b>Opportunistic</b>				
Alternative Equity Strategies			6,192,568	
Tactical Allocation Strategies			2,005,600	
Opportunistic Fixed Income			3,388,807	
Other Opportunities			<u>559,693</u>	
Total Opportunistic	10.00%	± 5%	<u>12,146,668</u>	9.73%
<b>Broad Domestic Equity</b>				
Large Cap Pool			25,336,165	
Small Cap Pool			<u>3,528,559</u>	
Total Broad Domestic Equity	24.00%	± 6%	<u>28,864,724</u>	23.12%
<b>Global Equity Ex-U.S.</b>				
International Equity Pool			21,128,008	
International Equity Small Cap Pool			1,770,387	
Emerging Markets Equity Pool			<u>4,506,445</u>	
Total Global Equity Ex-U.S.	22.00%	± 4%	<u>27,404,840</u>	21.95%
<b>Private Equity</b>				
Private Equity Pool			<u>13,151,753</u>	
Total Private Equity	9.00%	± 5%	<u>13,151,753</u>	10.53%
<b>Absolute Return</b>				
Absolute Return Pool			<u>7,197,488</u>	
Total Absolute Return	7.00%	± 4%	<u>7,197,488</u>	5.77%
<b>Real Assets</b>				
Real Estate Pool			7,061,252	
Real Estate Investment Trust Pool			1,402,727	
Infrastructure Private Pool			2,668,172	
Infrastructure Public Pool			796,352	
Master Limited Partnership Pool			2,566,728	
Energy Pool			421,155	
Farmland Pool			4,007,375	
Timber Pool			<u>1,707,605</u>	
Total Real Assets	17.00%	± 8%	<u>20,631,366</u>	16.53%
<b>Total Invested Assets</b>	<b>100.00%</b>		<b>\$ <u>124,841,135</u></b>	<b>100.00%</b>



## Teachers' Retirement System Investment Summary Schedule June 30, 2019

Investments (at Fair Value)	Occupational Death and Disability			% of Total Assets
	Asset Allocation Policy	Range	Fair Value	
<b>Cash and Cash Equivalents</b>				
Short-Term Fixed Income Pool			\$ 80,416	
Securities Lending Income			29	
Total Cash and Cash Equivalents	1.00%	+ 3% / - 1%	80,445	1.87%
<b>Fixed Income Securities</b>				
U.S. Treasury Fixed Income Pool			450,751	
Total Fixed Income Securities	10.00%	± 5%	450,751	10.50%
<b>Opportunistic</b>				
Alternative Equity Strategies			212,996	
Tactical Allocation Strategies			68,984	
Opportunistic Fixed Income			116,560	
Other Opportunities			19,251	
Total Opportunistic	10.00%	± 5%	417,791	9.73%
<b>Broad Domestic Equity</b>				
Large Cap Pool			871,450	
Small Cap Pool			121,367	
Total Broad Domestic Equity	24.00%	± 6%	992,817	23.12%
<b>Global Equity Ex-U.S.</b>				
International Equity Pool			726,708	
International Equity Small Cap Pool			60,893	
Emerging Markets Equity Pool			155,001	
Total Global Equity Ex-U.S.	22.00%	± 4%	942,602	21.95%
<b>Private Equity</b>				
Private Equity Pool			452,361	
Total Private Equity	9.00%	± 5%	452,361	10.53%
<b>Absolute Return</b>				
Absolute Return Pool			247,561	
Total Absolute Return	7.00%	± 4%	247,561	5.77%
<b>Real Assets</b>				
Real Estate Pool			242,875	
Real Estate Investment Trust Pool			48,248	
Infrastructure Private Pool			91,773	
Infrastructure Public Pool			27,391	
Master Limited Partnership Pool			88,284	
Energy Pool			14,486	
Farmland Pool			137,836	
Timber Pool			58,734	
Total Real Assets	17.00%	± 8%	709,627	16.53%
<b>Total Invested Assets</b>	<b>100.00%</b>		<b>\$ 4,293,955</b>	<b>100.00%</b>

# Investment Section

## Teachers' Retirement System Investment Summary Schedule June 30, 2019

Investments (at Fair Value)	Retiree Medical Plan			% of Total Assets
	Asset Allocation		Fair Value	
	Policy	Range		
<b>Cash and Cash Equivalents</b>				
Short-Term Fixed Income Pool			\$ 781,515	
Securities Lending Income			281	
Total Cash and Cash Equivalents	1.00%	+ 3% / - 1%	<u>781,796</u>	1.87%
<b>Fixed Income Securities</b>				
U.S. Treasury Fixed Income Pool			4,380,556	
Total Fixed Income Securities	10.00%	± 5%	<u>4,380,556</u>	10.50%
<b>Opportunistic</b>				
Alternative Equity Strategies			2,069,972	
Tactical Allocation Strategies			670,406	
Opportunistic Fixed Income			1,132,767	
Other Opportunities			187,087	
Total Opportunistic	10.00%	± 5%	<u>4,060,232</u>	9.73%
<b>Broad Domestic Equity</b>				
Large Cap Pool			8,469,048	
Small Cap Pool			1,179,481	
Total Broad Domestic Equity	24.00%	± 6%	<u>9,648,529</u>	23.12%
<b>Global Equity Ex-U.S.</b>				
International Equity Pool			7,062,399	
International Equity Small Cap Pool			591,782	
Emerging Markets Equity Pool			1,506,357	
Total Global Equity Ex-U.S.	22.00%	± 4%	<u>9,160,538</u>	21.95%
<b>Private Equity</b>				
Private Equity Pool			4,396,199	
Total Private Equity	9.00%	± 5%	<u>4,396,199</u>	10.53%
<b>Absolute Return</b>				
Absolute Return Pool			2,405,884	
Total Absolute Return	7.00%	± 4%	<u>2,405,884</u>	5.77%
<b>Real Assets</b>				
Real Estate Pool			2,360,345	
Real Estate Investment Trust Pool			468,886	
Infrastructure Private Pool			891,882	
Infrastructure Public Pool			266,194	
Master Limited Partnership Pool			857,973	
Energy Pool			140,778	
Farmland Pool			1,339,534	
Timber Pool			570,796	
Total Real Assets	17.00%	± 8%	<u>6,896,388</u>	16.53%
<b>Total Invested Assets</b>	<b>100.00%</b>		<b>\$ <u>41,730,122</u></b>	<b>100.00%</b>

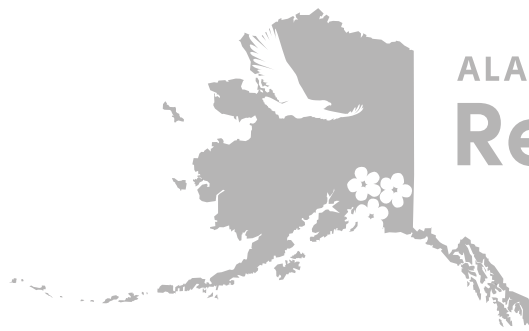
**Teachers' Retirement System  
Recaptured Commission Fees  
Year Ended June 30, 2019**

<b>Fund</b>	<b>Broad Domestic Equity Pool</b>	<b>Global Equity Ex-U.S.</b>	<b>Total</b>
Defined Benefit Plan – Pension	\$ 4,772	3,010	7,782
Postemployment Benefit – Alaska Retiree Healthcare Trust	2,490	1,575	4,065
Postemployment Benefit – Health Reimbursement Arrangement	96	61	157
Postemployment Benefit – Retiree Medical Plan	33	21	54
Postemployment Benefit – Occupational Death & Disability	3	2	5
<b>Total Recapture Commission Fees</b>	<b>\$ 7,394</b>	<b>4,669</b>	<b>12,063</b>

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

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

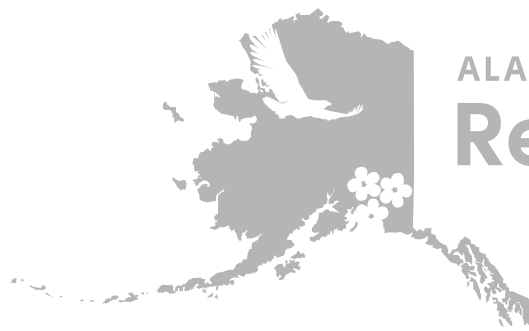
The current rebate arrangement with State Street Global Markets (SSGM) is: 90% of the commissions received in excess of executing the brokers' execution-only rates; 100% of commissions in excess of its execution-only rates for all trading directed through SSGM.



ALASKA DIVISION OF  
**Retirement  
and Benefits**



# ACTUARIAL SECTION



ALASKA DIVISION OF  
**Retirement  
and Benefits**



August 9, 2019

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, 2018 performed by Buck Global, LLC (Buck).

The actuarial valuation is based on financial information provided in the financial statements audited by KPMG LLP, member data provided by the Division of Retirement and Benefits, and medical enrollment data provided by the healthcare claims administrator (Aetna), as summarized in this report. The benefits considered are those delineated in Alaska statutes effective June 30, 2018. The actuary did not verify the data submitted, but did perform tests for consistency and reasonableness.

All costs, liabilities and other factors under TRS 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 is solely responsible for the actuarial data and actuarial results presented in this report. This report fully and fairly discloses the actuarial position of TRS as of June 30, 2018.

TRS is funded by Employer, State, and Member Contributions in accordance with the funding policy adopted by the Alaska Retirement Management Board (Board) 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, plan expenses, and amortize the Unfunded Actuarial Accrued Liability (UAAL) as a level percentage of total TRS compensation over a closed 25-year period as required by Alaska state statutes. The closed 25-year period was originally established effective June 30, 2014. Effective June 30, 2018, the Board adopted a layered UAAL amortization method: Layer #1 equals the sum of (i) the UAAL at June 30, 2018 based on the 2017 valuation, plus (ii) the FY18 experience gain/loss. Layer #1 is amortized over the remainder of the 25-year closed period that was established in 2014<sup>1</sup>. Layer #2 equals the change in UAAL at June 30, 2018 due to the experience study and EGWP implementation. Layer #2 is amortized over a separate closed 25-year period starting in 2018. Future layers will be created each year based on the change in UAAL occurring that year, and will be amortized over separate closed 25-year periods. The UAAL amortization continues to be on a level percent of pay basis. 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. Absent future gains/losses, actuarially determined contributions are expected to remain level as a percent of pay and the overall funded status is expected to increase to 100% after 25 years.

# Actuarial Section

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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.

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, 2013 to June 30, 2017. Based on that experience study, the Board adopted new assumptions effective beginning with the June 30, 2018 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, 2018 to better reflect expected future healthcare experience. Based on recent experience, the healthcare cost trend assumptions were also updated. A summary of the actuarial assumptions and methods used in this actuarial valuation is shown in Sections 6.2 and 6.3.

Governmental Accounting Standards Board (GASB) Statement No. 67 (GASB 67) was effective for TRS beginning with fiscal year ending June 30, 2014, and Statement No. 74 (GASB 74) was effective for TRS beginning with fiscal year ending June 30, 2017. Separate GASB 67 and GASB 74 reports as of June 30, 2018 have been prepared. Section 3 of this report contains accounting information previously disclosed under GASB 25 for fiscal years 2007 through 2013 and accounting information previously disclosed under GASB 43 for fiscal years 2007 through 2016. We have also prepared the member data tables shown in Section 5 of this report for the Statistical Section of the CAFR, and the summary of actuarial assumptions, solvency test, and analysis of financial experience for the Actuarial Section of the CAFR. Please see our separate GASB 67 and GASB 74 reports for other information needed for the CAFR.

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

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

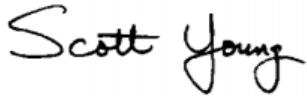
Respectfully submitted,



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



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



Scott Young, FSA, EA, MAAA  
Director  
Buck

**State of Alaska**  
**Teachers' Retirement System**  
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The funding method used in this valuation was adopted by the Board in October 2006. Changes in methods were adopted by the Board in January 2019 based on the experience study for the period July 1, 2013 to June 30, 2017. The asset smoothing method used to determine valuation assets was changed effective June 30, 2014.

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

## **A. Actuarial Method – Entry Age Normal Cost**

Liabilities and contributions shown in the report are computed using the Entry Age Normal Actuarial Cost Method.

Effective June 30, 2018, the Board adopted a layered UAAL amortization method: Layer #1 equals the sum of (i) the UAAL at June 30, 2018 based on the 2017 valuation, plus (ii) the FY18 experience gain/loss. Layer #1 is amortized over the remainder of the 25-year closed period that was originally established in 2014<sup>1</sup>. Layer #2 equals the change in UAAL at June 30, 2018 due to the experience study and EGWP implementation. Layer #2 is amortized over a separate closed 25-year period starting in 2018. Future layers will be created each year based on the change in UAAL occurring that year, and will be amortized over separate closed 25-year periods. The UAAL amortization continues to be on a level percent of pay basis. 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 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.

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(i) Layer #1 is referred to as "initial amount" in Section 1.2 of Valuation

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## **B. Valuation of Assets**

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

## **C. Valuation of Retiree Medical and Prescription Drug Benefits**

This section outlines the detailed methodology used to develop the initial per capita claims cost rates for the TRS postemployment healthcare plan. Note that the methodology reflects the results of our annual experience rate update for the period from July 1, 2017 to June 30, 2018. Healthcare cost trend and retiree contribution increase assumptions for the period after June 30, 2018 were updated since the prior valuation.

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

### Benefits

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

### Administration and Data Sources

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

Claims for the period from July 2016 through June 2018 (FY17 through FY18) were provided by the State of Alaska from reports extracted from their data warehouse, which separated claims by Medicare status. In reviewing the claims reports generated for this year's valuation, it was discovered that audio and vision claims were incorrectly included in the reports that were provided for the prior year valuation. These audio and vision claims accounted for approximately \$9.9M in claims during fiscal 2017 (which was less than 2% of the total gross claims for that fiscal year). The claims for fiscal 2017 used in this year's claims cost development exclude the audio and vision claims that were incorrectly included in last year's development. Monthly enrollment data for the same period was provided by Aetna.

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

Aetna provided a snapshot file as of July 1, 2018 of retirees and dependents that included a coverage level indicator. The monthly enrollment data includes dual coverage participants. These are participants whereby both the retiree and spouse are retirees from the State and both are reflected with Couple coverage in the enrollment. In this case, such a couple would show up as four members in the monthly enrollment (each would be both a retiree and a spouse). As a result, the snapshot census file was used to adjust the total member counts in the monthly enrollment reports to estimate that number of unique participants enrolled in coverage. Based on the snapshot files from the last two valuations, the total member count in the monthly enrollment reports needs to be reduced by approximately 13% to account for the number of participants with dual coverage.

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

## Methodology

Buck projected historical claim data to FY19 for retirees using the following summarized steps:

1. Develop historical annual incurred claim cost rates – an analysis of medical costs was completed based on claims information and enrollment data provided by the State of Alaska and Aetna for each year in the experience period of FY17 through FY18.
  - Costs for medical services and prescriptions were analyzed separately, and separate trend rates were developed to project expected future medical and prescription costs for the valuation year (e.g. from the experience period up through FY19).
  - Because the reports provided this year reflected incurred claims, no additional adjustment was needed to determine incurred claims to be used in the valuation.
  - An offset for costs expected to be reimbursed by Medicare was incorporated beginning at age 65. Alaska retirees who do not have 40 quarters of Medicare-covered compensation do not qualify for Medicare Part A coverage free of charge. This is a relatively small and closed group. Medicare was applied to State employment for all employees hired after March 31, 1986. For the “no-Part A” individuals who are required to enroll in Medicare Part B, the State is the primary payer for hospital bills and other Part A services. Claim experience is not available separately for participants with both Medicare Parts A and B and those with Part B only. For Medicare Part B only participants, a lower average claims cost was applied to retirees covered by both Medicare Part A and B vs. retirees covered only by Medicare Part B based upon manual rate models that estimate the Medicare covered proportion of medical costs. To the extent that no-Part A claims can be isolated and applied strictly to the appropriate closed group, actuarial accrued liability will be more accurate.

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- Based on census data received from Aetna, less than 1% of the current retiree population was identified as having coverage only under Medicare Part B. We assume that 5% of actives hired before 4/1/1986 and current retirees who are not yet Medicare eligible will not be eligible for Medicare Part A.
  - Based upon a reconciliation of valuation census data to the snapshot eligibility files provided by Aetna as of July 1, 2017, and July 1, 2018, Buck adjusted member counts used for duplicate records where participants have dual coverage; i.e. primary coverage as a retiree and secondary coverage as the covered spouse of another retiree. This is to reflect the total cost per distinct individual/member which is then applied to distinct members in the valuation census.
  - Buck understands that pharmacy claims reported do not reflect rebates. Based upon reported rebates in proportion to incurred claims for State of Alaska retiree plans, Buck reduced reported pharmacy incurred claims by 12% to estimate the rebates for the retiree population. These estimates were based upon reported rebates for retirees from Aetna.
2. Develop estimated Retiree Drug Subsidy reimbursement - actual subsidy payments to the State were received for claims incurred during the 2009 through 2017 calendar years. Buck obtained this information based upon recorded and available information in the RDS Subsidy website and as provided by the State. The projected subsidy for FY19 was determined based on the historical ratio of subsidy received to claims incurred (adjusted for rebates), and then applied to the appropriate projection period. These amounts are applicable only to Medicare eligible participants.
  3. Adjust for claim fluctuation, anomalous experience, etc. – explicit adjustments are often made for anticipated large claims or other anomalous experience. Due to group size and demographics, we did not make any large claim adjustments. We do blend both Alaska plan-specific and national trend factors as described below. Buck compared data utilized to lag reports and quarterly plan experience presentations provided by the State and Aetna to assess accuracy and reasonableness of data.
  4. Trend all data points to the projection period – project prior years' experience forward to FY19 for retiree benefits on an incurred claim basis. Trend factors derived from historical Alaska-specific experience and national trend factors are shown in the table in item 5 below.
  5. Apply credibility to prior experience – adjust prior year's data by assigning weight to recent periods, as shown at the right of the table below. The Board approved a change in the weighting of experience periods beginning with the prior valuation as outlined below. Note also that we averaged projected plan costs using Alaska-specific trend factors and national trend factors, assigning 75% weight to Alaska-specific trends and 25% to national trends:

Experience Period	Alaska-Specific and National Average Weighted Trend from Experience Period to Valuation Year		
	Medical	Prescription	Weighting Factors
FY17 to FY18	7.0% Pre-Medicare / 4.5% Medicare	6.2%	50%
FY18 to FY19	6.2% Pre-Medicare / 4.0% Medicare	8.0%	50%

Trend assumptions used for rate development are assessed annually and as additional/improved reporting becomes available, we will incorporate into rate development as appropriate. Based upon recent experience trending up,

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particularly for prescription drugs, the Board has approved our recommendation to update to the valuation healthcare cost trend assumption.

6. Develop separate administration costs – no adjustments were made for internal administrative costs. Third party retiree plan administration fees for FY19 are based upon total fees projected to 2019 by Segal based on actual FY 2018 fees. The annual per participant per year administrative cost rate for medical and prescription benefits is \$300.

## **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 of the following provisions.

Because the State plan is retiree-only, and was in effect at the time the legislation was enacted, not all provisions of the health reform legislation apply to the State plan. Unlimited lifetime benefits and dependent coverage to age 26 are two of these provisions. We reviewed the impact of including these provisions, but there was no decision made to adopt them, and no requirement to do so.

Because Transitional Reinsurance fees are only in effect until 2016, we excluded these for valuation purposes.

The Plan will be subject to the high cost plan excise tax (Cadillac tax). Based upon guidance available at the valuation date, 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 tax cost thresholds in each projection year. Projected enrollment was based upon the current enrollment data provided by Aetna, and valuation headcount projections for future years.
- We included administrative fees and applied Retiree Drug Subsidy / EGWP reimbursements to the Medicare rates.

We assumed claim costs would increase according to valuation trend assumptions from the June 30, 2018 valuation, and that the tax cost thresholds would increase at 2.25% (the CPI assumption of 2.50% less 0.25% to estimate the impact of using the chained CPI as required by the Tax Cut and Jobs Act passed in December 2017). The first year increased at 3.25% to reflect the additional 1.0% over inflation assumption.

Buck determined the impact to be approximately \$31.6 million of the projected June 30, 2018 healthcare actuarial accrued liability for the defined benefit plan.

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

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We have not identified any other specific provisions of healthcare reform or its potential repeal that would be expected to have a significant impact on the measured obligation. We will continue to monitor legislative activity.

## **E. Healthcare Reform**

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

The Division of Retirement and Benefits provided pension valuation census data, which for people currently in receipt of healthcare benefits was supplemented by coverage data from the healthcare claims administrator (Aetna).

Certain adjustments and assumptions were made to prepare the data for valuation:

- Some records provided on the Aetna data were associated with a participant social security number not listed on the RIN-to-SSN translation file. We reconciled those participants with the pension valuation data as either a surviving spouse or a retiree in the appropriate plan based on account structure information in the Aetna data.
- All records provided with retiree medical coverage on the Aetna data were included in this valuation and we relied on the Aetna data as the source of medical coverage for current retirees and their dependents.
- Some records in the Aetna data were duplicates due to the dual coverage (i.e. coverage as a retiree and as a spouse of another retiree) allowed under the plan. Records were adjusted for these members so that each member was only valued once. Any additional value of the dual coverage (due to coordination of benefits) is small and reflected in the per capita costs.
- Covered children included in the Aetna data were valued until age 23, unless disabled. We assumed that those dependents over 23 were only eligible and valued due to being disabled.
- 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.

We are not aware of any other data issues that would be expected to have a material impact on the results and there are no unresolved matters related to the data.

# Actuarial Section

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

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

	Medical		Prescription Drugs (Rx)	
	Pre-Medicare	Medicare	Pre-Medicare	Medicare
<b>A. Fiscal 2017</b>				
1. Incurred Claims	\$ 230,671,216	\$ 66,265,130	\$ 64,442,324	\$ 160,756,912
2. Adjustments for Rx Rebates	-	-	(7,733,079)	(19,290,829)
3. Net incurred claims	\$ 230,671,216	\$ 66,265,130	\$ 56,709,245	\$ 141,466,082
4. Average Enrollment	23,342	38,502	23,342	38,502
5. Claim Cost Rate (3) / (4)	9,882	1,721	2,430	3,674
6. Trend to Fiscal 2019	1.136	1.087	1.147	1.147
7. Fiscal 2019 Incurred Cost Rate (5) x (6)	\$ 11,230	\$ 1,870	\$ 2,787	\$ 4,214
<b>B. Fiscal 2018</b>				
1. Incurred Claims	\$ 228,572,782	\$ 72,875,570	\$ 65,406,973	\$ 178,763,430
2. Adjustments for Rx Rebates	-	-	(7,848,837)	(21,451,612)
3. Net incurred claims	\$ 228,572,782	\$ 72,875,570	\$ 57,558,136	\$ 157,311,819
4. Average Enrollment	21,920	40,560	21,920	40,560
5. Claim Cost Rate (3) / (4)	10,428	1,797	2,626	3,878
6. Trend to Fiscal 2019	1.062	1.040	1.080	1.080
7. Fiscal 2019 Incurred Cost Rate (5) x (6)	\$ 11,074	\$ 1,869	\$ 2,836	\$ 4,189
<b>C. Incurred Cost Rate by Fiscal Year</b>				
1. Fiscal 2017 A. (7)	11,230	1,870	2,787	4,214
2. Fiscal 2018 B. (7)	11,074	1,869	2,836	4,189
<b>D. Weighting by Fiscal Year</b>				
1. Fiscal 2017	50%	50%	50%	50%
2. Fiscal 2018	50%	50%	50%	50%
<b>E. Fiscal 2019 Incurred Cost Rate</b>				
1. Rate at Average Age C x D	\$ 11,152	\$ 1,870	\$ 2,811	\$ 4,201
2. Average Aging Factor	0.824	1.251	0.837	1.116
3. Rate at Age 65 (1) / (2)	\$ 13,535	\$ 1,494	\$ 3,360	\$ 3,764
<b>F. Development of Part A&amp;B and Part B Only Cost from Pooled Rate Above</b>				
1. Part A&B Average Enrollment		40,223		
2. Part B Only Average Enrollment		338		
3. Total Medicare Average Enrollment B(4)		40,560		
4. Cost ratio for those with Part B only to those with Part A&B		3.180		
5. Factor to determine cost for those with Parts A&B (2) / (3) x (4) + (1) / (3) x 1.00		1.018		
6. Medicare per capita cost for all participants: E(3)		\$ 1,494		
7. Cost for those eligible for Parts A&B: (6) / (5)		\$ 1,468		
8. Cost for those eligible for Part B only: (7) x (4)		\$ 4,667		



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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, 2018 through June 30, 2019**

Age	Medical and Medicare Parts A & B	Medical and Medicare Part B Only	Prescription Drug	Medicare Retiree Drug Subsidy	Medicare EGWP Subsidy
45	\$ 8,260	\$ 8,260	\$ 2,053	\$ —	\$ —
50	9,346	9,346	2,438	—	—
55	10,574	10,574	2,896	—	—
60	11,963	11,963	3,119	—	—
65	1,468	4,667	3,764	527	1,039
70	1,701	5,410	4,155	582	1,147
75	1,972	6,272	4,588	642	1,266
80	2,178	6,925	4,474	626	1,235

**Changes in Methods Since the Prior Valuation**

Prior to the June 30, 2018 valuation: (i) the total UAAL was amortized over the remainder of the 25-year closed period that was established in 2014; and (ii) the actuarial cost method for the retiree healthcare plan was on a level dollar basis (it is now on a level percent of pay method). There were no other changes in the asset or valuation methods since the prior valuation.

# Actuarial Section

**State of Alaska**  
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**Summary of Actuarial Assumptions and Changes in Assumptions**

The demographic and economic assumptions used in the June 30, 2018 valuation are described below. Unless noted otherwise, these assumptions were adopted by the Board in January 2019 based on the experience study for the period July 1, 2013 to June 30, 2017.

1. Investment Return                    7.38% per year, net of investment expenses.
2. Salary Scale                         Salary scale rates based upon the 2013-2017 actual experience (See Table 1).  
Inflation – 2.50% per year. Productivity – 0.25% per year.
3. Payroll Growth                     2.75% 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 2.50% annually.
5. Mortality  
(Pre-termination)                    Mortality rates based upon the 2013-2017 actual experience. 100% of RP-2014 white-collar employee table with MP-2017 generational improvement
6. Mortality  
(Post-termination)                    Mortality rates based upon the 2013-2017 actual experience. 93% of male and 90% of female rates of RP-2014 white-collar healthy annuitant table with MP-2017 generational improvement.  
  
Deaths are assumed to result from occupational causes 15% of the time.
7. Turnover                             Based upon the 2013-2017 actual experience (see Table 2).
8. Disability                            Incidence rates based upon the 2013-2017 actual experience (see Table 3).  
  
Post-disability mortality in accordance with the RP-2014 disabled table with MP-2017 generational improvement. Deaths are assumed to be from non-occupational causes 85% of the time.
9. Retirement                         Retirement rates based upon the 2013-2017 actual experience (see Table 4).  
  
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. Spouse Age Difference            Males are assumed to be three years older than their wives. Females are assumed to be two years younger than husbands.
11. Percent Married for Pension     85% of male members and 75% of female members are assumed to be married at termination from active service.

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12. Dependent Spouse Medical Coverage Election	Applies to members who do not have dual medical coverage. 65% of male members and 60% female members are assumed to be married and cover a dependent spouse.
13. Dependent Children	Benefits for dependent children have been valued only for members currently covering their dependent children. These benefits are only valued through the dependent children's age 23 (unless the child is disabled).
14. Contribution Refunds	0% 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.
15. 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. Non-vested terminations with appropriate refund dates are assumed to have received a full refund of contributions. Active members with missing salary and service are assumed to be terminated with status based on their vesting percentage.
16. Active Rehire Assumption	The Normal Cost used for determining contribution rates and in the projections includes a rehire assumption to account for anticipated rehires. The Normal Cost shown in the report includes the following assumptions (which were developed based on the 5 years of rehire loss experience through June 30, 2017). For projections, these assumptions were assumed to grade to zero uniformly over a 20-year period. – Pension: 15.57% – Healthcare: 12.03%
17. Active Data Adjustment	To reflect participants who terminate employment before the valuation date and are subsequently rehired after the valuation date, participants who are listed as terminated in the June 30 census data file but active in the October 1 census data file are updated to active status as of June 30.
18. COLA	Alaska Cost-of-Living Adjustment. Of those benefit recipients who are eligible for the COLA, 60% are assumed to remain in Alaska and receive the COLA.
19. 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.
20. Post-Retirement Pension Adjustment	50% and 75% of assumed inflation, or 1.25% and 1.875% respectively, is valued for the annual automatic Postretirement Pension Adjustment (PRPA) as specified in the statute.
21. Expenses	The investment return assumption is net of investment expenses. The Normal Cost as of June 30, 2018 was increased by the following amounts for administrative expenses (for projections, the % increase was assumed to remain constant in future years): – Pension: \$2,869,850 – Healthcare: \$1,651,600

**State of Alaska**  
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22. Part-Time Status                      Part-time employees are assumed to earn 0.75 years of credited service per year.
23. Re-Employment Option                All re-employed retirees are assumed to return to work under the Standard Option.
24. Service                                    Total credited service is provided by the State. This service is assumed to be 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 as described in Section 6.1.
25. 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.
26. Per Capita Claims Cost                Sample claims cost rates adjusted to age 65 for FY19 medical and prescription drugs are shown below:

	<u>Medical</u>	<u>Prescription Drugs</u>
Pre-Medicare	\$ 13,535	\$ 3,360
Medicare Parts A & B	1,468	3,764
Medicare Part B Only	4,667	3,764
Medicare Part D - RDS	N/A	527
Medicare Part D - EGWP	N/A	1,039

Members are assumed to attain Medicare eligibility at age 65. The EGWP cost shown above is for calendar year 2019. All other costs are for the 2019 fiscal year (July 1, 2018 – June 30, 2019).

The EGWP subsidy is assumed to increase in future years by the trend rates shown below. No future legislative changes or other events are anticipated to impact the EGWP subsidy. If any legislative or other changes occur in the future that impact the EGWP subsidy (which could either increase or decrease the plan's Actuarial Accrued Liability), those changes will be evaluated and quantified when they occur.

27. Third Party Administrator Fees                \$300 per person per year; assumed trend rate of 4.5% per year.
28. Medicare Part B Only                      We assume that 5% of actives hired before 4/1/1986 and current retirees who are not yet Medicare eligible will not be eligible for Medicare Part A.

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**Summary of Actuarial Assumptions and Changes in Assumptions**

29. 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, 7.5% is applied to the FY19 pre-Medicare medical claims cost to get the FY20 medical claims cost.

Fiscal year	Medical pre-65	Medical post-65	Prescription Drugs / EGWP	RDS
2019	7.5%	5.5%	8.5%	4.7%
2020	7.0	5.4	8.0	4.7
2021	6.5	5.4	7.5	4.6
2022	6.3	5.4	7.1	4.6
2023	6.1	5.4	6.8	4.6
2024	5.9	5.4	6.4	4.6
2025	5.8	5.4	6.1	4.6
2026	5.6	5.4	5.7	4.6
2027-2040	5.4	5.4	5.4	4.5
2041	5.3	5.3	5.3	4.5
2042	5.2	5.2	5.2	4.5
2043	5.1	5.1	5.1	4.5
2044	5.1	5.1	5.1	4.5
2045	5.0	5.0	5.0	4.5
2046	4.9	4.9	4.9	4.5
2047	4.8	4.8	4.8	4.5
2048	4.7	4.7	4.7	4.5
2049	4.6	4.6	4.6	4.5
2050+	4.5	4.5	4.5	4.5

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

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The table below shows the amount each trend rate shown on the previous page was increased by the amount for the Cadillac Tax:

Fiscal year	Pre-65	Post-65	Fiscal year	Pre-65	Post-65
2018-2030	—%	—%	2070	0.21%	0.46%
2031	—	0.15	2071	0.21	0.45
2032	—	0.34	2072	0.20	0.44
2033	—	0.30	2073	0.20	0.43
2034	—	0.28	2074	0.20	0.42
2035	—	0.26	2075	0.19	0.41
2036	—	0.26	2076	0.19	0.40
2037	—	0.21	2077	0.18	0.39
2038	0.10	0.22	2078	0.18	0.38
2039	0.09	0.20	2079	0.17	0.37
2040	0.08	0.16	2080	0.17	0.36
2041	0.07	0.14	2081	0.17	0.35
2042	0.06	0.12	2082	0.16	0.34
2043	0.04	0.06	2083	0.16	0.33
2044	0.04	0.07	2084	0.15	0.32
2045	0.04	0.06	2085	0.15	0.31
2046	0.03	0.05	2086	0.15	0.31
2047	0.04	0.10	2087	0.14	0.30
2048	0.04	0.43	2088	0.14	0.29
2049	0.05	0.57	2089	0.14	0.29
2050	0.05	0.52	2090	0.13	0.28
2051	0.06	0.60	2091	0.13	0.27
2052	0.06	0.63	2092	0.13	0.27
2053	0.07	0.69	2093	0.13	0.26
2054	0.10	0.69	2094	0.12	0.25
2055	0.30	0.68	2095	0.12	0.25
2056	0.30	0.67	2096	0.12	0.24
2057	0.29	0.66	2097	0.11	0.24
2058	0.29	0.64	2098	0.11	0.23
2059	0.28	0.62	2099	0.11	0.22
2060	0.27	0.60	2100	0.11	0.22
2061	0.27	0.58	2101	0.10	0.21
2062	0.26	0.57	2102	0.10	0.21
2063	0.25	0.56	2103	0.10	0.20
2064	0.25	0.54	2104	0.10	0.20
2065	0.24	0.53	2105	0.10	0.19
2066	0.24	0.51	2106	0.09	0.19
2067	0.23	0.50	2107	0.09	0.19
2068	0.23	0.49	2108	0.09	0.18

### 30. Aging Factors

Age	Medical	Prescription drugs
0–44	2.0%	4.5%
45–54	2.5	3.5
55–64	2.5	1.5
65–74	3.0	2.0
75–84	2.0	(0.5)
85–95	0.3	(2.5)
96 +	—	—

**State of Alaska**  
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31. 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 FY19 contributions based on monthly rates shown below for calendar 2018 and 2019 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. For dependent children, we value 1/3 of the annual retiree contribution to estimate the per child rate based upon the assumed number of children in rates where children are covered.

Coverage category	Calendar 2019		Calendar 2018
	Annual contribution	Monthly contribution	Monthly contribution
Retiree only	\$ 9,876	823	823
Retiree and spouse	19,764	1,647	1,647
Retiree and child(ren)	13,956	1,163	1,163
Retiree and family	23,844	1,987	1,987
Composite	14,676	1,223	1,223

32. 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, 7.6% is applied to the FY19 retired member medical contributions to get the FY20 retired member medical contributions.

<b>Trend Assumptions</b>	
Fiscal year:	
2019	7.6%
2020	7.2
2021	6.8
2022	6.5
2023	6.3
2024	6.0
2025	5.9
2050	4.5
2100	4.5

Graded trend rates for retired member medical contributions were updated to the rates shown above for the June 30, 2018 valuation to reflect the updated ultimate trend assumption of 4.5% used for gross cost components. Actual FY19 retired member medical contributions are reflected in the valuation.

33. Healthcare Participation  
 100% of system paid members and their spouses are assumed to elect healthcare benefits as soon as they are eligible. 20% of non-system paid members and their spouses are assumed to elect healthcare benefits as soon as they are eligible.

**State of Alaska**  
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**Summary of Actuarial Assumptions and Changes in Assumptions**

34. Changes in Assumptions Since the Prior Valuation      Effective for the June 30, 2018 valuation, the Board adopted changes to the demographic and economic assumptions recommended by the actuary, based on the results of an experience analysis performed on the population experience from July 1, 2013 to June 30, 2017. The changes in assumptions were adopted by the Board during the January 2019 Board meeting.



**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	6.75%
1	6.25
2	5.75
3	5.25
4	4.75
5	4.25
6	3.75
7	3.65
8	3.55
9	3.45
10	3.35
11	3.25
12	3.15
13	3.05
14	2.95
15	2.85
16+	2.75

# Actuarial Section

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

**Table 2**  
**Alaska TRS**  
**Turnover Rates**

**Select Rates of Turnover During the First 8 Years of Employment**

Years of Service	Male	Female
0	20.4%	17.0%
1	20.4	17.0
2	16.8	14.0
3	14.4	12.0
4	12.0	10.0
5	10.8	9.0
6	9.0	7.5
7	7.2	6.0

**Ultimate Rates of Turnover**  
**After the First 8 Years of Employment**

Age	Male	Female	Age	Male	Female
22	2.62%	3.79%	39	2.57%	3.74%
23	2.62	3.79	40	2.26	2.75
24	2.61	3.79	41	2.26	2.75
25	2.61	3.79	42	2.25	2.74
26	2.61	3.79	43	2.24	2.73
27	2.60	3.79	44	2.23	2.73
28	2.60	4.27	45	2.22	2.72
29	2.60	4.76	46	2.21	2.71
30	2.60	5.24	47	2.20	2.70
31	2.60	5.73	48	2.18	2.69
32	2.59	6.22	49	2.16	2.68
33	2.59	5.72	50	3.43	4.42
34	2.59	5.23	51	3.39	4.39
35	2.59	4.74	52	3.35	4.36
36	2.58	4.25	53	3.30	4.32
37	2.58	3.75	54	3.00	7.56
38	2.58	3.75	55+	2.00	5.00

**State of Alaska**  
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**Summary of Actuarial Assumptions and Changes in Assumptions**

**Table 3**  
**Alaska TRS Disability Table**

Age	Male	Female
< 31	0.0337%	0.0612%
31	0.0337	0.0613
32	0.0337	0.0613
33	0.0342	0.0622
34	0.0347	0.0631
35	0.0353	0.0641
36	0.0357	0.0650
37	0.0362	0.0659
38	0.0371	0.0674
39	0.0379	0.0689
40	0.0387	0.0703
41	0.0395	0.0718
42	0.0403	0.0733
43	0.0423	0.0770
44	0.0443	0.0806
45	0.0464	0.0843
46	0.0483	0.0879
47	0.0504	0.0916
48	0.0536	0.0975
49	0.0569	0.1034
50	0.0601	0.1093
51	0.0634	0.1152
52	0.0666	0.1211
53	0.0746	0.1356
54	0.0826	0.1501

# Actuarial Section

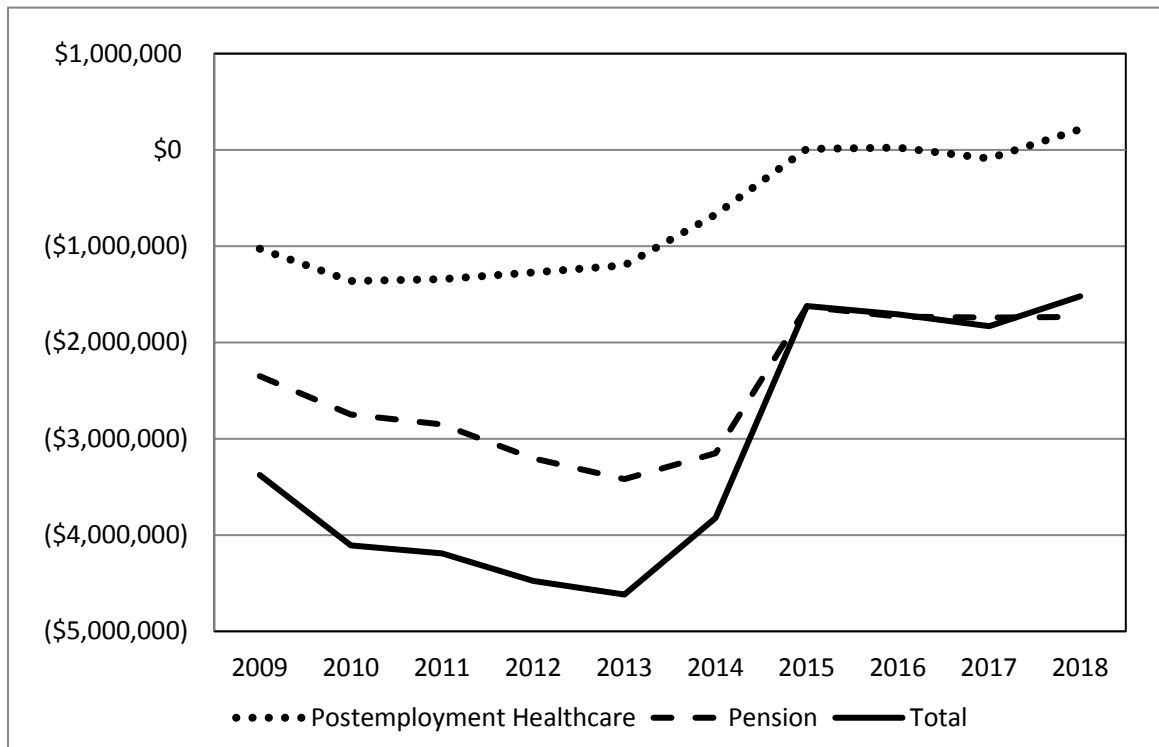
**State of Alaska**  
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**Table 4**  
**Alaska TRS Retirement Table**

Age at Retirement	Retirement Rates			
	Reduced		Unreduced	
	Male	Female	Male	Female
< 45	N/A	N/A	3.0%	3.0%
45	N/A	N/A	5.0	5.0
46	N/A	N/A	5.0	8.0
47	N/A	N/A	5.0	8.0
48	N/A	N/A	5.0	8.0
49	N/A	N/A	5.0	8.0
50	10.0%	10.0%	5.0	14.0
51	10.0	10.0	8.0	13.0
52	10.0	10.0	15.0	13.0
53	10.0	12.0	15.0	14.0
54	10.0	12.0	15.0	15.0
55	15.0	8.0	20.0	17.0
56	10.0	8.0	17.0	17.0
57	10.0	8.0	15.0	17.0
58	10.0	8.0	20.0	17.0
59	10.0	8.0	20.0	23.0
60	N/A	N/A	25.0	23.0
61	N/A	N/A	18.0	23.0
62	N/A	N/A	18.0	21.0
63	N/A	N/A	18.0	21.0
64	N/A	N/A	18.0	26.0
65	N/A	N/A	30.0	21.0
66	N/A	N/A	25.0	21.0
67	N/A	N/A	25.0	21.0
68	N/A	N/A	25.0	26.0
69	N/A	N/A	35.0	26.0
70	N/A	N/A	30.0	26.0
71	N/A	N/A	30.0	37.0
72	N/A	N/A	30.0	37.0
73	N/A	N/A	30.0	37.0
74	N/A	N/A	30.0	37.0
75-79	N/A	N/A	50.0	50.0
80+	N/A	N/A	100.0	100.0

<b>Teachers' Retirement System                      Defined Benefit Retirement Plan                      Funding Excess/(Unfunded Liability)                      (In thousands)</b>				
Actuarial Valuation Year Ended June 30	Postemployment Healthcare	Pension	Total Funding Excess/ (Unfunded Liability)	Funded Ratio
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
2016	23,868	(1,731,101)	(1,707,233)	82.8
2017	(90,291)	(1,740,690)	(1,830,981)	82.0
2018	214,559	(1,734,690)	(1,520,131)	84.7

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



# Actuarial Section

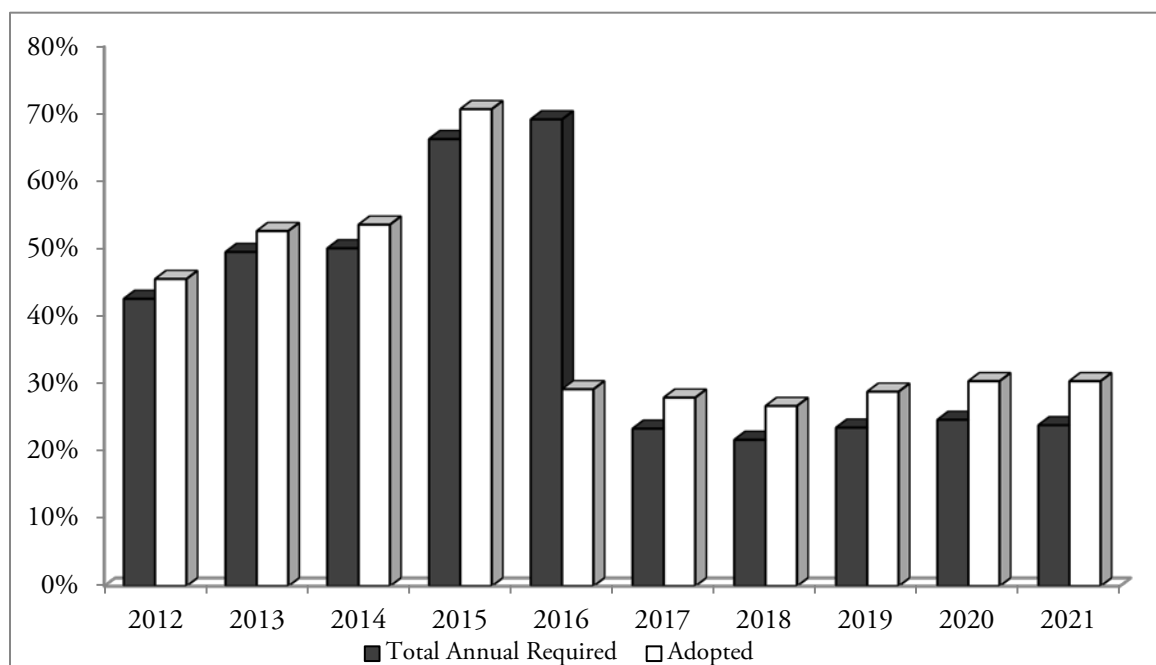
Teachers' Retirement System Defined Benefit Retirement Plan Employer Contribution Rates					
Year Ended June 30	Actuarially Determined				Adopted
	Actuarial Valuation Year Ended June 30	Normal Cost <sup>1</sup>	Past Service	Total Annual Required	
2012	2009	6.57%	36.04%	42.61%	45.55%
2013	2010	7.47	42.09	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
2019	2016	5.29	18.27	23.56	28.90
2020	2017	5.14	19.48	24.62	30.47
2021	2018	5.93	17.99	23.92	30.47

<sup>1</sup> 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. Beginning with the June 30, 2018 valuation, the UAAL amortization was changed as described in Section 6.2.

Valuations are used to set contribution rates in future years.

## 10-YEAR COMPARISON OF AVERAGE EMPLOYER CONTRIBUTION RATES



<b>Teachers' Retirement System Defined Benefit Retirement Plan Schedule of Active Member Valuation Data</b>					
<b>Valuation Date</b>	<b>Number</b>	<b>Annual Earnings (In thousands)</b>	<b>Annual Average Earnings</b>	<b>Percent Increase In Average Earnings</b>	<b>Number of Participating Employers</b>
June 30, 2018	4,418	\$ 386,016	\$ 87,374	1.2 %	56
June 30, 2017	4,772	411,951	86,327	1.6%	57
June 30, 2016	5,123	435,222	84,954	2.4	57
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

<b>Teachers' Retirement System Defined Benefit Retirement Plan Schedule of Pension Benefit Recipients Added to and Removed from Rolls</b>								
<b>Year Ended</b>	<b>Added to Rolls</b>		<b>Removed from Rolls</b>		<b>Rolls – End of Year</b>		<b>Percent Increase/ (Decrease) In Annual Pension Allowances</b>	<b>Average Annual Pension Allowances</b>
	<b>No.*</b>	<b>Annual Pension Allowances*</b>	<b>No.*</b>	<b>Annual Pension Allowances*</b>	<b>No.</b>	<b>Annual Pension Allowances</b>		
June 30, 2018	555	\$ 21,924,986	261	\$ 6,926,129	13,277	\$ 470,498,291	3.29%	\$ 35,437
June 30, 2017	487	17,151,684	230	7,736,025	12,983	455,499,434	2.11	35,084
June 30, 2016	530	18,364,581	222	6,144,109	12,726	446,083,775	2.82	35,053
June 30, 2015	888	34,120,658	220	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

\*Numbers are estimated, and include other internal transfers.

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<b>Teachers' Retirement System                      Defined Benefit Retirement Plan                      Pension Solvency Test                      (In thousands)</b>							
Valuation Date	Pension Actuarial Accrued Liability For:			Pension Valuation Assets	Portion of Actuarial Accrued Liabilities Covered by Assets:		
	(1) Active Member Contributions	(2) Inactive Members	(3) Active Members (Employer-Financed Portion)		(1)	(2)	(3)
June 30, 2016	\$ 709,903	\$ 5,329,673	\$ 1,120,212	\$ 5,428,687	100.0%	88.5%	—%
June 30, 2015	714,422	5,192,935	1,144,367	5,442,651	100.0	90.7	—
June 30, 2014 <sup>1,2</sup>	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 <sup>1</sup>	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	—

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



<b>Teachers' Retirement System                      Defined Benefit Retirement Plan                      Postemployment Healthcare Solvency Test                      (In thousands)</b>							
Valuation Date	Postemployment Healthcare Actuarial Accrued Liability For:			Post-Employment Healthcare Valuation Assets	Portion of Actuarial Accrued Liabilities Covered by Assets:		
	(1) Active Member Contributions	(2) Inactive Members	(3) Active Members (Employer-Financed Portion)		(1)	(2)	(3)
June 30, 2016	\$ —	\$ 1,853,084	\$ 894,752	\$ 2,771,704	100.0%	100.0%	100.0%
June 30, 2015	—	1,870,987	806,406	2,686,272	100.0	100.0	100.0
June 30, 2014 <sup>1 2</sup>	—	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 <sup>1</sup>	—	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 <sup>1</sup>	—	1,480,864	906,660	1,266,890	100.0	85.6	—

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

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

# Actuarial Section

<b>Teachers' Retirement System Defined Benefit Retirement Plan Analysis of Financial Experience</b>					
<b>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</b>					
<b>Type of (Gain) or Loss</b>	<b>Change in Employer/State Contribution Rate During Fiscal Year</b>				
	<b>2018</b>	<b>2017</b>	<b>2016</b>	<b>2015</b>	<b>2014</b>
Health Claims <sup>(1)</sup>	(1.69)%	(2.75)%	(0.43)%	(4.07)%	(8.59)%
Salary Experience	(0.48)	(0.39)	(0.42)	(0.34)	(0.43)
Investment Experience	1.65	1.99	2.07	0.62	(6.31)
Demographic Experience and Miscellaneous	1.35	(1.51)	(0.98)	(0.52)	1.75
Contribution Shortfall	0.04	(0.22)	—	—	1.24
(Gain) or Loss During Year from Experience	0.87	(2.88)	0.24	(4.31)	(12.34)
Assumption/Method Changes and EGWP	(1.57)	4.04	3.19	—	(33.50)
System Benefit Changes	—	—	—	—	—
Composite (Gain) or Loss During Year	(0.70)	1.16	3.43	(4.31)	(45.84)
Beginning Total Employer/State Contribution Rate	24.62	23.56	21.75	23.40	69.24
Ending Valuation Year Total Employer/State Contribution Rate	<u>23.92%</u>	<u>24.72%</u>	<u>25.18%</u>	<u>19.09%</u>	<u>23.40%</u>
Fiscal Year Employer/State Contribution Rates	24.34%	24.62%	23.56%	21.75%	23.40%
Fiscal Year for Which Rate Applies	FY21	FY20	FY19	FY18	FY17

(1) Prior to 2017, the health claims percentages include the effects of healthcare demographic experience gains/losses.

NOTE: In the second session of the 28<sup>th</sup> 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%.

<b>Teachers' Retirement System Defined Benefit Retirement Plan Analysis of Financial Experience</b>						
<b>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</b>						
<b>Type of (Gain) or Loss</b>	<b>Change in Employer/State Contribution Rate During Fiscal Year</b>					
	<b>Pension</b>			<b>Healthcare</b>		
	<b>2018</b>	<b>2017</b>	<b>2016</b>	<b>2018</b>	<b>2017</b>	<b>2016</b>
Health Claims <sup>(1)</sup>	N/A	N/A	N/A	(1.69)%	(2.75)%	(0.43)%
Salary Experience	(0.48)%	(0.39)%	(0.42)%	N/A	N/A	N/A
Investment Experience	1.10	1.32	1.36	0.55	0.67	0.71
Demographic Experience and Miscellaneous	(0.94)	(0.98)	(0.98)	2.29	(0.53)	N/A
Contribution Shortfall	(0.03)	(0.09)	—	0.07	(0.13)	—
(Gain) or Loss During Year From Experience	(0.35)	(0.14)	(0.04)	1.22	(2.74)	0.28
Assumption and Method Changes	0.16	—	2.73	(1.73)	4.04	0.46
System Benefit Changes	—	—	—	—	—	—
Composite (Gain) or Loss During Year	(0.19)	(0.14)	(2.69)	(0.51)	1.30	0.74
Beginning Total Employer/State Contribution Rate	20.71	20.86	19.16	3.91	2.70	2.59
Ending Valuation Year Total Employer/State Contribution Rate	<u>20.52%</u>	<u>20.72%</u>	<u>21.85%</u>	<u>3.40%</u>	<u>4.00%</u>	<u>3.33%</u>
Fiscal Year Employer/State Contribution Rates	20.94%	20.71%	20.86%	3.40%	3.91%	2.70%
Fiscal Year for Which Rate Applies	FY21	FY20	FY19	FY21	FY20	FY19

<sup>(1)</sup> Prior to 2017, the health claims percentages include the effects of healthcare demographic experience gains/losses.

# Actuarial Section

## 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, 2018. 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 56 employers participating in the TRS, including the State of Alaska, 52 school districts, and three 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

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- 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.

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.

# Actuarial Section

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

### 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 percentage of payroll amount over a closed 25-year period starting June 30, 2014. Effective June 30, 2018, each future year's unfunded service liability is separately amortized on a level percent of pay basis over 25 years.

Employer rates cannot be less than the normal cost rate.

### 7. Additional State Contributions

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 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 below). Supplemental contributions are only refundable upon death (see 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 TRS prior to July 1, 2010. Interest accrues on refunds until paid in full or members retire.

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## 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
  - 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.

## 10. 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.

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## 11. 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. 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%.

## 12. 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.

## 13. 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 TRS. During reemployment, members earn additional TRS service and contributions are withheld from their wages.

Members retired under the RIP who return to employment under TRS, 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.



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#### 14. Postemployment Healthcare Benefits

When pension benefits begin, major medical benefits are provided by 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.

Medical, prescription drug, dental, vision and audio coverage is provided through the AlaskaCare Retiree Health Plan. Health plan provisions do not vary by retirement tier or age, except for Medicare coordination. Participants in dental, vision, and audio coverage pay a full self-supporting rate and those benefits are not included in this valuation.

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

Where premiums are required prior to age 60 (Tier 2), the valuation bases this payment upon the age of the retiree.

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

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

The plan coordinates with Medicare on a traditional Coordination of Benefits Method. Starting in 2019, the prescription drug coverage will be through a Medicare Part D EGWP arrangement.

#### 15. 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.

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## 16. 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 non-occupational 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.

**Nonoccupational Death:** When a vested member dies from non-occupational causes, the surviving spouse may elect to receive a monthly 50% joint and survivor benefit or a lump sum benefit, 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 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 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.

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- 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.

## 17. 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 funded ratio is at least 105%.

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

## 18. Alaska Cost of Living Allowance

Eligible benefit recipients who reside in Alaska receive an Alaska 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.

## 19. Changes in Benefit Provisions Valued Since the Prior Valuation

The TRS medical benefit provisions were changed since the prior valuation to reflect the implementation of EGWP as of January 1, 2019.



August 9, 2019

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, 2018 performed by Buck Global, LLC (Buck).

The actuarial valuation is based on financial information provided in the financial statements audited by KPMG LLP, member data provided by the Division of Retirement and Benefits, and medical enrollment data provided by the healthcare claims administrator (Aetna), as summarized in this report. The benefits considered are those delineated in Alaska statutes effective June 30, 2018. The actuary did not verify the data submitted, but did perform tests for consistency and reasonableness.

All costs, liabilities and other factors under TRS DCR were determined in accordance with generally accepted actuarial principles and procedures. An actuarial cost method is used to measure the actuarial liabilities which we believe is reasonable. Buck is solely responsible for the actuarial data and actuarial results presented in this report. This report fully and fairly discloses the actuarial position of TRS DCR as of June 30, 2018.

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. Absent future gains/losses, actuarially determined contributions are expected to remain level as a percent of pay and the overall funded status is expected to remain at or above 100%.

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, 2013 to June 30, 2017. Based on that experience study, the Board adopted new assumptions effective beginning with the June 30, 2018 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, 2018 to better reflect expected future healthcare experience. Based on recent experience, the health care cost trend assumptions were also updated. A summary of the actuarial assumptions and methods used in this actuarial valuation is shown in Sections 5.2 and 5.3.

Governmental Accounting Standards Board (GASB) Statement No. 74 (GASB 74) was effective for TRS DCR beginning with fiscal year ending June 30, 2017, and GASB 75 was effective beginning with fiscal year ending June 30, 2018. Separate GASB 74 and GASB 75 reports have been prepared. Section 3 of this report contains accounting information previously disclosed under GASB 25 for fiscal years 2007 through 2013 and accounting information previously disclosed under GASB 43 for fiscal years 2007 through 2016.

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

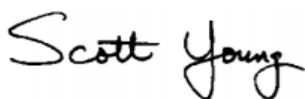
I am available to discuss this report with you at your convenience. I can be reached at 602-803-6174.

Respectfully submitted,



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

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



Scott Young, FSA, EA, MAAA  
Director  
Buck

# Actuarial Section

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

The funding method used in this valuation was adopted by the Board in October 2006, and was modified as part of the experience study for the period July 1, 2013 to June 30, 2017. The asset smoothing method used to determine valuation assets was implemented effective June 30, 2006.

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

### Valuation of Liabilities

#### A. Actuarial Method – Entry Age Normal Cost

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

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

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

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

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

#### B. Valuation of Assets

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

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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 and Prescription Drug Benefits**

The methodology used for the valuation of the retiree medical benefits is described in Section 6.2 of the State of Alaska Teachers' Retirement System Defined Benefit Plan Actuarial Valuation Report as of June 30, 2018.

Due to the lack of experience for the DCR retiree medical plan only, base claims costs are based on those described in the actuarial valuation as of June 30, 2018 for the Defined Benefit (DB) retiree medical plan covering TRS and PERS. The DB rates were used with some adjustments. The claims costs were adjusted to reflect the differences between the DCR medical plan and the DB medical plan. These differences include network steerage, different coverage levels, different Medicare coordination for medical benefits, and an indexing of the retiree out-of-pocket dollar amounts. To account for higher initial copays, deductibles and out-of-pocket limits, projected FY19 claims costs were reduced 2.1% for medical claims, and 10.4% for prescription drugs. In addition, to account for the difference in Medicare coordination, projected FY19 medical claims costs for Medicare eligible retirees were further reduced 29.3%. The medical and prescription drug percentages mentioned above were reduced 0.2% in each future year for the DCR medical benefits to reflect the fact that the medical benefit to be offered to DCR members will have annual indexing of member cost sharing features such as deductibles and out-of-pocket amounts.

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

The State transitioned to an Employer Group Waiver Program (EGWP) for DCR participants effective January 1, 2019. In the prior valuation, the impact of transitioning to the EGWP was valued by increasing the RDS subsidy offset in 2019 by 60% to reflect estimated Medicare reimbursements under the EGWP arrangement. For this year's valuation, the estimated 2019 reimbursements under EGWP were provided by Segal Consulting (who worked with the EGWP administrator, Optum, to develop those estimates).

## **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.

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

The Plan will be subject to the high cost plan excise tax (Cadillac tax) and the value of the Health Reimbursement Account must be included along with projected plan costs. Based upon guidance available at the valuation date, Buck estimated the tax based upon a blend of pre and post-Medicare projected costs and enrollment projections.

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- A blended test compares a weighted average per capita cost (based upon proportions of pre/post Medicare eligible enrollments) to the tax cost thresholds in each projection year. Projected enrollment was based upon the current enrollment data provided by Aetna, and valuation headcount projections for future years.
- We included administrative fees and applied Retiree Drug Subsidy / EGWP reimbursements to the Medicare rates.

We assumed claim costs would increase according to valuation trend assumptions from the June 30, 2018 valuation, and that the tax cost thresholds would increase at 2.25% (the CPI assumption of 2.50% less .25% to estimate the impact of using the chained CPI as required by the Tax Cut and Jobs Act passed in December 2017). The first year increased at 3.25% to reflect the additional 1.0% over inflation assumption.

We determined the impact to be approximately \$0.4M of the projected June 30, 2018 healthcare actuarial accrued liability for the DCR plan.

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

We have not identified any other specific provisions of healthcare reform or its potential repeal that would be expected to have a significant impact on the measured obligation. We will continue to monitor legislative activity.

## **E. Changes in Methods Since the Prior Valuation**

The actuarial cost method for the retiree healthcare plan was changed from the Entry Age Level Dollar method to the Entry Age Level Percent of Pay method. There were no other changes in the asset or valuation methods since the prior valuation.



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The demographic and economic assumptions used in the June 30, 2018 valuation are described below. Unless noted otherwise, these assumptions were adopted by the Board in January 2019 based on the experience study for the period July 1, 2013 to June 30, 2017.

- |     |   |   |
|-----|---|---|
| 1.  | Investment Return   | 7.38% per year, net of investment expenses.   |
| 2.  | Salary Scale  | Salary scale rates based upon the 2013-2017 actual experience (see Table 1).<br>Inflation – 2.50% per year. Productivity – 0.25% per year.  |
| 3.  | Payroll Growth  | 2.75% 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 2.50% annually.   |
| 5.  | Mortality<br>(Pre-termination)                            | Mortality rates based upon the 2013-2017 actual experience.<br><br>RP-2014 white-collar employee table with MP-2017 generational improvement.   |
| 6.  | Mortality<br>(Post-termination)                           | Mortality rates based upon the 2013-2017 actual experience.<br><br>93% of male and 90% of female rates of RP-2014 white-collar healthy annuitant table with MP-2017 generational improvement.   |
| 7.  | Turnover  | Select and ultimate rates based upon the 2013-2017 actual experience (see Table 2).   |
| 8.  | Disability  | Incidence rates based upon the 2013-2017 actual experience (see Table 3).<br><br>Disabilities are assumed to be occupational 15% of the time.<br><br>Post-disability mortality in accordance with the RP-2014 disabled table with MP-2017 generational improvement. |
| 9.  | Retirement  | Retirement rates based upon the 2013-2017 actual experience (see Table 4).  |
| 10. | Spouse Age Difference                                     | Males are assumed to be three years older than their wives. Females are assumed to be two years younger than husbands.  |
| 11. | Percent Married for<br>Occupational Death &<br>Disability | 85% of male members and 75% female members are assumed to be married at termination from active service.  |
| 12. | Dependent Spouse Medical<br>Coverage Election             | Applies to members who do not have dual medical coverage. 65% of male members and 60% female members are assumed to be married and cover a dependent spouse.  |
| 13. | Part-Time Status  | Part-time employees are assumed to earn 0.75 years of service per year.   |

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14. Per Capita Claims Cost      Sample claims cost rates (before base claims cost adjustments described below) adjusted to age 65 for FY19 medical and prescription drugs are shown below:

		<b>Medical</b>		<b>Prescription drugs</b>
Pre-Medicare	\$	13,535	\$	3,360
Medicare Parts A & B		1,468		3,764
Medicare Part D - RDS		N/A		527
Medicare Part D - EGWP		N/A		1,039

Members are assumed to attain Medicare eligibility at age 65. The EGWP cost shown above is for calendar year 2019. All other costs are for the 2019 fiscal year (July 1, 2018 – June 30, 2019).

The EGWP subsidy is assumed to increase in future years by the trend rates shown on the following pages. No future legislative changes or other events are anticipated to impact the EGWP subsidy. If any legislative or other changes occur in the future that impact the EGWP subsidy (which could either increase or decrease the plan's Actuarial Accrued Liability), those changes will be evaluated and quantified when they occur.

15. Third Party Administrator Fees      \$300 per person per year; assumed trend rate of 4.5% per year.

16. Base Claims Cost Adjustments      Due to higher initial copays, deductibles, out-of-pocket limits and member cost sharing compared to the DB medical plan, the following cost adjustments are applied to the per capita claims cost rates above:

- 0.979 for the pre-Medicare plan.
- 0.686 for both the Medicare medical plan and Medicare coordination method (2.1% reduction for the medical plan and 29.3% reduction for the coordination method).
- 0.896 for the prescription drug plan.

17. 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.

18. Administrative Expenses      Beginning with the June 30, 2018 valuation, the Normal Cost is increased for administrative expenses expected to be paid from plan assets during the year. The amounts included in the June 30, 2018 Normal Cost, which are based on the average of actual administrative expenses during the last two fiscal years, are \$6,150 for occupational death & disability and \$7,700 for retiree medical.

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19. Health Cost Trend

The table below shows the rates used to project the cost from the shown fiscal year to the next fiscal year. For example, 7.5% is applied to the FY19 pre-Medicare medical claims cost to get the FY20 medical claims cost.

<u>Fiscal year</u>	<u>Medical pre-65</u>	<u>Medical post-65</u>	<u>Prescription Drugs / EGWP</u>	<u>RDS</u>
2019	7.5%	5.5%	8.5%	4.7%
2020	7.0	5.4	8.0	4.7
2021	6.5	5.4	7.5	4.6
2022	6.3	5.4	7.1	4.6
2023	6.1	5.4	6.8	4.6
2024	5.9	5.4	6.4	4.6
2025	5.8	5.4	6.1	4.6
2026	5.6	5.4	5.7	4.6
2027-2040	5.4	5.4	5.4	4.5
2041	5.3	5.3	5.3	4.5
2042	5.2	5.2	5.2	4.5
2043	5.1	5.1	5.1	4.5
2044	5.1	5.1	5.1	4.5
2045	5.0	5.0	5.0	4.5
2046	4.9	4.9	4.9	4.5
2047	4.8	4.8	4.8	4.5
2048	4.7	4.7	4.7	4.5
2049	4.6	4.6	4.6	4.5
2050+	4.5	4.5	4.5	4.5

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

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The table below shows the amount each trend rate shown on the previous page was increased by the amount for the Cadillac Tax:

Fiscal year	Pre-65	Post-65	Fiscal year	Pre-65	Post-65
2019-2044	—%	—%	2077	0.20%	0.50%
2045	—	0.12	2078	0.20	0.49
2046	—	0.29	2079	0.19	0.48
2047	—	0.27	2080	0.19	0.46
2048	—	0.25	2081	0.18	0.45
2049	—	0.25	2082	0.18	0.44
2050	—	0.20	2083	0.18	0.43
2051	—	0.20	2084	0.17	0.42
2052	0.06	0.16	2085	0.17	0.41
2053	0.06	0.16	2086	0.16	0.40
2054	0.06	0.15	2087	0.16	0.39
2055	0.06	0.15	2088	0.16	0.38
2056	0.05	0.14	2089	0.15	0.37
2057	0.06	0.14	2090	0.15	0.37
2058	0.05	0.13	2091	0.15	0.36
2059	0.05	0.12	2092	0.15	0.35
2060	0.05	0.15	2093	0.14	0.34
2061	0.05	0.61	2094	0.14	0.33
2062	0.05	0.59	2095	0.14	0.33
2063	0.05	0.61	2096	0.13	0.32
2064	0.05	0.64	2097	0.13	0.31
2065	0.05	0.65	2098	0.13	0.30
2066	0.05	0.64	2099	0.13	0.30
2067	0.14	0.64	2100	0.12	0.29
2068	0.24	0.63	2101	0.12	0.28
2069	0.24	0.61	2102	0.12	0.28
2070	0.23	0.60	2103	0.12	0.27
2071	0.23	0.58	2104	0.11	0.27
2072	0.22	0.57	2105	0.11	0.26
2073	0.22	0.55	2106	0.11	0.25
2074	0.21	0.54	2107	0.11	0.25
2075	0.21	0.53	2108	0.10	0.24
2076	0.20	0.51	2109	0.10	0.24

## 20. Aging Factors

Age	Medical	Prescription Drugs
0-44	2.0%	4.5%
45-54	2.5	3.5
55-64	2.5	1.5
65-74	3.0	2.0
75-84	2.0	(0.5)
85-94	0.3	(2.5)
95 +	—	—

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21. Retiree Medical Participation

<u>Decrement Due to Disability</u>	<u>Decrement Due to Retirement</u>
<u>Age</u>	<u>Age</u>
<u>Percent Participation</u>	<u>Percent Participation *</u>
< 56	55
56	56
57	57
58	58
59	59
60	60
61	61
62	62
63	63
64	64
65+	65+
	<u>Years of Service</u>
	< 15
	15-19
	20-24
	25-29
	30+

\* Participation assumption is a combination of (i) the service-based rates for retirement from employment at age 65+ and (ii) the age-based rates for retirement from employment before age 65. These 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.

22. Imputed Data

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

23. Changes in Assumptions Since the Prior Valuation

Effective for the June 30, 2018 valuation, the Board adopted the changes to the demographic and economic assumptions recommended by the actuary, based on the results of an experience study performed on the population experience from July 1, 2013 to June 30, 2017. The changes in assumptions were adopted at the January 2019 Board meeting.

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

**Table 1**  
**Alaska TRS DCR Plan**  
**Salary Scale**

<b>Years of Service</b>	<b>Percent Increase</b>
0	6.75%
1	6.25
2	5.75
3	5.25
4	4.75
5	4.25
6	3.75
7	3.65
8	3.55
9	3.45
10	3.35
11	3.25
12	3.15
13	3.05
14	2.95
15	2.85
16 +	2.75

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

**Table 2**  
**Alaska TRS DCR Plan**  
**Turnover Rates**

**Select Rates during the First 6 Years of Employment**

<u>Years of 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 6 Years of Employment**

<u>Age</u>	<u>Male</u>	<u>Female</u>	<u>Age</u>	<u>Male</u>	<u>Female</u>
< 26	9.41%	8.31%	45	9.05%	8.09%
26	9.41	8.32	46	8.99	8.07
27	9.40	8.33	47	8.94	8.04
28	9.39	8.32	48	8.86	8.00
29	9.39	8.32	49	8.78	7.95
30	9.38	8.31	50	8.70	7.91
31	9.37	8.31	51	8.62	7.86
32	9.36	8.30	52	8.54	7.82
33	9.35	8.29	53	8.37	7.73
34	9.35	8.28	54	8.20	7.64
35	9.34	8.27	55	8.03	7.55
36	9.34	8.26	56	7.86	7.46
37	9.33	8.25	57	7.69	7.36
38	9.31	8.24	58	7.76	7.50
39	9.29	8.22	59	7.82	7.64
40	9.26	8.21	60	7.89	7.78
41	9.24	8.19	61	7.95	7.92
42	9.22	8.17	62	8.02	8.05
43	9.16	8.15	63	8.59	8.29
44	9.11	8.12	64	9.17	8.52
			65 +	9.75	8.75

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

**Table 3**  
**Alaska TRS DCR Plan**  
**Disability Table**

Age	Male	Female
< 31	0.0337%	0.0612%
31	0.0337	0.0613
32	0.0337	0.0613
33	0.0342	0.0622
34	0.0347	0.0631
35	0.0353	0.0641
36	0.0357	0.0650
37	0.0362	0.0659
38	0.0371	0.0674
39	0.0379	0.0689
40	0.0387	0.0703
41	0.0395	0.0718
42	0.0403	0.0733
43	0.0423	0.0770
44	0.0443	0.0806
45	0.0464	0.0843
46	0.0483	0.0879
47	0.0504	0.0916
48	0.0536	0.0975
49	0.0569	0.1034
50	0.0601	0.1093
51	0.0634	0.1152
52	0.0666	0.1211
53	0.0746	0.1356
54	0.0826	0.1501



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

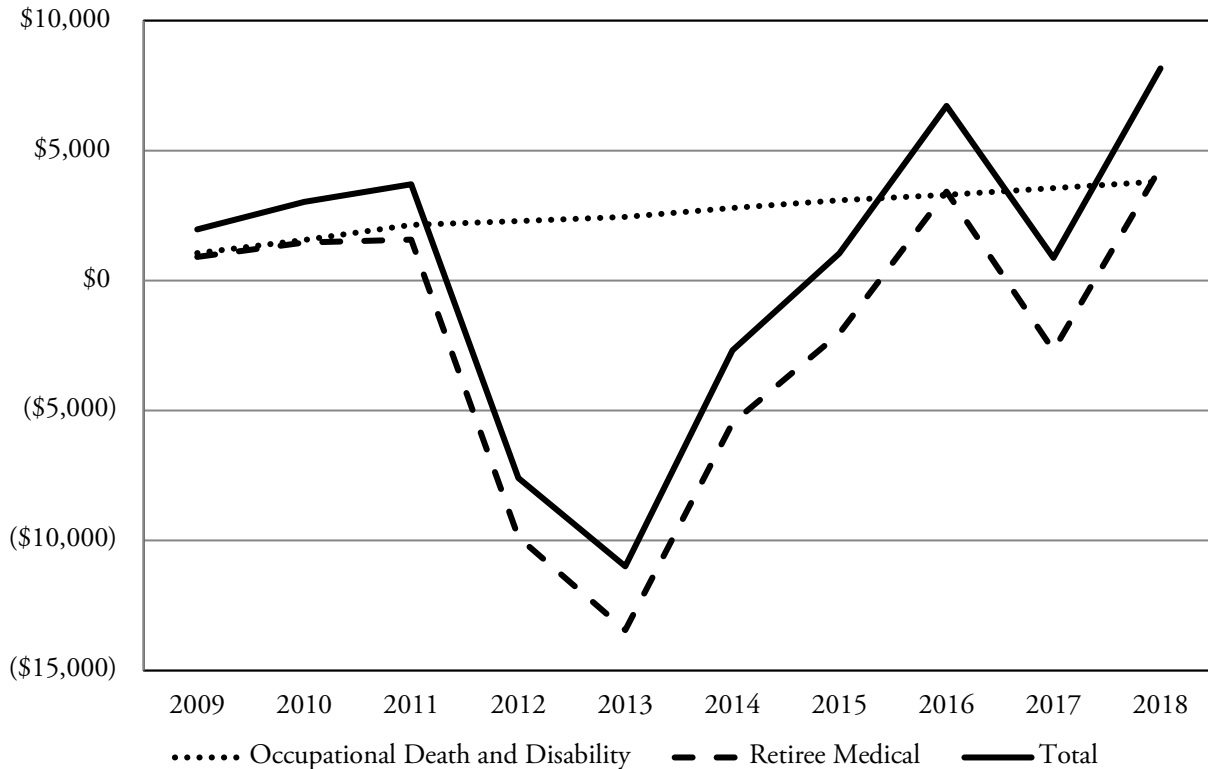
**Table 4**  
**Alaska TRS DCR Plan**  
**Retirement Rates**

<b>Age</b>	<b>Rate</b>
< 55	2.0%
55	3.0
56	3.0
57	3.0
58	3.0
59	3.0
60	5.0
61	5.0
62	10.0
63	5.0
64	5.0
65	25.0
66	25.0
67	25.0
68	20.0
69	20.0
70 +	100.0

# Actuarial Section

<b>Teachers' Retirement System                      Defined Contribution Retirement Plan                      Occupational Death and Disability and Retiree Medical Benefits                      Funding Excess/(Unfunded Liability)                      (In thousands)</b>				
<b>Actuarial Valuation Year Ended June 30</b>	<b>Occupational Death and Disability</b>	<b>Retiree Medical</b>	<b>Total Funding Excess/ (Unfunded Liability)</b>	<b>Funded Ratio</b>
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
2016	3,304	3,422	6,726	130.6
2017	3,562	(2,683)	879	102.6
2018	3,815	4,347	8,162	125.1

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



<b>Teachers' Retirement System                      Defined Contribution Retirement Plan                      Occupational Death and Disability and Retiree Medical Benefits                      Employer Contribution Rates</b>					
<b>Fiscal Year</b>	<b>Actuarial Valuation Year Ended June 30</b>	<b>Occupational Death and Disability</b>	<b>Retiree Medical</b>	<b>Total Annual Required</b>	<b>Adopted</b>
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
2019	2016	0.08	0.79	0.87	0.87
2020	2017	0.08	1.09	1.17	1.17
2021	2018	0.08	0.93	1.01	1.01

Valuations are used to set contribution rates in future years.

# Actuarial Section

**Teachers' Retirement System  
Defined Contribution Retirement Plan  
Occupational Death and Disability and Retiree Medical Benefits  
Schedule of Active Member Valuation Data**

<b>Valuation Date</b>	<b>Number</b>	<b>Annual Earnings (In thousands)</b>	<b>Annual Average Earnings</b>	<b>Percent Increase/ (Decrease) in Average Earnings</b>	<b>Number of Participating Employers</b>
June 30, 2018	4,915	\$ 334,803	\$ 68,119	2.4%	57
June 30, 2017	4,694	312,347	66,542	2.0	57
June 30, 2016	4,383	285,854	65,219	2.5	58
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

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

# Actuarial Section

<b>Teachers' Retirement System                      Defined Contribution Retirement Plan                      Occupational Death and Disability Solvency Test                      (In thousands)</b>							
Valuation Date	Occupational Death and Disability Actuarial Accrued Liability For:			Occupational Death and Disability Valuation Assets	Portion of Actuarial Accrued Liability Covered by Assets:		
	(1) Active Member Contributions	(2) Inactive Members	(3) Active Members (Employer-Financed Portion)		(1)	(2)	(3)
June 30, 2016	\$ —	\$ —	\$ 19	\$ 3,323	100.0%	100.0%	100.0%
June 30, 2015	—	—	29	3,114	100.0	100.0	100.0
June 30, 2014 <sup>1</sup>	—	—	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 <sup>1</sup>	—	—	18	1,577	100.0	100.0	100.0
June 30, 2009 <sup>1</sup>	—	—	14	1,071	100.0	100.0	100.0
June 30, 2008	—	—	44	420	100.0	100.0	100.0
<sup>1</sup> Change in Assumptions							

# Actuarial Section

<b>Teachers' Retirement System                      Defined Contribution Retirement Plan                      Retiree Medical Solvency Test                      (In thousands)</b>							
Valuation Date	Retiree Medical Actuarial Accrued Liability For:			Retiree Medical Valuation Assets	Portion of Actuarial Accrued Liability Covered by Assets:		
	(1) Active Member Contributions	(2) Inactive Members	(3) Active Members (Employer-Financed Portion)		(1)	(2)	(3)
June 30, 2016	\$ —	\$ —	\$ 21,988	\$ 25,410	100.0%	100.0%	100.0%
June 30, 2015	—	—	19,768	17,733	100.0	100.0	89.7
June 30, 2014 <sup>1</sup>	—	—	16,273	10,791	100.0	100.0	66.3
June 30, 2013	—	—	22,058	8,614	100.0	100.0	39.1
June 30, 2012 <sup>1</sup>	—	—	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 <sup>1</sup>	—	—	2,430	3,895	100.0	100.0	100.0
June 30, 2009 <sup>1</sup>	—	—	1,446	2,353	100.0	100.0	100.0
June 30, 2008 <sup>1</sup>	—	—	757	1,308	100.0	100.0	100.0
Retiree medical liabilities are calculated using the funding assumptions (i.e., funding investment return and net of Medicare Part D subsidy). <sup>1</sup> 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, 2018.

**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 57 employers participating in TRS DCR, including the State of Alaska, 53 school districts, and three 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 TRS DCR if they are an eligible non-vested 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 TRS DCR.

**5. Member Contributions**

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

**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.

# Actuarial Section

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

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

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

<sup>(1)</sup> Assumed to increase annually to mitigate impact of healthcare cost trend

<sup>(2)</sup> OON applies only to non-Medicare eligible participants.

- Buck used its manual rate models to determine relative plan values for the defined benefit (DB) retiree medical plan and the adopted DCR retiree medical plan outlined above. We applied the ratio of the DCR retiree medical plan value to the DB retiree medical plan value to the per capita costs determined for each of pre/post-Medicare medical and pharmacy benefits to estimate corresponding values for the adopted DCR retiree medical plan design. These factors are noted in Section 5.3. We further adjusted the Medicare medical



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

manual rate to reflect the Medicare coordination method adopted. In the prior valuation, the RDS subsidy offset in 2019 was increased by 60% to reflect estimated Medicare reimbursements under the Employer Group Waiver Plan (EGWP) arrangement. For this year's valuation, the estimated 2019 reimbursements under EGWP were provided by Segal Consulting (who worked with the EGWP administrator, Optum, to develop those estimates). We reflect estimated discounts and pharmacy rebates in the defined benefit medical cost so no further adjustment was needed for the DCR retiree medical plan. The medical network differential is reflected in the relative plan value adjustments.

- The retiree medical plan's coverage is supplemental to Medicare. Medicare coordination is described in the 2018 DCR Plan Handbook, referred to in the industry as exclusion coordination: Medicare payment is deducted from the Medicare allowable expense and plan parameters are applied to the remaining amount. Starting in 2019, the prescription drug coverage will be through a Medicare Part D EGWP arrangement.
- The premium for Medicare-eligible retirees will be based on the member's years of service. The percentage of premium paid by the member is as follows:

<u>Years of Service</u>	<u>Percent of Premium Paid by Member</u>
Less than 15 years	30.00%
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 aligns with the member's subsidy. While a member is not Medicare-eligible, premiums are 100% of the estimated cost.
- Members have a separate defined contribution Health Reimbursement Arrangement account, which is not reflected in this valuation, that can be used to pay for premiums or other medical expenses.
- For valuation purposes, retiree premiums were assumed to equal the percentages outlined in the table above times the age-related plan costs. Future premiums calculated and charged to DCR participants will need to be determined reflecting any appropriate adjustments to the defined benefit (DB) plan data because current DB premiums were determined using information based upon enrollment with dual coverage members.
- Coverage will continue for surviving spouses of covered retired members.

## 7. Occupational Disability Benefits

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

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

- **Disability Benefit Adjustment:** The disability benefit is increased by 75% of the cost of living increase in the preceding calendar year or 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 subsidized retiree medical benefits are provided until normal retirement eligibility. The member's premium is 100% of the estimated cost until they are Medicare eligible. Medicare-eligible premiums follow the service-based schedule above.

## **8. Occupational Death Benefits**

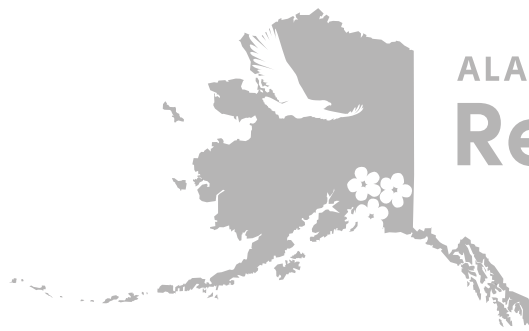
- Benefit is 40% of salary.
- **Survivor's Pension Adjustment:** A survivor's pension is increased by 50% of the cost of living increase in the preceding calendar year or 6%, whichever is less, if the recipient is at least age 60 on July 1, or under age 60 if the recipient has been receiving TRS benefits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

## **9. Changes Since the Prior Valuation**

There have been no changes in TRS DCR benefit provisions valued since the prior valuation.



# STATISTICAL SECTION



ALASKA DIVISION OF  
**Retirement  
and Benefits**

**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 ..... 166-183**

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 ..... 184-186**

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

**Demographic Information ..... 187-189**

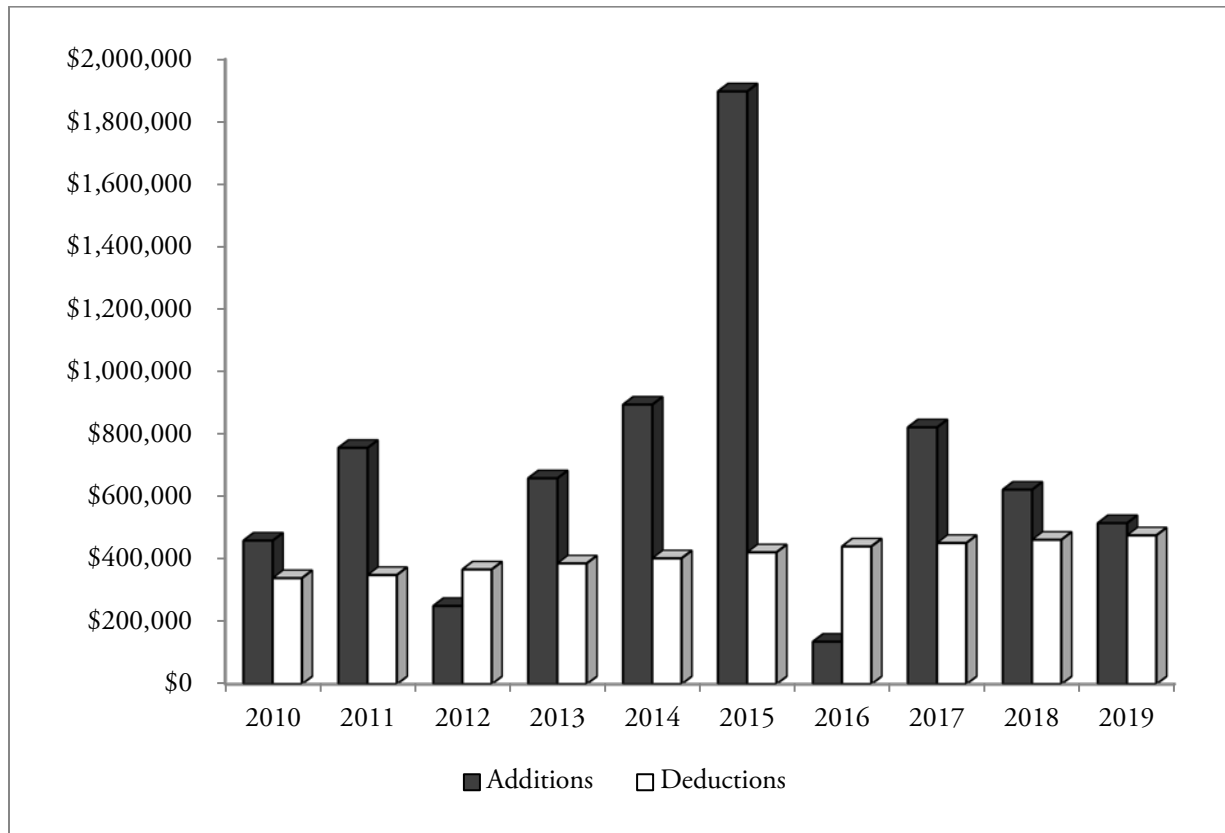
These schedules contain detailed demographic data to provide the reader a better understanding of the membership and employer participation in the System.

# Statistical Section

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

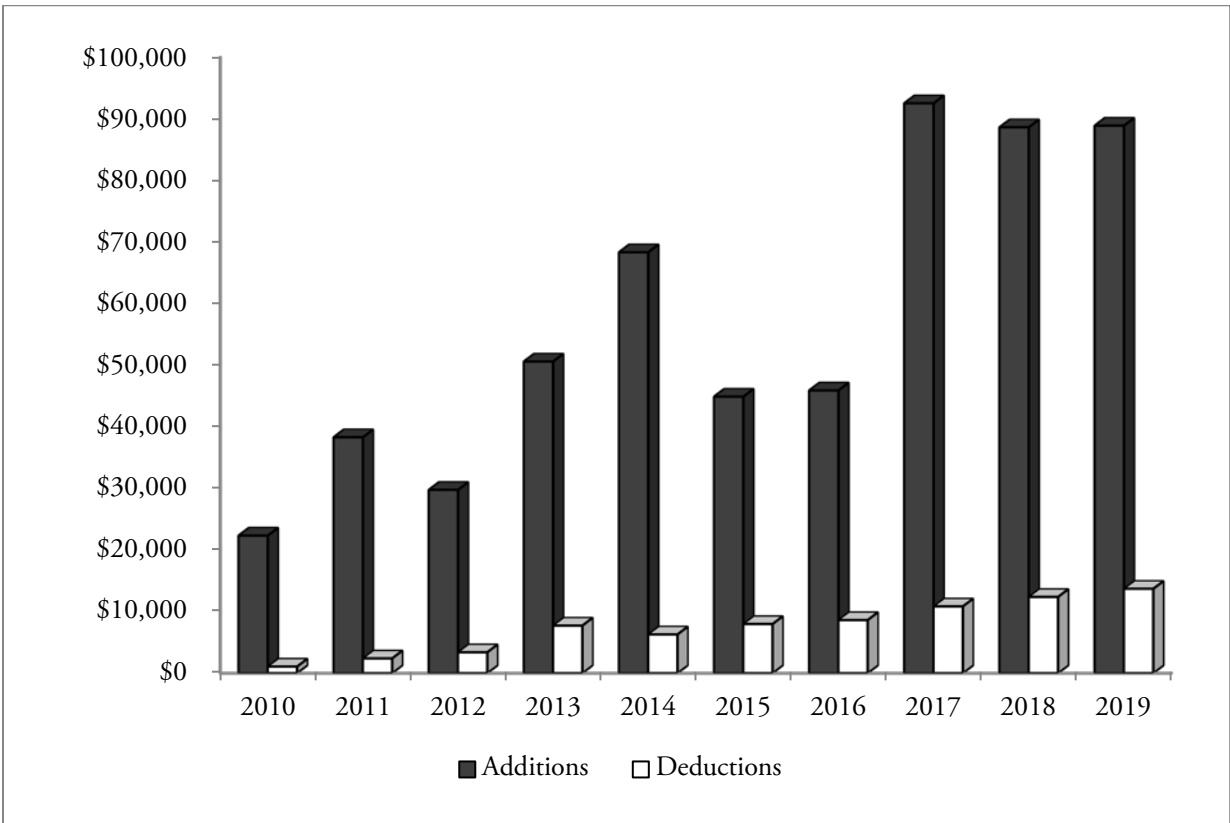
Year Ended June 30	Fiduciary Net Position, Beginning of Year	Additions	Deductions	Increase / (Decrease) in Fiduciary Net Position	Fiduciary Net Position, End of Year
2010	\$ 2,596,433	\$ 458,984	\$ 338,860	\$ 120,124	\$ 2,716,557
2011	2,716,557	755,768	348,795	406,973	3,123,530
2012	3,123,530	249,803	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
2017	4,942,201	821,406	451,312	370,094	5,312,295
2018	5,312,295	621,993	461,561	160,432	5,472,727
2019	5,472,727	514,937	475,735	39,202	5,511,929

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



<b>Teachers' Retirement System                      Defined Contribution Retirement Participant Directed                      Changes in Fiduciary Net Position                      (In thousands)</b>					
Year Ended June 30	Fiduciary Net Position, Beginning of Year	Additions	Deductions	Increase / (Decrease) in Fiduciary Net Position	Fiduciary Net Position, End of Year
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
2017	289,598	92,527	10,833	81,694	371,292
2018	371,292	88,621	12,383	76,238	447,530
2019	447,530	88,893	13,701	75,192	522,722

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

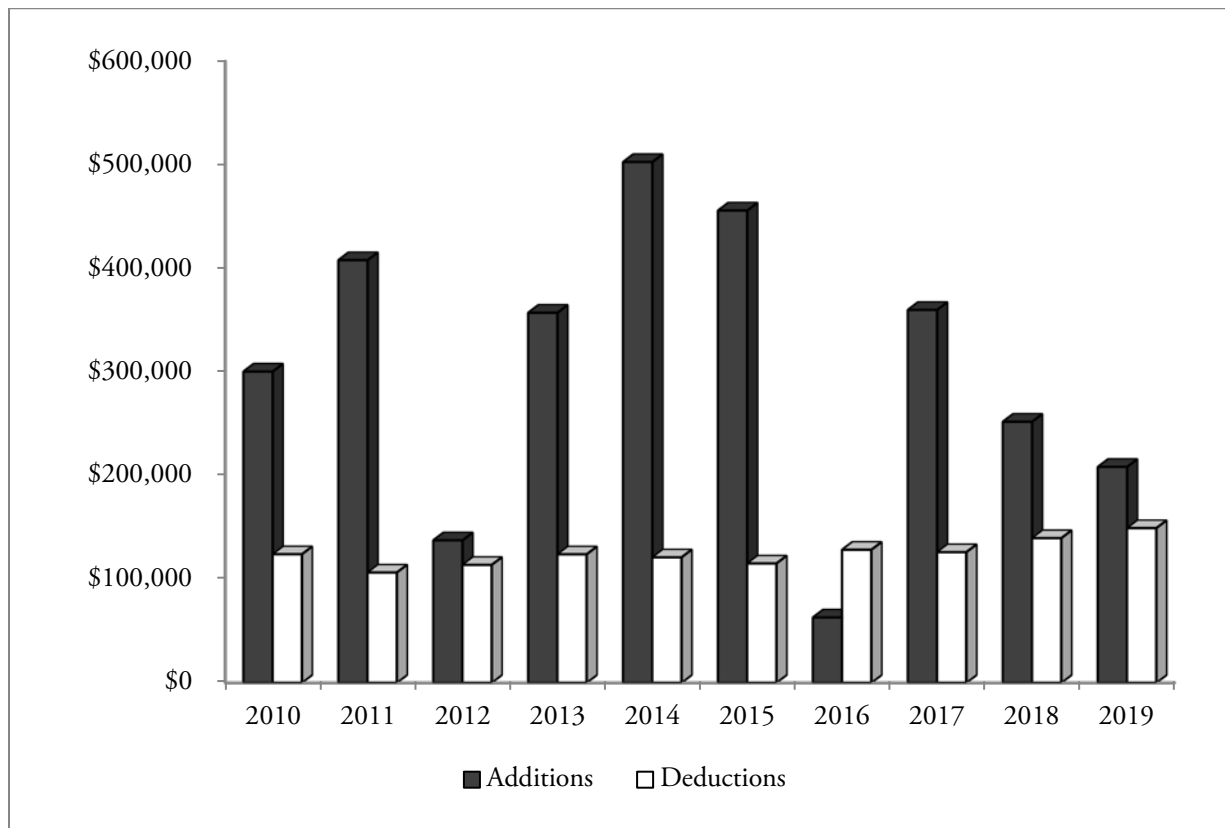


# Statistical Section

## 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
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
2017	2,523,580	360,197	126,145	234,052	2,757,632
2018	2,757,632	252,219	139,716	112,503	2,870,135
2019	2,870,135	208,551	149,367	59,184	2,929,319

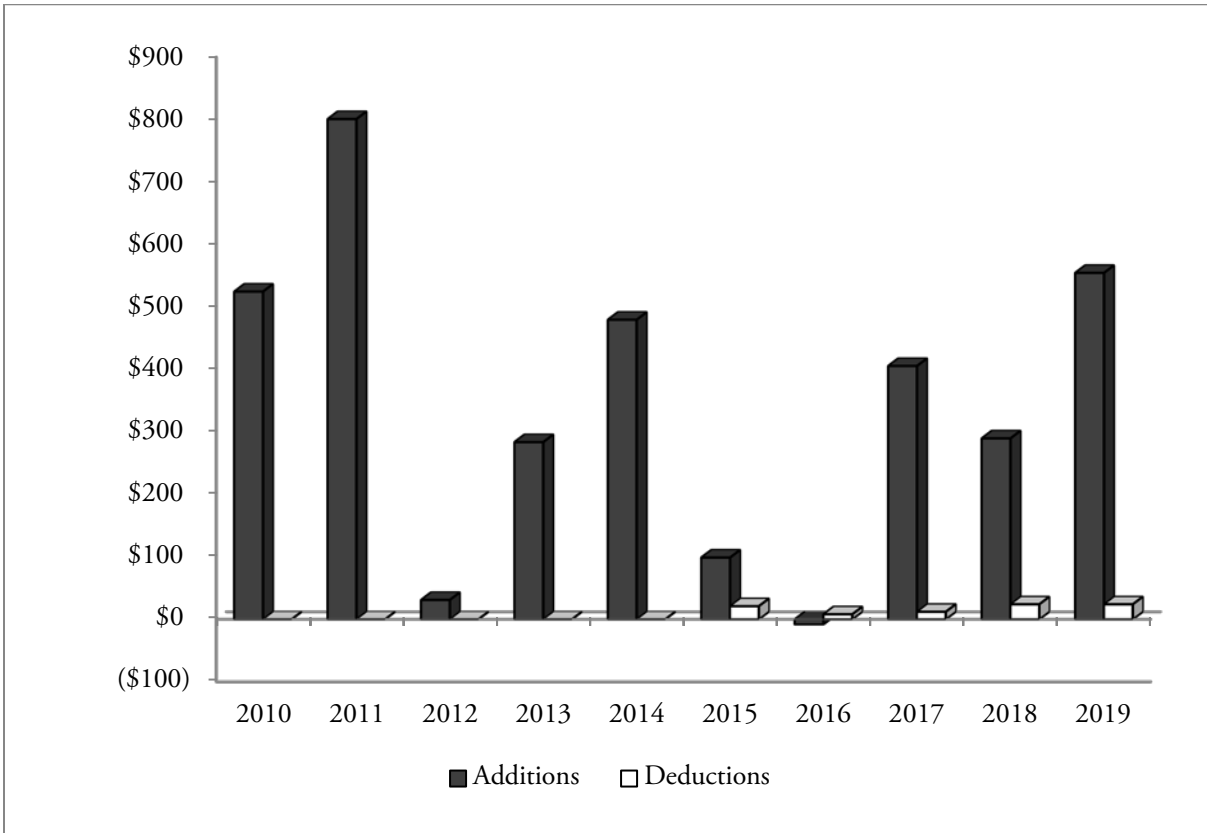
### 10-YEAR COMPARISON OF ADDITIONS AND DEDUCTIONS (In thousands)





<b>Teachers' Retirement System</b> <b>Defined Contribution Retirement Occupational Death &amp; Disability</b> <b>Changes in Fiduciary Net Position</b> <b>(In thousands)</b>					
Year Ended June 30	Fiduciary Net Position, Beginning of Year	Additions	Deductions	Increase / (Decrease) in Fiduciary Net Position	Fiduciary Net Position, End of Year
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
2017	3,137	406	12	394	3,531
2018	3,531	290	24	266	3,797
2019	3,797	555	24	531	4,328

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

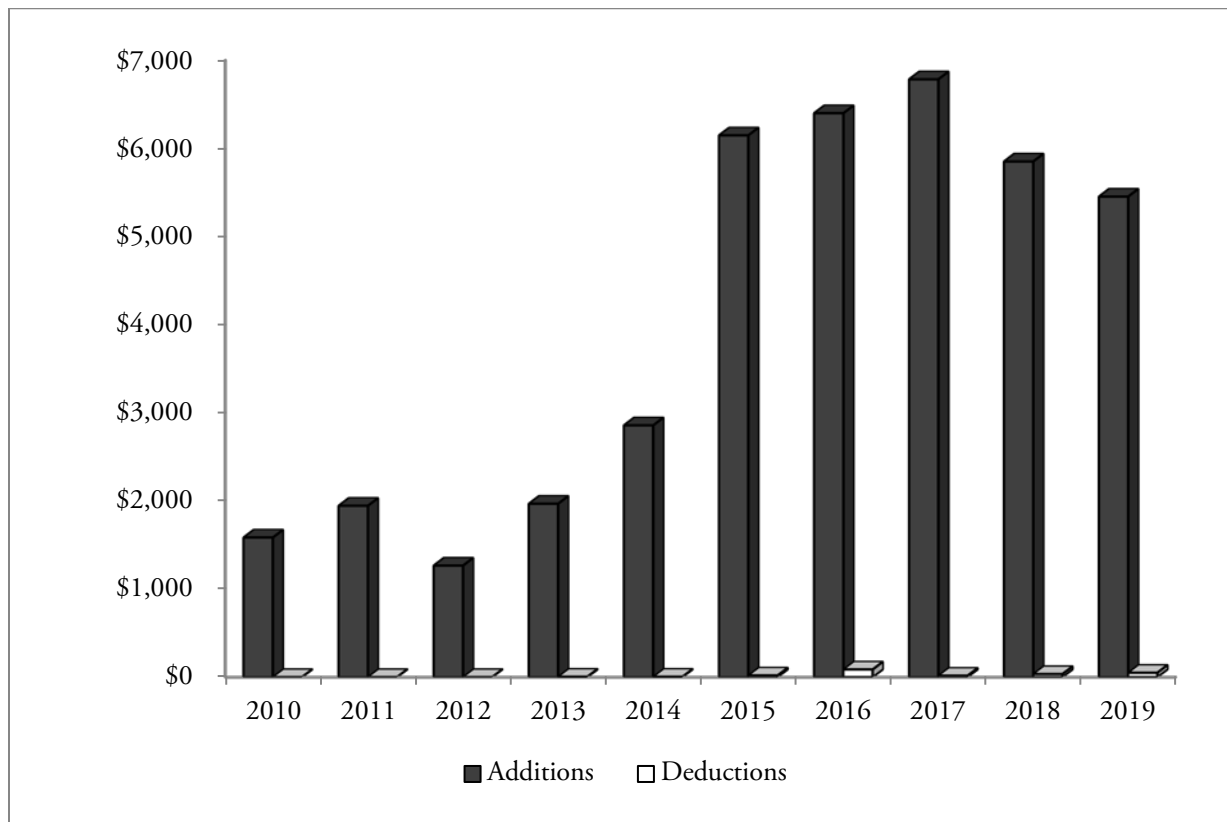


# Statistical Section

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

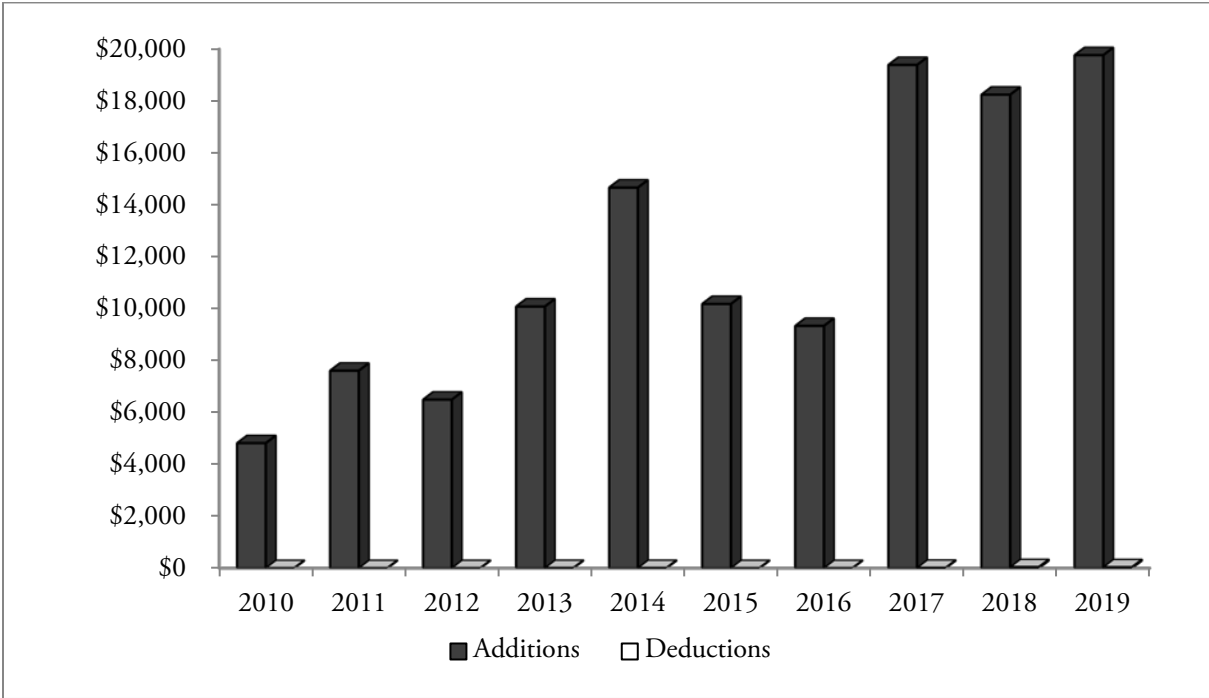
Year Ended June 30	Fiduciary Net Position, Beginning of Year	Additions	Deductions	Increase / (Decrease) in Fiduciary Net Position	Fiduciary Net Position, End of Year
2010	\$ 2,012	\$ 1,586	\$ —	\$ 1,586	\$ 3,598
2011	3,598	1,947	—	1,947	5,545
2012	5,545	1,267	—	1,267	6,812
2013	6,812	1,970	3	1,967	8,779
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
2017	24,079	6,784	15	6,769	30,848
2018	30,848	5,851	34	5,817	36,665
2019	36,665	5,452	50	5,402	42,067

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



<b>Teachers' Retirement System                      Defined Contribution Retirement Health Reimbursement Arrangement                      Changes in Fiduciary Net Position                      (In thousands)</b>					
Year Ended June 30	Fiduciary Net Position, Beginning of Year	Additions	Deductions	Increase / (Decrease) in Fiduciary Net Position	Fiduciary Net Position, End of Year
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
2017	68,982	19,387	7	19,380	88,362
2018	88,362	18,243	37	18,206	106,568
2019	106,568	19,765	34	19,731	126,299

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

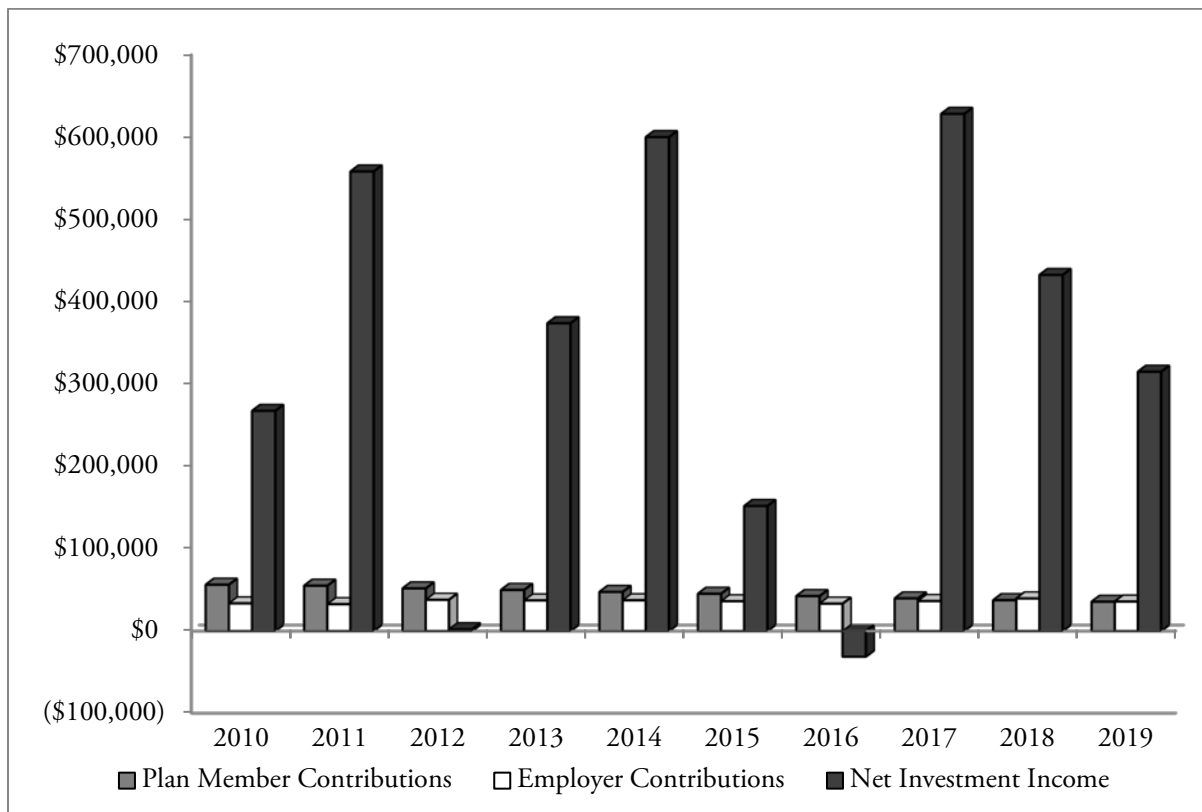


# Statistical Section

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
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
2017	39,878	36,634	116,700	628,184	10	821,406
2018	37,674	39,835	111,757	432,543	184	621,993
2019	35,763	35,996	128,174	314,972	32	514,937

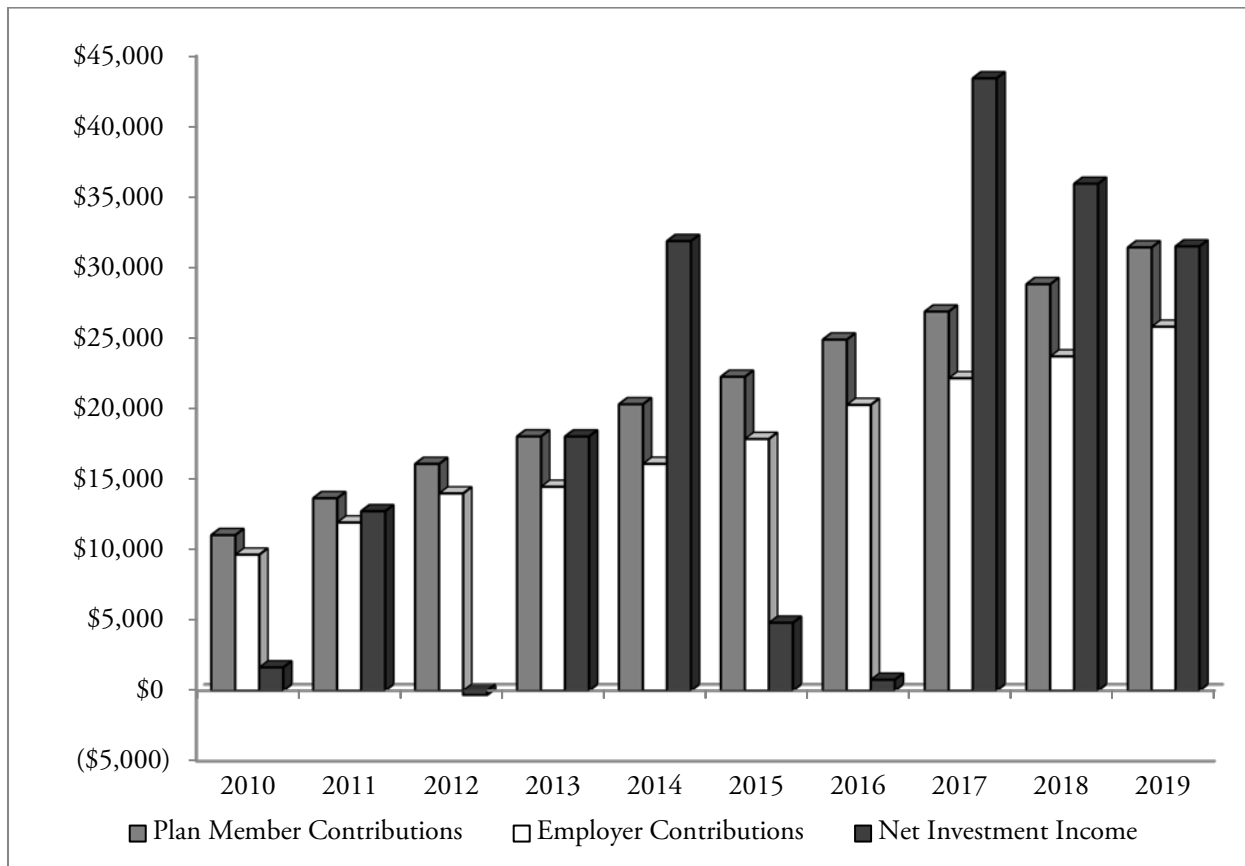
**Note:** This schedule shows the full appropriated amount of the additional state contribution as required by AS 14.25.085, a portion of which is included in "Employer Contributions" on the audited financial statements.

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



<b>Teachers' Retirement System</b> <b>Defined Contribution Retirement Participant Directed</b> <b>Additions by Source</b> <b>(In thousands)</b>					
Year Ended June 30	Plan Member Contributions	Employer Contributions	Net Investment Income (Loss)	Other	Total
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
2017	26,888	22,165	43,417	57	92,527
2018	28,831	23,710	35,946	134	88,621
2019	31,438	25,814	31,509	132	88,893

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

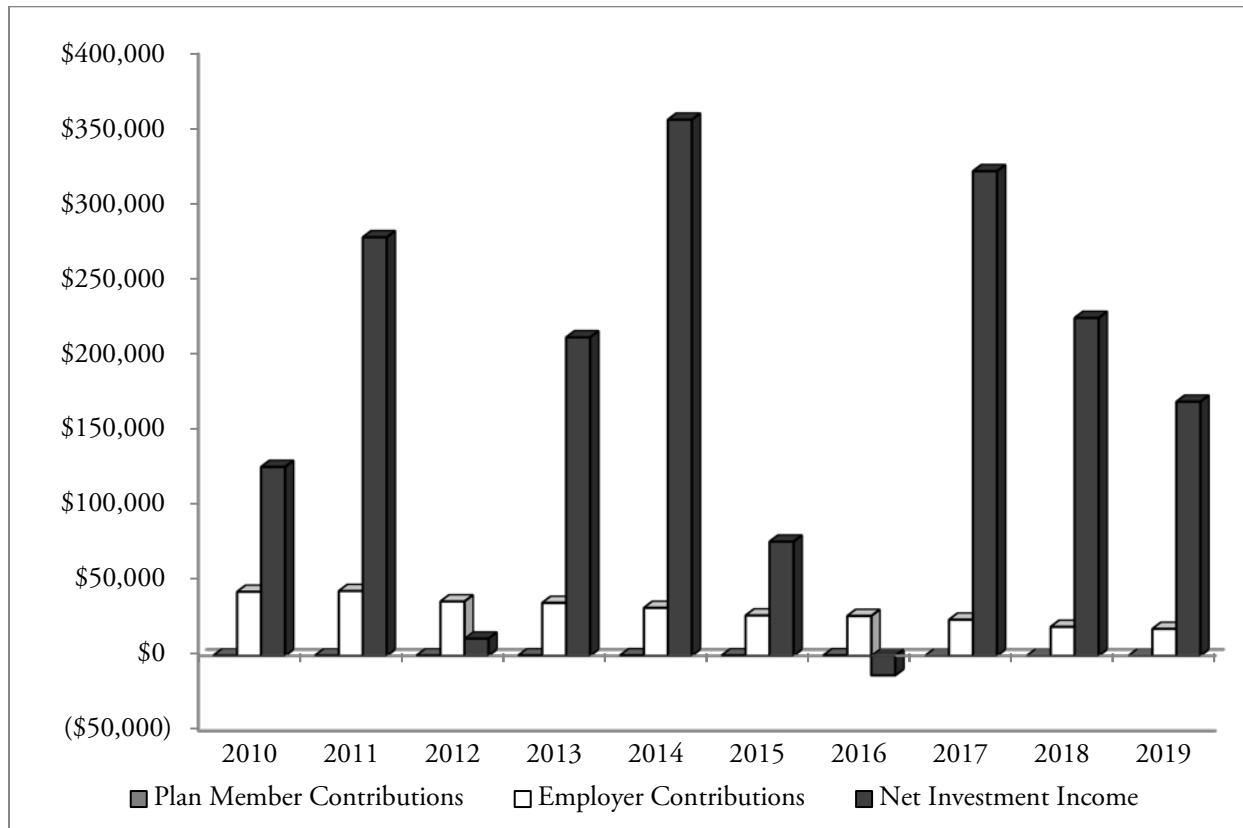


# Statistical Section

## Teachers' Retirement System Defined Benefit Alaska Retiree Healthcare Trust Additions by Source (In thousands)

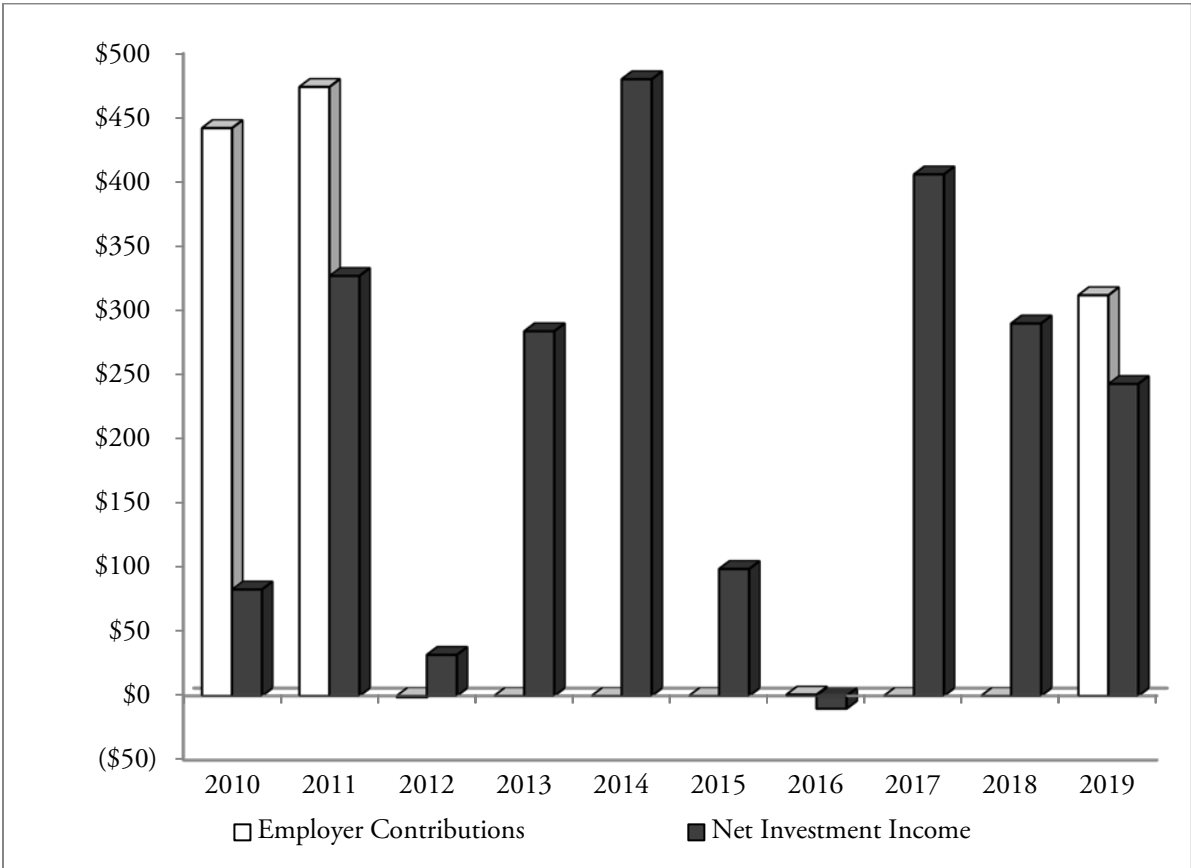
Year Ended June 30	Plan Member Premiums	Employer Contributions	State of Alaska	Net Investment Income (Loss)	Other	Total
2010	\$ 117	\$ 42,694	\$ 72,987	\$ 125,903	\$ 59,035	\$ 300,736
2011	138	43,217	81,507	278,366	4,951	408,179
2012	183	36,281	77,130	11,465	12,535	137,594
2013	250	35,293	105,832	211,927	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
2017	—	24,069	—	322,219	13,909	360,197
2018	—	19,305	—	224,820	8,094	252,219
2019	—	17,957	—	169,183	21,411	208,551

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



<b>Teachers' Retirement System</b> <b>Defined Contribution Retirement Occupational Death &amp; Disability</b> <b>Additions by Source</b> <b>(In thousands)</b>				
Plan Ended June 30	Employer Contributions	Net Investment Income (Loss)	Other	Total
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)
2017	—	406	—	406
2018	—	290	—	290
2019	312	243	—	555

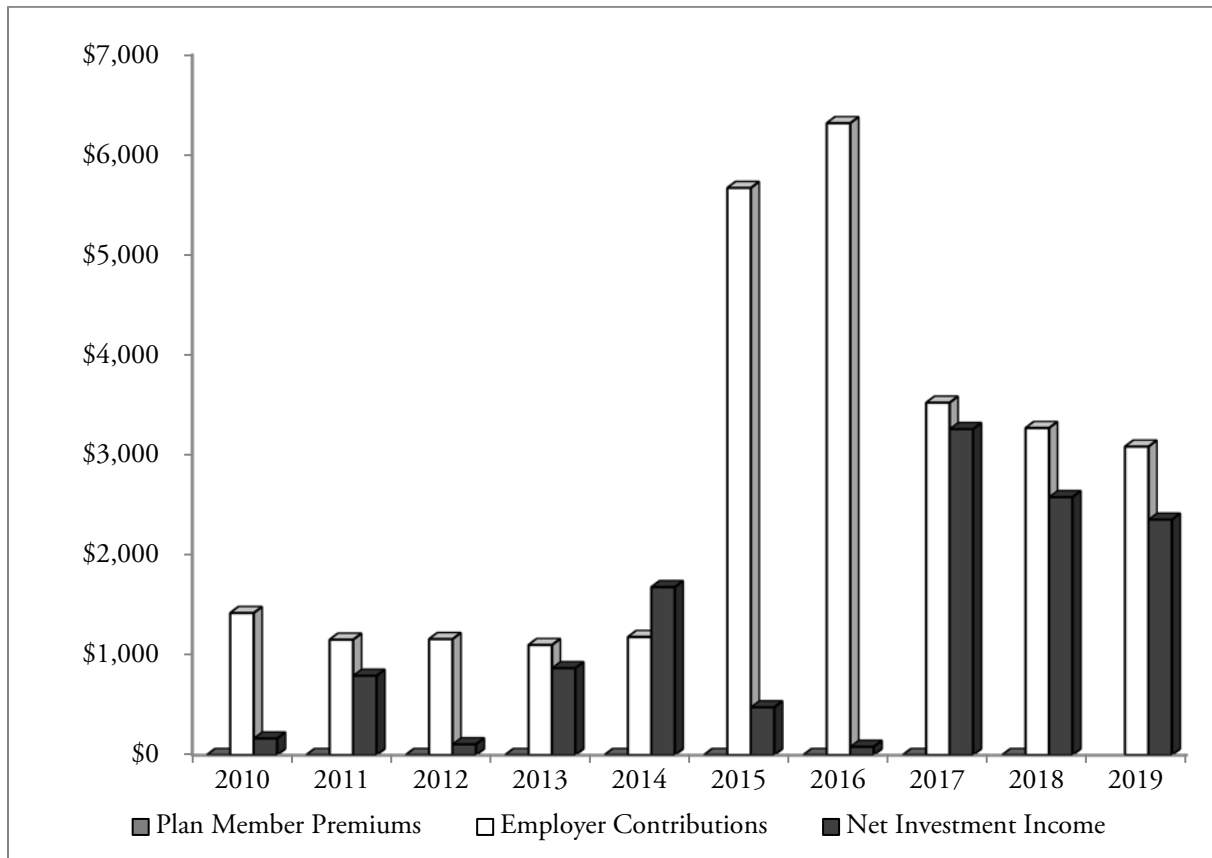
**10-YEAR COMPARISON OF ADDITIONS BY SOURCE**  
(In thousands)



# Statistical Section

<b>Teachers' Retirement System</b> <b>Defined Contribution Retirement Retiree Medical Plan</b> <b>Additions by Source</b> <b>(In thousands)</b>					
Plan Ended June 30	Plan Member Premiums	Employer Contributions	Net Investment Income (Loss)	Other	Total
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
2017	—	3,524	3,260	—	6,784
2018	—	3,271	2,580	—	5,851
2019	—	3,085	2,355	12	5,452

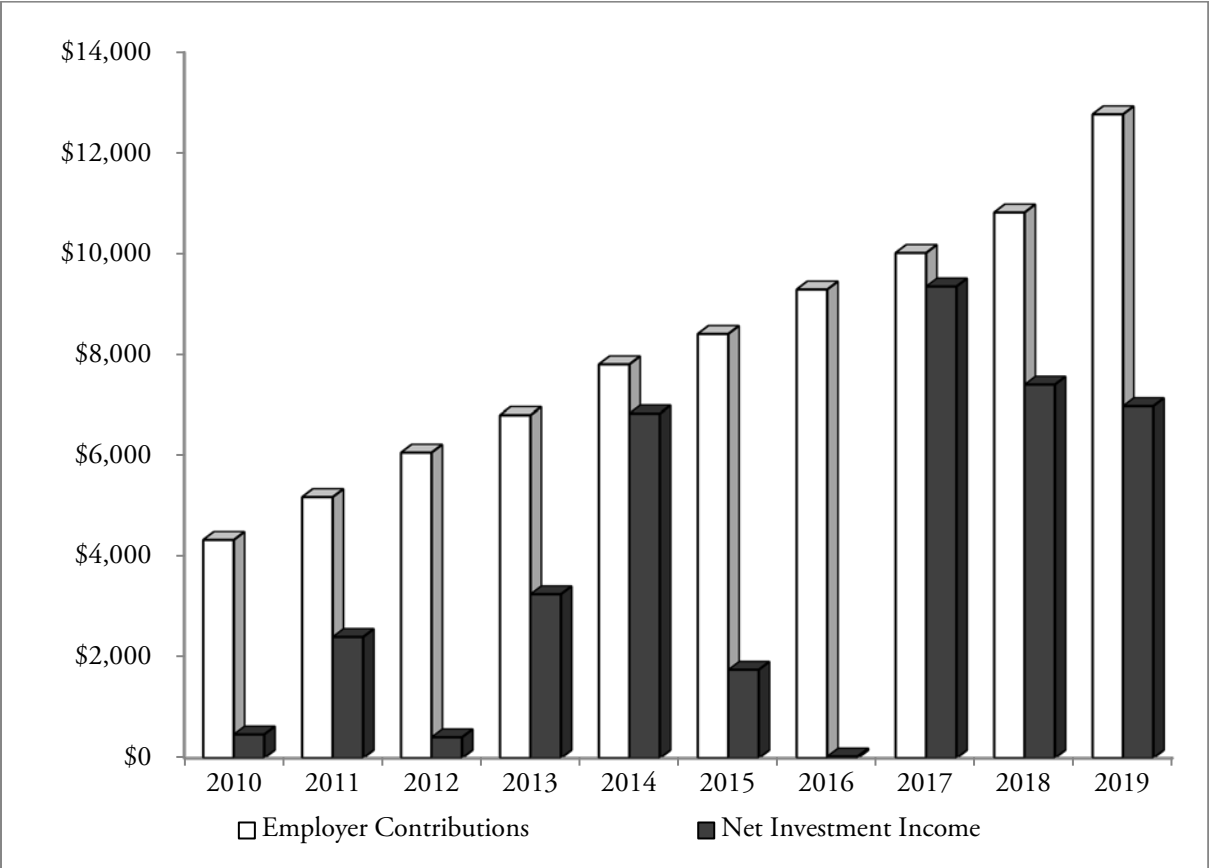
**10-YEAR COMPARISON OF ADDITIONS BY SOURCE**  
(In thousands)





<b>Teachers' Retirement System</b> <b>Defined Contribution Retirement Health Reimbursement Arrangement</b> <b>Additions by Source</b> <b>(In thousands)</b>			
Plan Ended June 30	Employer Contributions	Net Investment Income (Loss)	Total
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
2017	10,026	9,361	19,387
2018	10,829	7,414	18,243
2019	12,776	6,989	19,765

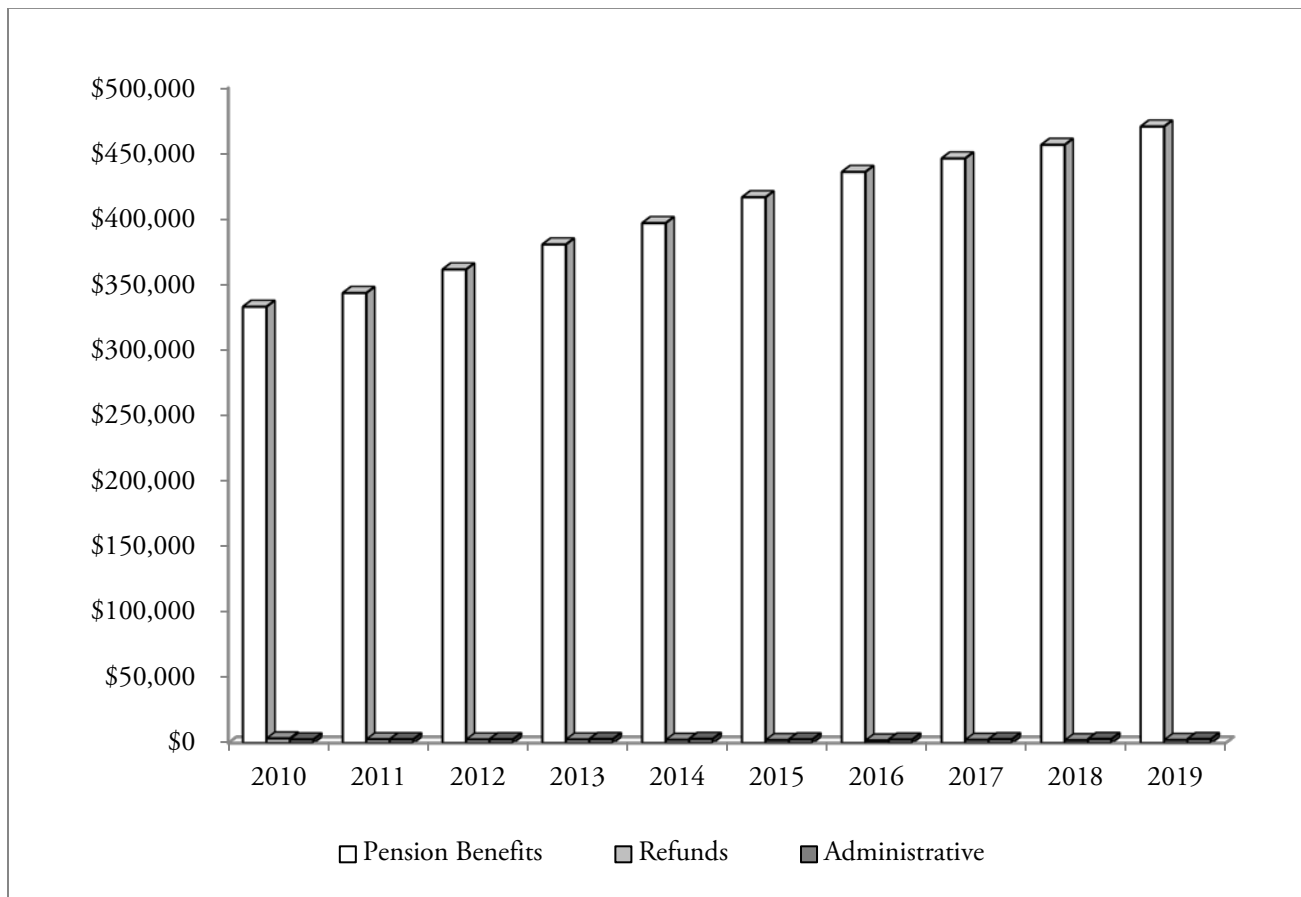
**10-YEAR COMPARISON OF ADDITIONS BY SOURCE**  
(In thousands)



# Statistical Section

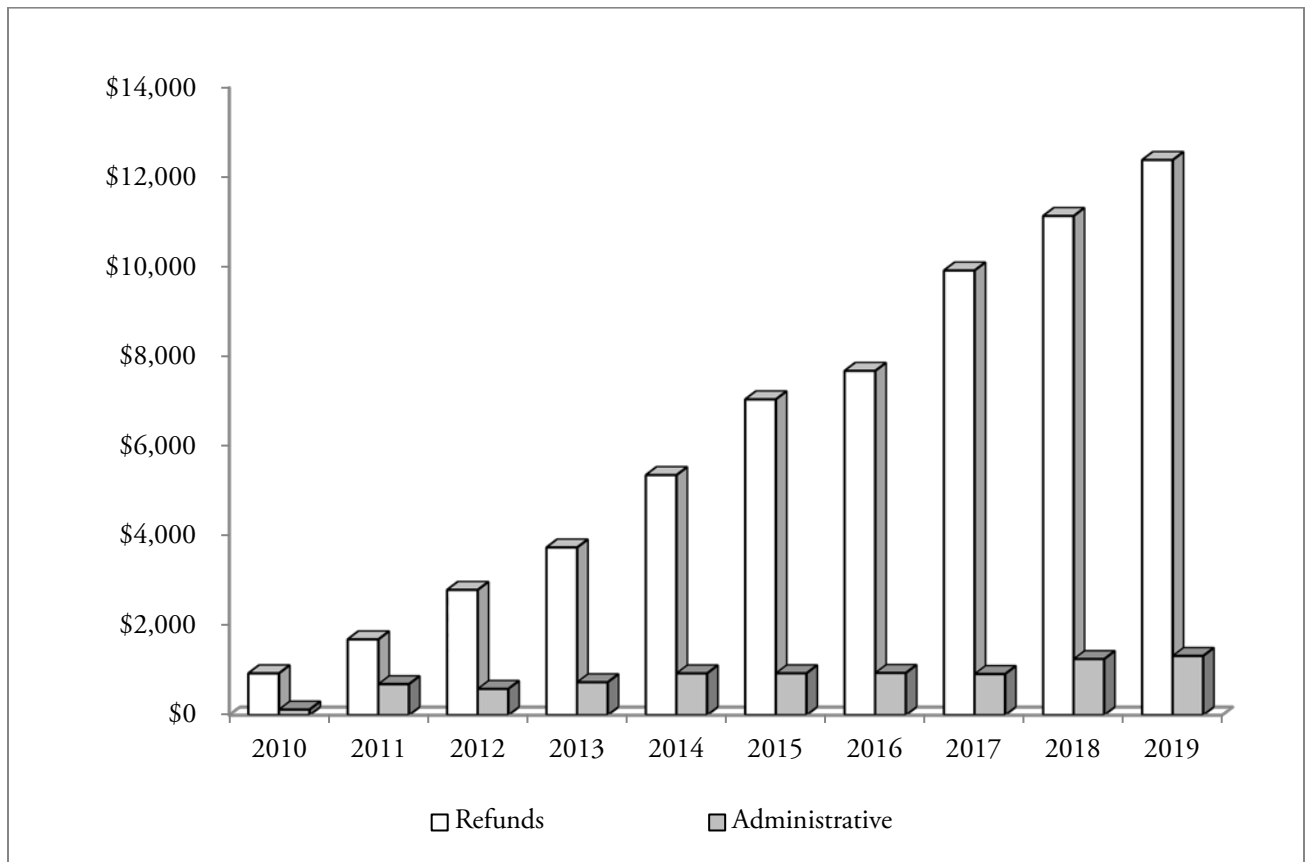
Teachers' Retirement System Defined Benefit Pension Deductions by Type (In thousands)				
Year Ended June 30	Pension Benefits	Refunds of Contributions	Administrative	Total
2010	\$ 332,690	\$ 3,472	\$ 2,698	\$ 338,860
2011	343,191	2,798	2,806	348,795
2012	361,202	2,637	2,847	366,686
2013	380,265	2,668	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
2017	446,044	2,378	2,890	451,312
2018	456,427	2,084	3,050	461,561
2019	470,414	2,303	3,018	475,735

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



<b>Teachers' Retirement System                      Defined Contribution Retirement Participant Directed                      Deductions by Type                      (In thousands)</b>				
<b>Plan                      Ended                      June 30</b>	<b>Refund of                      Contributions</b>	<b>Administrative</b>	<b>Prior Year                      Forfeiture Payable                      Adjustment</b>	<b>Total</b>
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
2017	9,918	915	—	10,833
2018	11,135	1,248	—	12,383
2019	12,384	1,317	—	13,701

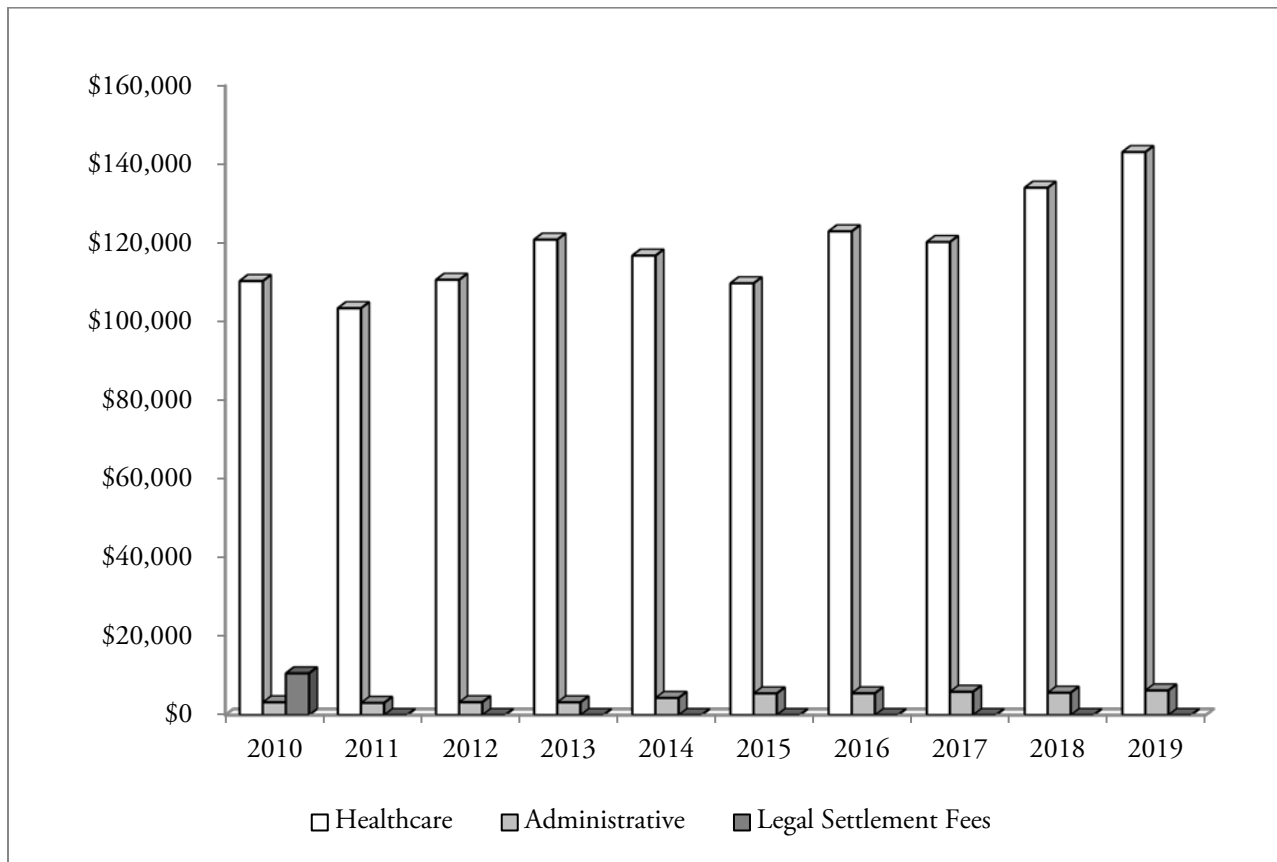
**10-YEAR COMPARISON OF DEDUCTIONS BY TYPE  
 (In thousands)**



# Statistical Section

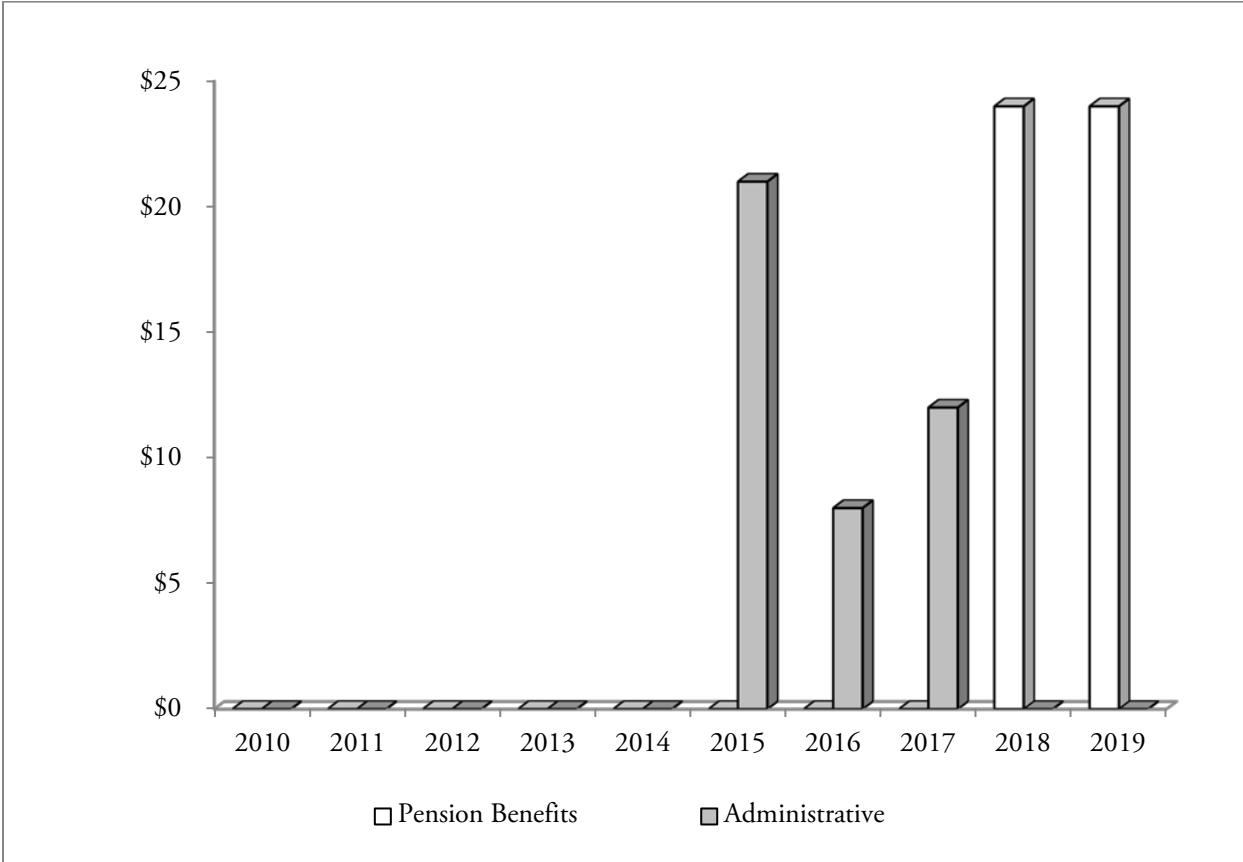
<b>Teachers' Retirement System                      Defined Benefit Alaska Retiree Healthcare Trust                      Deductions by Type                      (In thousands)</b>				
<b>Plan Ended June 30</b>	<b>Healthcare</b>	<b>Administrative</b>	<b>Legal Settlement Fees</b>	<b>Total</b>
2010	\$ 110,313	\$ 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
2017	120,237	5,908	—	126,145
2018	134,051	5,665	—	139,716
2019	143,126	6,241	—	149,367

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



<b>Teachers' Retirement System</b> <b>Defined Contribution Retirement Occupational Death &amp; Disability</b> <b>Deductions by Type</b> <b>(In thousands)</b>			
Plan Ended June 30	Pension Benefits	Administrative	Total
2010	\$ —	\$ —	\$ —
2011	—	—	—
2012	—	—	—
2013	—	—	—
2014	—	—	—
2015	—	21	21
2016	—	8	8
2017	—	12	12
2018	24	—	24
2019	24	—	24

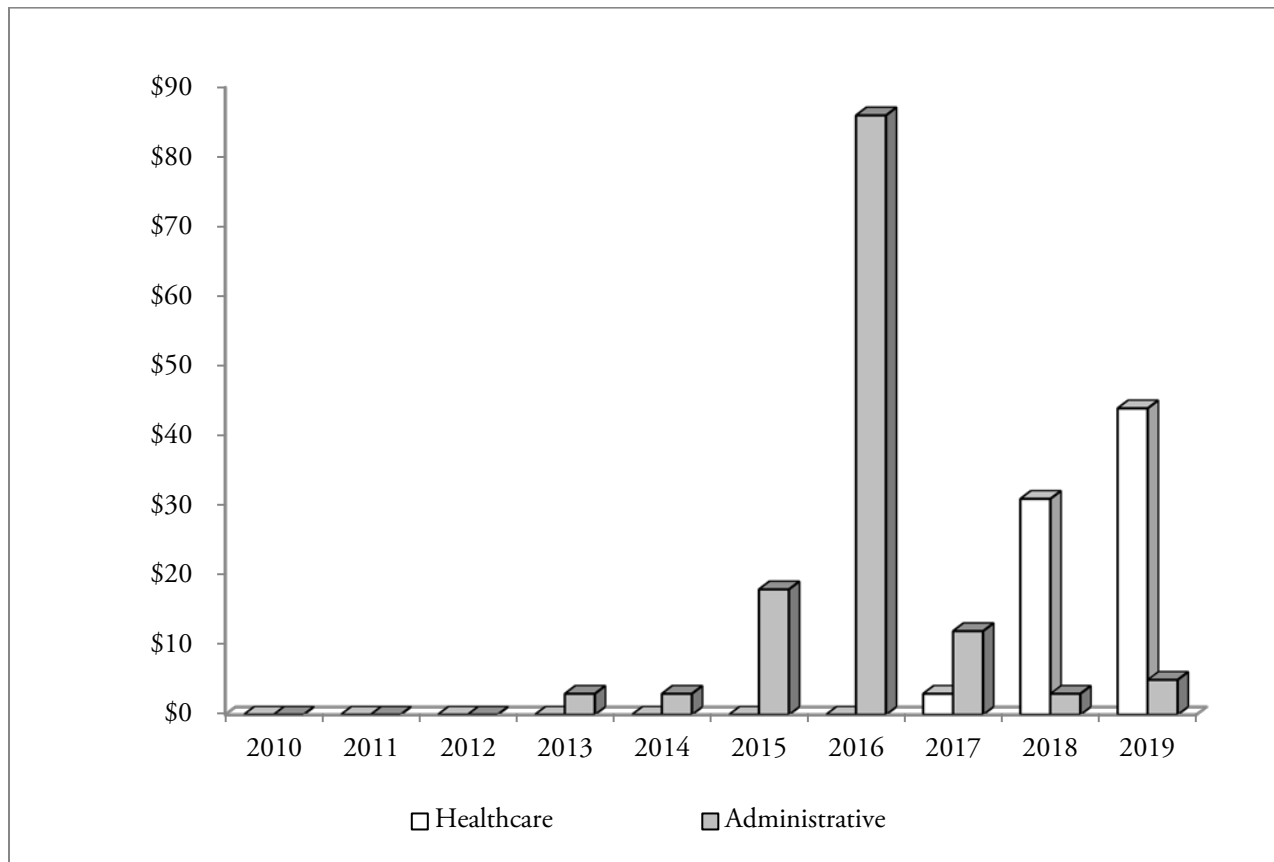
**10-YEAR COMPARISON OF DEDUCTIONS BY TYPE**  
(In thousands)



# Statistical Section

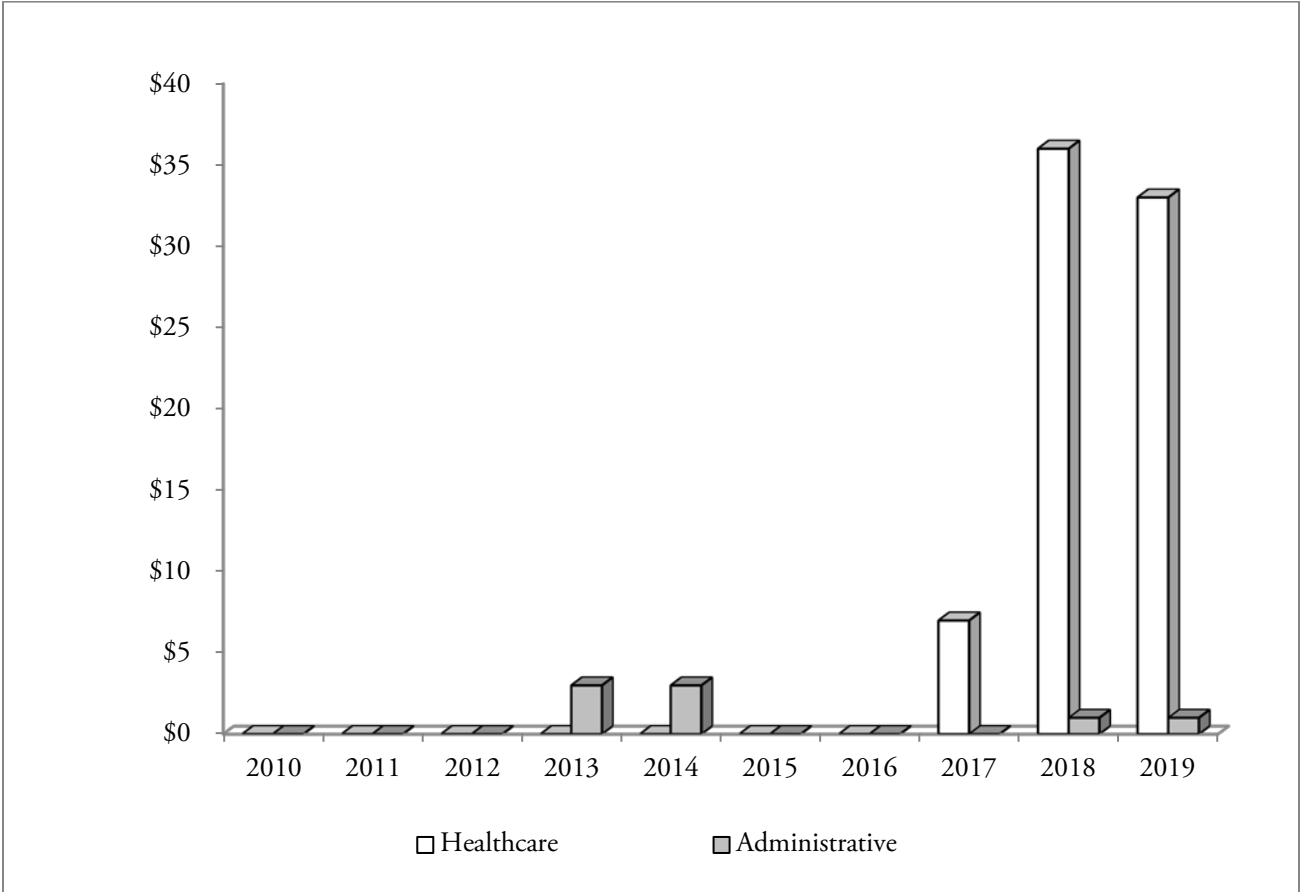
<b>Teachers' Retirement System                      Defined Contribution Retirement Medical Plan                      Deductions by Type                      (In thousands)</b>			
<b>Plan Ended June 30</b>	<b>Healthcare</b>	<b>Administrative</b>	<b>Total</b>
2010	\$ —	\$ —	\$ —
2011	—	—	—
2012	—	—	—
2013	—	3	3
2014	—	3	3
2015	—	18	18
2016	—	86	86
2017	3	12	15
2018	31	3	34
2019	44	6	50

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



<b>Teachers' Retirement System</b> <b>Defined Contribution Retirement Health Reimbursement Arrangement</b> <b>Deductions by Type</b> <b>(In thousands)</b>			
<b>Plan Ended June 30</b>	<b>Healthcare</b>	<b>Administrative</b>	<b>Total</b>
2010	\$ —	\$ —	\$ —
2011	—	—	—
2012	—	—	—
2013	—	3	3
2014	—	3	3
2015	—	—	—
2016	—	—	—
2017	7	—	7
2018	36	1	37
2019	33	1	34

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



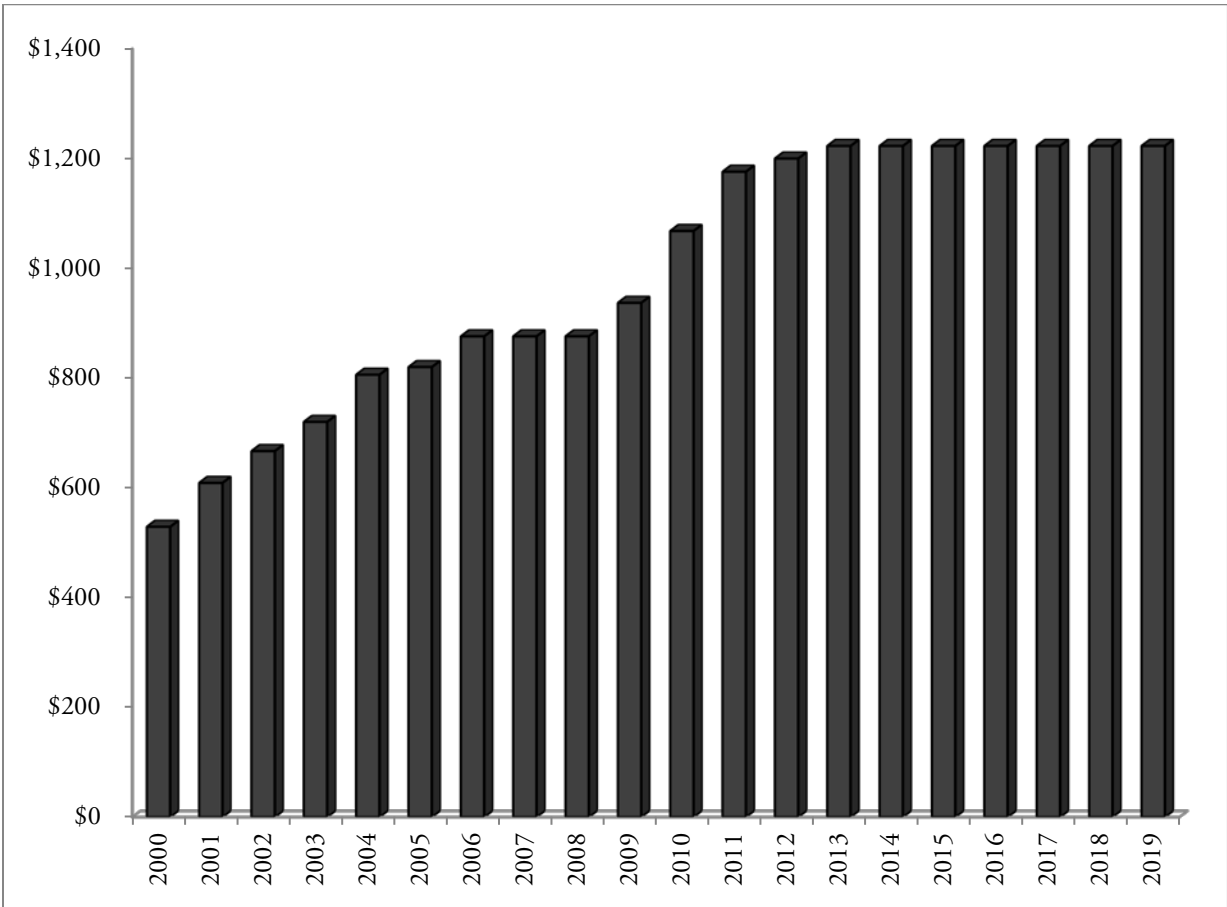
# Statistical Section

<b>Teachers' Retirement System Schedule of Average Pension Benefit Payments New Benefit Recipients</b>							
	<b>Years of Credited Service</b>						
	<b>0 - 4</b>	<b>5 - 9</b>	<b>10 - 14</b>	<b>15 - 19</b>	<b>20 - 24</b>	<b>25 - 29</b>	<b>30+</b>
Period 7/1/12 - 6/30/13: 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: 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: 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
Period 7/1/15 - 6/30/16: Average Monthly Benefit	\$245	\$1,002	\$1,535	\$2,540	\$3,445	\$4,472	\$6,168
Number of Recipients	11	31	82	69	105	74	54
Period 7/1/16 - 6/30/17: Average Monthly Benefit	\$426	\$795	\$1,626	\$2,433	\$3,549	\$4,536	\$6,351
Number of Recipients	10	22	60	75	100	64	48
Period 7/1/17 - 6/30/18: Average Monthly Benefit	\$204	\$899	\$1,583	\$2,583	\$3,422	\$4,580	\$6,083
Number of Recipients	5	21	61	85	109	130	57
<p>“Average Monthly Benefit” includes post-retirement pension adjustments and cost-of-living increases.</p> <p>Beneficiaries are not included in the table above</p>							



<b>Teachers' Retirement System</b> <b>Schedule of Pension and Healthcare Benefits Deductions by Type</b> <b>(In thousands)</b>						
Year Ended June 30	Service	Disability	Survivor	Dependent	Healthcare	Total
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
2017	425,059	1,306	19,609	70	120,248	566,292
2018	434,783	1,226	20,372	70	134,118	590,569
2019	447,951	1,281	21,157	49	143,203	613,641

**20-YEAR COMPARISON OF RETIREE MONTHLY COMPOSITE MEDICAL PREMIUMS**



# Statistical Section

<b>Teachers' Retirement System</b> <b>Schedule of Pension Benefit Recipients by Type</b> <b>of Pension Benefit and Option Elected</b> <b>Valuation as of June 30, 2018</b>								
Amount of Monthly Pension Benefit	Number of Recipients	Type of Pension Benefit			Option Selected			
		1	2	3	1	2	3	4
\$ 1 - 300	233	163	70	—	141	45	41	6
301 - 600	393	282	111	—	203	82	87	21
601 - 900	677	529	148	—	365	139	137	36
901 - 1,200	821	661	160	—	465	173	151	32
1,201 - 1,500	730	577	153	—	385	163	155	27
1,501 - 1,800	737	582	155	—	397	164	152	24
1,801 - 2,100	714	590	124	—	353	157	177	27
2,101 - 2,400	874	769	105	—	380	217	248	29
2,401 - 2,700	1,029	944	84	1	438	247	309	35
2,701 - 3,000	1,016	960	53	3	416	249	324	27
3,001 - 3,300	973	933	32	8	372	220	351	30
3,301 - 3,600	914	889	21	4	351	189	352	22
3,601 - 3,900	810	790	17	3	294	176	309	31
3,901 - 4,200	708	698	8	2	277	134	280	17
over \$4,200	2,648	2,621	23	4	923	445	1,196	84
<b>Totals</b>	<b>13,277</b>	<b>11,988</b>	<b>1,264</b>	<b>25</b>	<b>5,760</b>	<b>2,800</b>	<b>4,269</b>	<b>448</b>

**Type of Pension Benefit**

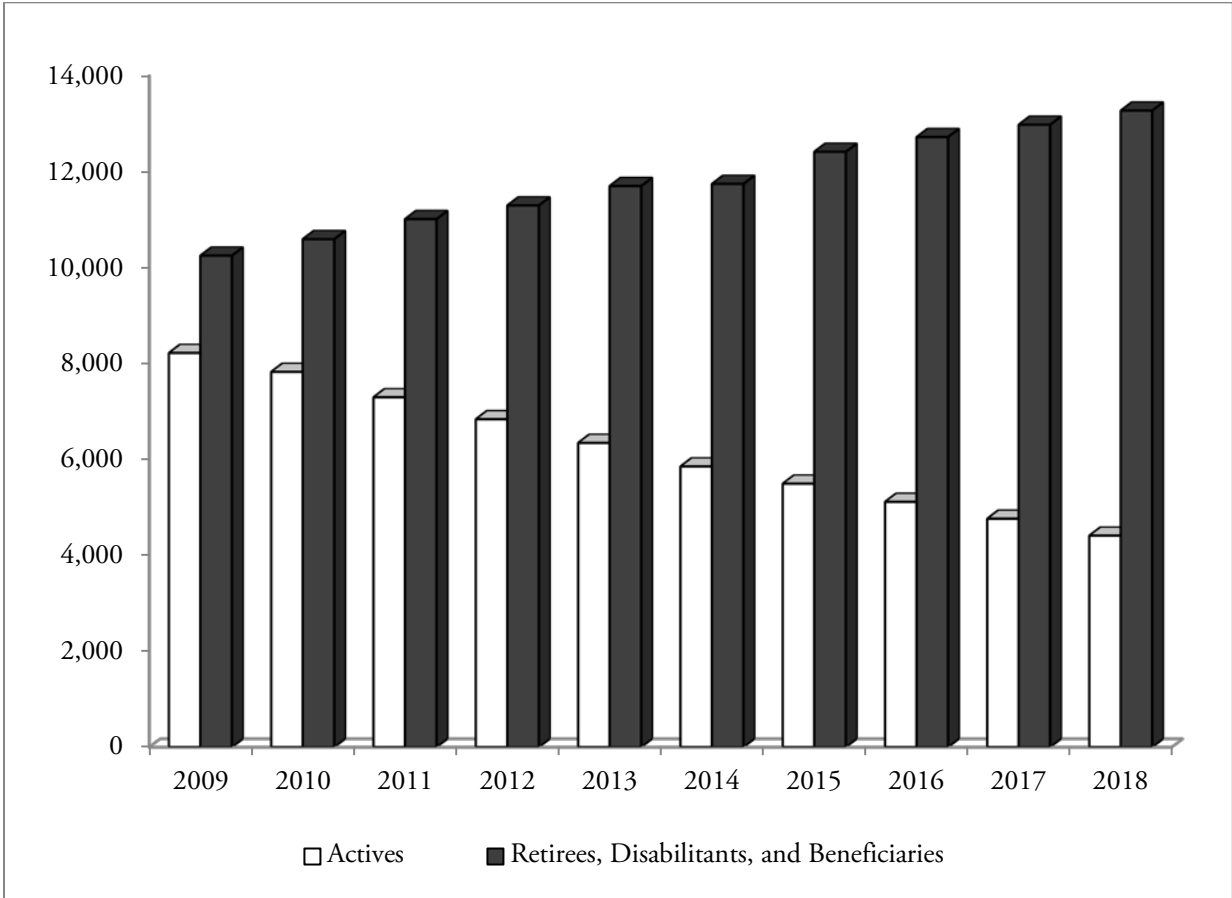
- 1 - Regular retirement
- 2 - Survivor payment
- 3 - Disability

**Option Selected**

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

Teachers' Retirement System System Membership by Status					
Year Ended June 30	Active	Retirees Disabilitants & Beneficiaries	Vested Terminations	Nonvested Terminations w/Balance	Total
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
2016	5,123	12,726	875	2,103	20,827
2017	4,772	12,983	876	1,994	20,625
2018	4,418	13,277	797	1,900	20,392

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



# Statistical Section

<b>Teachers' Retirement System Principal Participating Employers June 30, 2019</b>			
<b>Employer</b>	<b>Non-retired Members</b>	<b>Rank</b>	<b>Percentage of Total Non-retired Members</b>
Anchorage School District	4,989	1	31.99%
Matanuska-Susitna Borough School District	1,657	2	10.62
Fairbanks North Star Borough School District	<u>1,351</u>	3	<u>8.66</u>
<b>Total</b>	<u><b>7,997</b></u>		<u><b>51.27%</b></u>

## Teachers' Retirement System Participating Employers June 30, 2019

Alaska Department of Education  
Alaska Gateway School District  
Aleutian Region School District  
Aleutians East Borough School District  
Anchorage School District  
Annette Island School District

Bering Strait School District  
Bristol Bay Borough School District

Chatham School District  
Chugach School District  
Copper River School District  
Cordova City School District  
Craig City School District

Delta-Greely School District  
Denali Borough School District  
Dillingham City School District

Fairbanks North Star Borough School District

Galena City School District

Haines Borough School District  
Hoonah City School District  
Hydaburg City School District

Iditarod Area School District

Juneau School District, City and Borough of

Kake City School District  
Kashunamiut School District  
Kenai Peninsula Borough School District  
Ketchikan Gateway Borough School District  
Klawock City School District  
Kodiak Island Borough School District  
Kuspuk School District

Lake and Peninsula Borough School District  
Lower Kuskokwim School District  
Lower Yukon School District

Matanuska-Susitna Borough School District

Nenana City School District  
Nome City School District  
North Slope Borough School District  
Northwest Arctic Borough School District

Pelican City School District  
Petersburg City School District  
Pribilof School District

Saint Mary's School District  
Sitka Borough School District  
Skagway City School District  
Southeast Island School District  
Southeast Regional Resource Center  
Southwest Region School District  
Special Education Service Agency

Tanana School District

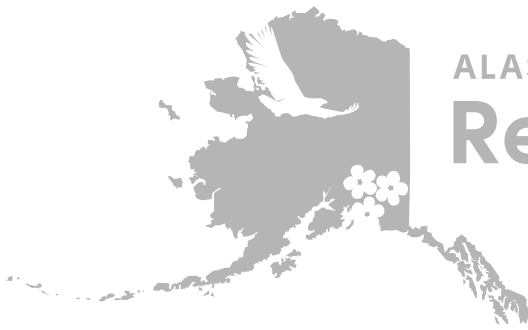
Unalaska City School District  
University of Alaska

Valdez City School District

Wrangell Public School District

Yakutat School District  
Yukon Flats School District  
Yukon-Koyukuk School District  
Yupiit School District

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ALASKA DIVISION OF  
**Retirement  
and Benefits**





STATE OF ALASKA • DEPARTMENT OF ADMINISTRATION

• *Division of Retirement and Benefits* •

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