

ALASKA

· Teachers' Retirement System ·



A component unit of the State of Alaska

Annual Comprehensive Financial Report

Fiscal Year Ended June 30, 2021

Mike Dunleavy, Governor

TEACHERS' RETIREMENT SYSTEM

ANNUAL COMPREHENSIVE FINANCIAL REPORT

A Component Unit of the State of Alaska

For the Fiscal Year Ended June 30, 2021



Mike Dunleavy, Governor

Prepared by

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ALASKA DIVISION OF
**Retirement
and Benefits**

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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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December 15, 2021

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 Annual Comprehensive Financial Report (ACFR) of the Teachers' Retirement System (TRS) (System) for the fiscal year ended June 30, 2021. The ACFR is intended to fulfill the legal requirements of Alaska Statute (AS) 14.25.004(a)(8).

The ACFR 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, 2021. 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, 2021. 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.

The ACFR 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;

Introductory Section

- **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 ACFR 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 making progress on several on-going projects. Most of these efforts are focused on improving the following: customer service, technology, methods for employers submitting information, methods for members to obtain information, and continued compliance with Governmental Accounting Standards Board (GASB) accounting requirements, as applicable. While COVID-19 continues to impact day-to-day and face-to-face interaction with members and employers, we continue providing via teleworking and hybrid telework arrangements the necessary services needed to meet stakeholder demands while maintaining appropriate security and safety measures.

The System is in the second year of a major member benefits system upgrade. The Division signed a contract with Sagitec, an industry leader in pension and healthcare software systems. The Division branded the new system Benefits and Retirement System, or BEARS. Recently, Sagitec presented the first of three pilot demonstrations of modules designed and created since the inception of the project. Staff is excited about this new system, the enhancements it provides, and looks forward to sharing more information with members and employers as we work toward implementation in 2023.

The System strives to offer best in class health care benefits balanced by strong financial management and cost initiatives that focus on value. Two examples are (1) the implementation of preventive care coverage in the retiree health plan and (2) implementation of specialty pharmacy management programs in the employee and retiree health plans. Both changes result in valuable medical coverage to the membership while striving to contain rising healthcare costs that impact the System.

Under the guidance of Director Ajay Desai, the System continues to assess and retool its communication efforts, including printed handbooks, newsletters, and website content. The System developed new employee videos for employers' use and plan information easily accessible online by members. While technology has enhanced our outreach, it does not replace in-person efforts to meet, discuss, and plan member benefits. 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, faster processing of all customer requests, and improving member education services.

The System offers a broad array of fairs, town halls, and seminars as safely as possible for both members and employers. These efforts are directed at assisting employers with successful marketing of the plans, educating members about all benefits available from early career to retirement, encouraging healthy living, and how to best use the health plan.

The System continues to offer a broad array of fairs and seminars directed toward both active members and employers, with the goal of assisting 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, presented the results of the June 30, 2020, actuarial valuation report to the Plan Administrator, Division, and the Board. The assumptions and benefits are explained in the Actuarial Section of this report.

Introductory Section

Based on the most recent valuation report dated May 20, 2021, 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 86.6%. The DB Plan's unfunded actuarial accrued liability (actuarial liability minus actuarial value of DB plan assets) totals approximately \$1.3 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, 2021, the DB Plan's investment portfolio was valued at \$10.4 billion and earned an average 27.65% return for the fiscal year ended June 30, 2021. The DCR Plan's investment portfolio was valued at \$1.1 billion for the fiscal year ended June 30, 2021. Over the past five years ending June 30, 2021, the DB Plan's investments earned an 11.87% 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 ACFR 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 ACFR for the fiscal year ended June 30, 2020. 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 ACFR. 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 ACFR 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, 2021. This award signifies that the Alaska TRS complies with the standard benchmarks for public defined benefit systems in the United States. The standards require a high level for the following: comprehensive benefit program, funding adequacy, accepted actuarial and audit practices, investment policy and evaluation, and member communications.

Introductory Section

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 2022.

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.

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,



Paula Vrana
Commissioner



Ajay Desai
Division Director



Emily Ricci
Chief Health Policy Administrator



Jim Puckett
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 Annual Comprehensive
Financial Report
For the Fiscal Year Ended

June 30, 2020

Christopher P. Morill

Executive Director/CEO



Public Pension Coordinating Council

***Public Pension Standards Award
For Funding and Administration
2021***

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

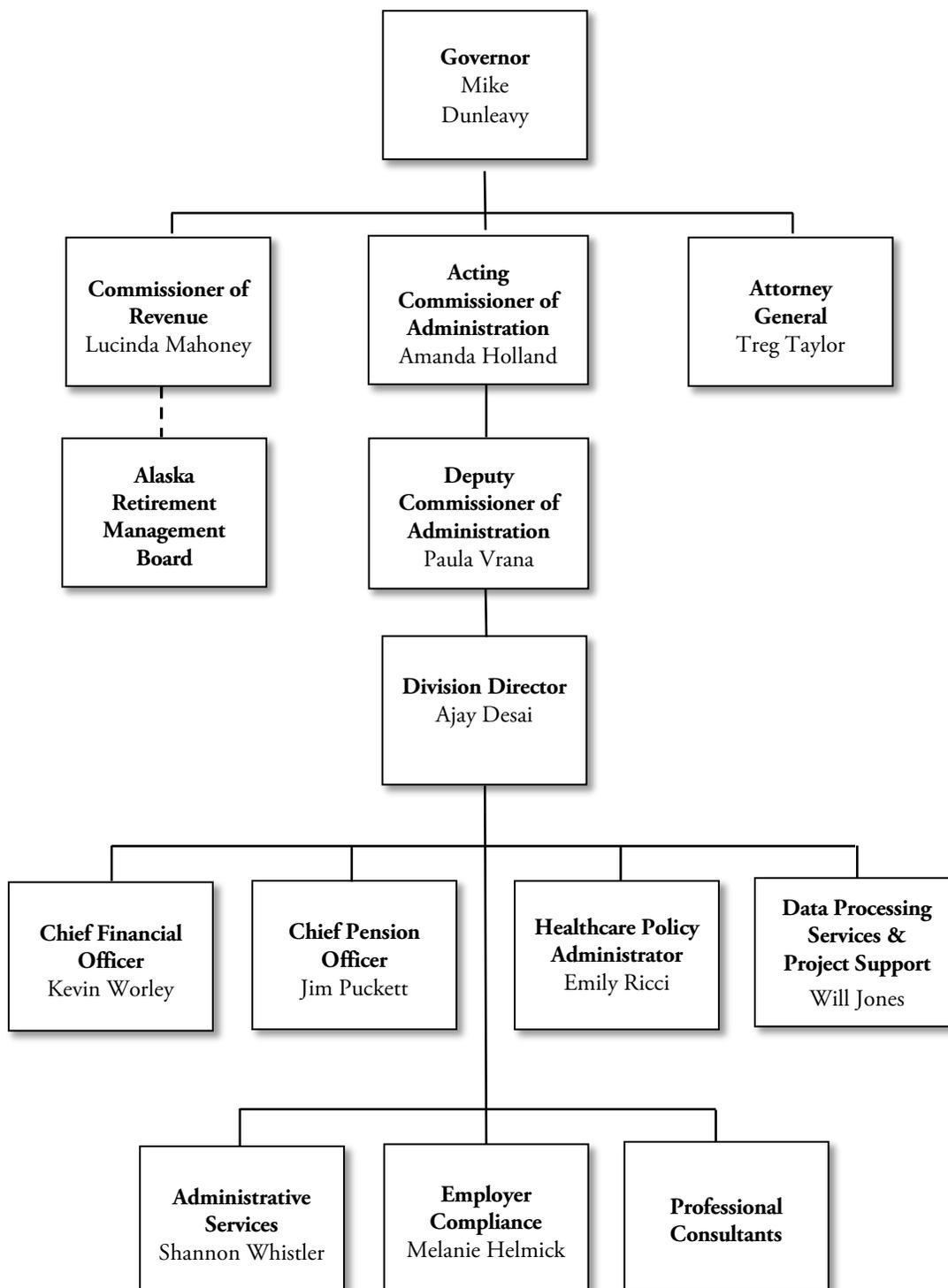
National Association of State Retirement Administrators (NASRA)
National Conference on Public Employee Retirement Systems (NCPERS)
National Council on Teacher Retirement (NCTR)

A handwritten signature in cursive script that reads "Alan H. Winkle".

Alan H. Winkle
Program Administrator

ORGANIZATION CHART

As of June 30, 2021



Section Responsibilities

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

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

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

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

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

Professional Consultants		
<p>Consulting Actuary Buck Global LLC <i>Denver, Colorado</i></p>	<p>Legal Counsel Kevin Dilg Ivy Greever Morgan A. Griffin Ben Hofmeister Joleen Langel Grace Lee Jessica Leeah Bill Milks Rebecca Polizzotto</p>	<p>Legal Counsel (cont.) Jennifer Williams Laura Wolff <i>Anchorage, AK</i> Ice Miller LLP <i>Indianapolis, Indiana</i></p>
<p>Reviewing Actuary Gabriel Roeder Smith <i>Denver, Colorado</i></p>	<p>Assistant Attorney Generals <i>Juneau, Alaska</i></p>	<p>Third-Party Healthcare Claim Administrators 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> Optum Rx <i>Irvine, California</i></p>
<p>Independent Auditors KPMG LLP <i>Anchorage, Alaska</i></p>	<p>Jessie Alloway Colleen Bailey Katherine Demarest Javier Diaz Angie G. Fraker Kimberly Halstead Vanessa Lamantia Siobhan McIntyre Margret Paton-Walsh Jeff Pickett Amy Robinson Christopher Robison Kimber Rodgers Robert Schmidt Brad Sharp</p>	<p>Consulting Physicians Julius Goslin <i>Anchorage, AK (HSS)</i> Managed Medical Review Organization <i>Novi, Michigan</i></p>
<p>Benefits Consultants Buck Global LLC <i>Denver, Colorado</i> The Segal Company <i>Greenwood Village, Colorado</i></p>		
<p>IT Consultants 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 ACFR.

Introductory Section

Alaska Retirement Management Board

As of June 30, 2021

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

Bob Williams, Vice Chair, 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. Mr. Williams also serves Chair of the ARMB Defined Contribution Plan Committee.

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 Master’s in Teaching from the University of Alaska, Fairbanks, and has completed an additional 40 hours in mathematics, counseling, law, and finance. Ms. Harbo also serves as Chair of the ARMB Audit Committee

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 Master’s 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. Mr Hippler also serves as Chair of the Actuarial Committee.

Amanda Holland was appointed as Acting Commissioner of the Department of Administration by Governor Dunleavy on March 29, 2021. Deputy Commissioner Amanda Holland has served the State of Alaska and its citizens for over 29 years in six different operating agencies. This included 9 years with DOA, Acting OMB Director at OMB, and as DOT & PF's Deputy Commissioner and Administrative Services Director. In these roles, she has been responsible for budget, administrative support services, and strategic workforce management, and has helped state agencies realize operational efficiencies and build resiliency into the workforce. Deputy Commissioner Holland received her Bachelor's degree in Industrial/Organizational Psychology and her Master's degree in Organizational Leadership. She has a strong background in workforce planning, organizational development, leadership, and human resources. In 2015, she launched a nationally recognized leadership development program.

Donald Krohn was appointed by Governor Dunleavy in March 2021. He began his career in law enforcement more than 45 years ago with a four-year stint in the Air Force. From there, he joined the U.S. Customs Service in Chicago, working on narcotics interdiction. In 1979, he was transferred to Anchorage and after five more years working in inspections and intercepting drug traffic, he joined the Anchorage Police Department. Mr. Krohn worked for several years at the department as a detective specializing in white-collar crime. He was then promoted to the major crime's unit. He finished his 18 years at APD working major crimes and as a homicide detective. In January 2002, he joined First National Bank Alaska as Security Officer. During his first three years at the bank, he developed and implemented programs that resulted in an 80 percent reduction in successful criminal attacks against the bank and its customers. He retired in May 2020. Mr. Krohn also holds a Bachelor of Science in Occupational Education, with a minor in Criminal Justice from Wayland Baptist University.

Lucinda Mahoney is the Commissioner of the Department of Revenue appointed by Governor Dunleavy in February 2020. Lucinda has over 30 years of broad business experience working for various companies in the State of Alaska. Her experience includes investment management, business valuations, treasury, debt, accounting, strategic planning, budgeting, process improvements, shared services, and Sarbanes Oxley consulting. Lucinda was previously the CFO for the Municipality of Anchorage. She also managed the Arctic Slope Regional Corporation Shared Services Center. Prior to that, she was a Director with KPMG LLP managing its business consulting practice in Alaska. Finally, she held various management positions at ARCO, a multibillion oil company. Lucinda has a Master's in Business Administration, University of Alaska; a Bachelor's in Business Administration with a concentration in Finance, University of Texas; and is a Certified Valuation Analyst with the National Association of Certified Valuation Analysts.

Dennis Moen was appointed by Governor Dunleavy in 2020. He is a retired Facility Manager for the State of Alaska, Department of Transportation & Public Facilities, Northern Region. Dennis established and managed a multi-million-dollar annual operating budget. Supervised over 50 employees. Developed an annual budget for over 400 state owned facilities and was the Contracting Officer for 100's of state vendors. Fourteen hours after retiring from the State of Alaska, he went to work for the Public Employees Local 71 Laborer's Union. He was elected as Business Manager/Secretary Treasurer in 2012. As Business Manager, Mr. Moen represented 2400 members statewide. He developed a multi-million-dollar budget and provided fiduciary oversight of Local 71's operating budget. Dennis directed investment bankers and economic consultants for PE Local 71's Health Trust Fund. He also oversaw actuarial analysis and audits. Mr. Moen was concurrently Business Manager/Secretary Treasurer for Alaska District Council of Laborers for three Alaska Laborer Locals. Dennis was also the Vice President of the Pacific Health Coalition (PHC), a private health coalition representing 250,000 members through public and private unions and small businesses. Dennis lived and raised his 2 children in Fairbanks, Alaska for 40 years. He is a private pilot, a Coast-Guard Captain for 100-ton vessels and since his retirement from the Union in 2019 enjoys commercial fishing in Southeast Alaska.



FINANCIAL SECTION



ALASKA DIVISION OF
**Retirement
and Benefits**



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

Independent Auditors' Report

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

We have audited the accompanying combining financial statements of the State of Alaska Teachers' Retirement System (the System), a component unit of the State of Alaska, as of and for the year ended June 30, 2021, 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, 2021, and the changes in fiduciary net position for the year then ended, in accordance with U.S. generally accepted accounting principles.

Other Matters

Prior-Year Comparative Information

We have previously audited the System's 2020 combining financial statements, and we expressed an unmodified opinion on those financial statements in our report dated October 28, 2020. In our opinion, the summarized comparative information presented

Financial Section

herein as of and for the year ended June 30, 2020 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 3–13 and the schedules of changes in employer net pension and other postemployment benefits liabilities and related ratios, schedules of employer and nonemployer contributions, and schedules of investment returns on pages 35–58 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 59-60 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 20, 2021

State of Alaska

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

Management's Discussion and Analysis (Unaudited)

June 30, 2021

This section presents management's discussion and analysis (MD&A) of the State of Alaska Teachers' Retirement System's (the System) financial position and performance for the years ended June 30, 2021 and 2020. 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 years ended June 30, 2021 and 2020. Information for fiscal year 2019 is presented for comparative purposes.

Financial Highlights

The System's financial highlights for the year ended June 30, 2021 were as follows:

- The System's fiduciary net position restricted for pension benefits, postemployment healthcare benefits, and individuals increased by \$2.4 billion.
- The System's plan member and employer contributions increased by \$7.4 million when compared to fiscal year 2020.
- The State of Alaska (the State) directly appropriated \$134.9 million to the System.
- The System's net investment income increased \$2.3 billion when compared to fiscal year 2020, to \$2.7 billion.
- The System's pension benefit expenditures totaled \$499.9 million.
- The System's postemployment healthcare benefit expenditures totaled \$148.2 million.

Overview of the Financial Statements

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

Combining statement of fiduciary net position – This statement presents information regarding the System's assets, liabilities, and resulting net position restricted for pension benefits, postemployment healthcare benefits, and individuals. This statement reflects the System's investments at fair value, along with cash and cash equivalents, receivables, and other assets, less liabilities at June 30, 2021.

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, 2021. 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, 2021, and the sources and uses of those funds during fiscal year 2021.

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.

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State of Alaska

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

Management's Discussion and Analysis (Unaudited)

June 30, 2021

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
	2021	2020	Increase (decrease)		
			Amount	Percentage	
Assets:					
Cash and cash equivalents	\$ 114,711	87,201	27,510	31.5 %	\$ 177,676
Contributions receivable	9,952	8,635	1,317	15.3	9,645
Due from State of Alaska					
General Fund	7,881	9,746	(1,865)	(19.1)	9,484
Other accounts receivables	1,834	33	1,801	5,457.6	1,256
Investments	11,461,725	9,103,247	2,358,478	25.9	8,972,425
Other assets	318	318	—	—	318
Total assets	11,596,421	9,209,180	2,387,241	25.9	9,170,804
Liabilities:					
Claims payable	12,733	10,812	1,921	17.8	12,561
Accrued expenses	2,403	1,177	1,226	104.2	3,313
Forfeitures payable to employers	61	159	(98)	(61.6)	873
Due to State of Alaska General Fund	5,274	2,543	2,731	107.4	2,664
Securities lending collateral payable	27,323	11,038	16,285	147.5	14,729
Total liabilities	47,794	25,729	22,065	85.8	34,140
Net position	\$ 11,548,627	9,183,451	2,365,176	25.8 %	\$ 9,136,664

State of Alaska

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

Management's Discussion and Analysis (Unaudited)

June 30, 2021

Condensed Financial Information (continued)

Changes in System net position (In thousands)

Description	2021	2020	Increase (decrease)		2019
			Amount	Percentage	
Net position, beginning of year	\$ 9,183,451	9,136,664	46,787	0.5 %	\$ 8,937,422
Additions:					
Contributions – employers and plan members	171,229	163,848	7,381	4.5	163,950
Contributions – nonemployer State of Alaska	134,070	140,219	(6,149)	(4.4)	127,365
Net investment income	2,713,316	368,015	2,345,301	637.3	525,251
Employer group waiver plan	18,296	11,706	6,590	56.3	2,518
Medicare retiree drug subsidy	62	—	62	100.0	6,714
Pharmacy rebates	12,101	15,832	(3,731)	(23.6)	11,867
Pharmacy managed allowance	85	—	85	100.0	—
Other income	549	348	201	57.8	488
Total additions	<u>3,049,708</u>	<u>699,968</u>	<u>2,349,740</u>	<u>335.7</u>	<u>838,153</u>
Deductions:					
Pension and postemployment healthcare benefits	648,104	624,402	23,702	3.8	613,641
Refunds of contributions	23,781	17,297	6,484	37.5	14,687
Administrative	12,647	11,482	1,165	10.1	10,583
Total deductions	<u>684,532</u>	<u>653,181</u>	<u>31,351</u>	<u>4.8</u>	<u>638,911</u>
Increase in net position	<u>2,365,176</u>	<u>46,787</u>	<u>2,318,389</u>	<u>4,955.2</u>	<u>199,242</u>
Net position, end of year	<u>\$ 11,548,627</u>	<u>9,183,451</u>	<u>2,365,176</u>	<u>25.8 %</u>	<u>\$ 9,136,664</u>

Financial Analysis of the System

The statements of fiduciary net position as of June 30, 2021 and 2020 show net position restricted for pension benefits, postemployment healthcare benefits, and individuals of \$11,548,627,000 and \$9,183,451,000, respectively. The entire amount is available to cover the System's obligation to pay pension and postemployment healthcare benefits to its members and their beneficiaries, as well as administrative costs.

This represents an increase in the System's net position restricted for pension benefits, postemployment healthcare benefits, and individuals of \$2,365,176,000 or 25.80% from fiscal year 2020 to 2021, and of \$46,787,000 or 0.5% from fiscal year 2019 to 2020. 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 31st Alaska State Legislature and as part of the State's Fiscal Year 2021 Operating Budget, House Bill 205 appropriated \$134,976,000 from the General Fund and the Budget Reserve Fund to the Department of Administration for deposit in the Defined Benefit Pension fund. The amount of the appropriation allocated to the State as an employer is included in Contributions – Employer. The remaining appropriation is reported as Contributions – Nonemployer State of Alaska.

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State of Alaska

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

Management's Discussion and Analysis (Unaudited)

June 30, 2021

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 2021 and 2020, the Board adopted the following asset allocation for the Defined Benefit Pension Plan (DB Plan), Alaska Retiree Healthcare Trust (ARHCT Plan), and Defined Contribution Retirement Pension Plan's (DCR Plan) retiree medical plan, health reimbursement arrangement fund, and occupational death and disability fund:

	2021		2020	
	Pension and Healthcare Trusts		Pension and Healthcare Trusts	
	Allocation	Range	Allocation	Range
Broad domestic equity	28.0%	± 6%	26.0%	± 6%
Global equity (ex-U.S.)	19.0	± 4%	18.0	± 4%
Fixed income	22.0	± 10%	24.0	± 10%
Opportunistic	6.0	± 4%	8.0	± 4%
Real assets	13.0	± 7%	13.0	± 7%
Private equity	12.0	± 6%	11.0	± 6%
Total	100.0%		100.0%	
Expected return 20-year geometric mean	7.13%		7.13%	
Projected standard deviation	13.55		13.80	

For fiscal years 2021 and 2020, the DB Pension Plan's investments generated a 27.65% and 3.82% rate of return, respectively. For fiscal years 2021 and 2020, the Alaska Retiree Healthcare Trust Plan's investments generated a 27.70% and 3.90% rate of return, respectively.

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June 30, 2021

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)				
	2021	2020	Increase (decrease)		2019
			Amount	Percentage	
Contributions – plan members	\$ 69,855	66,473	3,382	5.1 %	\$ 67,201
Contributions – employers	101,374	97,375	3,999	4.1	96,749
Contributions – nonemployer					
State of Alaska	134,070	140,219	(6,149)	(4.4)	127,365
Net investment income	2,713,316	368,015	2,345,301	637.3	525,251
Employer group waiver plan	18,296	11,706	6,590	56.3	2,518
Medicare retiree drug subsidy	62	—	62	100.0	6,714
Pharmacy rebates	12,101	15,832	(3,731)	(23.6)	11,867
Pharmacy managed allowance	85	—	85	100.0	—
Other income	549	348	201	57.8	488
Total	\$ 3,049,708	699,968	2,349,740	335.7 %	\$ 838,153

The System's employer contributions increased from \$97,375,000 in fiscal year 2020 to \$101,374,000 in fiscal year 2021, an increase of \$3,999,000 or 4.1%. The System's employer contributions increased from \$96,749,000 in fiscal year 2019 to \$97,375,000 in fiscal year 2020, an increase of \$626,000 or 0.6%. The increase in employer contributions for both fiscal year 2021 and 2020 are attributed to increases in member salaries.

The State provided \$134,976,000 and \$141,219,000 for fiscal years 2021 and 2020, respectively in nonemployer contributions per Alaska Statute (AS) 14.25.085. The employer on-behalf amount (or additional State contributions as defined in AS 14.25.085) is calculated by the System's actuary. It is based on projected payroll and the difference between the actuarially determined contribution rate and the statutory effective rate. The employer effective contribution rate of 12.56% is established in AS 14.25.070(a).

The System's net investment income in fiscal year 2021 increased by \$2,345,301 or 637.3% from amounts in fiscal year 2020. The System's net investment income in fiscal year 2020 decreased by \$157,236,000 or 29.9% from amounts in fiscal year 2019. The investment returns received in fiscal year 2021 were higher than the returns seen in fiscal year 2020, causing an increase in investment income in comparison between 2021 and 2020. 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 of Retirement and Benefits (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. During fiscal year 2021, the Plan received \$18,296,000 in EGWP funds from the Center of Medicare and Medicaid Services (CMS) through the EGWP Plan Sponsor, OptumRx.

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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 2021, the Plan received \$12,101,000 in pharmacy rebates compared to \$15,832,000 from fiscal year 2020. The decrease is due to the timing of receipt of funds.

The DB Pension Plan's investment rates of return for the year ended June 30 were as follows:

	Year ended		
	2021	2020	2019
Plan returns	27.65 %	3.82 %	6.35 %
Broad domestic equity	42.68	2.62	8.41
Global equity (ex-U.S.)	38.53	(3.60)	(0.08)
Fixed income	2.20	7.37	6.34
Opportunistic	23.86	0.51	7.21
Real assets	9.86	2.06	6.08
Absolute return	—	—	4.08
Private equity	50.67	10.52	17.66
Cash equivalents	—	—	2.50
Actuarially assumed rate of return	7.38	7.38	7.38

The Alaska Retiree Healthcare Trust Plan's investment rates of return for the year ended June 30 were as follows:

	Year ended		
	2021	2020	2019
Plan returns	27.70 %	3.90 %	6.44 %
Broad domestic equity	42.69	2.62	8.41
Global equity (ex-U.S.)	38.57	(3.59)	(0.09)
Fixed income	2.20	7.37	6.34
Opportunistic	23.86	0.51	7.20
Real assets	10.00	2.36	6.20
Absolute return	—	—	4.08
Private equity	50.67	10.53	17.66
Cash equivalents	—	—	2.50
Actuarially assumed rate of return	7.38	7.38	7.38

State of Alaska

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

Management's Discussion and Analysis (Unaudited)

June 30, 2021

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
	2021	2020	Increase (decrease)		
			Amount	Percentage	
Pension benefits	\$ 499,942	488,748	11,194	2.3 %	\$ 470,414
Postemployment benefits	148,162	135,654	12,508	9.2	143,227
Refunds of contributions	23,781	17,297	6,484	37.5	14,687
Administrative	12,647	11,482	1,165	10.1	10,583
Total	\$ 684,532	653,181	31,351	4.8 %	\$ 638,911

The System's DB pension benefit payments in 2021 increased \$11,194,000 or 2.3% from fiscal year 2020, which increased \$18,334,000 or 3.9% from fiscal year 2019. The increase in pension benefits in fiscal year 2021 is the result of a continued increase in the number of retirees.

The System's postemployment healthcare benefit payments in fiscal year 2021 increased \$12,508,000 or 9.2% from fiscal year 2020, which decreased \$7,573,000 or 5.3% from fiscal year 2019. During fiscal year 2021, the System saw an increase in postemployment benefits as the number of retirees in the DB Plan continues to increase. The increase in retirees is offset by those retirees 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 \$6,484,000 or 37.5% from fiscal year 2020 to 2021 and increased \$2,610,000 or 17.8% from fiscal year 2019 to 2020. The increase in refunds is entirely in the DCR Plan, where refunds increased \$6,696,000 between fiscal year 2020 to 2021 and increased \$3,214,000 between fiscal year 2019 to 2020. Increases in refunds are attributed to the increase in the number of DCR Plan member accounts and higher member balances being refunded, as such refunds are the primary intended purpose of these balances. 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 2021 increased \$1,165,000 or 10.1% from fiscal year 2020 and increased \$899,000 or 8.5% from fiscal year 2019 to 2020. The increased administrative cost in fiscal years 2021 and 2020 is primarily the management and consulting fees paid related to the retirement system modernization project, which is a total replacement of the existing legacy system.

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 net pension liability. The total pension liability represents the total

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Management's Discussion and Analysis (Unaudited)

June 30, 2021

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>2021</u>	<u>2020</u>
Total pension liability	\$ 7,527,454	7,477,917
Plan fiduciary net position	<u>(6,731,481)</u>	<u>(5,444,799)</u>
Employers' net pension liability	<u>\$ 795,973</u>	<u>2,033,118</u>
Plan fiduciary net position as a percentage of the total pension liability	89.43%	72.81 %

Net OPEB Asset

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 asset, or the overfunded portion of the total OPEB liability.

The components of the net OPEB liability (asset) of the participating employers of the Plans as of June 30, 2021 were as follows (in thousands):

	<u>Alaska Retiree Healthcare Trust Plan (ARHCT Plan)</u>	<u>Occupational Death and Disability (ODD Plan)</u>	<u>Retiree Medical Plan (RMP)</u>
Total OPEB liability	\$ 2,560,350	528	47,198
Plan fiduciary net position	<u>(3,723,031)</u>	<u>(6,623)</u>	<u>(67,278)</u>
Employers' net OPEB asset	<u>\$ (1,162,681)</u>	<u>(6,095)</u>	<u>(20,080)</u>
Plan fiduciary net position as a percentage of the total OPEB liability	145.41 %	1,254.36 %	142.54 %

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The components of the net OPEB asset of the participating employers of the Plans as of June 30, 2020 were as follows (in thousands):

	<u>Alaska Retiree Healthcare Trust Plan (ARHCT Plan)</u>	<u>Occupational Death and Disability (ODD Plan)</u>	<u>Retiree Medical Plan (RMP)</u>
Total OPEB liability	\$ 2,595,717	518	38,548
Plan fiduciary net position	<u>(2,953,461)</u>	<u>(4,823)</u>	<u>(48,413)</u>
Employers' net OPEB asset	<u>\$ (357,744)</u>	<u>(4,305)</u>	<u>(9,865)</u>
Plan fiduciary net position as a percentage of the total OPEB liability	113.78 %	931.08 %	125.59 %

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 appropriation per AS 14.25.085.
- AS 14.25.085 provides that additional State contributions are made each July 1 or as soon after July 1 for the ensuing fiscal year that when combined with the total employer contributions are sufficient to pay the System's past service liability at the contribution rate adopted by the Board for that fiscal year.
- Plan member contributions are set by AS 14.25.050 for the DB Plan and AS 14.25.340 for the DCR Plan.
- The Board works with an external consultant to determine the proper asset allocation strategy.

Legislation

During fiscal year 2021, the 32nd Alaska State Legislature enacted one law that affects the System. Conference Committee Substitute First Special Session House Bill 69, Section 73(c), appropriates \$142.6 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, 2022.

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

Fiscal year 2021 had positive investment returns. Net investment income increased from \$368,015,000 in fiscal year 2020 to \$2,713,316,000 in fiscal year 2021, an increase of \$2,345,301,000 or 637.3%. During fiscal year 2021, the System's actual rate of

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State of Alaska

Teachers' Retirement System
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Management's Discussion and Analysis (Unaudited)

June 30, 2021

return on investments of 27.65% was above the 7.38% actuarially assumed rate of return. 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 30.47% in fiscal year 2021 to 31.85% in fiscal year 2022. The Board adopted the fiscal year 2022 actuarially determined contribution rate of 31.85%, which represented an increase of 1.38%. The statutory employer effective contribution rate remains at 12.56% for fiscal years 2022 and 2021.

The June 30, 2020 and 2019 actuarial valuation reports for the DB Plan reported funding ratios based on valuation assets of 86.6% and 85.9%, respectively, as well as unfunded liabilities of \$1.33 and \$1.40 billion, respectively.

For fiscal years 2022 and 2021, 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 was adopted by the Board for fiscal years 2022 and 2021 to be 0.08%. The DCR Plan retiree medical plan actuarially determined contribution rate was adopted by the Board for fiscal years 2022 and 2021 to be 0.83% and 0.93%, respectively.

Requests for Information

This financial report is designed to provide a general overview for those parties interested in the System's finances. Questions concerning any of the information provided in this report or requests for additional information should be addressed to:

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

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

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

State of Alaska

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

Combining Statement of Fiduciary Net Position

June 30, 2021

(With summarized financial information for June 30, 2020)

(In thousands)

	Defined benefit pension	Defined contribution pension	Other postemployment benefit plans			System total June 30, 2021	System total June 30, 2020	
			Alaska Retiree Healthcare Trust	Occupational death and disability	Retiree medical			Health reimbursement arrangement
Assets:								
Cash and cash equivalents:								
Short-term fixed-income pool	\$ 55,595	336	28,737	58	589	1,770	87,085	75,672
Empower money market fund – non-participant directed	—	303	—	—	—	—	303	491
Securities lending collateral	17,140	—	9,495	17	168	503	27,323	11,038
Total cash and cash equivalents	72,735	639	38,232	75	757	2,273	114,711	87,201
Receivables:								
Contributions	9,952	—	—	—	—	—	9,952	8,635
Due from State of Alaska General Fund	—	5,253	1,145	34	392	1,057	7,881	9,746
Due from Retiree Health Fund	—	—	—	—	—	—	—	—
Other accounts receivable	41	—	1,793	—	—	—	1,834	33
Total receivables	9,993	5,253	2,938	34	392	1,057	19,667	18,414
Investments, at fair value:								
Fixed-income securities:								
Alternative fixed income pool	164,795	—	91,523	161	1,638	4,898	263,015	264,408
Barclays aggregate bond fund	960,305	—	533,330	235	2,389	7,146	1,503,405	1,319,295
Opportunistic fixed income pool	240,442	—	133,536	940	9,542	28,540	413,000	279,885
Total fixed-income securities	1,365,542	—	758,389	1,336	13,569	40,584	2,179,420	1,863,588
Broad domestic equity:								
Large cap pool	1,703,281	—	945,961	1,668	16,925	50,622	2,718,457	2,156,828
Small cap pool	144,335	—	80,160	141	1,434	4,289	230,359	190,594
Total broad domestic equity	1,847,616	—	1,026,121	1,809	18,359	54,911	2,948,816	2,347,422
Global equity ex-U.S.:								
International equity pool	1,018,255	—	565,514	997	10,118	30,263	1,625,147	1,339,433
Emerging markets equity pool	216,313	—	120,135	212	2,150	6,429	345,239	280,091
Total global equity ex-U.S.	1,234,568	—	685,649	1,209	12,268	36,692	1,970,386	1,619,524
Opportunistic:								
Alternative beta pool	62,052	—	34,462	61	617	1,844	99,036	96,972
Alternative equity pool	77,707	—	43,157	76	772	2,309	124,021	92,381
Other opportunistic pool	4,073	—	2,262	4	40	121	6,500	12,014
Tactical allocation strategies pool	249,686	—	138,670	244	2,481	7,421	398,502	265,882
Total opportunistic	393,518	—	218,551	385	3,910	11,695	628,059	467,249
Private equity pool	1,001,964	—	556,466	981	9,956	29,779	1,599,146	1,062,181
Real assets:								
Real estate pools	306,251	—	170,451	300	3,050	9,121	489,173	432,481
Real estate investment trust pool	108,032	—	59,998	106	1,074	3,211	172,421	96,634
Infrastructure private pool	148,816	—	82,649	146	1,479	4,423	237,513	213,559
Energy pool	12,415	—	6,895	12	123	369	19,814	21,371
Farmland pool	179,630	—	99,762	176	1,785	5,339	286,692	283,268
Timber pool	73,228	—	40,669	72	728	2,176	116,873	114,772
Total real assets	828,372	—	460,424	812	8,239	24,639	1,322,486	1,162,085
Other investment funds:								
Participant directed at fair value:								
Collective investment funds	—	246,064	—	—	—	—	246,064	202,427
Pooled investment funds	—	521,012	—	—	—	—	521,012	348,974
Participant directed at contract value:								
Synthetic investment contracts	—	46,336	—	—	—	—	46,336	29,797
Total other investment funds	—	813,412	—	—	—	—	813,412	581,198
Total investments	6,671,580	813,412	3,705,600	6,532	66,301	198,300	11,461,725	9,103,247
Other assets								
Total assets	6,754,308	819,304	3,747,088	6,641	67,450	201,630	11,596,421	9,209,180
Liabilities:								
Claims payable (note 6)	—	—	12,733	—	—	—	12,733	10,812
Accrued expenses	413	153	1,829	1	4	3	2,403	1,177
Forfeitures payable to employers	—	61	—	—	—	—	61	159
Due to State of Alaska General Fund	5,274	—	—	—	—	—	5,274	2,543
Securities lending collateral payable	17,140	—	9,495	17	168	503	27,323	11,038
Total liabilities	22,827	214	24,057	18	172	506	47,794	25,729
Net position restricted for pension benefits, postemployment healthcare benefits, and individuals								
	\$ 6,731,481	819,090	3,723,031	6,623	67,278	201,124	11,548,627	9,183,451

See accompanying notes to financial statements.

Financial Section

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, 2021

(With summarized financial information for June 30, 2020)

(In thousands)

	Defined benefit pension	Defined contribution pension	Other postemployment benefit plans				System total June 30, 2021	System total June 30, 2020
			Alaska Retiree Healthcare Trust	Occupational death and disability	Retiree medical	Health reimbursement arrangement		
Additions:								
Contributions:								
Employers	\$ 29,336	30,070	24,700	362	4,217	12,689	101,374	97,375
Plan members	33,342	36,513	—	—	—	—	69,855	66,473
Nonemployer State of Alaska	134,070	—	—	—	—	—	134,070	140,219
Total contributions	196,748	66,583	24,700	362	4,217	12,689	305,299	304,067
Investment income:								
Net appreciation in fair value	1,534,132	190,099	835,912	1,415	14,279	42,633	2,618,470	261,907
Interest	19,681	1	10,698	18	182	541	31,121	39,891
Dividends	55,977	—	30,779	52	523	1,562	88,893	91,435
Total investment income	1,609,790	190,100	877,389	1,485	14,984	44,736	2,738,484	393,233
Less investment expense	15,420	1,208	8,238	14	138	413	25,431	25,497
Net investment income before securities lending activities	1,594,370	188,892	869,151	1,471	14,846	44,323	2,713,053	367,736
Securities lending income	208	—	113	—	2	6	329	348
Less securities lending expense	42	—	23	—	—	1	66	69
Net income from securities lending activities	166	—	90	—	2	5	263	279
Net investment income	1,594,536	188,892	869,241	1,471	14,848	44,328	2,713,316	368,015
Other income:								
Employer group waiver plan	—	—	18,293	—	3	—	18,296	11,706
Medicare retiree drug subsidy	—	—	62	—	—	—	62	—
Pharmacy rebates	—	—	12,100	—	1	—	12,101	15,832
Pharmacy management allowance	—	—	85	—	—	—	85	—
Miscellaneous income	273	21	247	—	2	6	549	348
Total other income	273	21	30,787	—	6	6	31,093	27,886
Total additions	1,791,557	255,496	924,728	1,833	19,071	57,023	3,049,708	699,968
Deductions:								
Pension and postemployment benefits	499,942	—	147,861	24	164	113	648,104	624,402
Refunds of contributions	1,487	22,294	—	—	—	—	23,781	17,297
Administrative	3,446	1,846	7,297	9	42	7	12,647	11,482
Total deductions	504,875	24,140	155,158	33	206	120	684,532	653,181
Net increase	1,286,682	231,356	769,570	1,800	18,865	56,903	2,365,176	46,787
Net position restricted for pension benefits, postemployment healthcare benefits, and individuals:								
Balance, beginning of year	5,444,799	587,734	2,953,461	4,823	48,413	144,221	9,183,451	9,136,664
Balance, end of year	\$ 6,731,481	819,090	3,723,031	6,623	67,278	201,124	11,548,627	9,183,451

See accompanying notes to financial statements.

See accompanying notes to financial statements.

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Teachers' Retirement System
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(1) Description

The State of Alaska Teachers' Retirement System (TRS or the System) is a component unit of the State of Alaska (the State). The System is 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 by 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 Plan	Cost-sharing, Defined Benefit Pension
Defined Contribution Pension Plan	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, 2021, 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.

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

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Defined Benefit Pension Plan

(a) General

The Defined Benefit Pension (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 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, 2021:

Inactive plan members or beneficiaries currently receiving benefits	13,225
Inactive plan members entitled to but not yet receiving benefits	741
Inactive plan members not entitled to benefits	1,678
Active plan members	3,492
Total DB Plan membership	19,136

(b) Pension Benefits

Vested members hired prior to July 1, 1990 are entitled to monthly pension benefits beginning at normal retirement age, 55, or early retirement age, 50. For members first hired after June 30, 1990, the normal and early retirement ages are 60 and 55, respectively. Members may 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 2.00% 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.

(c) Contributions

Contribution requirements of the active plan members and the participating employers are actuarially determined and approved by the Board as an amount that, when combined, is expected to finance the costs of benefits earned by plan

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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 2021 is allocated 5.65% to the DB Pension Plan and 6.91% to the DB ARHCT Plan as determined by the actuary of the Plan. Alaska Statute (AS) 14.25.085 provides that the State, as a nonemployer contributing entity, contributes each July 1, or as soon after July 1, for the ensuing fiscal year, an amount that when combined with the total employer contributions is sufficient to pay the System's past service liability at the actuarially determined contribution rate adopted by the Board for that fiscal year. Additionally, there is a Defined Benefit Unfunded Liability (DBUL) amount levied against the Defined Contribution Retirement Pension (DCR) Plan payroll. The DBUL amount is computed as the difference between:

- (A) The amount calculated for the statutory employer effective 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. For fiscal year 2021, the DBUL is allocated 100.00% to the DB Pension Plan and 0.00% to the DB ARHCT Plan.

(d) Refunds

DB Plan member contributions may be voluntarily or, under certain circumstances, involuntarily refunded to the member or a garnishing agency 60 days after termination of employment. Voluntary refund rights are forfeited on July 1 following the member's 75th birthday or within 50 years of the member's last termination date. Members who 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 have reestablished 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 are not eligible to reinstate voluntarily refunded service and 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.

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.

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At June 30, 2021, membership in the DCR Plan included 6,009 active 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 refund of contributions 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.

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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, 2021:

Inactive plan members or beneficiaries currently receiving benefits	13,225
Inactive plan members entitled to but not yet receiving benefits	741
Inactive plan members not entitled to benefits	1,678
Active plan members	3,492
Total ARHCT Plan membership	19,136

(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 2021 statutory employer effective contribution rate is 12.56% of member's compensation, with 6.91% 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, 2021:

Active plan members	6,009
Participating employers	57
Open claims	1

(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

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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, including service that would have accrued if the DB Plan member had 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 benefit 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.

(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 member's normal retirement date. The occupational disability benefits accrue beginning the first day of the month following termination of employment as a result of the disability and are payable the last day of the month. If a final determination granting the benefit is not made in time to pay the benefit when due, a retroactive payment shall be made to cover the period of deferment.

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(iii) Contributions

An employer shall contribute to each member's account based on the member's compensation. For fiscal year 2021, 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. The RMP provides major medical coverage to retirees of the DCR Plan. The RMP is self-insured. Members are not eligible to use the plan until they have at least 10 years of service and are Medicare age eligible.

Membership in the RMP was as follows at June 30, 2021:

Inactive plan members or beneficiaries currently receiving benefits	20
Inactive plan members entitled to but not yet receiving benefits	832
Inactive plan members not entitled to benefits	2,848
Active plan members	6,009
Total RMP membership	9,709

(i) OPEB Benefits

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

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

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

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- (d) 15% if the member had 25 or more, but less than 30, years of service
- (e) 10% if the member had 30 or more years of service.

(ii) Contributions

Employer contribution rates are actuarially determined and adopted by the Board. The 2021 employer effective contribution rate is 0.93% 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, 2021:

Inactive plan members or beneficiaries currently receiving benefits	29
Inactive plan members entitled to but not yet receiving benefits	832
Inactive plan members not entitled to benefits	2,848
Active plan members	6,009
	9,718
Total HRA Plan membership	9,718

(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 in the TRS and PERS. The administrator maintains a record of each member to account for employer contributions on behalf of that member. The 2021 contribution amount was an annual contribution not to exceed

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\$2,159.04 and was required for every pay period in which the employee was enrolled in the DCR Plan, regardless of the compensation paid during the year. An amount less than \$2,159.04 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.

(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, through the Treasury, who is given the authority to invest in a wholly owned pooled environment to accommodate 14 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.

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.

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

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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.

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.

(e) Contributions Receivable

Contributions from the System's members and employers applicable to payrolls received through July 15 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) Due from 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.

(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 treat it 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, and pharmacy rebates are recognized on a cash basis.

(h) 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.

(i) Federal Income Tax Status

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

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(3) Investments

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

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

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, Real Estate Investment Trust Pool, and Treasury Inflation-Protected Securities Pool, in addition to acting as oversight manager for all externally managed investments. All other investments are managed by external management companies.

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

Rate of Return

The money-weighted rate of return expresses investment performance, net of investment expense, adjusted for the changing amounts actually invested. The annual money-weighted rate of return, net of investment expense for the year ended June 30, 2021 for the DB Pension Plan is 29.80%, the ARHCT Plan is 29.95%, the ODD Plan is 29.46%, and the RMP is 29.41%.

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/amb/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, 2021 were as follows (in thousands):

Total pension liability	\$	7,527,454
Plan fiduciary net position		<u>(6,731,481)</u>
Employers' net pension liability	\$	<u><u>795,973</u></u>
Plan fiduciary net position as a percentage of the total pension liability		89.43 %

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(a) Actuarial Assumptions

The total pension liability was determined by an actuarial valuation as of June 30, 2020, using the following actuarial assumptions, applied to all periods included in the measurement and rolled forward to the measurement date of June 30, 2021:

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-commencement and post-commencement mortality rates were based upon the 2013–2017 actual mortality experience. Pre-commencement mortality rates were based on 100% of the RP-2014 white-collar employee table, benefit-weighted, rolled back to 2006, and projected with MP-2017 generational improvement. Post-commencement mortality rates were based on 93% of male and 90% of female rates of the RP-2014 white-collar healthy annuitant table, benefit-weighted, rolled back to 2006, and projected 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, 2020 actuarial valuation were based on the results of an actuarial experience study for the period from July 1, 2013 to June 30, 2017, resulting in changes in actuarial assumptions effective for the June 30, 2018 actuarial valuation adopted by the Board to better reflect expected experience. The actuarial assumptions used in the June 30, 2020 actuarial valuation are the same as those used in the June 30, 2019 actuarial valuation, except the amount included in the Normal Cost for administrative expenses was updated to reflect the most recent two years of actual administrative expenses paid from plan assets.

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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 investment expense and inflation) are developed for each major asset class. These ranges are combined to produce the long-term expected rate of return by weighting the expected future real rates of return by the target asset allocation percentage and adding expected inflation. Best estimates of arithmetic rates of return for each major asset class included in the pension plan's target asset allocation as of June 30, 2021 are summarized in the following table (note that the rates shown below exclude an inflation component of 2.04%):

Asset class	Long-term expected real rate of return
Domestic equity	6.63%
Global equity (ex-U.S.)	5.41
Aggregate bonds	0.76
Opportunistic	4.39
Real assets	3.16
Private equity	9.29
Cash equivalents	0.13

(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 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 2.18% as of June 30, 2021.

(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, 2021, 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):

	1.00% decrease (6.38%)	Current discount rate (7.38%)	1.00% increase (8.38%)
Net pension liability	\$ 1,609,245	795,973	111,008

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(5) Net OPEB Assets

The components of the net OPEB asset of the participating employers for each Plan at June 30, 2021 were as follows (in thousands):

	<u>ARHCT Plan</u>	<u>ODD Plan</u>	<u>RMP</u>
Total OPEB liability	\$ 2,560,350	528	47,198
Plan fiduciary net position	<u>(3,723,031)</u>	<u>(6,623)</u>	<u>(67,278)</u>
Employers' net OPEB asset	<u>\$ (1,162,681)</u>	<u>(6,095)</u>	<u>(20,080)</u>
Plan fiduciary net position as a percentage of the total OPEB liability	145.41%	1,254.36%	142.54%

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(a) Actuarial Assumptions

The total OPEB liability for each plan was determined by actuarial valuations as of June 30, 2020, using the following actuarial assumptions, applied to all periods in the measurement, and rolled forward to the measurement date of June 30, 2021:

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: 6.5% grading down to 4.5% Post-65 medical: 5.4% grading down to 4.5% Prescription drug: 7.5% grading down to 4.5% EGWP: 7.5% grading down to 4.5%
Mortality (ARHCT Plan, ODD Plan, and RMP)	Pre-commencement and post-commencement mortality rates were based upon the 2013–2017 actual mortality experience. Pre-commencement mortality rates were based on 100% of the RP-2014 white-collar employee table, benefit-weighted, rolled back to 2006, and projected with MP-2017 generational improvement. Post-commencement mortality rates were based on 93% of male and 90% of female rates of the RP-2014 white-collar healthy annuitant table, benefit-weighted, rolled back to 2006, and projected with MP-2017 generational improvement.
(ODD Plan)	Deaths are assumed to be occupational 15% of the time. Disability mortality in accordance with the RP-2014 disabled table, benefit-weighted, rolled back to 2006, and projected with MP-2017 generational improvement.

The actuarial assumptions used in the June 30, 2020 actuarial valuation were based on the results of an actuarial experience study for the period from July 1, 2013 to June 30, 2017, resulting in changes in actuarial assumptions effective for the June 30, 2018 actuarial valuation adopted by the Board to better reflect expected experience. The assumptions used in the June 30, 2020 actuarial valuation are the same as those used in the June 30, 2019 valuation with the following exceptions:

1. Per capita claims costs were updated to reflect recent experience.
2. Retired member contributions were updated to reflect the 5% decrease from calendar year (CY) 20 to CY21.
3. The amount included in the Normal Cost for administrative expenses was updated to reflect the most recent two years of actual administrative expenses paid from plan assets.

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4.

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 investment expense and inflation) are developed for each major asset class. These ranges are combined to produce the long-term expected rate of return by weighting the expected future real rates of return by the target asset allocation percentage and adding expected inflation. Best estimates of arithmetic rates of return for each major asset class included in the postretirement healthcare plan's target asset allocation as of June 30, 2021 are summarized in the following table (note that the rates shown below exclude an inflation component of 2.04%):

Asset class	Long-term expected real rate of return
Domestic equity	6.63%
Global equity (non-U.S.)	5.41
Aggregate bonds	0.76
Opportunistic	4.39
Real assets	3.16
Private equity	9.29
Cash equivalents	0.13

(b) Discount Rate

The discount rate used to measure the total OPEB liability as of June 30, 2021 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 74. 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 2.18% as of June 30, 2021.

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

The following presents the net OPEB asset as of June 30, 2021, calculated using the discount rate of 7.38%, as well as what the System's net OPEB 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):

	1.00% decrease (6.38%)	Current discount rate (7.38%)	1.00% increase (8.38%)
ARHCT Plan	\$ (837,747)	(1,162,681)	(1,431,519)
ODD Plan	(6,110)	(6,095)	(6,088)
RMP	(7,415)	(20,080)	(29,553)

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

The following presents the net OPEB asset as of June 30, 2021, calculated using the healthcare cost trend rates as summarized in the 2020 actuarial valuation report, as well as what the System's net OPEB asset would be if it were calculated using trend rates that are one-percentage-point lower or one-percentage-point higher than the current healthcare cost trend rates (in thousands):

	1.00% decrease	Current healthcare cost trend rate	1.00% increase
ARHCT Plan	\$ (1,461,739)	(1,162,681)	(800,304)
ODD Plan	N/A	N/A	N/A
RMP	(30,830)	(20,080)	(5,307)

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(6) Claims Payable

The liability for claims payable and claims incurred but not reported, included in the claims payable amount on the statement of fiduciary net position, 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.

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

	<u>2021</u>	<u>2020</u>
Total, beginning of year	\$ 10,812	12,561
Healthcare benefits	148,025	135,575
Benefits paid	<u>(146,104)</u>	<u>(137,324)</u>
Total, end of year	<u>\$ 12,733</u>	<u>10,812</u>

(7) Commitments and Contingencies

The Division 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.

The System is a defendant in a class action lawsuit against the State alleging that the passage of Senate Bill (SB) 141 violated the Alaska Constitution by extinguishing a former member's ability to re-enter the PERS / TRS defined benefits plan. According to SB 141, a PERS / TRS defined benefit former member would have to re-employ into an eligible defined benefit position by June 30, 2010 or lose that former member's status (tier standing). If that former member re-entered the workforce in a valid PERS / TRS position but after June 30, 2010, that person would become a defined contribution retirement plan member, rather than reinstated into their prior defined benefit status (tier standing). The lawsuit challenged the effect of SB 141 as an unconstitutional diminishment of a promised defined benefit.

In April 2021, the Alaska Supreme Court found that a former member's ability to reinstate PERS / TRS status is an accrued benefit protected by Article XII, Section 7 of the Alaska Constitution. The Court held that not allowing former members to buy back into PERS / TRS defined benefit status resulted in an unconstitutional diminishment. This decision could lead to an increase in the number of employees previously believed to be ineligible for the defined benefit plan by operation of SB 141 for PERS / TRS. The case was returned to the Superior Court and the Department of Law filed a motion for final judgment. The class action group opposes the execution of final judgment and seeks to further litigate the specifics of the implementation of the Supreme Court's decision. The issue is currently under advisement by the Superior Court.

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The Division is determining the impact of the Metcalfe decision on PERS and TRS. However, the Division has not implemented results from this decision as final judgment has not been entered. At this time, it is unclear exactly how many former members will seek to reinstate to the defined benefits plan or the precise impact the reintroduction of those former members to the defined benefits plan will cost.

(8) Employer Group Waiver Program

Effective January 1, 2019, 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.

(9) 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.

REQUIRED SUPPLEMENTARY INFORMATION

(Unaudited)

State of Alaska

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

Required Supplementary Information (Unaudited) Schedule of Changes in Employer Net Pension Liability and Related Ratios – Defined Benefit Pension Plan (In thousands)

	2021	2020	2019	2018	2017	2016	2015	2014	2013	2012
Total pension liability:										
Service cost	\$ 48,401	50,654	60,810	64,961	68,376	61,011	63,608	64,324	69,113	69,548
Interest	535,725	529,132	575,706	572,791	559,165	550,392	540,981	515,325	517,511	501,252
Differences between expected and actual experience	(33,160)	8,105	(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	(501,429)	(490,446)	(472,717)	(458,511)	(448,422)	(437,582)	(418,545)	(399,001)	(397,956)	(378,113)
Net change in total pension liability	49,537	97,445	(6,584)	48,149	113,362	118,139	337,205	180,648	189,776	203,673
Total pension liability – beginning	7,477,917	7,380,472	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)	7,527,454	7,477,917	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	29,336	34,114	36,805	39,835	36,634	33,478	36,374	37,571	37,372	38,189
Contributions – member	33,342	33,566	35,763	37,674	39,878	42,654	45,506	47,724	50,201	52,020
Contributions – nonemployer entity (State)	134,070	140,219	127,365	111,757	116,700	90,589	1,662,700	208,890	196,945	157,387
Total net investment income (loss)	1,594,536	218,372	314,972	432,543	628,184	(31,340)	152,561	599,958	373,868	2,190
Benefit payments, including refunds of member contributions	(501,429)	(490,446)	(472,717)	(458,511)	(448,422)	(437,582)	(418,545)	(399,001)	(382,933)	(363,839)
Administrative expenses	(3,446)	(2,988)	(3,018)	(3,050)	(2,890)	(2,648)	(2,789)	(3,160)	(2,989)	(2,847)
Other income	273	33	32	184	10	95	9	27	19	17
Net change in plan fiduciary net position	1,286,682	(67,130)	39,202	160,432	370,094	(304,754)	1,475,816	492,009	272,483	(116,883)
Plan fiduciary net position – beginning	5,444,799	5,511,929	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)	6,731,481	5,444,799	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	\$ 795,973	2,033,118	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	89.43%	72.81%	74.68%	74.09%	72.39%	68.40%	73.82%	55.70%	49.76%	46.98%
Covered payroll	\$ 357,288	370,449	392,849	416,051	442,029	463,604	491,223	514,035	541,981	561,906
Net pension liability as a percentage of covered payroll	222.78%	548.82%	475.64%	460.12%	458.48%	492.52%	378.74%	583.44%	610.80%	603.86%

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

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State of Alaska

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

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

(In thousands)

Fiscal Year	Actuarially Determined Contribution	Contributions in relation to the actuarially determined contribution	Contribution deficiency (excess)	Covered Payroll	Contribution as a percentage of covered payroll
2021	\$ 155,184	163,406	(8,222)	349,236	46.79 %
2020	150,284	174,333	(24,049)	366,037	47.63 %
2019	154,083	164,170	(10,087)	392,609	41.82 %
2018	144,391	151,593	(7,202)	425,841	35.60 %
2017	133,417	153,334	(19,917)	449,629	34.10 %
2016	359,790	124,067	235,723	473,734	26.19 %
2015	321,971	1,699,074	(1,377,103)	490,667	346.28 %
2014	240,366	246,461	(6,095)	514,035	47.95 %
2013	259,786	234,317	25,469	550,044	42.60 %
2012	229,509	195,576	33,933	561,971	34.80 %

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 Investment Returns – Defined Benefit Pension Plan

<u>Fiscal Year</u>	<u>Annual money-weighted rate of return, net of investment expense</u>
2021	29.80 %
2020	4.01 %
2019	5.85 %
2018	8.30 %
2017	13.04 %
2016	(0.36)%
2015	3.30 %
2014	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.

Financial Section

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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 – Alaska Retiree Healthcare Trust Plan (In thousands)

	2021	2020	2019	2018	2017
Total OPEB liability:					
Service cost	\$ 23,793	26,684	34,729	32,821	31,605
Interest	188,868	202,757	252,021	232,774	224,435
Differences between expected and actual experience	(24,483)	(23,298)	(47,911)	(57,990)	(27,011)
Changes of assumptions	(100,701)	(273,319)	(509,775)	163,911	—
Benefit payments	(141,137)	(125,310)	(136,158)	(132,040)	(120,204)
EGWP rebates	18,293	11,705	2,518	—	—
Net change in total OPEB liability	(35,367)	(180,781)	(404,576)	239,476	108,825
Total OPEB liability – beginning	2,595,717	2,776,498	3,181,074	2,941,598	2,832,773
Total OPEB liability – ending (a)	2,560,350	2,595,717	2,776,498	3,181,074	2,941,598
Plan fiduciary net position:					
Contributions – employer	24,700	18,788	17,957	19,305	24,069
Contributions – RDS	62	—	6,711	1,894	—
Total net investment income	869,241	120,073	169,183	224,820	322,219
	894,003	138,861	193,851	246,019	346,288
Benefit payments	(147,861)	(135,566)	(143,126)	(134,051)	(120,237)
EGWP rebates	18,293	11,705	2,518	—	—
Pharmacy rebates	12,100	15,829	11,858	6,149	33
Pharmacy management allowance	85	—	—	—	—
ASO fees	(5,461)	(5,573)	(4,890)	(4,138)	—
Net benefit payments	(122,844)	(113,605)	(133,640)	(132,040)	(120,204)
Administrative expenses, net of ASO fees	(1,836)	(1,372)	(1,351)	(1,527)	(5,908)
Other	247	258	324	18	13,909
Net change in plan fiduciary net position	769,570	24,142	59,184	112,470	234,085
Plan fiduciary net position – beginning	2,953,461	2,929,319	2,870,135	2,757,665	2,523,580
Plan fiduciary net position – ending (b)	3,723,031	2,953,461	2,929,319	2,870,135	2,757,665
Plan's net OPEB (asset) liability (a)–(b)	\$ (1,162,681)	(357,744)	(152,821)	310,939	183,933
Plan fiduciary net position as a percentage of the total OPEB liability	145.41%	113.78%	105.50%	90.23%	93.75%
Covered payroll	\$ 357,288	370,449	392,849	416,051	442,029
Net OPEB liability (asset) as a percentage of covered payroll	(325.42)%	(96.57)%	(38.90)%	74.74%	41.61%

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 Employer and Nonemployer Contributions –
Alaska Retiree Healthcare Trust Plan
Last 10 Fiscal Years

(In thousands)

<u>Fiscal Year</u>	<u>Actuarially Determined Contribution</u>	<u>Contributions in relation to the actuarially determined contribution</u>	<u>Contribution deficiency (excess)</u>	<u>Covered Payroll</u>	<u>Contribution as a percentage of covered payroll</u>
2021	\$ 25,197	24,700	497	349,236	7.07 %
2020	28,373	18,788	9,585	366,037	5.13 %
2019	19,944	17,957	1,987	392,609	4.57 %
2018	19,518	19,305	213	425,841	4.53 %
2017	42,171	24,069	18,102	449,629	5.35 %
2016	336,595	66,099	270,496	473,734	13.95 %
2015	352,417	364,222	(11,805)	490,667	74.23 %
2014	320,797	139,936	180,861	514,035	27.22 %
2013	330,411	141,125	189,286	550,044	25.66 %
2012	192,700	113,411	79,289	561,971	20.18 %

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 Investment Returns – Alaska Retiree Healthcare Trust Plan

Fiscal Year	Annual money-weighted rate of return, net of investment expense
2021	29.95 %
2020	4.16 %
2019	6.02 %
2018	8.33 %
2017	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)

	2021	2020	2019	2018	2017
Total OPEB liability:					
Service cost	\$ 312	284	275	259	238
Interest	60	43	44	41	21
Differences between expected and actual experience	(338)	(92)	(274)	(248)	(15)
Changes of assumptions	—	—	(5)	—	—
Benefit payments	(24)	(24)	(24)	(24)	—
Net change in total OPEB liability	10	211	16	28	244
Total OPEB liability – beginning	518	307	291	263	19
Total OPEB liability – ending (a)	528	518	307	291	263
Plan fiduciary net position:					
Contributions – employers	362	329	312	—	—
Total net investment income	1,471	190	243	290	406
Benefit payments	(24)	(24)	(24)	(24)	—
Administrative expenses	(9)	—	—	—	(12)
Net change in plan fiduciary net position	1,800	495	531	266	394
Plan fiduciary net position – beginning	4,823	4,328	3,797	3,531	3,137
Plan fiduciary net position – ending (b)	6,623	4,823	4,328	3,797	3,531
Plan's net OPEB asset (a)–(b)	\$ (6,095)	(4,305)	(4,021)	(3,506)	(3,268)
Plan fiduciary net position as a percentage of the total OPEB liability	1,254.36%	931.08%	1,409.77%	1,304.81%	1,342.59%
Covered payroll	\$ 453,286	412,113	392,866	359,130	335,269
Net OPEB asset as a percentage of covered payroll	(1.34)%	(1.04)%	(1.02)%	(0.98)%	(0.97)%

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

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

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)

Fiscal Year	Actuarially Determined Contribution	Contributions in relation to the actuarially determined contribution	Contribution deficiency (excess)	Covered Payroll	Contribution as a percentage of covered payroll
2021	\$ 313	362	(49)	391,854	0.09 %
2020	288	329	(41)	359,622	0.09 %
2019	277	312	(35)	346,044	0.09 %
2018	—	—	—	327,765	— %
2017	—	—	—	300,750	— %
2016	—	1	(1)	289,714	— %
2015	—	—	—	255,186	— %
2014	—	—	—	229,971	— %
2013	—	—	—	206,771	— %
2012	—	(1)	1	200,043	— %

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 Investment Returns –
Occupational Death and Disability Plan

<u>Fiscal Year</u>	<u>Annual money-weighted rate of return, net of investment expense</u>
2021	29.46 %
2020	4.22 %
2019	6.15 %
2018	8.24 %
2017	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.

Financial Section

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)

	2021	2020	2019	2018	2017
Total OPEB liability:					
Service cost	\$ 3,376	3,410	3,684	3,247	2,703
Interest	3,088	3,073	2,971	2,347	1,934
Differences between expected and actual experience	2,313	(529)	2,696	(389)	(2)
Changes of assumptions	41	(5,632)	(4,551)	2,184	—
Benefit payments	(171)	(6)	(35)	(31)	(3)
EGWP rebates	3	1	—	—	—
Net change in total OPEB liability	8,650	317	4,765	7,358	4,632
Total OPEB liability – beginning	38,548	38,231	33,466	26,108	21,476
Total OPEB liability – ending (a)	47,198	38,548	38,231	33,466	26,108
Plan fiduciary net position:					
Contributions – employers	4,217	4,461	3,085	3,271	3,524
Contributions – RDS	—	—	3	—	—
Total net investment income	14,848	1,899	2,355	2,579	3,260
	19,065	6,360	5,443	5,850	6,784
Benefit payments	(164)	(9)	(44)	(31)	(3)
EGWP rebates	3	1	—	—	—
Pharmacy rebates	1	3	9	—	—
ASO fees	(8)	—	—	—	—
Net benefit payments	(168)	(5)	(35)	(31)	(3)
Administrative expenses, net of ASO fees	(34)	(9)	(6)	(3)	(12)
Other	2	—	—	1	—
Net change in plan fiduciary net position	18,865	6,346	5,402	5,817	6,769
Plan fiduciary net position – beginning	48,413	42,067	36,665	30,848	24,079
Plan fiduciary net position – ending (b)	67,278	48,413	42,067	36,665	30,848
Plan's net OPEB asset (a)–(b)	\$ (20,080)	(9,865)	(3,836)	(3,199)	(4,740)
Plan fiduciary net position as a percentage of the total OPEB liability	142.54%	125.59%	110.03%	109.56%	118.16%
Covered payroll	\$ 453,285	412,113	392,866	359,130	335,269
Net OPEB asset as a percentage of covered payroll	(4.43)%	(2.39)%	(0.98)%	(0.89)%	(1.41)%

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

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

State of Alaska

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)

Fiscal Year	Actuarially Determined Contribution	Contributions in relation to the actuarially determined contribution	Contribution deficiency (excess)	Covered Payroll	Contribution as a percentage of covered payroll
2021	\$ 3,644	4,217	(573)	391,854	1.08 %
2020	3,920	4,461	(541)	359,622	1.24 %
2019	2,734	3,085	(351)	346,044	0.89 %
2018	2,983	3,271	(288)	327,765	1.00 %
2017	3,158	3,524	(366)	300,750	1.17 %
2016	6,837	6,317	520	289,714	2.18 %
2015	6,099	5,670	429	255,186	2.22 %
2014	1,334	1,181	153	229,971	0.51 %
2013	1,241	1,101	140	206,771	0.53 %
2012	1,420	1,160	260	200,043	0.58 %

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 Investment Returns – Retiree Medical Plan**

Fiscal Year	Annual money-weighted rate of return, net of investment expense
2021	29.41 %
2020	4.26 %
2019	6.16 %
2018	7.92 %
2017	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, 2021

(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, 2020 were as follows:

- (a) Actuarial cost method – Liabilities and contributions in the report are computed using the Entry Age Normal Actuarial Cost Method, level percent of pay.

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. 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 difference between actual and expected 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.

- (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.

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Notes to Required Supplementary Information (Unaudited)

June 30, 2021

- (c) Valuation of retiree medical and prescription drug 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 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.
- (d) Investment return – 7.38% per year, net of investment 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-commencement) – Mortality rates based upon the 2013–2017 actual experience. RP-2014 employee table, benefit-weighted, rolled back to 2006, and projected with MP-2017 generational improvement. Deaths are assumed to result from occupational causes 15% of the time.
- (i) Mortality (post-commencement) – Mortality rates based upon the 2013–2017 actual experience. 93% of male and 90% of female rates of the RP-2014 healthy annuitant table, benefit-weighted, rolled back to 2006, and projected with MP-2017 generational improvement.
- (j) Total turnover – Select and ultimate rates 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 disability table, benefit-weighted, rolled back to 2006, and projected with MP-2017 generational improvement.
- (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.
- (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 double medical coverage. 65% of male members and 60% female member are assumed to be married and cover a dependent spouse.

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

Notes to Required Supplementary Information (Unaudited)

June 30, 2021

- (p) Dependent children – Pension: For the participants who are assumed to be married, those between ages 25 and 45 are assumed to have two dependent children. Healthcare: 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).
- (q) 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.
- (r) 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.
- (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 includes the following assumptions (which were developed based on the 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) Re-employment option – All re-employed retirees are assumed to return to work under the standard option.
- (u) Active data adjustment – No adjustment was made to reflect participants who terminate employment before the valuation date and are subsequently rehired after the valuation date.
- (v) Alaska 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.
- (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 investment expenses. The Normal Cost as of June 30, 2020 was increased by the following amounts for administrative expenses (for projections, the percentage increase was assumed to remain constant in future years): Pension – \$3,003,000 and Healthcare – \$1,362,000.
- (y) Part-time status – Part-time employees are assumed to earn 0.75 years of credited service per year.
- (z) 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.
- (aa) 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.
- (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 FY21 medical and prescription drug benefits are shown below:

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June 30, 2021

	<u>Medical</u>	<u>Prescription drugs</u>
Pre-Medicare	\$ 15,360	3,393
Medicare Parts A and B	1,618	3,340
Medicare Part B only	5,340	3,340
Medicare Part D – EGWP	N/A	1,003

Members are assumed to attain Medicare eligibility at age 65. All costs are for the 2021 fiscal year (July 1, 2020–June 30, 2021).

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 – \$449 per person per year; assumed to increase at 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.
- (ff) 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, 6.5% is applied to the FY21 pre-Medicare medical claims cost to get the FY22 medical claims cost:

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Notes to Required Supplementary Information (Unaudited)

June 30, 2021

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

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State of Alaska

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

Notes to Required Supplementary Information (Unaudited)

June 30, 2021

(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)
85-94	0.3	(2.5)
95+	—	—

(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 FY21 contributions based on monthly rates shown below for calendar 2021 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 is used to estimate the per-child rate based upon the assumed number of children in rates where children are covered.

Coverage category	Calendar 2021		Calendar 2020
	Annual contribution	Monthly contribution	Monthly contribution
Retiree only	\$ 8,448	704	741
Retiree and spouse	16,896	1,408	1,482
Retiree and child(ren)	11,940	995	1,047
Retiree and family	20,388	1,699	1,788
Composite	12,552	1,046	1,101

(ii) Trend rate for retired member medical contributions – The table below shows the rate used to project the retired member medical contributions from the shown fiscal year to the next fiscal year. For example, 0.0% is applied to the FY21 retired member medical contributions to get the FY22 retired member medical contributions.

Fiscal year	Trend assumption
2021	—%
2022	—
2023 +	4.0

Graded trend rates for retired member medical contributions are consistent with the rates used for the June 30, 2019 valuation. Actual FY21 retired member medical contributions are reflected in the valuation.

State of Alaska

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

Notes to Required Supplementary Information (Unaudited)

June 30, 2021

- (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 benefit plan valuation as of June 30, 2020 were as follows:

- (a) Actuarial cost method – Liabilities and contributions shown in the report are computed using the Entry Age Normal Actuarial Cost Method, level percent of pay. Each year's difference between actual and expected unfunded actuarial accrued liability is amortized over 25 years as a level percentage of expected payroll.
- (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 audited financial statements. 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 – 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, 2020 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 FY21 claims costs were reduced 3.1% for medical claims, and 8.9% for prescription drugs. In addition, to account for the difference in Medicare coordination, projected FY21 medical claims costs for Medicare eligible retirees were further reduced 29.5%.

FY19 and FY20 experience were compared to assess the impact of COVID-19 and whether an adjustment to FY20 claims was indicated for use in the June 30, 2020 valuation. A material decrease in medical claims during March 2020 to June 2020 was experienced due to COVID-19. Therefore, an adjustment was made for those months to adjust for the decrease that is not expected to continue in future years. There was an observed spike in prescription drug claims in March 2020; however, the FY20 prescription drug experience appears reasonable to use without adjustment for COVID-19. To adjust for the decrease in medical claims due to COVID-19 during the last 4 months of FY20, the per capita cost during the first 8 months was used as the basis for estimating claims that would have occurred in the absence of COVID-19.

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. The estimated 2021 reimbursements under EGWP were provided by Segal Consulting (who worked with the EGWP administrator, Optum, to develop those estimates).

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Notes to Required Supplementary Information (Unaudited)

June 30, 2021

- (d) Investment return – 7.38% per year, net of investment expenses.
- (e) Salary scale – Salary scale rates based upon the 2013–2017 actual experience. Inflation 2.50% per year. Productive 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-commencement) – Mortality rates based upon the 2013–2017 actual experience, 100% of male and female of the RP-2014 employee table, benefit-weighted, rolled back to 2006, and projected with MP-2017 generational improvement. Deaths are assumed to result from occupational causes 15% of the time.
- (i) Mortality (post-commencement) – Mortality rates based upon the 2013–2017 actual experience, 93% of male and 90% of female rates of the RP-2014 healthy annuitant table, benefit-weighted, rolled back to 2006, and projected with MP-2017 generational improvement.
- (j) Total 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, benefit-weighted, rolled back to 2006, and projected with MP-2017 generational improvement.
- (l) Retirement – Retirement rates based upon the 2013–2017 actual experience.
- (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 double 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 FY20 medical and prescription drug benefits are shown below:

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

Notes to Required Supplementary Information (Unaudited)

June 30, 2021

	Medical	Prescription drugs
Pre-Medicare	\$ 15,360	3,393
Medicare Parts A and B	1,618	3,340
Medicare Part D - EGWP	N/A	1,003

Members are assumed to attain Medicare eligibility at age 65. All other costs are for the 2021 fiscal year (July 1, 2020–June 30, 2021).

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 – \$449 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: 0.969 for pre-Medicare medical, 0.674 for both Medicare medical and the Medicare coordination method (3.1% reduction for the medical plan and 29.5% reduction for the coordination method), and 0.911 for prescription drugs.
- (t) 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, 2020 normal cost, which are based on the average of actual administrative expenses during the last two fiscal years, are \$0 for occupational death and disability and \$84,000 for retiree medical.

Financial Section

State of Alaska

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

Notes to Required Supplementary Information (Unaudited)

June 30, 2021

- (u) 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, 6.5% is applied to the FY21 pre-Medicare medical claims cost to get the FY22 medical claims costs:

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

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

Notes to Required Supplementary Information (Unaudited)

June 30, 2021

(v) Aging factors:

Age	Medical	Prescription drugs
<45	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+	—	—

(w) Retiree medical participation:

Decrement due to disability		Decrement due to retirement													
Age	Percent participation	Age	Percent participation												
<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+	<table style="width: 100%; border-collapse: collapse; margin-top: 5px;"> <thead> <tr> <th colspan="2" style="border-top: 1px solid black; border-bottom: 1px solid black;">Years of service</th> </tr> </thead> <tbody> <tr> <td style="text-align: center;"><15</td> <td style="text-align: center;">75.0%</td> </tr> <tr> <td style="text-align: center;">15-19</td> <td style="text-align: center;">80.0</td> </tr> <tr> <td style="text-align: center;">20-24</td> <td style="text-align: center;">85.0</td> </tr> <tr> <td style="text-align: center;">25-29</td> <td style="text-align: center;">90.0</td> </tr> <tr> <td style="text-align: center;">30+</td> <td style="text-align: center;">95.0</td> </tr> </tbody> </table>	Years of service		<15	75.0%	15-19	80.0	20-24	85.0	25-29	90.0	30+	95.0
Years of service															
<15	75.0%														
15-19	80.0														
20-24	85.0														
25-29	90.0														
30+	95.0														

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

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

Notes to Required Supplementary Information (Unaudited)

June 30, 2021

- (x) 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, 2019 to June 30, 2020

There were no changes in actuarial methods since the prior valuation.

(b) Changes in Assumptions Since the Prior Valuation – June 30, 2019 to June 30, 2020

Healthcare claim costs are updated annually. Retired member contributions were updated to reflect the 5% decrease from CY20 to CY21. The amounts included in the normal cost for administrative expenses were updated based on the last two years of actual administrative expenses paid from plan assets. There were no other changes in actuarial assumptions since the prior valuation.

(c) Changes in Benefit Provisions Since the Prior Valuation – June 30, 2019 to June 30, 2020

There were no changes in benefit provisions since the prior valuation.

Defined Contribution Occupational Death and Disability and Retiree Medical Benefits Plan

(a) Changes in Methods Since the Prior Valuation – June 30, 2019 to June 30, 2020

There were no changes in actuarial methods since the prior valuation.

(b) Changes in Assumptions Since the Prior Valuation – June 30, 2019 to June 30, 2020

Healthcare claim costs are updated annually. The medical and prescription drug relative value factors were updated this year. In addition, the 0.2% annual trend rate adjustment factor between the DB and DCR plans was removed. The amounts included in normal cost for administrative expenses were updated based on the last two years of actual administrative expenses paid from plan assets. There were no other changes in actuarial assumptions since the prior valuation.

(c) Changes in Benefit Provisions Since the Prior Valuation – June 30, 2019 to June 30, 2020

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

SUPPLEMENTAL SCHEDULES

Financial Section

State of Alaska

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

Schedule of Administrative and Investment Deductions

Years ended June 30, 2021 and 2020

(In thousands)

	Administrative	Investment	Totals	
			2021	2020
Personal services:				
Wages	\$ 2,006	1,023	3,029	3,147
Benefits	1,245	472	1,717	1,737
Total personal services	<u>3,251</u>	<u>1,495</u>	<u>4,746</u>	<u>4,884</u>
Travel:				
Transportation	—	3	3	8
Per diem	—	1	1	2
Total travel	<u>—</u>	<u>4</u>	<u>4</u>	<u>10</u>
Contractual services:				
Management and consulting	7,270	164	7,434	7,101
Investment management and custodial fees	—	23,286	23,286	23,260
Accounting and auditing	81	6	87	120
Data processing	1,498	344	1,842	811
Communications	42	6	48	62
Advertising and printing	13	1	14	21
Rentals/leases	155	42	197	200
Legal	39	28	67	132
Medical specialists	2	—	2	7
Repairs and maintenance	3	—	3	4
Transportation	51	—	51	82
Securities lending	—	66	66	69
Other professional services	224	19	243	221
Total contractual services	<u>9,378</u>	<u>23,962</u>	<u>33,340</u>	<u>32,090</u>
Other:				
Equipment	11	2	13	13
Supplies	7	34	41	51
Total other	<u>18</u>	<u>36</u>	<u>54</u>	<u>64</u>
Total administrative and investment deductions	\$ <u>12,647</u>	<u>25,497</u>	<u>38,144</u>	<u>37,048</u>

See accompanying independent auditors' report.

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

Schedule of Payments to Consultants Other Than Investment Advisors

Years ended June 30, 2021 and 2020

(In thousands)

<u>Firm</u>	<u>Services</u>	<u>2021</u>	<u>2020</u>
Buck Global LLC	Actuarial services	\$ 235	292
KPMG LLP	Auditing services	51	83
Groundswell Communications	Communications services	23	30
State Street Bank and Trust	Custodial banking services	483	441
Alaska IT Group	Data processing services	109	80
Applied Microsystems Incorporated	Data processing services	157	156
DLT Solutions	Data processing services	55	7
Sagitec Solutions	Data processing services	1,021	—
SHI International Corporation	Data processing services	14	24
Sungard Availability Services	Data processing services	11	11
State of Alaska, Department of Law	Legal services	121	127
Linea Solutions Incorporation	Management consulting services	15	89
Symphony Performance Health	Management consulting services	11	13
The Segal Company Incorporated	Management consulting services	125	93
		\$ 2,431	1,446

This schedule presents payments to consultants greater than \$10,000.
 See accompanying independent auditors' report.



INVESTMENT SECTION



ALASKA DIVISION OF
**Retirement
and Benefits**

Callan

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



Main 303.861.1900
Fax 303.832.8230

www.callan.com

September 28, 2021

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

Dear Board Members:

This letter reviews the investment performance of assets under the purview of the Alaska Retirement Management Board (ARMB) for the fiscal year ended June 30, 2021.

Callan LLC (Callan) calculates time-weighted performance statistics based primarily on underlying custodial data provided by the Board's custodian, State Street Bank and Trust Company. Additional manager-level data is obtained directly from the Department of Revenue. The performance calculations were made using a time-weighted return methodology based upon market values reported by these sources.

Callan serves as ARMB's independent general investment consultant and evaluates ARMB's performance in relation to market benchmarks, appropriate manager peer groups and other public pension systems. The performance calculations 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 to responsibly invest Plan assets that, in combination with contributions, will be sufficient to pay promised benefits to members and beneficiaries. In pursuit of this objective, 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, ARMB selects a strategic investment policy that balances long-term growth potential and acceptable risk. A policy benchmark is constructed that mirrors ARMB'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 ARMB's investment policy.

Investment Section

2021 Fiscal Year Market Overview

Fueled by rapid progress in vaccinations and re-opening economies, pent-up demand, and continued monetary and fiscal stimulus, consumer sentiment climbed and the U.S. equity markets finished fiscal year 2021 with a gain for the fifth consecutive fiscal year. The Russell 3000 Index, a measure of broad U.S. equity, returned 8.24% for the quarter and 44.16% for the one-year period ended June 30, 2021. Overseas markets were lifted by signs of recovery as vaccine rollouts broadened to more countries with most developed markets making slower but steady economic progress. The MSCI ACWI ex-U.S. IMI (Net) index, a broad benchmark reflecting developed and emerging markets but excluding U.S. equities rose 5.60% for the quarter and 37.18% for the fiscal year. A broad measure of the total global equity market (including the U.S.), the MSCI All Country World Index (Net), rose 7.39% for the quarter and 39.26% for the fiscal year.

Inflation expectations were driven by robust consumer demand spurred by stimulus payments. These two economic forces combined with supply constraints and labor shortages to drive interest rates higher. The result? Headwinds for bonds. Although markets were seemingly undisturbed by the ongoing debate as to whether recent increases in inflation will be short-lived or not, most of Wall Street is in the Fed’s “transitory” camp. Investors were also unperturbed by the Fed’s move to a more “hawkish” stance coming out of its June 2021 meeting. The Bloomberg U.S. Aggregate Bond Index, a widely-used gauge of the investment grade domestic U.S. bond market, climbed 1.83% for the quarter but remains down 0.33% for the fiscal year.

Private real estate, as measured by the NCREIF Property Index, was positive for the tenth fiscal year in a row. In fiscal year 2021, the NCREIF Property Index returned 7.37% led by industrial property and aided by the return of retail and hotel sectors posting positive returns for the third quarter as the economy regained a sense of normalcy. Publicly traded real estate, as measured by the FTSE NAREIT All Equity Index, meaningfully led the private markets, returning 32.80% for the fiscal year 2021.

ARMB’s actual asset groupings delivered the following one-year returns through June 30, 2021¹:

Domestic Stocks:	42.69%
Global ex-U.S. Stocks:	38.54%
Opportunistic:	23.86%
Fixed Income:	2.20%
Real Assets:	9.86%
Private Equity:	50.67%

For the fiscal year ended June 30, 2021, the Public Employees Retirement System (PERS) had a time-weighted total return of 27.62%. The Teachers Retirement System (TRS) had a time-weighted total return of 27.65%. Both systems’ gross return exceeded their strategic policy target return of 24.95% and the median return for Callan’s Public Fund Sponsor database of 25.78%.

Over longer trailing periods, PERS and TRS have outperformed their target index returns. PERS’s 5-year annualized return was 11.86%. TRS returned 11.87% over this same period. The 5-year annualized benchmark return for both Plans was 11.09%. The seven-year annualized return was 8.78% for PERS and 8.79% for TRS. Both were above the 7-year target return of 8.18%. Over 29.75 years – the longest period of available data – PERS and TRS achieved annualized total returns of 8.22% and 8.26%, respectively. Both exceeded the corresponding policy benchmark return of 8.04%.

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

The 2021 fiscal-year returns of the PERS and TRS pension (“DB”) and health care (“HC”) programs are listed in the table below.

	PERS DB	PERS HC	TRS DB	TRS HC
FY 2021	27.62%	27.71%	27.65%	27.70%

The pension and health care systems are well diversified and currently have asset allocation policies that, in our opinion, are consistent with achieving a long-term “real” (above inflation) return of 4.5%.

In summary, fiscal 2021 was a year in which ARMB’s Total Fund returns were positive, as were those of most broad asset class returns. PERS and TRS produced higher returns than the average public fund, both ranking in the 27th percentile within the Public Fund Sponsor peer group for the one-year period ended June 30, 2021.

Sincerely,



Paul Erlendson
Senior Vice President

c: Zach Hanna
Steven Center

Investment Section

Department of Revenue Treasury Division Staff As of June 30, 2021			
<p>Commissioner Lucinda Mahoney</p> <p>Deputy Commissioner Mike Barnhill</p> <p>Treasury Division Director Pamela Leary, CPA</p>	<p>Chief Investment Officer Zachary Hanna</p> <p>Comptroller Kayla Wisner, CPA</p> <p>Cash Management Jesse Blackwell</p> <p>ARMB Liaison Officer Alysia Jones</p>	<p>Investment Officers</p> <p>Casey Colton Emily Howard Josh McLin Kevin Elliot Kevin Liu Mark Moon Michelle Prebula</p>	<p>Nicholas Orr Sean Howard Shane Carson Stephanie Pham Stephen Sikes Victor Djajalie</p>
External Money Managers and Consultants			
<p>Alternate Fixed Income Crestline Investors, Inc <i>Fort Worth, TX</i> Prisma Capital <i>New York, NY</i></p> <p>Opportunistic Fixed Income Fidelity Investment Asset Management <i>Merrimack, NH</i> MacKay Shields LLC <i>New York, NY</i></p> <p>Global Equities – Large Cap Arrowstreet Capital, LP <i>Boston, MA</i> Baille Gifford Overseas Ltd. <i>Edinburgh, Scotland</i> Brandes Investment Partners, L.P. <i>San Diego, CA</i> Capital Group Trust Co. <i>Los Angeles, CA</i> Legal and General Investment Management America <i>Chicago, IL</i></p> <p>Emerging Market Income Legal and General Investment Management America <i>Chicago, IL</i> State Street Global Advisors <i>Boston, MA</i></p> <p>Alternative Equity McKinley Capital Management LLC <i>Anchorage, AK</i></p> <p>Alternate Beta Man Group <i>London, UK</i></p> <p>Other Opportunities Schroders Investment Management North America <i>New York, NY</i> Timberland Investment Resources <i>Atlanta, GA</i></p> <p>Tactical Asset Allocation PineBridge Investments <i>New York, NY</i> Fidelity Investment Asset Management <i>Smithfield, RI</i></p>	<p>Private Equity Abbott Capital Management, L.P. <i>New York, NY</i> Advent International, <i>Boston, MA</i> Angelo, Gordon & Co. <i>New York, NY</i> Clearlake Capital <i>Santa Monica, CA</i> Dyal Capital Partners <i>New York, NY</i> Glendon Capital <i>Santa Monica, CA</i> Genstar Capital <i>San Francisco, CA</i> Insight Partners <i>New York, NY</i> KKR Lending Partners <i>New York, NY</i> Lexington Partners <i>New York, NY</i> Merit Capital Partners <i>Chicago, IL</i> Neuberger Berman <i>New York, NY</i> New Mountain Partners <i>New York, NY</i> NGP <i>Irving, TX</i> Onex <i>New York, NY</i> Pathway Capital Management, LLC <i>Irvine, CA</i> Summit Partners <i>Boston, MA</i> The Jordan Company <i>New York, NY</i> Warburg Pincus <i>New York, NY</i></p>		

External Money Managers and Consultants (cont.)

Real Assets – Farmland and Timber

Timberland Investment Resources LLC
Atlanta, GA
 UBS Farmland Investors, LLC
Hartford, CT

Real Assets – Energy

EIG Global Energy Partners
Washington, DC

Real Assets – Infrastructure

IFM
New York, NY
 JP Morgan Asset Management
New York, NY

Real Assets – Real Estate Core Separate Accounts

Sentinel Real Estate Corporation
New York, NY
 UBS Realty Investors, LLC
Hartford, CT

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
 Silverpeak Real Estate Partners
New York, NY
 Tishman Speyer Properties
New York, NY
 UBS Realty Investors, LLC
Hartford, CT

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

Baillie Gifford Overseas Ltd
Edinburgh, Scotland
 BlackRock
San Francisco, CA
 Brandes Investment Partners
San Diego, CA
 Northern Trust
Chicago, IL
 State Street Global Advisors
Boston, MA
 T. Rowe Price Investment Services
Baltimore, MD

Investment Consultants

Callan Associates, Inc.
Denver, CO

Investment Advisory Council

William Jennings
Colorado Springs, CO
 Jerrold Mitchell
Johns Island, SC
 Ruth Ryerson
Monument, CO

Independent Auditors

KPMG, LLP
Anchorage, AK

Actuaries

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

Global Master Custodian

State Street Bank & Trust Co.
Boston, MA

Investment Section

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 six asset classes: Broad Domestic Equities, Global Equities Ex-U.S., Fixed Income, Opportunistic, Real Assets, and Private Equity. 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
Broad Domestic Equity	Russell 3000 Index
Global Equities Ex-U.S.	MSCI All Country World Ex-U.S. IMI Net Index
Fixed Income	95% Bloomberg Barclays U.S. Aggregate Index 5% 3-Month Treasury Bill
Opportunistic	60% Russell 1000 Index 40% Bloomberg Barclays U.S. Aggregate Index
Real Assets	37.5% NFI-ODCE Index 10% FTSE-NAREIT 25% NCREIF Farmland Index 10% NCREIF Timberland Index 17.5% CPI+4%
Private Equity	1/3 S&P 500 Index 1/3 Russell 2000 Index 1/3 MSCI EAFE Index

The target asset allocation is determined by the ARMB, utilizing capital market assumptions provided by its independent general investment consultant, Callan LLC. During the 2021 fiscal year, the ARMB's target asset allocation was 26% Broad Domestic Equity, 18% Global Equities Ex-U.S., 24% Fixed Income, 8% Opportunistic, 13% Real Assets, and 11% Private Equity. Over the next 20 years, the target asset allocation is expected to generate a return of 6.88% with a standard deviation of 13.89%.

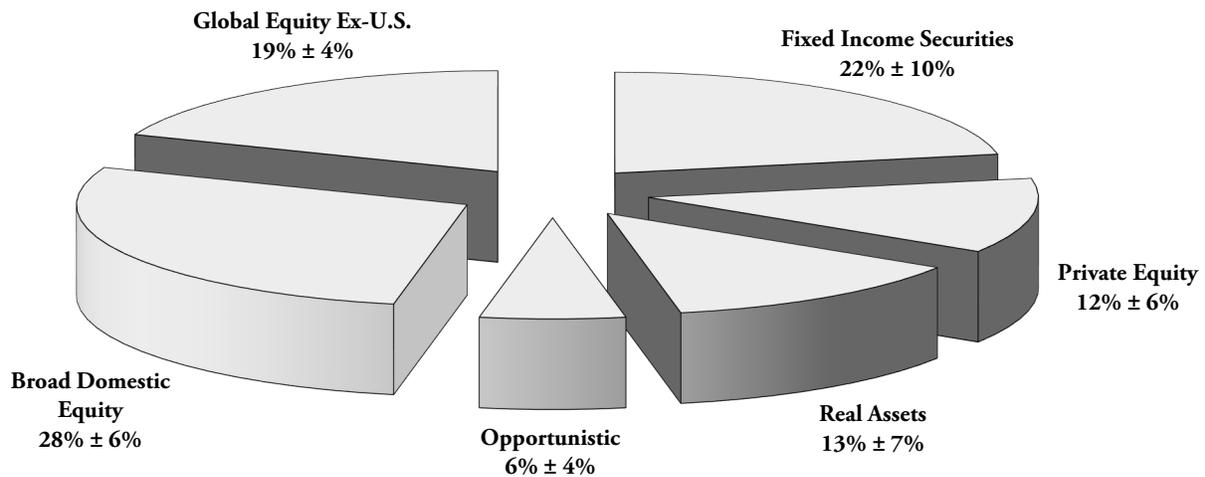
Investment Section

Teachers' Retirement System Schedule of Investment Results Fiscal Years Ended June 30							
	2017	2018	2019	2020	2021	Annualized	
						3 Year	5 Year
Total Fund							
TRS	13.36%	9.62%	6.39%	3.83%	27.65%	12.13%	11.87%
<i>Custom Composite Index</i>	-	-	5.65	4.64	24.95	11.37	11.09
<i>Actuarial Earnings Rate</i>	8.00	8.00	7.38	7.38	7.38	7.38	7.38
Broad Domestic Equity							
TRS	18.55	15.22	8.40	2.62	42.68	16.65	16.74
<i>Custom Composite Index</i>	18.51	14.78	8.98	6.53	44.16	18.73	17.89
Fixed Income							
TRS	2.91	(0.71)	6.34	7.31	2.20	5.27	3.58
<i>Custom Composite Index</i>	0.02	(0.76)	6.19	7.67	(0.31)	4.46	2.50
Opportunistic							
TRS	-	5.63	7.21	0.52	23.86	10.10	-
<i>Custom Composite Index</i>	-	8.39	9.72	9.32	23.20	13.90	-
Real Assets							
TRS	5.98	7.53	6.09	2.06	9.86	5.96	6.28
<i>Custom Composite Index</i>	5.66	4.29	7.23	1.19	4.62	4.32	4.58
Global Equity Ex-US							
TRS	20.42	7.95	(0.08)	(3.59)	38.53	10.09	11.65
<i>MSCI ACWI ex-US</i>	21.00	7.75	0.26	(4.74)	37.18	9.43	11.20
Private Equity							
TRS	17.04	26.65	17.66	10.47	50.67	25.11	23.75
<i>Custom Composite Index</i>	21.04	12.92	2.71	(1.35)	36.80	11.50	13.63
Absolute Return							
TRS	8.47	4.78	4.08	-	-	-	-
<i>3-month Treasury Bill +5%</i>	5.49	5.18	1.15	-	-	-	-
Alternative Equity							
TRS	11.38	-	-	-	-	-	-
<i>Custom Composite Index</i>	15.07	-	-	-	-	-	-
Cash Equivalents							
TRS	0.80	1.53	2.50	-	-	-	-
<i>3-month Treasury Bill</i>	0.49	1.36	2.31	-	-	-	-
<p>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.</p>							

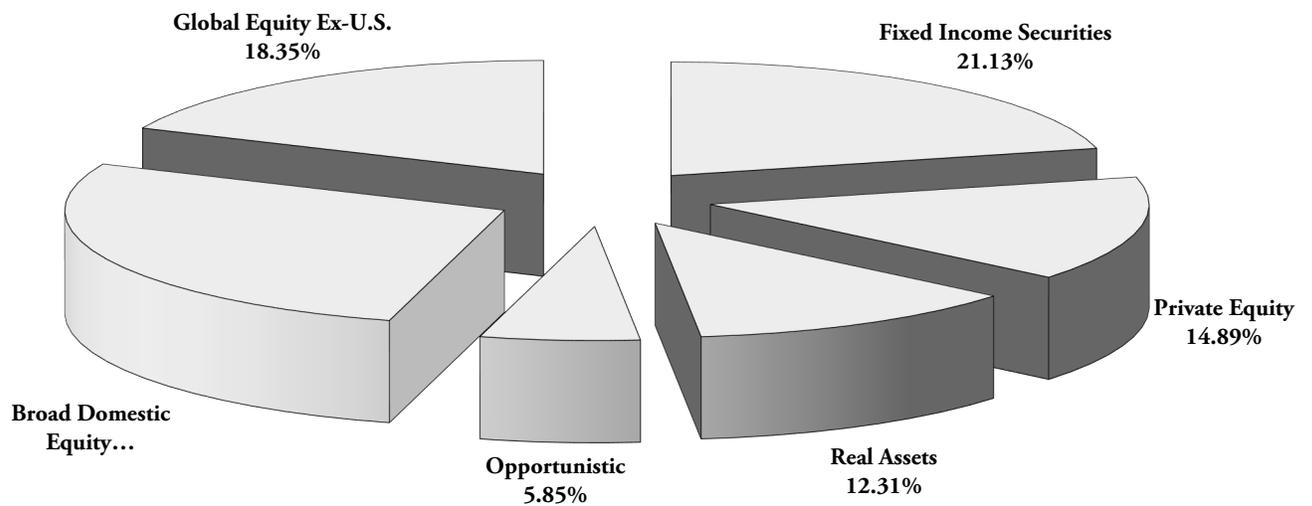
Investment Section

Teachers' Retirement System Asset Allocation June 30, 2021

Policy

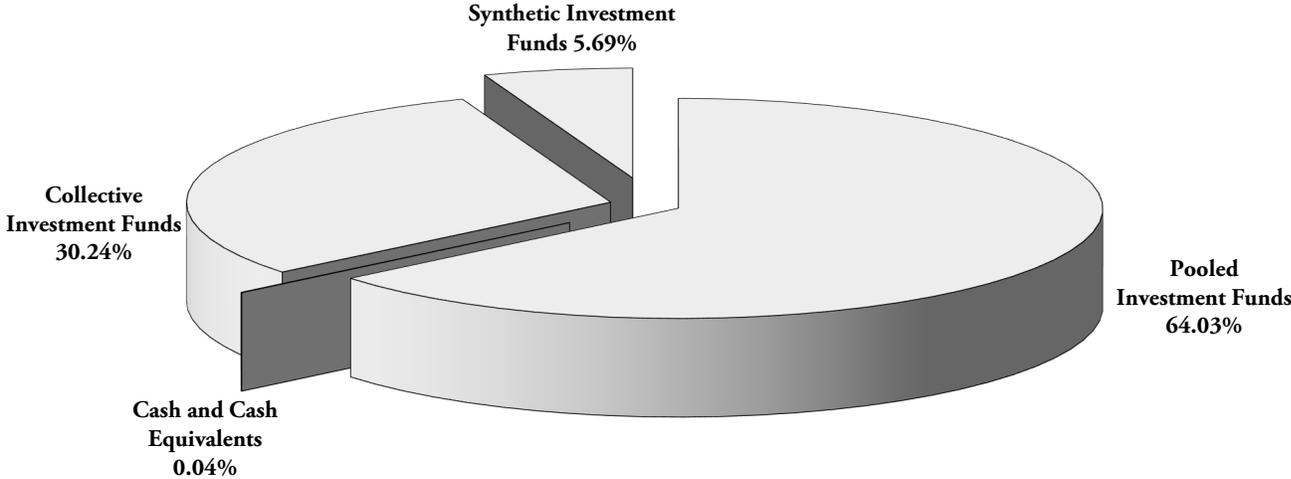


Actual — Defined Benefit Pension

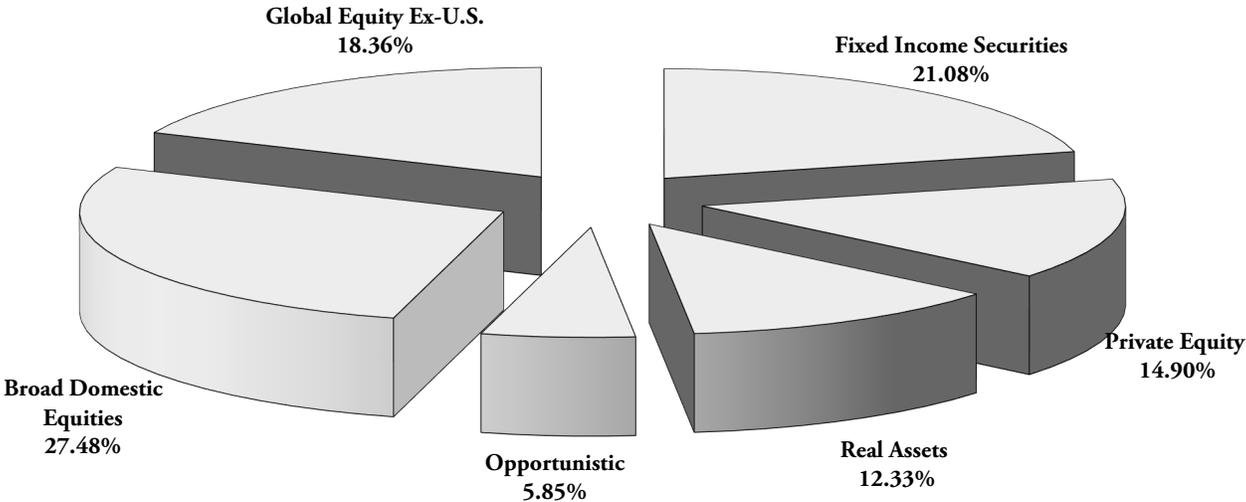


**Teachers' Retirement System
Asset Allocation
June 30, 2021**

Actual — Defined Contribution Participant Directed



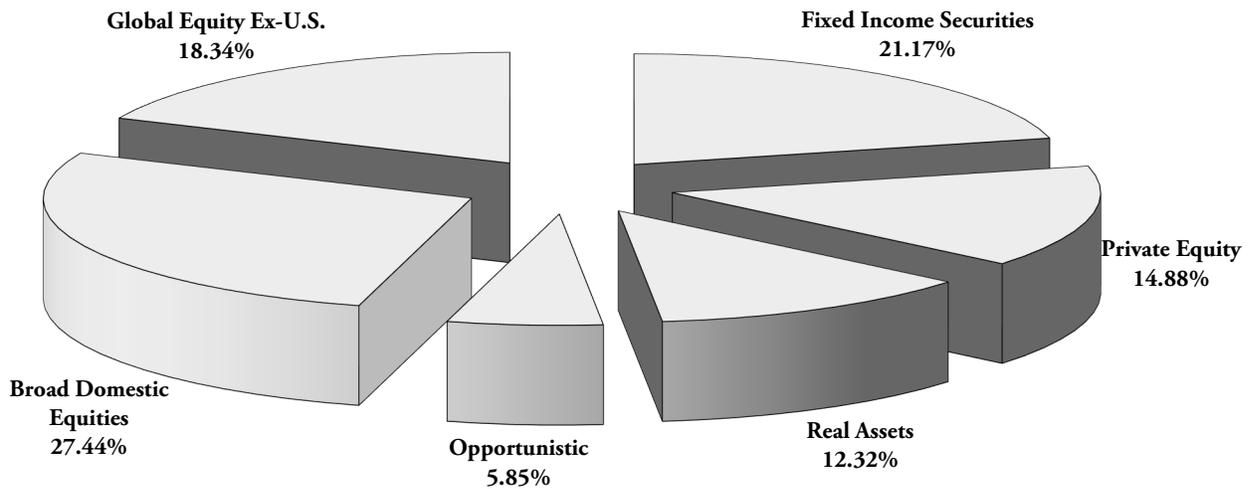
Actual — Defined Benefit Alaska Retiree Healthcare Trust



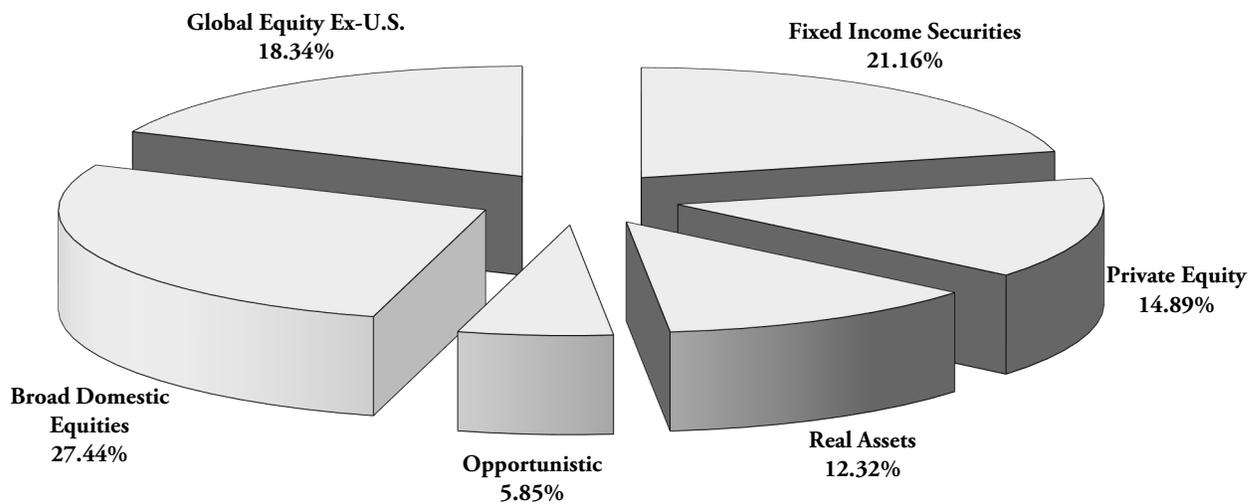
Investment Section

Teachers' Retirement System Asset Allocation June 30, 2021

Actual — Health Reimbursement Arrangement

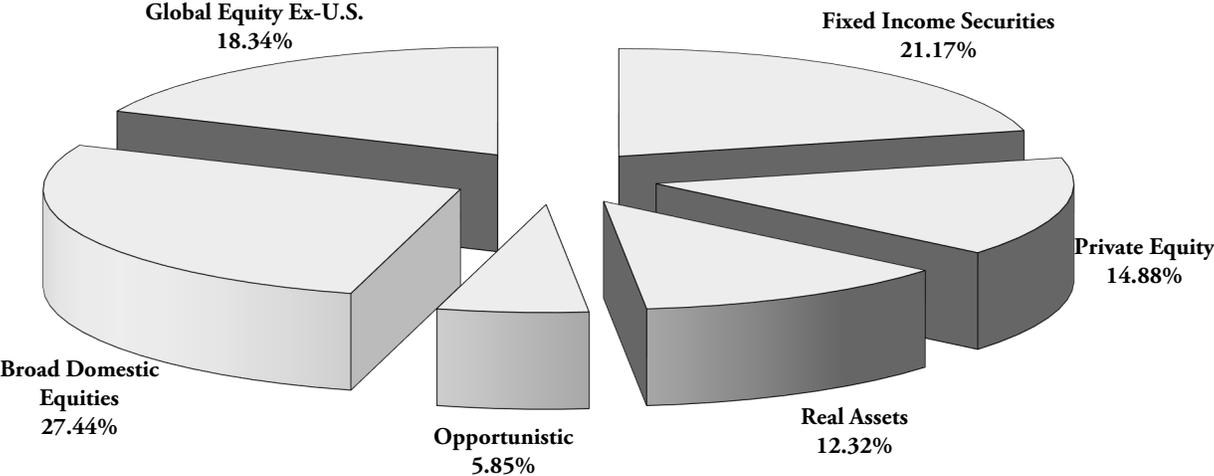


Actual — Occupational Death & Disability



**Teachers' Retirement System
Asset Allocation
June 30, 2021**

Actual — Retiree Medical Plan



Investment Section

Alaska Retirement Management Board Top Ten Holdings by Asset Type June 30, 2021

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

Fixed Income

<u>Rank</u>	<u>Largest Fixed Income Holdings</u>	<u>Market Value</u>	<u>Par Value</u>
1	U.S. Treasury N/B 0.5% 5/31/2027	\$95,370,600	\$98,510,626
2	FED HM LN Pool RA1568 3% 10/01/2049	42,638,159	40,432,660
3	U.S. Treasury N/B 0.5% 6/30/20271	28,952,293	29,934,519
4	FNMA Pool MA3305 3.5% 3/01/2048	27,553,805	26,060,425
5	U.S. Treasury N/B 1.875% 2/15/2041	25,728,858	26,283,271
6	FNMA Pool MA4281 2% 3/01/2051	21,465,448	21,245,009
7	FNMA Pool MA4182 2% 11/01/2050	20,972,492	20,757,307
8	U.S. Treasury N/B 2.875% 5/15/2028	16,727,480	15,058,144
9	FNMA Pool MA4255 2% 2/01/2051	16,628,687	16,457,920
10	U.S. Treasury N/B 1.125% 2/15/2031	16,356,203	16,848,495

Equities

<u>Rank</u>	<u>Largest Equity Holdings</u>	<u>Market Value</u>	<u>Par Value</u>
1	Apple Inc.	\$119,771,235	\$878,539
2	Microsoft Corp	116,645,779	429,793
3	Amazon.com Inc.	87,921,881	25,498
4	Facebook Inc. Class A	59,315,776	168,563
5	Alphabet Inc. CL A	48,650,652	19,894
6	Alphabet Inc. CL C	39,532,182	15,685
7	Berkshire Hathaway Inc. CL B	32,110,822	116,255
8	Tesla Inc.	28,218,981	41,452
9	JPMorgan Chase + Co	27,919,593	181,131
10	UnitedHealth Group Inc.	27,647,861	69,450

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

**Teachers' Retirement System
Schedule of Investment Management Fees
Year Ended June 30, 2021**

	Fair Value	Fees
Investment Management		
Total Fixed Income	646,763,564	3,993,435
Total Opportunistic	628,060,024	2,188,039
Total Broad Domestic Equity	2,948,816,516	338,468
Total Global Equity Ex-U.S.	1,970,384,385	2,731,045
Total Private Equity	1,599,145,995	4,946,975
Total Real Assets	1,322,484,710	7,314,397
 Custodian		
State Street Bank		482,520
 Investment Advisory and Performance		
Callan Associates		183,562
Investment Advisory Council		21,399
Total Investment Advisory and Performance		204,961
 Participant Directed		
Custodian - State Street Bank		149,907
Investment Management		872,576
Synthetic Investment Contract Wrap Fees		93,699
Total Participant Directed		1,116,182
	9,115,655,194	23,316,022

Investment Section

Teachers' Retirement System Investment Summary Schedule June 30, 2021

Investments (at Fair Value)	Defined Benefit - Pension			% of Total Assets
	Asset Allocation		Fair Value	
	Policy	Range		
Fixed Income Securities				
Short-term Fixed Income Pool			\$ 55,584,275	
Securities Lending Cash Pool			10,404	
Opportunistic Fixed Income			240,442,237	
ARMB US Aggregate Fixed Income			960,305,279	
Alternative Fixed Income			164,795,025	
Total Fixed Income Securities	22.00%	± 10%	1,421,137,220	21.13%
Opportunistic				
Alternative Equity Strategies Pool			77,706,737	
Tactical Allocation Strategies Pool			249,686,277	
Other Opportunistic Pool			4,073,180	
Alternative Beta Pool			62,052,153	
Total Opportunistic	6.00%	± 4%	393,518,347	5.85%
Broad Domestic Equity				
Large Cap Pool			1,703,280,607	
Small Cap Pool			144,334,859	
Total Broad Domestic Equity	28.00%	± 6%	1,847,615,466	27.47%
Global Equity Ex-U.S.				
International Equity Pool			1,018,254,604	
Emerging Markets Equity Pool			216,312,747	
Total Global Equity Ex-U.S.	19.00%	± 4%	1,234,567,351	18.35%
Private Equity				
Private Equity Pool			1,001,963,605	
Total Private Equity	12.00%	± 6%	1,001,963,605	14.89%
Real Assets				
Real Estate Pool			306,251,399	
Real Estate Investment Trust Pool			108,031,522	
Infrastructure Private Pool			148,816,172	
Energy Pool			12,415,359	
Farmland Pool			179,629,764	
Timber Pool			73,228,043	
Total Real Assets	13.00%	± 7%	828,372,259	12.31%
Total Invested Assets	100.00%		\$ 6,727,174,248	100.00%

Investment Section

Teachers' Retirement System Investment Summary Schedule June 30, 2021

Investments (at Fair Value)	Defined Contribution - Participant Directed			% of Total Assets
	Asset Allocation Policy	Range	Fair Value	
Cash and Cash Equivalents				
Short-Term Fixed Income Pool	100.00%	0%	\$ 336,150	
Total Cash and Cash Equivalents			336,150	0.04%
Pooled Investment Funds (1)				
T. Rowe Price				
Alaska Balanced Trust			18,592,674	
Long-Term Balanced Fund			4,659,876	
Target 2010 Trust			1,255,230	
Target 2015 Trust			3,978,965	
Target 2020 Trust			13,928,634	
Target 2025 Trust			27,807,268	
Target 2030 Trust			37,588,789	
Target 2035 Trust			52,170,971	
Target 2040 Trust			61,849,693	
Target 2045 Trust			89,642,327	
Target 2050 Trust			125,687,047	
Target 2055 Trust			81,147,664	
Target 2060 Trust			2,357,497	
Target 2065 Trust			345,420	
Total Pooled Investment Funds			521,012,055	64.03%
Collective Investment Funds (1)				
State Street Global Advisors				
SSgA Treasury Money Market Fund			4,314,575	
S&P Stock Index Fund			22,480,176	
Russell 3000 Index			28,431,143	
World Equity Ex-U.S. Index			19,943,664	
Passive U.S. Bond Index Fund			32,624,034	
Brandes Institutional				
Alaska International Equity Fund			47,002,046	
BlackRock Institutional Trust Company				
Strategic Completion Fund			1,549,648	
RCM				
Sustainable Core Opportunities Fund			37,978,939	
T. Rowe Price				
Small-Cap Stock Fund			51,739,917	
Total Collective Investment Funds			246,064,142	30.24%
Synthetic Investment Funds (1)				
T. Rowe Price				
Stable Value Fund			46,335,912	
Total Collective Investment Funds			46,335,912	5.69%
Total Invested Assets			\$ 813,748,259	100.00%

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

Investment Section

Teachers' Retirement System Investment Summary Schedule June 30, 2021

Investments (at Fair Value)	Defined Benefit - Alaska Retiree Health Care Trust			% of Total Assets
	Policy	Range	Fair Value	
Fixed Income Securities				
Short-term Fixed Income Pool			28,731,389	
Securities Lending Cash Pool			5,764	
Opportunistic Fixed Income Pool			133,535,849	
ARMB US Aggregate Fixed Income			533,330,404	
Alternative Fixed Income			91,523,179	
Total Fixed Income Securities	22.00%	± 10%	787,126,585	21.08%
Opportunistic				
Alternative Equity Strategies Pool			43,156,428	
Tactical Allocation Strategies Pool			138,669,783	
Other Opportunistic Pool			2,262,119	
Alternative Beta Pool			34,462,243	
Total Opportunistic	6.00%	± 4%	218,550,573	5.85%
Broad Domestic Equity				
Large Cap Pool			945,961,009	
Small Cap Pool			80,160,127	
Total Broad Domestic Equity	28.00%	± 6%	1,026,121,136	27.48%
Global Equity Ex-U.S.				
International Equity Pool			565,514,073	
Emerging Markets Equity Pool			120,134,870	
Total Global Equity Ex-U.S.	19.00%	± 4%	685,648,943	18.36%
Private Equity				
Private Equity Pool			556,466,437	
Total Private Equity	12.00%	± 6%	556,466,437	14.90%
Real Assets				
Real Estate Pool			170,450,623	
Real Estate Investment Trust Pool			59,998,080	
Infrastructure Private Pool			82,648,983	
Energy Pool			6,895,159	
Farmland Pool			99,762,025	
Timber Pool			40,669,115	
Total Real Assets	13.00%	± 7%	460,423,985	12.33%
Total Invested Assets	100.00%		\$ 3,734,337,659	100.00%

**Teachers' Retirement System
Investment Summary Schedule
June 30, 2021**

<u>Investments (at Fair Value)</u>	<u>Health Reimbursement Arrangement</u>		<u>Fair Value</u>	<u>% of Total Assets</u>
	<u>Asset Allocation</u>			
	<u>Policy</u>	<u>Range</u>		
Fixed Income Securities				
Short-term Fixed Income Pool			1,770,120	
Securities Lending Cash Pool			306	
Opportunistic Fixed Income Pool			7,145,988	
ARMB US Aggregate Fixed Income			28,540,334	
Alternate Fixed Income			4,897,705	
Total Fixed Income Securities	22.00%	± 10%	42,354,453	21.17%
Opportunistic				
Alternative Equity Strategies Pool			2,309,448	
Tactical Allocation Strategies Pool			7,420,722	
Other Opportunistic Pool			121,044	
Alternative Beta Pool			1,844,169	
Total Opportunistic	6.00%	± 4%	11,695,383	5.85%
Broad Domestic Equity				
Large Cap Pool			50,621,665	
Small Cap Pool			4,289,650	
Total Broad Domestic Equity	28.00%	± 6%	54,911,315	27.44%
Global Equity Ex-U.S.				
International Equity Pool			30,262,656	
Emerging Markets Equity Pool			6,428,890	
Total Global Equity Ex-U.S.	19.00%	± 4%	36,691,546	18.34%
Private Equity				
Private Equity Pool			29,778,512	
Total Private Equity	12.00%	± 6%	29,778,512	14.88%
Real Assets				
Real Estate Pool			9,121,403	
Real Estate Investment Trust Pool			3,210,702	
Infrastructure Private Pool			4,422,795	
Energy Pool			368,952	
Farmland Pool			5,338,595	
Timber Pool			2,176,387	
Total Real Assets	13.00%	± 7%	24,638,834	12.32%
Total Invested Assets	100.00%		\$ 200,070,043	100.00%

Investment Section

Teachers' Retirement System Investment Summary Schedule June 30, 2021

Investments (at Fair Value)	Occupational Death and Disability			% of Total Assets
	Asset Allocation		Fair Value	
	Policy	Range		
Fixed Income Securities				
Short-term Fixed Income Pool			57,714	
Securities Lending Cash Pool			10	
Opportunistic Fixed Income Pool			235,435	
ARMB US Aggregate Fixed Income			940,255	
Alternative Fixed Income			161,335	
Total Fixed Income Securities	22.00%	± 10%	1,394,749	21.16%
Opportunistic				
Alternative Equity Strategies Pool			76,086	
Tactical Allocation Strategies Pool			244,464	
Other Opportunities Pool			3,984	
Alternative Beta Pool			60,777	
Total Opportunistic	6.00%	± 4%	385,311	5.85%
Broad Domestic Equity				
Large Cap Pool			1,667,607	
Small Cap Pool			141,338	
Total Broad Domestic Equity	28.00%	± 6%	1,808,945	27.44%
Global Equity Ex-U.S.				
International Equity Pool			996,918	
Emerging Markets Equity Pool			211,759	
Total Global Equity Ex-U.S.	19.00%	± 4%	1,208,677	18.34%
Private Equity				
Private Equity Pool			981,041	
Total Private Equity	12.00%	± 6%	981,041	14.89%
Real Assets				
Real Estate Pool			300,485	
Real Estate Investment Trust Pool			105,785	
Infrastructure Private Pool			145,747	
Energy Pool			12,148	
Farmland Pool			175,854	
Timber Pool			71,706	
Total Real Assets	13.00%	± 7%	811,725	12.32%
Total Invested Assets	100.00%		\$ 6,590,448	100.00%

Investment Section

Teachers' Retirement System Investment Summary Schedule June 30, 2021

Investments (at Fair Value)	Retiree Medical Plan		Fair Value	% of Total Assets
	Asset Allocation Policy	Range		
Fixed Income Securities				
Short-term Fixed Income Pool			589,279	
Securities Lending Cash Pool			102	
Opportunistic Fixed Income Pool			2,389,282	
ARMB US Aggregate Fixed Income			9,542,422	
Alternative Fixed Income			1,637,529	
Total Fixed Income Securities	22.00%	± 10%	14,158,614	21.17%
Opportunistic				
Alternative Equity Strategies Pool			772,180	
Tactical Allocation Strategies Pool			2,481,156	
Other Opportunities Pool			40,462	
Alternative Beta Pool			616,612	
Total Opportunistic	6.00%	± 4%	3,910,410	5.85%
Broad Domestic Equity				
Large Cap Pool			16,925,370	
Small Cap Pool			1,434,283	
Total Broad Domestic Equity	28.00%	± 6%	18,359,653	27.44%
Global Equity Ex-U.S.				
International Equity Pool			10,118,349	
Emerging Markets Equity Pool			2,149,518	
Total Global Equity Ex-U.S.	19.00%	± 4%	12,267,867	18.34%
Private Equity				
Private Equity Pool			9,956,400	
Total Private Equity	12.00%	± 6%	9,956,400	14.88%
Real Assets				
Real Estate Pool			3,049,725	
Real Estate Investment Trust Pool			1,073,510	
Infrastructure Private Pool			1,478,725	
Energy Pool			123,343	
Farmland Pool			1,784,971	
Timber Pool			727,634	
Total Real Assets	13.00%	± 7%	8,237,908	12.32%
Total Invested Assets	100.00%		\$ 66,890,852	100.00%

Investment Section

Teachers' Retirement System Recaptured Commission Fees Year Ended June 30, 2021

<u>Fund</u>	<u>Opportunistic</u>	<u>Total</u>
Defined Benefit Plan – Pension	2,318	2,318
Postemployment Benefit – Alaska Retiree Healthcare Trust	1,266	1,266
Postemployment Benefit – Health Reimbursement Arrangement	65	65
Postemployment Benefit – Retiree Medical Plan	22	22
Postemployment Benefit – Occupational Death & Disability	2	2
Total Recapture Commission Fees	<u>3,673</u>	<u>3,673</u>

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

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

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



ACTUARIAL SECTION



ALASKA DIVISION OF
**Retirement
and Benefits**



May 20, 2021

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, 2020 performed by Buck Global, LLC (Buck). This report is an update to the draft report dated January 22, 2021, reflecting minor wording changes.

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, 2020. 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, 2020.

TRS is funded by Employer, State, and Member Contributions in accordance with the funding policy adopted by the Alaska Retirement Management Board (Board) and as required by Alaska state statutes. The funding objective for TRS is to pay required contributions that remain level as a percent of total TRS compensation. The Board has also established a funding policy objective that the required contributions be sufficient to pay the Normal Costs of active plan members, 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 25-year layered UAAL amortization method as described in Section 5.2. 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 (on a combined pension/healthcare basis) is expected to increase to 100% in FY35.

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

Actuarial Section

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, changes 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, 2020 to better reflect expected future healthcare experience. A summary of the actuarial assumptions and methods used in this actuarial valuation is shown in Sections 5.2 and 5.3. We certify that the assumptions and methods described in Sections 5.2 and 5.3 of this report meet the requirements of all applicable Actuarial Standards of Practice.

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, 2020 have been prepared. We have also prepared the member data tables shown in Section 4 of this report for the Statistical Section of the ACFR, as well as the summary of actuarial assumptions and analysis of financial experience for the Actuarial Section of the ACFR. Please see our separate GASB 67 and GASB 74 reports for other information needed for the ACFR.

Assessment of Risks

Actuarial Standard of Practice No. 51 (ASOP 51) applies to actuaries performing funding calculations related to a pension plan. ASOP 51 does not apply to actuaries performing services in connection with other post-employment benefits, such as medical benefits. Accordingly, ASOP 51 does not apply to the healthcare portion of TRS. See Section 6 of this report for further details regarding ASOP 51.

Use of Models

Actuarial Standard of Practice No. 56 (ASOP 56) provides guidance to actuaries when performing actuarial services with respect to designing, developing, selecting, modifying, using, reviewing, or evaluating models. Buck uses third-party software in the performance of annual actuarial valuations and projections. The model is intended to calculate the liabilities associated with the provisions of the plan using data and assumptions as of the measurement date under the funding methods specified in this report. The output from the third-party vendor software is used as input to internally developed models that apply applicable funding methods and policies to the derived liabilities and other inputs, such as plan assets and contributions, to generate many of the exhibits found in this report. Buck has an extensive review process in which the results of the liability calculations are checked using detailed sample life output, changes from year to year are summarized by source, and significant deviations from expectations are investigated. Other funding outputs and the internal models are similarly reviewed in detail and at a higher level for accuracy, reasonability, and consistency with prior results. Buck also reviews the third-party model when significant changes are made to the software. This review is performed by experts within Buck who are familiar with applicable funding methods, as well as the manner in which the model generates its output. If significant changes are made to the internal models, extra checking and review are completed. Significant changes to the internal models that are applicable to

multiple clients are generally developed, checked, and reviewed by multiple experts within Buck who are familiar with the details of the required changes.

Additional models used in valuing health benefits are described later in the report.

COVID-19

The potential impact of the ongoing COVID-19 pandemic on costs and liabilities was considered and an adjustment was made in setting the medical per capita claims cost assumption. FY20 medical claims were adjusted for a COVID-19 related decline in claims during the last four months (March – June) of FY20. A more detailed explanation on these adjustments is shown in Section 5.2.

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.

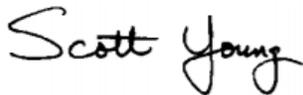
I am available to discuss this report with you at your convenience. I can be reached at 602-803- 6174.

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, FCA
Director
Buck

Actuarial Section

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

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, level percent of pay.

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 2014¹. 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 difference between actual and expected 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.

¹ Layer #1 is referred to as "initial amount" in Section 1.2 and 1.3 of the Actuarial Valuation

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

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 valuation 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 audited by KPMG LLP.

C. Valuation of Retiree Medical and Prescription Drug Benefits

This section outlines the detailed methodology used in the internal model developed by Buck to calculate 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, 2019 to June 30, 2020.

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 incurred for the period from July 2018 through June 2020 (FY19 through FY20) were provided by the State of Alaska from reports extracted from their data warehouse, which separated claims by Medicare status. Monthly enrollment data for the same period was provided by Aetna.

Aetna also provided census information identifying Medicare Part B only participants. These participants are identified when hospital claims are denied by Medicare; Aetna then flags that participant as a Part B only participant. 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.

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Aetna provided a snapshot file as of July 1, 2020 of retirees and dependents that included a coverage level indicator. The monthly enrollment data includes double 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 the 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 double 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 FY21 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 FY19 through FY20.
 - 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 FY21).
 - 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.
 - 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 April 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, 2019, and July 1, 2020, Buck adjusted member counts used for duplicate records where participants

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have double 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 on actual pharmacy rebate information provided by Aetna for years through 2018 and Optum for January 2019 through June 2020, rebates were assumed to be 17% of prescription drug claims for FY19 and 19.5% of prescription drug claims for FY20.
2. Develop estimated EGWP reimbursements – Segal provided estimated 2021 EGWP subsidies, developed with the assistance of OptumRx. 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. FY19 and FY20 experience were compared to assess the impact of COVID-19 and whether an adjustment to FY20 claims was indicated for use in the June 30, 2020 valuation. A material decrease in medical claims during March 2020 to June 2020 was experienced due to COVID-19. Therefore, an adjustment was made for those months to adjust for the decrease that is not expected to continue in future years. There was an observed spike in prescription drug claims in March 2020; however, the FY20 prescription drug experience appears reasonable to use without adjustment for COVID-19. To adjust for the decrease in medical claims due to COVID-19 during the last 4 months of FY20, the per capita cost during the first 8 months was used as the basis for estimating claims that would have occurred in the absence of COVID-19. Due to group size and demographics, we did not make any additional 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 FY21 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 June 30, 2017 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:

Alaska-Specific and National Average Weighted Trend
 from Experience Period to Valuation Year

Experience Period	Medical	Prescription	Weighting Factors
FY19 to FY20	7.3% Pre-Medicare / 4.6% Medicare	1.2%	50%
FY20 to FY21	6.3% Pre-Medicare / 5.2% Medicare	7.6%	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.

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6. Develop separate administration costs – no adjustments were made for internal administrative costs. Third party retiree plan administration fees for FY21 are based upon total fees projected to 2021 by Segal based on actual FY20 fees. The annual per participant per year administrative cost rate for medical and prescription benefits is \$449.

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 Further Consolidated Appropriations Act, 2020 passed in December 2019 repealed several healthcare-related taxes, including the Cadillac Tax.

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 provision of health care 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. Data

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.

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- 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 double 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 double 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.

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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
A. Fiscal 2019				
1. Incurred Claims	\$ 230,731,518	\$ 80,855,220	\$ 63,846,605	\$ 183,281,273
2. Adjustments for Rx Rebates	-	-	(10,853,923)	(31,157,816)
3. Net incurred claims	\$ 230,731,518	\$ 80,855,220	\$ 52,992,682	\$ 152,123,457
4. Average Enrollment	20,625	42,843	20,625	42,843
5. Claim Cost Rate (3) / (4)	11,187	1,887	2,569	3,551
6. Trend to Fiscal 2021	1.141	1.101	1.089	1.089
7. Fiscal 2021 Incurred Cost Rate (5) x (6)	\$ 12,762	\$ 2,077	\$ 2,798	\$ 3,867
B. Fiscal 2020				
1. Incurred Claims	\$ 229,531,664	\$ 89,497,345	\$ 64,442,660	\$ 188,022,328
2. Adjustments for Rx Rebates	-	-	(12,566,319)	(36,664,354)
3. Net incurred claims	\$ 229,531,664	\$ 89,497,345	\$ 51,876,341	\$ 151,357,974
4. Average Enrollment	19,354	44,965	19,354	44,965
5. Claim Cost Rate (3) / (4)	11,860	1,990	2,680	3,366
6. Trend to Fiscal 2021	1.063	1.052	1.076	1.076
7. Fiscal 2021 Incurred Cost Rate (5) x (6)	\$ 12,609	\$ 2,094	\$ 2,885	\$ 3,623
C. Incurred Cost Rate by Fiscal Year				
1. Fiscal 2019 A. (7)	12,762	2,077	2,798	3,867
2. Fiscal 2020 B. (7)	12,609	2,094	2,885	3,623
D. Weighting by Fiscal Year				
1. Fiscal 2019	50%	50%	50%	50%
2. Fiscal 2020	50%	50%	50%	50%
E. Fiscal 2021 Incurred Cost Rate				
1. Rate at Average Age C x D	\$ 12,685	\$ 2,086	\$ 2,842	\$ 3,745
2. Average Aging Factor	0.826	1.263	0.838	1.121
3. Rate at Age 65 (1) / (2)	\$ 15,360	\$ 1,651	\$ 3,393	\$ 3,340
F. Development of Part A&B and Part B Only Cost from Pooled Rate Above				
1. Part A&B Average Enrollment		44,568		
2. Part B Only Average Enrollment		398		
3. Total Medicare Average Enrollment B(4)		44,966		
4. Cost ratio for those with Part B only to those with Part A&B		3.300		
5. Factor to determine cost for those with Parts A&B (2) / (3) x (4) + (1) / (3) x 1.00		1.020		
6. Medicare per capita cost for all participants: E(3)		\$ 1,651		
7. Cost for those eligible for Parts A&B: (6) / (5)		\$ 1,618		
8. Cost for those eligible for Part B only: (7) x (4)		\$ 5,340		

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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, 2020 through June 30, 2021**

Age	Medical and Medicare Parts A & B	Medical and Medicare Part B Only	Prescription Drug	Medicare EGWP Subsidy
45	\$ 9,374	\$ 9,374	\$ 2,072	\$ —
50	10,605	10,605	2,461	—
55	11,999	11,999	2,923	—
60	13,576	13,576	3,149	—
65	1,618	5,340	3,340	1,003
70	1,876	6,191	3,688	1,107
75	2,174	7,177	4,071	1,223
80	2,401	7,923	3,971	1,192

Changes in Methods Since the Prior Valuation

There have been no 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, 2020 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-commencement) Mortality rates based upon the 2013-2017 actual experience. RP-2014 white-collar employee table, benefit-weighted, rolled back to 2006, and projected with MP-2017 generational improvement. Deaths are assumed to result from occupations causes 15% of the time.
6. Mortality (Post-commencement) 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, benefit-weighted, rolled back to 2006, and projected 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).

Post-disability mortality in accordance with the RP-2014 disabled table, benefit-weighted, rolled back to 2006, and projected with MP-2017 generational improvement.
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.
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.

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- | | |
|---|--|
| 13. Dependent Children | <p>Pension: For the participants who are assumed to be married, those between 25 and 45 are assumed to have two dependent children.</p> <p>Healthcare: 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).</p> |
| 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 | <p>The Normal Cost used for determining contribution rates and in the projections includes a rehire assumption to account for anticipated rehires. The Normal Cost shown in the report includes the following assumptions (which were developed based on the 5 years of rehire loss experience through June 30, 2017). For projections, these assumptions were assumed to grade to zero uniformly over a 20-year period.</p> <p>– Pension: 15.57% – Healthcare: 12.03%</p> |
| 17. Re-Employment Option | All re-employed retirees are assumed to return to work under the Standard Option. |
| 18. Active Data Adjustment | No adjustment was made to reflect participants who terminate employment before the valuation date and are subsequently rehired after the valuation date. |
| 19. Alaska Cost-of-Living Adjustments (COLA) | Of those benefit recipients who are eligible for the COLA, 60% are assumed to remain in Alaska and receive the COLA. |
| 20. Post-Retirement 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. |
| 21. Expenses | The investment return assumption is net of investment expenses. The Normal Cost as of June 30, 2020 was increased by the following amounts for administrative expenses (for projections, the percentage increase was assumed to remain constant in future years): – Pension: \$3,003,000 – Healthcare: \$1,362,000 |
| 22. Part-Time Status | Part-time employees are assumed to earn 0.75 years of credited service per year. |
| 23. 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. |

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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 5.1.

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 FY21 medical and prescription drugs are shown below:

	<u>Medical</u>	<u>Prescription Drugs</u>
Pre-Medicare	\$ 15,360	\$ 3,393
Medicare Parts A & B	1,618	3,340
Medicare Part B Only	5,340	3,340
Medicare Part D - EGWP	N/A	1,003

Members are assumed to attain Medicare eligibility at age 65. All costs are for the 2021 fiscal year (July 1, 2020 – June 30, 2021).

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.

27. Third Party Administrator Fees \$449 per person per year; assumed to increase at 4.5% per year.

28. Medicare Part B Only We assume 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.

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, 6.5% is applied to the FY21 pre-Medicare medical claims costs to get the FY22 medical claims costs.

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

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)
85-94	0.3	(2.5)
95 +	—	—

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 FY21 contributions based on monthly rates shown below for calendar 2021 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.

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<u>Coverage category</u>	<u>Calendar 2021</u>		<u>Calendar 2020</u>
	<u>Annual contribution</u>	<u>Monthly contribution</u>	<u>Monthly contribution</u>
Retiree only	\$ 8,448	704	741
Retiree and spouse	16,896	1,408	1,482
Retiree and child(ren)	11,940	995	1,047
Retiree and family	20,388	1,699	1,788
Composite	12,552	1,046	1,101

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, 0.0% is applied to the FY21 retired member medical contributions to get the FY22 retired member medical contributions.

Trend Assumptions

Fiscal year:	
2021	—%
2022	—
2023 +	4.0

Graded trend rates for retired member medical contributions are consistent with the rates used for the June 30, 2019 valuation. Actual FY21 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.

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34. Changes in Assumptions Since the Prior Valuation Healthcare claim costs are updated annually as described in Section 5.2. Retired member contributions were updated to reflect the 5% decrease from CY20 to CY21. The amounts included in the Normal Cost for administrative expenses were changed from \$3,034,000 to \$3,003,000 for pension and from \$1,439,000 to \$1,362,000 for healthcare (based on the most recent two years of actual administrative expenses paid from plan assets).

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Table 1
Alaska TRS
Salary Scale

<u>Years of Service</u>	<u>Percent Increase</u>
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

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Table 2
Alaska TRS
Turnover Rates

Select Rates of Turnover During the First 8 Years of Employment

<u>Years of Service</u>	<u>Male</u>	<u>Female</u>
0	20.40%	17.00%
1	20.40	17.00
2	16.80	14.00
3	14.40	12.00
4	12.00	10.00
5	10.80	9.00
6	9.00	7.50
7	7.20	6.00

Ultimate Rates of Turnover
After the First 8 Years of Employment

<u>Age</u>	<u>Male</u>	<u>Female</u>	<u>Age</u>	<u>Male</u>	<u>Female</u>
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

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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

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

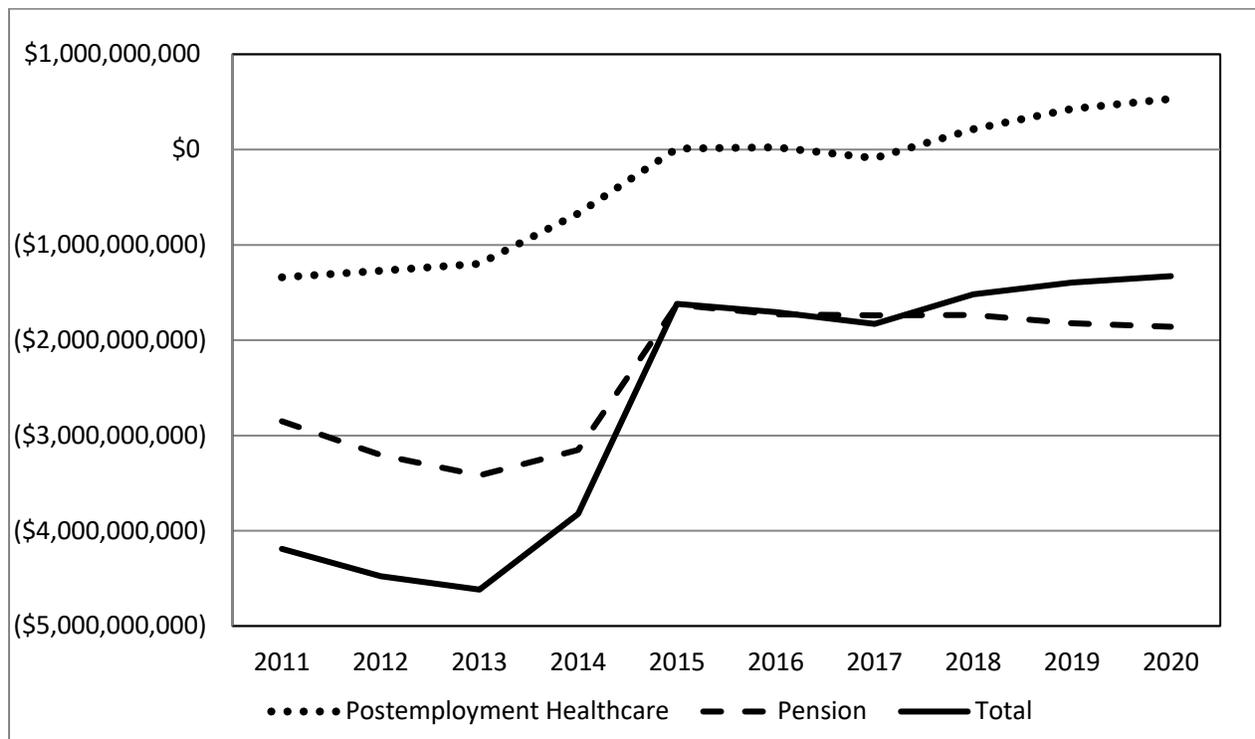
Table 4
Alaska TRS Retirement Table

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

Actuarial Section

Teachers' Retirement System Defined Benefit Retirement Plan Funding Excess/(Unfunded Liability) (In thousands)				
Actuarial Valuation Year Ended June 30	Postemployment Healthcare	Pension	Total Funding Excess/ (Unfunded Liability)	Funded Ratio
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
2019	428,918	(1,824,089)	(1,395,171)	85.9
2020	531,608	(1,859,972)	(1,328,364)	86.6

10-YEAR TREND OF UNFUNDED LIABILITY
(In thousands)



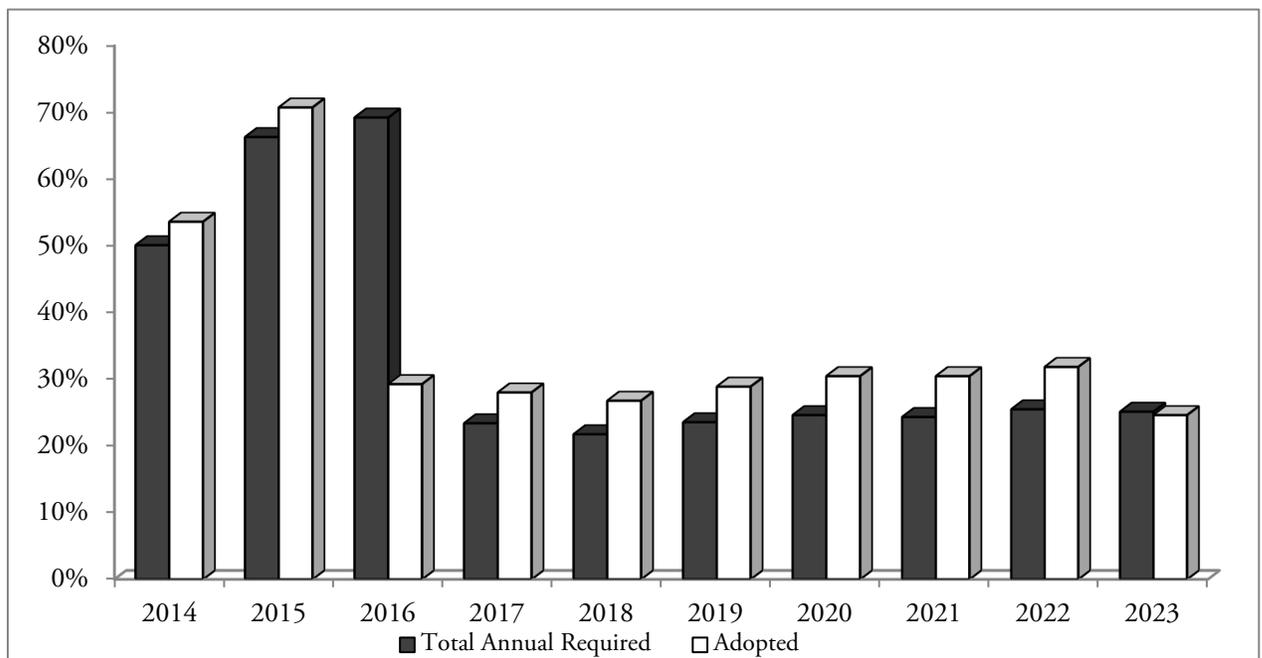
Teachers' Retirement System Defined Benefit Retirement Plan Employer Contribution Rates					
Year Ended June 30	Actuarially Determined				Adopted
	Actuarial Valuation Year Ended June 30	Normal Cost¹	Past Service	Total Annual Required	
2014	2011	6.59%	43.51%	50.10%	53.62%
2015	2012	6.40	59.91	66.31	70.75
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	18.41	24.34	30.47
2022	2019	5.38	19.08	24.46	31.85
2023	2020	4.96	20.17	25.13	24.62

¹ Also referred to as the consolidated rate.

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



Actuarial Section

Teachers' Retirement System Defined Benefit Retirement Plan Schedule of Active Member Valuation Data					
Valuation Date	Number	Annual Earnings (In thousands)	Annual Average Earnings	Percent Increase in Average Earnings	Number of Participating Employers
June 30, 2020	3,789	\$343,146	\$90,564	1.9 %	56
June 30, 2019	4,044	359,426	88,879	1.7	56
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

Actuarial Section

Teachers' Retirement System Defined Benefit Retirement Plan Schedule of Pension Benefit Recipients Added to and Removed from Rolls								
Year Ended	Added to Rolls		Removed from Rolls		Rolls – End of Year		Percent Increase/ (Decrease) in Annual Pension Allowances	Average Annual Pension Allowances
	No.*	Annual Pension Allowances*	No.*	Annual Pension Allowances*	No.	Annual Pension Allowances		
June 30, 2020	460	\$17,641,920	262	\$5,527,983	13,689	\$499,745,440	2.5%	\$36,507
June 30, 2019	468	18,004,896	254	871,684	13,491	487,631,503	3.64	36,145
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

*Numbers are estimated and include other internal transfers.

Actuarial Section

Teachers' Retirement System Defined Benefit Retirement Plan Analysis of Financial Experience					
Change in Employer/State Contribution Rate Due to (Gains) and Losses in Actuarial Accrued Liabilities During the Last Five Fiscal Years Resulting from Differences Between Assumed Experience and Actual Experience					
Type of (Gain) or Loss	Change in Employer/State Contribution Rate During Fiscal Year				
	2020	2019	2018	2017	2016
Health Claims ⁽¹⁾	(0.95)%	(2.51)%	(1.58)%	(2.32)%	0.00%
Salary Experience	(0.06)	(0.06)	(0.39)	(0.34)	(0.29)
Investment Experience	1.21	1.38	1.36	1.68	1.96
Demographic Experience and Miscellaneous	0.21	2.35	1.86	(1.18)	0.02
Contribution Shortfall	(0.36)	(0.17)	0.02	(0.18)	(0.46)
(Gain) or Loss During Year from Experience	0.05	0.99	1.27	(2.34)	1.23
Assumption/Method Changes and EGWP	—	—	(0.08)	3.41	1.66
System Benefit Changes	—	—	—	—	—
Composite (Gain) or Loss During Year	0.05	0.99	1.19	1.07	2.89
Beginning Total Employer/State Contribution Rate	24.98	23.99	22.80	21.73	18.84
Ending Valuation Year Total Employer/State Contribution Rate	<u>25.03%</u>	<u>24.98%</u>	<u>23.99%</u>	<u>22.80%</u>	<u>21.73%</u>
Fiscal Year Employer/State Contribution Rates	25.13%*	25.49%*	24.34%*	24.62%*	23.56%
Fiscal Year for Which Rate Applies	FY23	FY22	FY21	FY20	FY19

* Expected. Actual Rate to be determined.

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

NOTE: In the second session of the 28th Alaska legislature, the legislature changed the actuarial methodology from level dollar amortization to level percent of pay. The June 30, 2013 PERS actuarial valuation report was not updated for this change, but specific revisions for the amortization change were presented to reflect the change in amortization. The change in the amortization resulted in an adjusted FY16 employer/state contribution rate of 24.48%.

Actuarial Section

Teachers' Retirement System Defined Benefit Retirement Plan Analysis of Financial Experience						
Change in Employer/State Contribution Rate Due to (Gains) and Losses in Actuarial Accrued Liabilities During the Last Three Fiscal Years Resulting from Differences Between Assumed Experience and Actual Experience						
Type of (Gain) or Loss	Change in Employer/State Contribution Rate During Fiscal Year					
	Pension			Healthcare		
	2020	2019	2018	2020	2019	2018
Health Claims ⁽¹⁾	N/A	N/A	N/A	(0.95)%	(2.51)%	(1.58)%
Salary Experience	(0.06)%	(0.06)%	(0.39)%	N/A	N/A	N/A
Investment Experience	0.83	0.93	0.91	0.38	0.45	0.45
Demographic Experience and Miscellaneous	(0.28)	0.75	0.37	0.49	1.60	1.49
Contribution Shortfall	(0.17)	(0.15)	(0.03)	(0.19)	(0.02)	0.05
(Gain) or Loss During Year From Experience	0.32	1.47	0.86	(0.27)	(0.48)	0.41
Assumption and Method Changes	—	—	(0.32)	—	—	0.24
System Benefit Changes	—	—	—	—	—	—
Composite (Gain) or Loss During Year	0.32	1.47	0.54	(0.27)	(0.48)	0.65
Beginning Total Employer/State Contribution Rate	21.41	19.94	19.40	3.57	4.05	3.40
Ending Valuation Year Total Employer/State Contribution Rate	<u>21.73%</u>	<u>21.41%</u>	<u>19.94%</u>	<u>3.30%</u>	<u>3.57%</u>	<u>4.05%</u>
Fiscal Year Employer/State Contribution Rates	22.41%*	22.51%*	20.94%*	2.72%*	2.98%*	3.40%*
Fiscal Year for Which Rate Applies	FY23	FY22	FY21	FY23	FY22	FY21

*Expected. Actual Rate to be determined.

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

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, 2020. Chapter 97, 1990 Session Laws of Alaska, created a two-tier retirement system. Members who were first hired under 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 TRS, including the State of Alaska, 52 school districts, and three other eligible organizations.

4. Membership

Membership in 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 TRS;
- members on approved sabbatical leave under AS 14.20.310;
- certain State legislators who have elected to be covered under TRS; and

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

- 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 TRS.

Employees who work half-time in 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.

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.

Pursuant to AS14.25.070 effective July 1, 2008, each TRS employer will pay a simple uniform contribution rate of 12.56% of member payroll.

7. Additional State Contributions

Pursuant to AS14.25.085 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.

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

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.

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.

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

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.

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 Retirement Incentive Program (RIPs) who return to employment will:

- a. forfeit the three years of incentive credits that they received;
- b. owe 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.

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Summary of Plan Provisions and Changes in Plan Provisions

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.

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.

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Summary of Plan Provisions and Changes in Plan Provisions

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

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

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if retired at the time of death. The spouse's pension begins on the first of the month after the member's death or termination of the survivor's allowance.

- c. **Death After Retirement:** If a joint and survivor option was selected at retirement, the eligible spouse receives continuing, lifetime monthly benefits after the member dies. A survivor's allowance or spouse's pension may be payable if the member participated in the supplemental contributions provision. If a joint and survivor option was not selected and benefits are not payable under the supplemental contributions provision, the designated beneficiary receives the member's contribution account, less any benefits already paid and the member's last benefit check.

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

There were no changes in benefit provisions since the prior valuation.



May 20, 2021

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, 2020 performed by Buck Global, LLC (Buck). This report is an update to the draft report dated January 7, 2021, reflecting minor wording changes.

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, 2020. 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, 2020.

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 closed layered 25-year periods. 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, changes 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, 2020 to better reflect expected future healthcare experience. A summary of the actuarial assumptions and methods used in this actuarial valuation is shown in Sections 4.2 and 4.3. We certify that the assumptions and methods described in Sections 4.2 and 4.3 of this report meet the requirements of all applicable Actuarial Standards of Practice.

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.

Assessment of Risks

Actuarial Standard of Practice No. 51 (ASOP 51) applies to actuaries performing funding calculations related to a pension plan. ASOP 51 does not apply to actuaries performing services in connection with other post-employment benefits, such as medical benefits. Accordingly, ASOP 51 does not apply to the retiree medical portion of TRS DCR. We also believe ASOP 51 does not apply to the occupational death and disability portion of TRS DCR. Therefore, information related to ASOP 51 is not included in this report. However, it may be beneficial to review the ASOP 51 information provided in the TRS valuation report for information on risks that may also relate to the occupational death and disability benefits provided by this plan.

Use of Models

Actuarial Standard of Practice No. 56 (ASOP 56) provides guidance to actuaries when performing actuarial services with respect to designing, developing, selecting, modifying, using, reviewing, or evaluating models. Buck uses third-party software in the performance of annual actuarial valuations and projections. The model is intended to calculate the liabilities associated with the provisions of the plan using data and assumptions as of the measurement date under the funding methods specified in this report. The output from the third-party vendor software is used as input to an internally developed model that applies applicable funding methods and policies to the derived liabilities and other inputs, such as plan assets and contributions, to generate many of the exhibits found in this report. Buck has an extensive review process in which the results of the liability calculations are checked using detailed sample life output, changes from year to year are summarized by source, and significant deviations from expectations are investigated. Other funding outputs and the internal model are similarly reviewed in detail and at a higher level for accuracy, reasonability, and consistency with prior results. Buck also reviews the third-party model when significant

Actuarial Section

changes are made to the software. This review is performed by experts within Buck who are familiar with applicable funding methods, as well as the manner in which the model generates its output. If significant changes are made to the internal model, extra checking and review are completed. Significant changes to the internal model that are applicable to multiple clients are generally developed, checked, and reviewed by multiple experts within Buck who are familiar with the details of the required changes.

Buck used manual rate models to determine relative plan values for the defined benefit (DB) retiree medical plan and the DCR retiree medical plan, and to reflect the different Medicare coordination methods between the two plans. The manual rate models are intended to provide benchmark data and pricing capabilities, calculate per capita costs, and calculate actuarial values of different commercial health plans. Buck relied on the models, which were developed using industry data by actuaries and consultants at OptumInsight.

COVID-19

The potential impact of the ongoing COVID-19 pandemic on costs and liabilities was considered and an adjustment was made in setting the medical per capita claims cost assumption. FY20 medical claims were adjusted for a COVID-19 related decline in claims during the last four months (March – June) of FY20. A more detailed explanation on these adjustments is shown in Sections 4.2 and 4.3 and in the valuation report for the DB plan.

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.

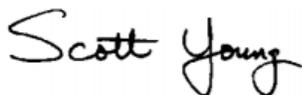
I am available to discuss this report with you at your convenience. I can be reached at 602-803-6174.

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, FCA
Director
Buck

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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, level percent of pay. Each year's difference between actual and expected unfunded actuarial accrued liability is amortized over 25 years as a level percentage of expected payroll.

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 financial statements audited by KPMG LLP. Valuation assets are constrained to a range of 80% to 120% of the fair value of assets.

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

C. Valuation of Retiree Medical and Prescription Drug Benefits

The methodology used for the valuation of the retiree medical benefits is described in Section 5.2 of the State of Alaska Teachers' Retirement System Defined Benefit Plan Actuarial Valuation Report as of June 30, 2020.

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, 2020 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 FY21 claims costs were reduced 3.1% for medical claims, and 8.9% for prescription drugs. In addition, to account for the difference in Medicare coordination, projected FY21 medical claims costs for Medicare eligible retirees were further reduced 29.5%.

FY19 and FY20 experience were compared to assess the impact of COVID-19 and whether an adjustment to FY20 claims was indicated for use in the June 30, 2020 valuation. A material decrease in medical claims during March 2020 to June 2020 was experienced due to COVID-19. Therefore, an adjustment was made for those months to adjust for the decrease that is not expected to continue in future years. There was an observed spike in prescription drug claims in March 2020; however, the FY20 prescription drug experience appears reasonable to use without adjustment for COVID-19. To adjust for the decrease in medical claims due to COVID-19 during the last 4 months of FY20, the per capita cost during the first 8 months was used as the basis for estimating claims that would have occurred in the absence of COVID-19.

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. The estimated 2021 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.

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The Further Consolidated Appropriations Act, 2020 passed in December 2019 repealed several healthcare-related taxes, including the Cadillac Tax.

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

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

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Summary of Actuarial Assumptions and Changes in Assumptions

The demographic and economic assumptions used in the June 30, 2020 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-commencement) Mortality rates based upon the 2013-2017 actual experience.
RP-2014 white-collar employee table, benefit-weighted, rolled back to 2006, and projected with MP-2017 generational improvement.
Deaths are assumed to result from the occupational causes 15% of the time.
6. Mortality (Post-commencement) 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, benefit-weighted, rolled back to 2006, and projected 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).
Disabilities are assumed to be occupational 15% of the time.
Post-disability mortality in accordance with the RP-2014 disabled table, benefit-weighted, rolled back to 2006, and projected 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 Occupational Death & Disability 85% of male members and 75% 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. Part-Time Status Part-time employees are assumed to earn 0.75 years of service per year.
14. Per Capita Claims Cost Sample claims cost rates (before base claims cost adjustments described below) adjusted to age 65 for FY21 medical and prescription drugs are shown below:

	<u>Medical</u>	<u>Prescription drugs</u>
Pre-Medicare	\$ 15,360	\$ 3,393
Medicare Parts A & B	1,618	3,340
Medicare Part D - EGWP	N/A	1,003

Members are assumed to attain Medicare eligibility at age 65. All costs are for the 2021 fiscal year (July 1, 2020 – June 30, 2021).

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 \$449 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:
- 0.969 for the pre-Medicare plan.
 - 0.674 for both the Medicare medical plan and Medicare coordination method (3.1% reduction for the medical plan and 29.5% reduction for the coordination method).
 - 0.911 for the prescription drug plan.
17. 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, 2020 Normal Cost, which are based on the average of actual administrative expenses during the last two fiscal years, are \$0 for occupational death & disability and \$8,000 for retiree medical.

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18. 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, 6.5% is applied to the FY21 pre-Medicare medical claims cost to get the FY22 medical claims cost.

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

19. Aging Factors

<u>Age</u>	<u>Medical</u>	<u>Prescription Drugs</u>
0-44	2.0%	4.5%
45-54	2.5	3.5
55-64	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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20. Retiree Medical Participation

<u>Decrement Due to Disability</u>		<u>Decrement Due to Retirement</u>	
<u>Age</u>	<u>Percent Participation</u>	<u>Age</u>	<u>Percent Participation *</u>
< 56	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+	
			<u>Years of Service</u>
			< 15 75.0%
			15-19 80.0
			20-24 85.0
			25-29 90.0
			30+ 95.0

* 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.

21. 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.

22. Changes in Assumptions Since the Prior Valuation

The amount included in the Normal Cost for administrative expenses was changed from \$4,700 to \$8,000 for retiree medical, while occupational death & disability remained at \$0 (based on the most recent two years of actual administrative expenses paid from plan assets). The per capita claims cost assumption is updated annually. The medical and prescription drug relative value factors were updated and the 0.2% annual trend rate adjustment factor between the DB and DCR plans was removed.

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Table 1
Alaska TRS DCR Plan
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

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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

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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

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Summary of Actuarial Assumptions and Changes in Assumptions

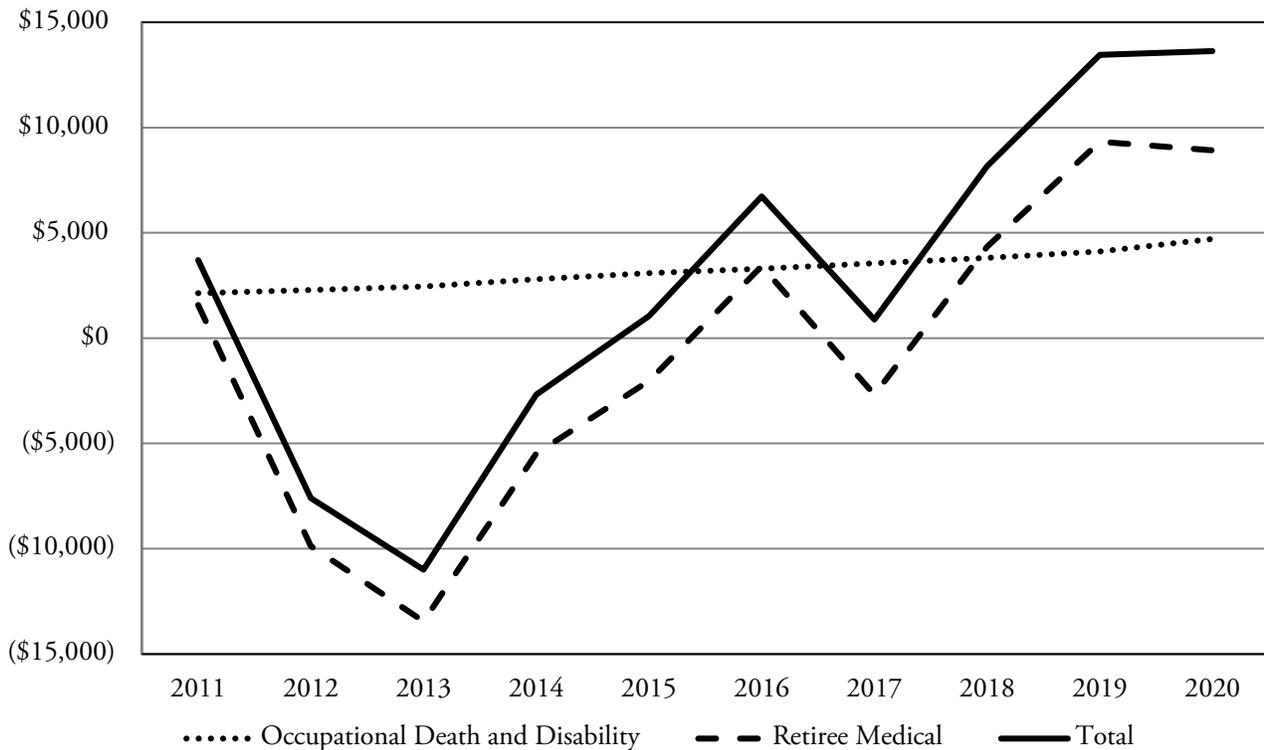
Table 4
Alaska TRS DCR Plan
Retirement Rates

Age	Rate
< 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

Teachers' Retirement System Defined Contribution Retirement Plan Occupational Death and Disability and Retiree Medical Benefits Funding Excess/(Unfunded Liability) (In thousands)				
Actuarial Valuation Year Ended June 30	Occupational Death and Disability	Retiree Medical	Total Funding Excess/ (Unfunded Liability)	Funded Ratio
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
2019	4,119	9,326	13,445	140.5
2020	4,710	8,920	13,630	133.4

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



Teachers' Retirement System Defined Contribution Retirement Plan Occupational Death and Disability and Retiree Medical Benefits Employer Contribution Rates					
Fiscal Year	Actuarial Valuation Year Ended June 30	Occupational Death and Disability	Retiree Medical	Total Annual Required	Adopted
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
2022	2019	0.08	0.83	0.91	0.91
2023	2020	0.08	0.87	0.95	0.95

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**

Valuation Date	Number	Annual Earnings (In thousands)	Annual Average Earnings	Percent Increase/ (Decrease) in Average Earnings	Number of Participating Employers
June 30, 2020	5,332	\$379,201	\$71,118	2.2%	57
June 30, 2019	4,998	347,957	69,619	2.2	57
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

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

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, 2020.

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.

Plan Design Feature	In-Network⁽¹⁾	Out-of-Network⁽¹⁾⁽²⁾
Deductible (single/family)	\$300 / \$600	\$300 / \$600
Medical services (participant share)	20%	40%
Emergency Room Copay (non-emergent use)	\$100	\$100
Medical Out-of-Pocket Maximum (single/family, after deductible)	\$1,500 / \$3,000	\$3,000 / \$6,000
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% covered, not subject to deductible	20%, after deductible

(1) Section 1.1 of the AlaskaCare Defined Contribution Retiree Benefit Plan states that this health plan shall be updated from time to time to reflect changes in benefits, including annual adjustments to the premium, deductible, coinsurance, medical out-of-pocket limit, and prescription drug out-of-pocket limit.

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

- Buck used manual rate models to determine relative plan values for the defined benefit (DB) retiree medical plan and the 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

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

medical and pharmacy benefits to estimate corresponding values for the DCR retiree medical plan design. These factors are noted in Section 4.3. We further adjusted the Medicare medical manual rate to reflect the Medicare coordination method adopted. The estimated 2021 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 2020 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 is 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>
< 15	30.00%
15 – 19	25.00
20 – 24	20.00
25 – 29	15.00
30+	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 168-185

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 186-188

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

Demographic Information 189-191

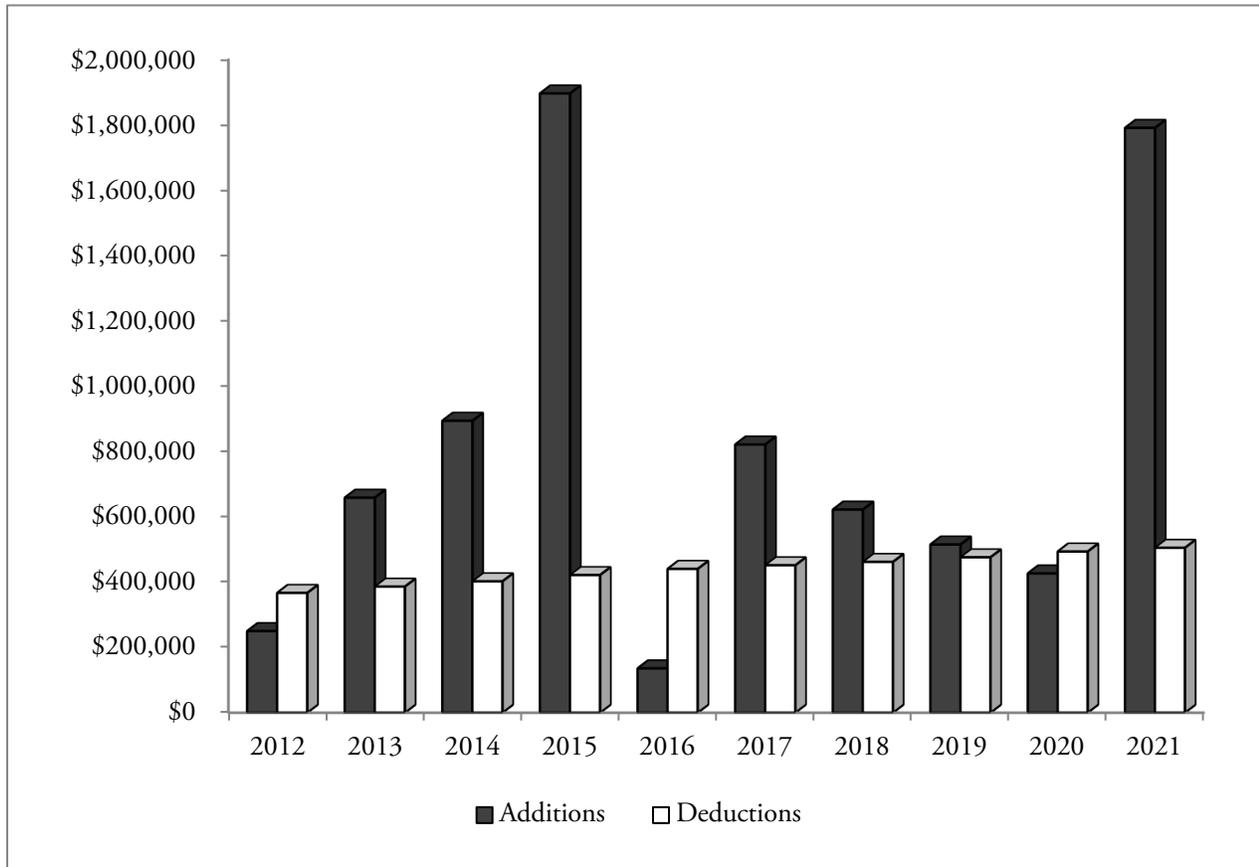
These schedules contain detailed demographic data to provide the reader a better understanding of the membership and employer participation in the System.

Statistical Section

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

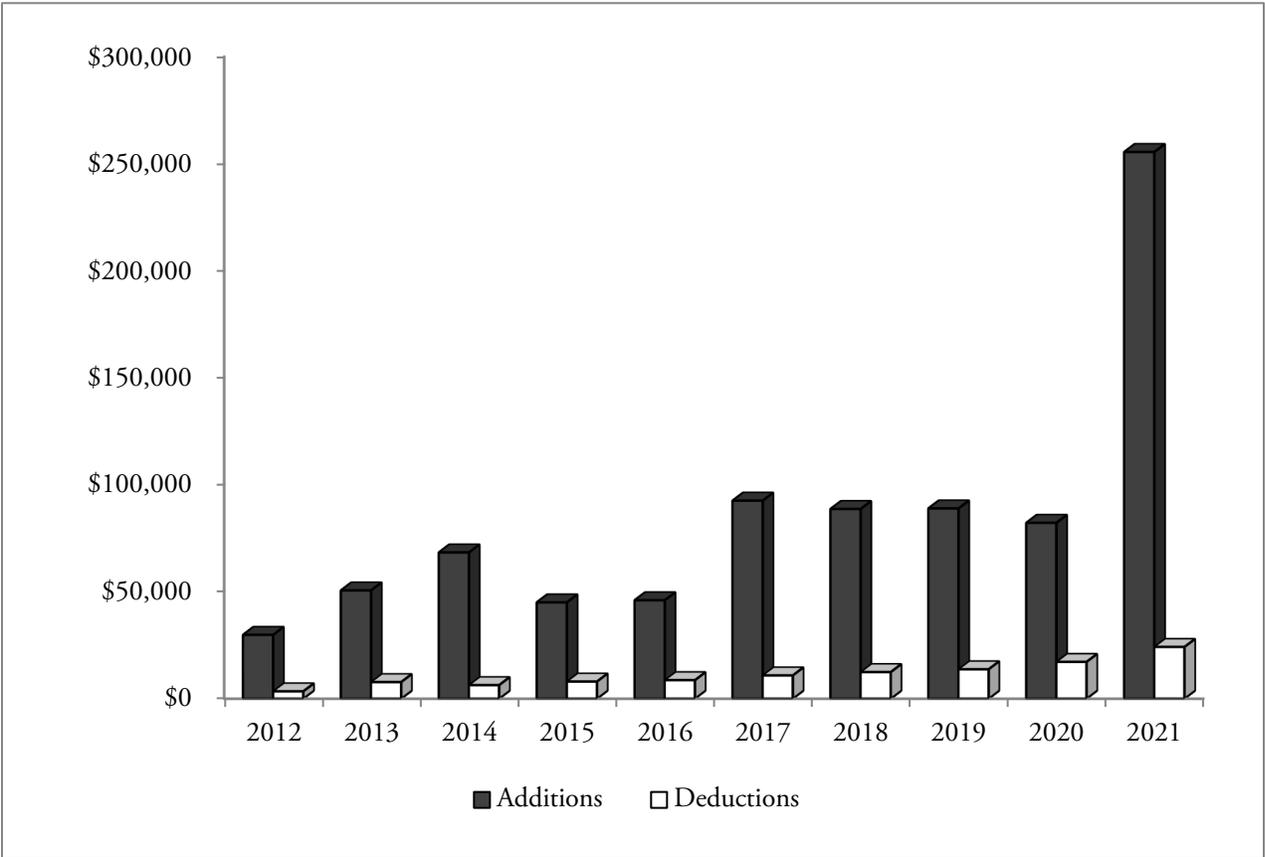
Year Ended June 30	Fiduciary Net Position, Beginning of Year	Additions	Deductions	Increase / (Decrease) in Fiduciary Net Position	Fiduciary Net Position, End of Year
2012	\$ 3,123,530	\$ 249,803	\$ 366,686	\$ (116,883)	\$ 3,006,647
2013	3,006,647	658,405	385,922	272,483	3,279,130
2014	3,279,130	894,170	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
2020	5,511,929	426,305	493,435	(67,130)	5,444,799
2021	5,444,799	1,791,557	504,875	1,286,682	6,731,481

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



Teachers' Retirement System Defined Contribution Retirement Participant Directed Changes in Fiduciary Net Position (In thousands)					
Year Ended June 30	Fiduciary Net Position, Beginning of Year	Additions	Deductions	Increase / (Decrease) in Fiduciary Net Position	Fiduciary Net Position, End of Year
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
2020	522,722	82,149	17,137	65,012	587,734
2021	587,734	255,496	24,140	231,356	819,090

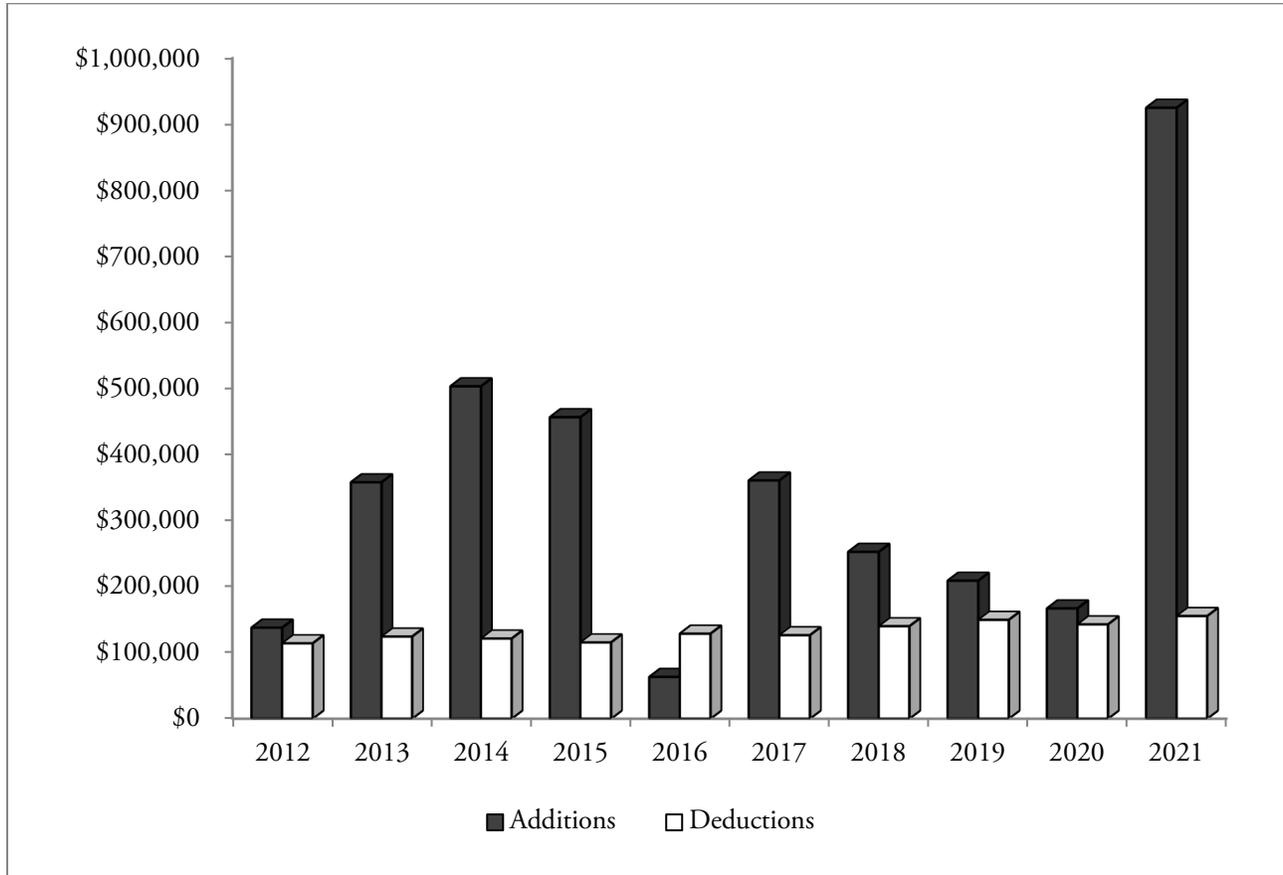
10-YEAR COMPARISON OF ADDITIONS AND DEDUCTIONS
(In thousands)



Statistical Section

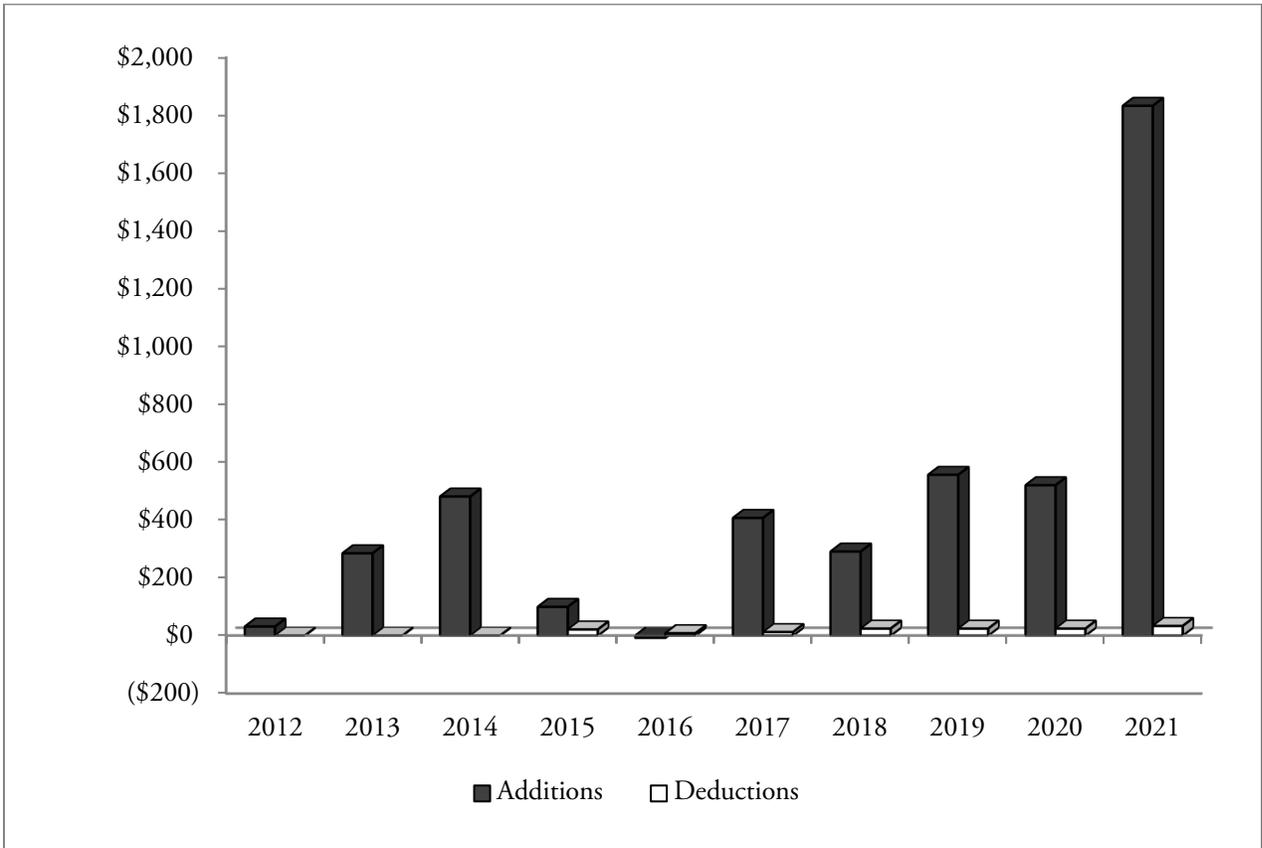
Teachers' Retirement System Defined Benefit Alaska Retiree Healthcare Trust Changes in Fiduciary Net Position (In thousands)					
Year Ended June 30	Fiduciary Net Position, Beginning of Year	Additions	Deductions	Increase / (Decrease) in Fiduciary Net Position	Fiduciary Net Position, End of Year
2012	\$ 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
2020	2,929,319	166,653	142,511	24,142	2,953,461
2021	2,953,461	924,728	155,158	769,570	3,723,031

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



Teachers' Retirement System Defined Contribution Retirement Occupational Death & Disability Changes in Fiduciary Net Position (In thousands)					
Year Ended June 30	Fiduciary Net Position, Beginning of Year	Additions	Deductions	Increase / (Decrease) in Fiduciary Net Position	Fiduciary Net Position, End of Year
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
2020	4,328	519	24	495	4,823
2021	4,823	1,833	33	1,800	6,623

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

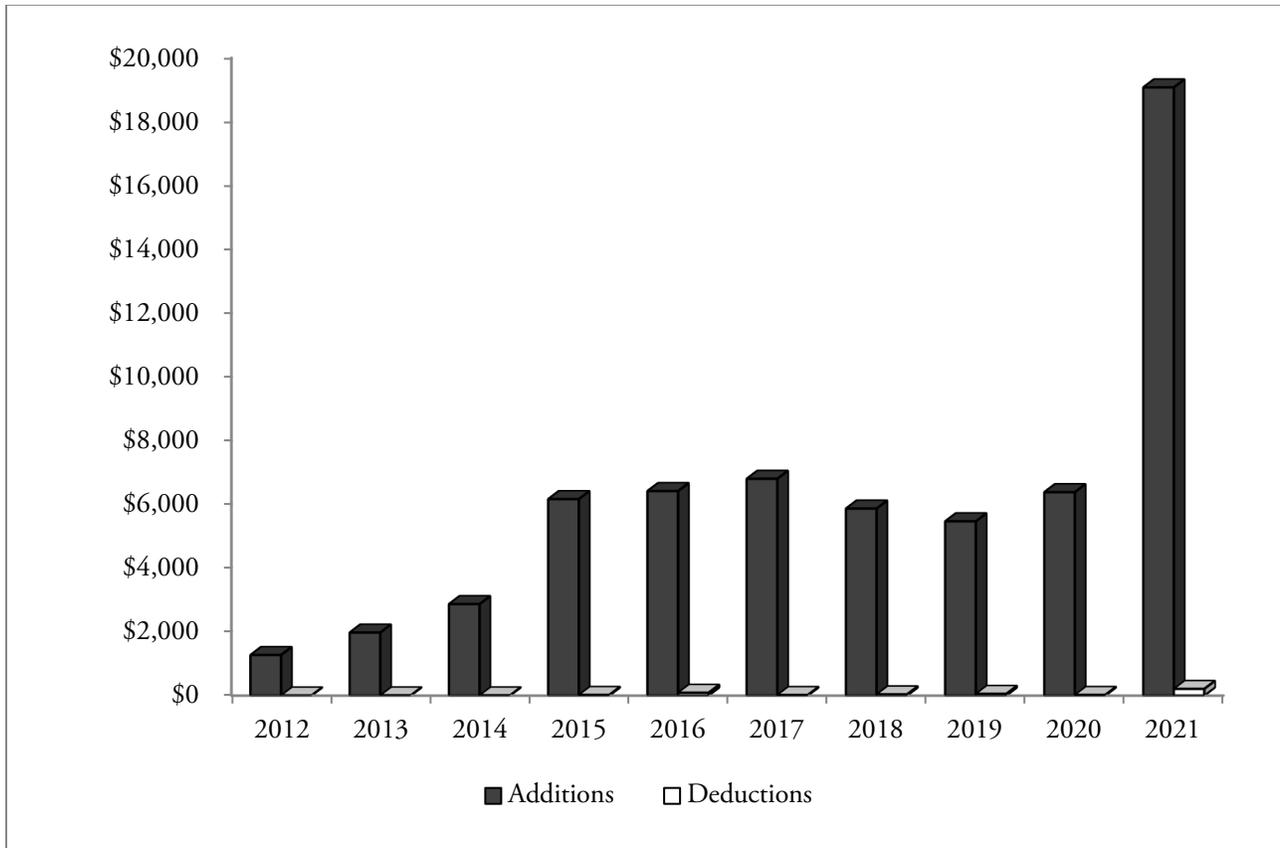


Statistical Section

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

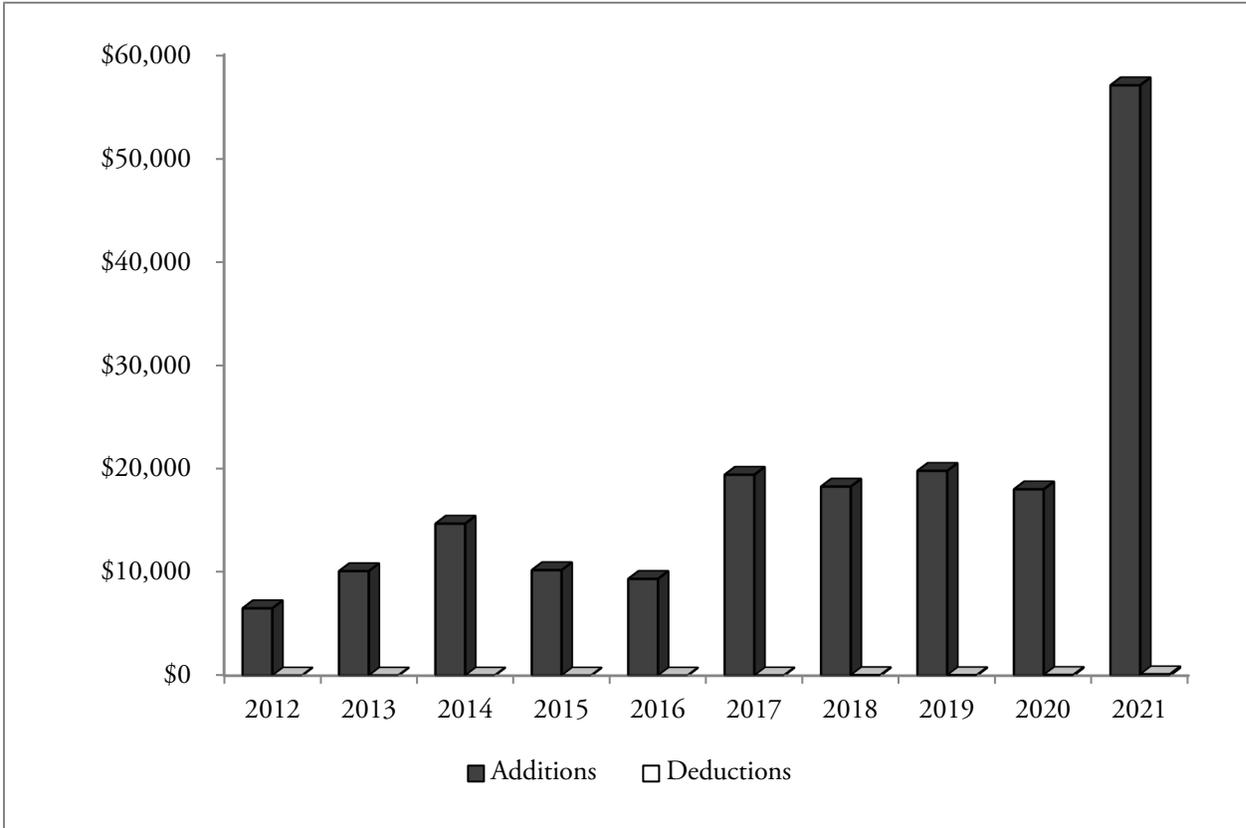
Year Ended June 30	Fiduciary Net Position, Beginning of Year	Additions	Deductions	Increase / (Decrease) in Fiduciary Net Position	Fiduciary Net Position, End of Year
2012	\$ 5,545	\$ 1,267	\$ —	\$ 1,267	\$ 6,812
2013	6,812	1,970	3	1,967	8,779
2014	8,779	2,861	3	2,858	11,637
2015	11,637	6,147	18	6,129	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
2020	42,067	6,364	18	6,346	48,413
2021	48,413	19,071	206	18,865	67,278

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



Teachers' Retirement System Defined Contribution Retirement Health Reimbursement Arrangement Changes in Fiduciary Net Position (In thousands)					
Year Ended June 30	Fiduciary Net Position, Beginning of Year	Additions	Deductions	Increase / (Decrease) in Fiduciary Net Position	Fiduciary Net Position, End of Year
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
2020	126,299	17,978	56	17,922	144,221
2021	144,221	57,023	120	56,903	201,124

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

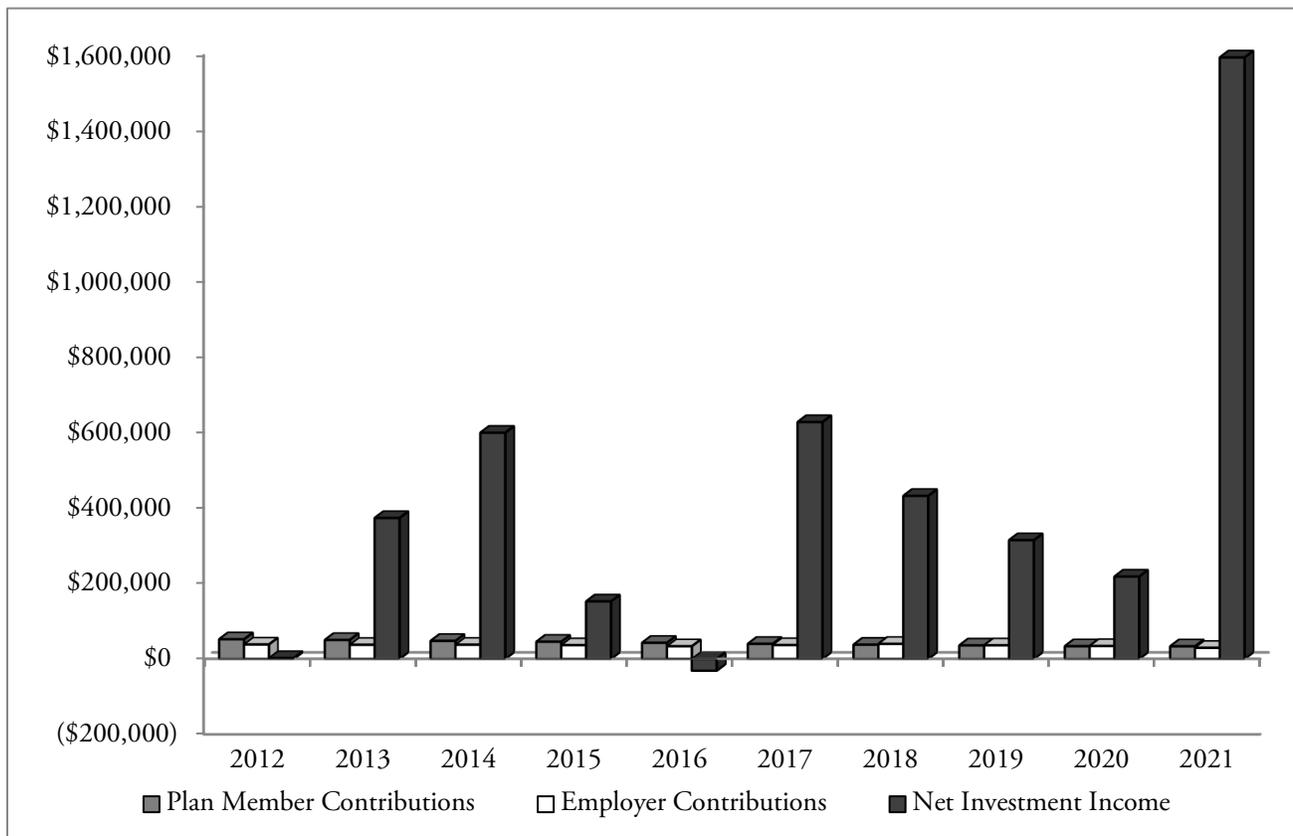


Statistical Section

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
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
2020	33,566	34,114	140,219	218,373	33	426,305
2021	33,342	29,336	134,070	1,594,536	273	1,791,557

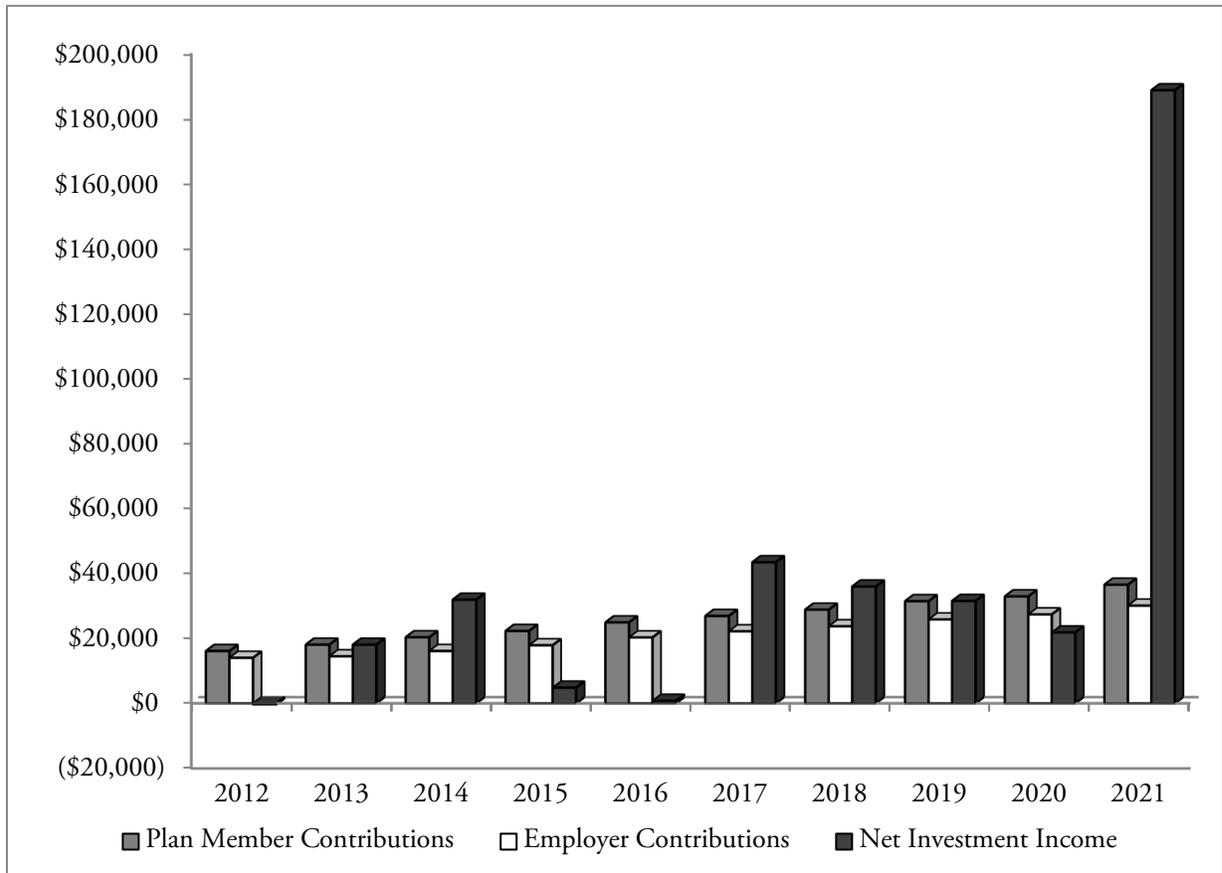
Note: This schedule shows the full appropriated amount of the additional state contribution as required by AS 14.25.085, a portion of which is included in "Employer Contributions" on the audited financial statements.

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



Teachers' Retirement System Defined Contribution Retirement Participant Directed Additions by Source (In thousands)					
Year Ended June 30	Plan Member Contributions	Employer Contributions	Net Investment Income (Loss)	Other	Total
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
2020	32,907	27,366	21,819	57	82,149
2021	36,513	30,070	188,892	21	255,496

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

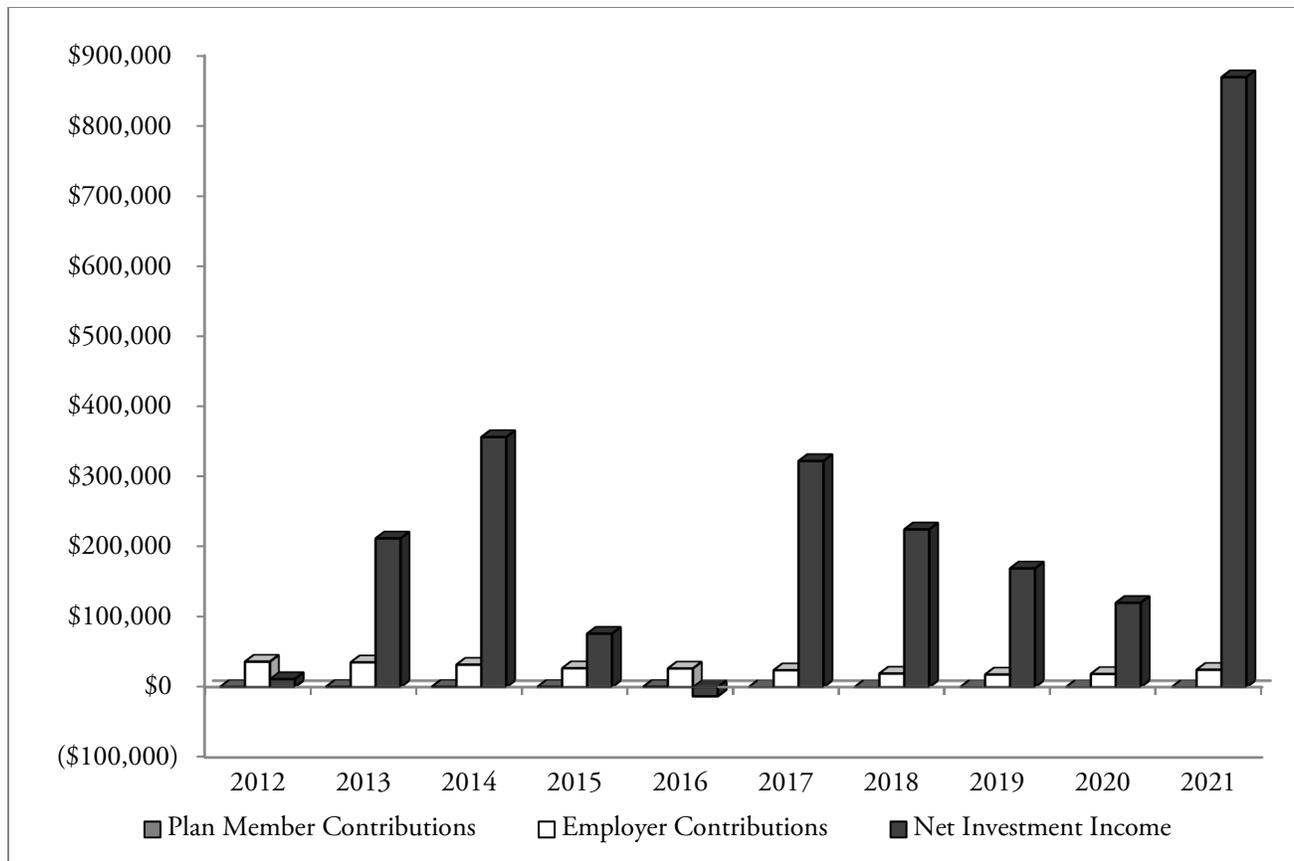


Statistical Section

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

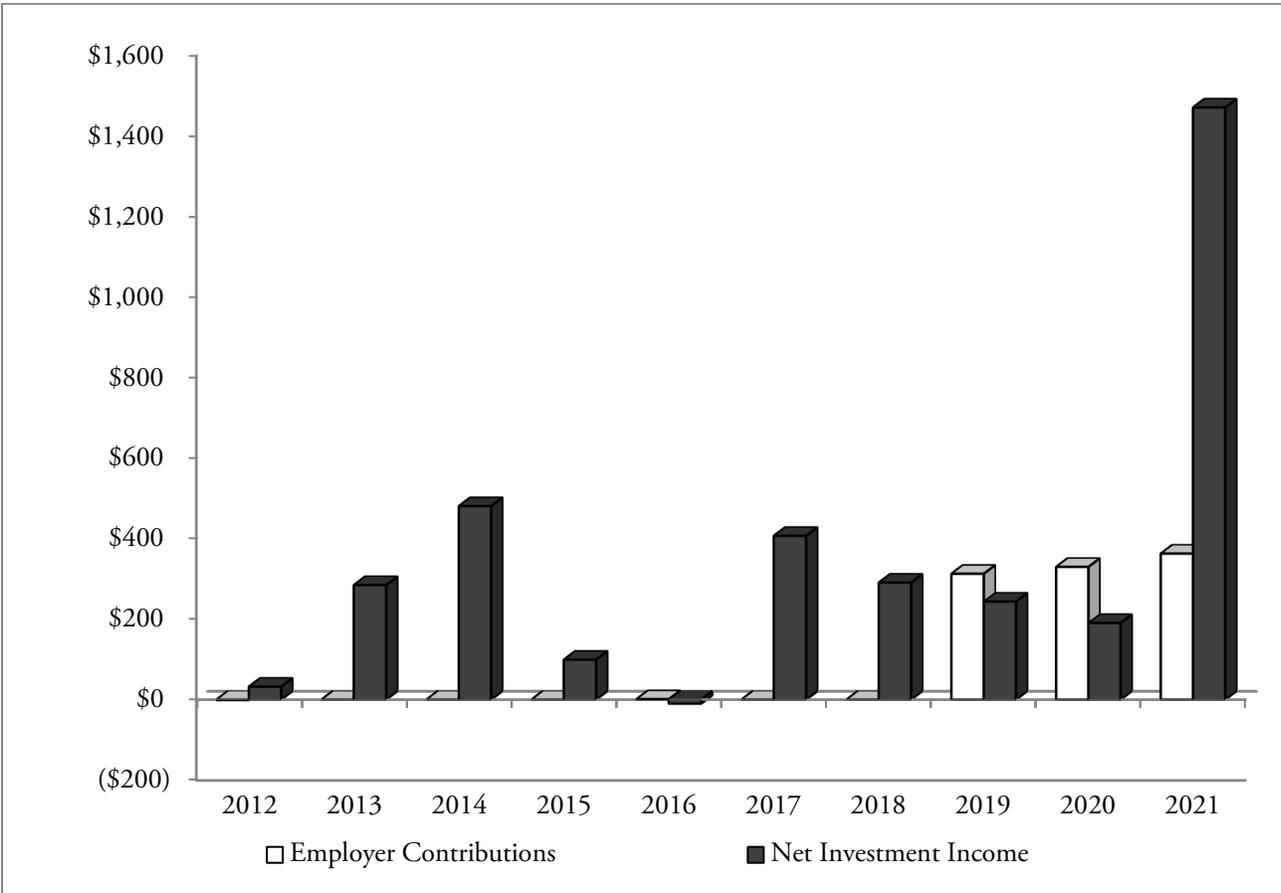
Year Ended June 30	Plan Member Premiums	Employer Contributions	State of Alaska	Net Investment Income (Loss)	Other	Total
2012	\$ 183	\$ 36,281	\$ 77,130	\$ 11,465	\$ 12,535	\$ 137,594
2013	250	35,293	105,832	211,927	4,152	357,454
2014	263	31,980	107,956	356,411	6,223	502,833
2015	227	26,922	337,300	76,174	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
2020	—	18,788	—	120,073	27,792	166,653
2021	—	24,700	—	869,241	30,787	924,728

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



Teachers' Retirement System Defined Contribution Retirement Occupational Death & Disability Additions by Source (In thousands)				
Plan Ended June 30	Employer Contributions	Net Investment Income (Loss)	Other	Total
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
2020	329	190	—	519
2021	362	1,471	—	1,833

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

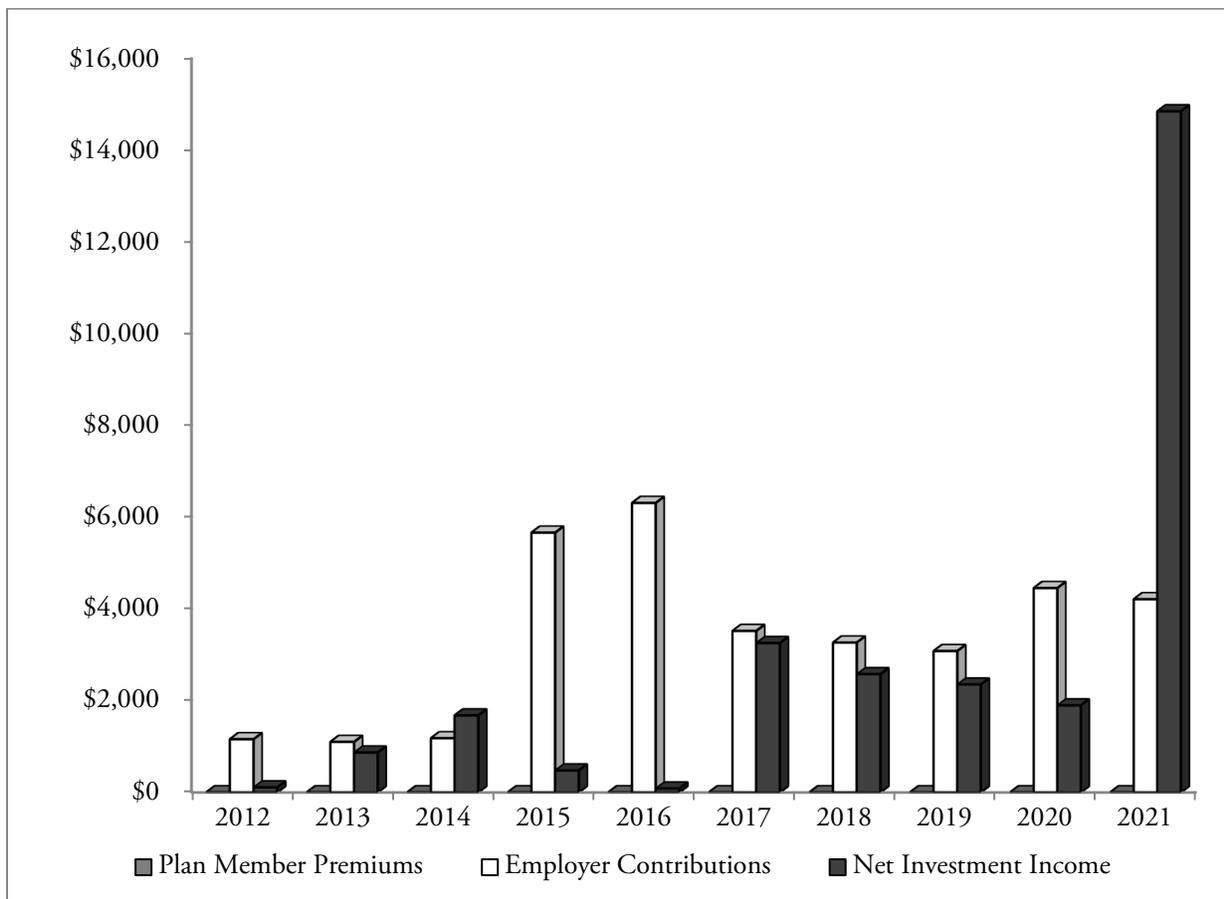


Statistical Section

Teachers' Retirement System Defined Contribution Retirement Retiree Medical Plan Additions by Source (In thousands)

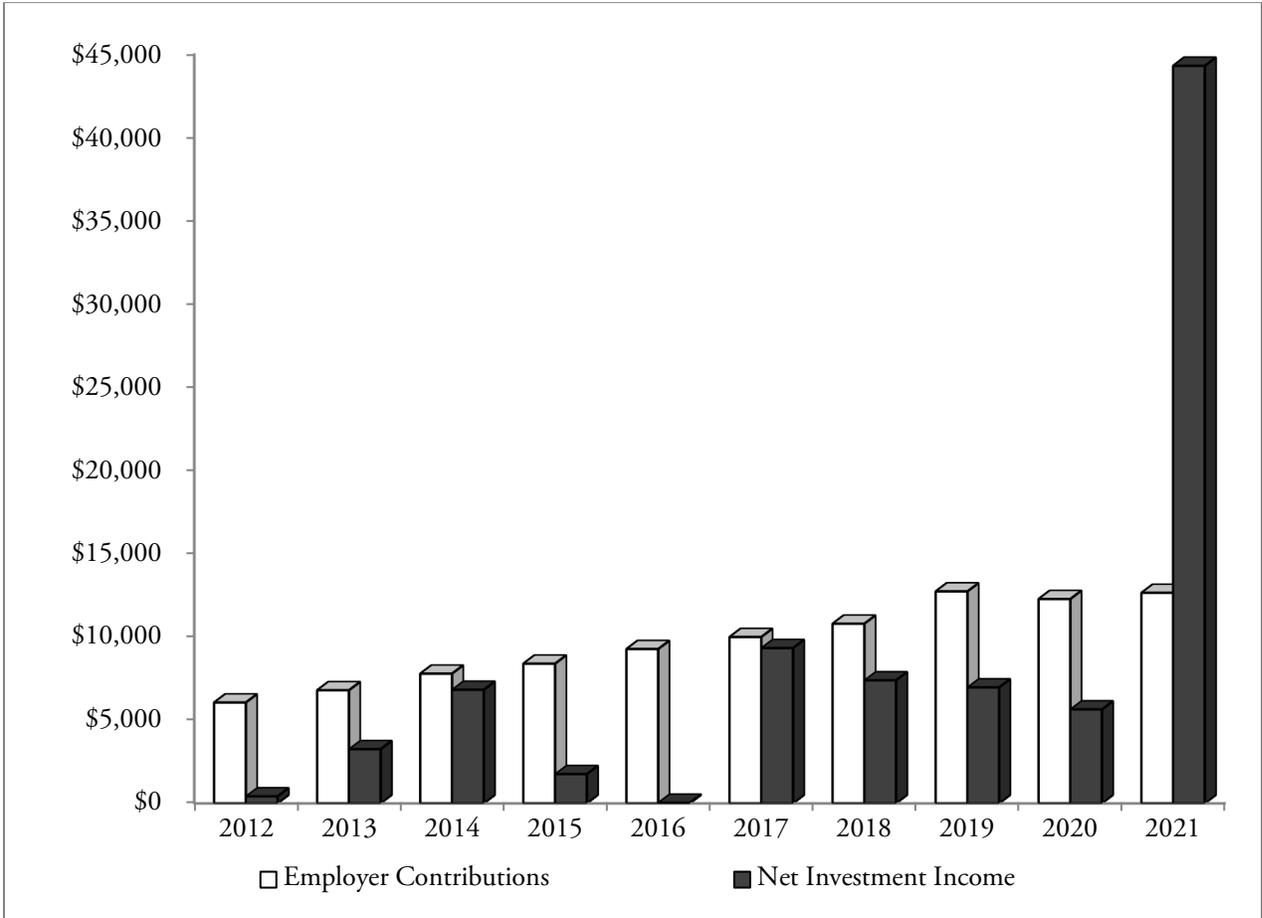
Plan Ended June 30	Plan Member Premiums	Employer Contributions	Net Investment Income (Loss)	Other	Total
2012	\$ —	\$ 1,160	\$ 107	\$ —	\$ 1,267
2013	—	1,101	869	—	1,970
2014	—	1,181	1,680	—	2,861
2015	—	5,670	477	—	6,147
2016	—	6,317	82	—	6,399
2017	—	3,524	3,260	—	6,784
2018	—	3,271	2,580	—	5,851
2019	—	3,085	2,355	12	5,452
2020	—	4,461	1,899	4	6,364
2021	—	4,217	14,848	6	19,071

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



Teachers' Retirement System Defined Contribution Retirement Health Reimbursement Arrangement Additions by Source (In thousands)				
Plan Ended June 30	Employer Contributions	Net Investment Income (Loss)	Other	Total
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
2020	12,317	5,661	—	17,978
2021	12,689	44,328	6	57,023

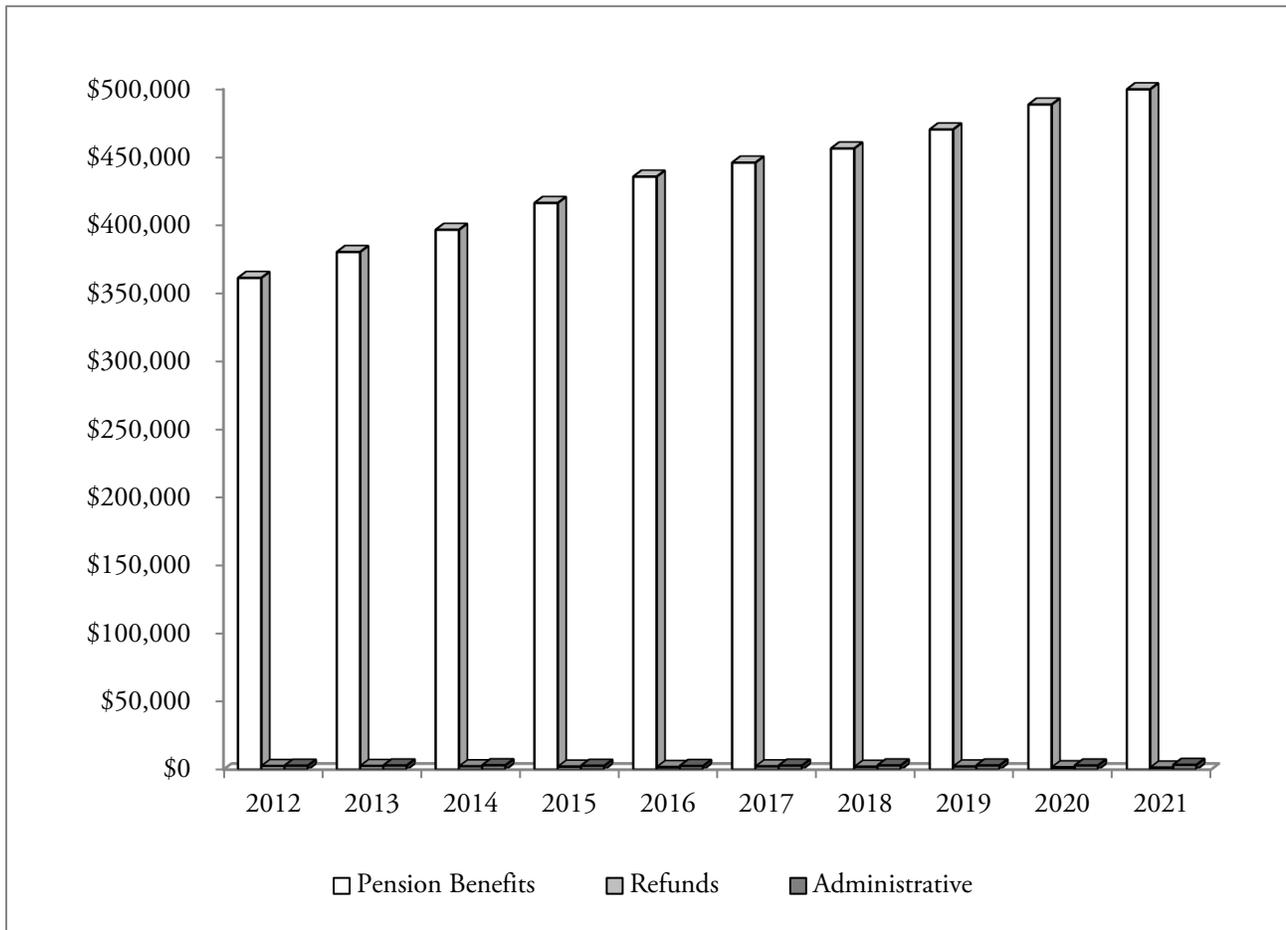
10-YEAR COMPARISON OF ADDITIONS BY SOURCE
(In thousands)



Statistical Section

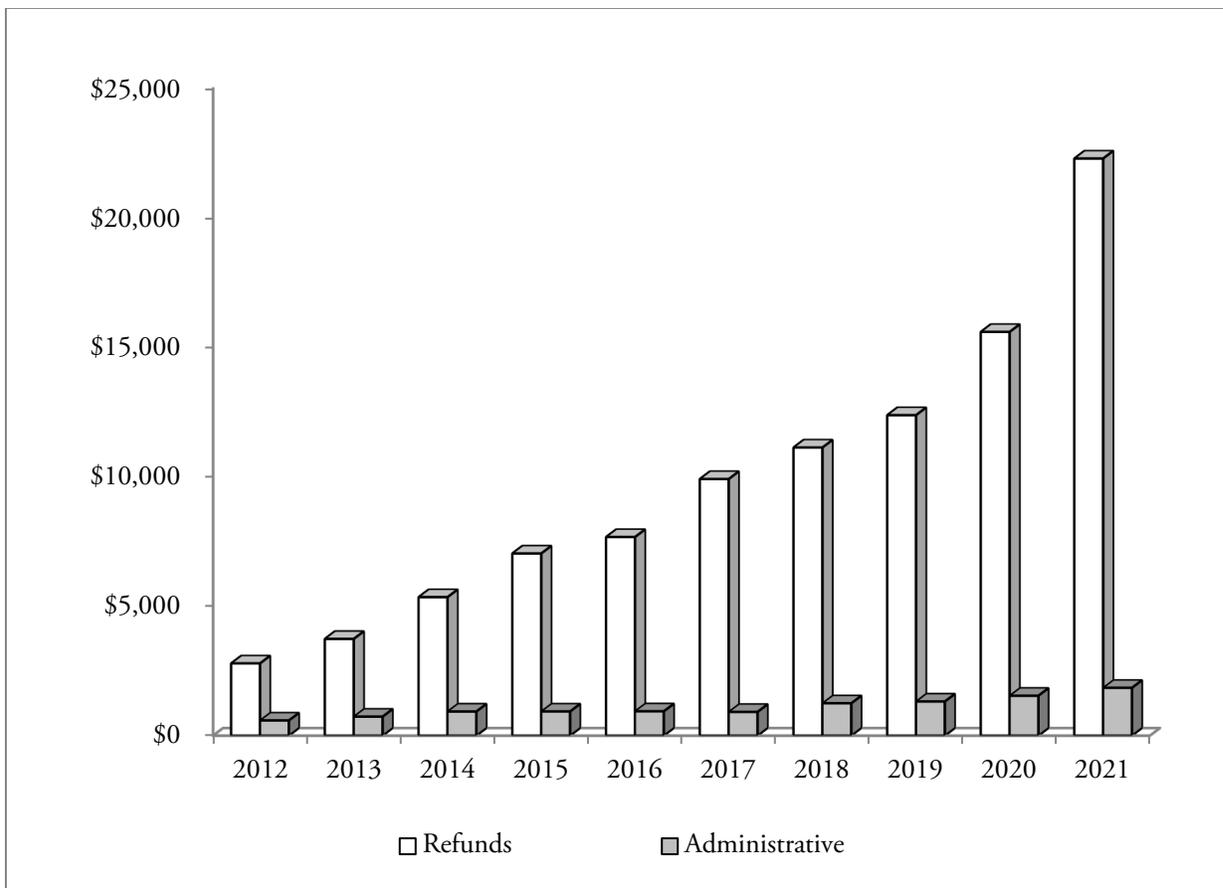
Teachers' Retirement System Defined Benefit Pension Deductions by Type (In thousands)				
Year Ended June 30	Pension Benefits	Refunds of Contributions	Administrative	Total
2012	\$ 361,202	\$ 2,637	\$ 2,847	\$ 366,686
2013	380,265	2,668	2,989	385,922
2014	396,614	2,387	3,160	402,161
2015	416,354	2,191	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
2020	488,748	1,699	2,988	493,435
2021	499,942	1,487	3,446	504,875

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



Teachers' Retirement System Defined Contribution Retirement Participant Directed Deductions by Type (In thousands)				
Plan Ended June 30	Refund of Contributions	Administrative	Prior Year Forfeiture Payable Adjustment	Total
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
2020	15,598	1,539	—	17,137
2021	22,294	1,846	—	24,140

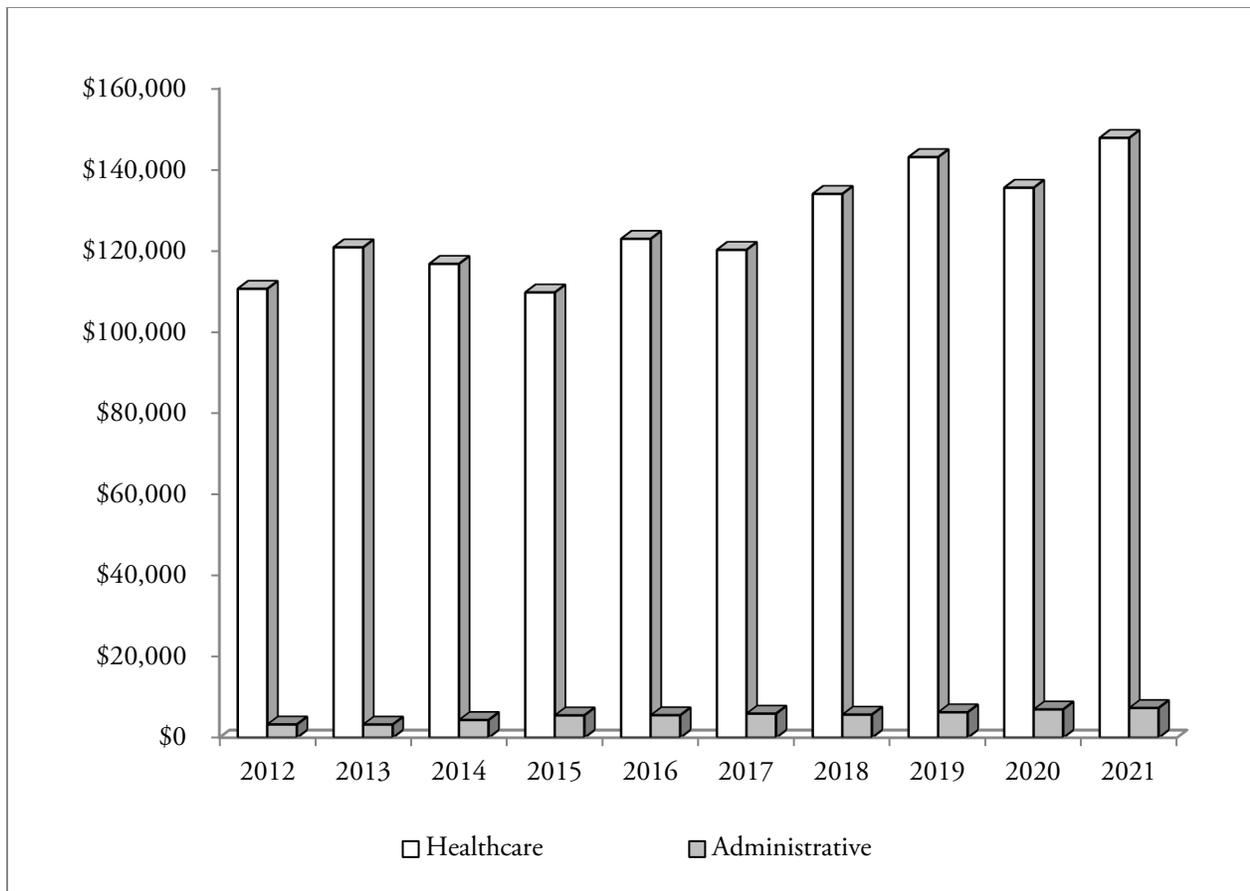
10-YEAR COMPARISON OF DEDUCTIONS BY TYPE
(In thousands)



Statistical Section

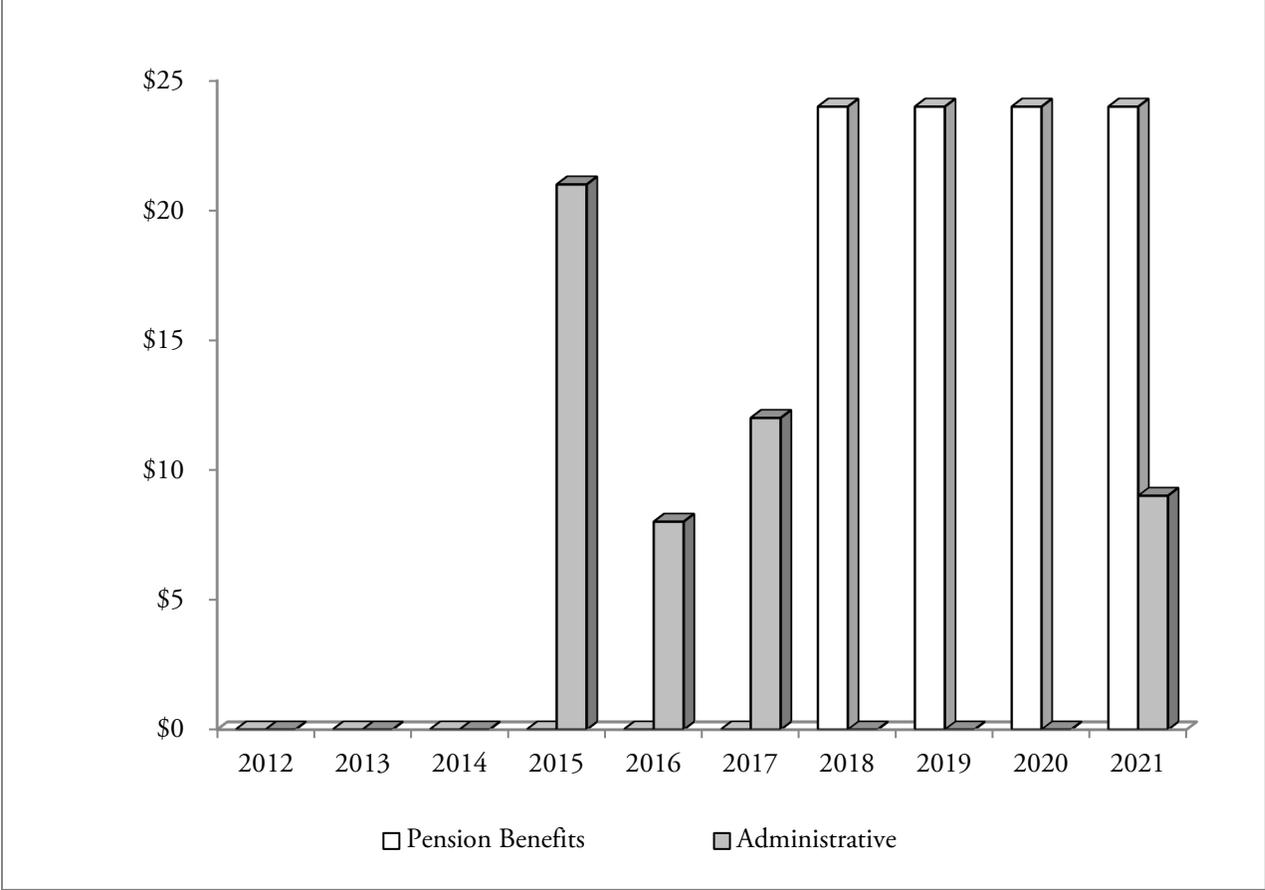
Teachers' Retirement System Defined Benefit Alaska Retiree Healthcare Trust Deductions by Type (In thousands)			
Plan Ended June 30	Healthcare	Administrative	Total
2012	\$ 110,632	\$ 3,251	\$ 113,883
2013	120,855	3,219	124,074
2014	116,781	4,338	121,119
2015	109,740	5,484	115,224
2016	122,954	5,511	128,465
2017	120,237	5,908	126,145
2018	134,051	5,665	139,716
2019	143,126	6,241	149,367
2020	135,566	6,945	142,511
2021	147,861	7,297	155,158

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



Teachers' Retirement System Defined Contribution Retirement Occupational Death & Disability Deductions by Type (In thousands)			
Plan Ended June 30	Pension Benefits	Administrative	Total
2012	\$ —	\$ —	\$ —
2013	—	—	—
2014	—	—	—
2015	—	21	21
2016	—	8	8
2017	—	12	12
2018	24	—	24
2019	24	—	24
2020	24	—	24
2021	24	9	33

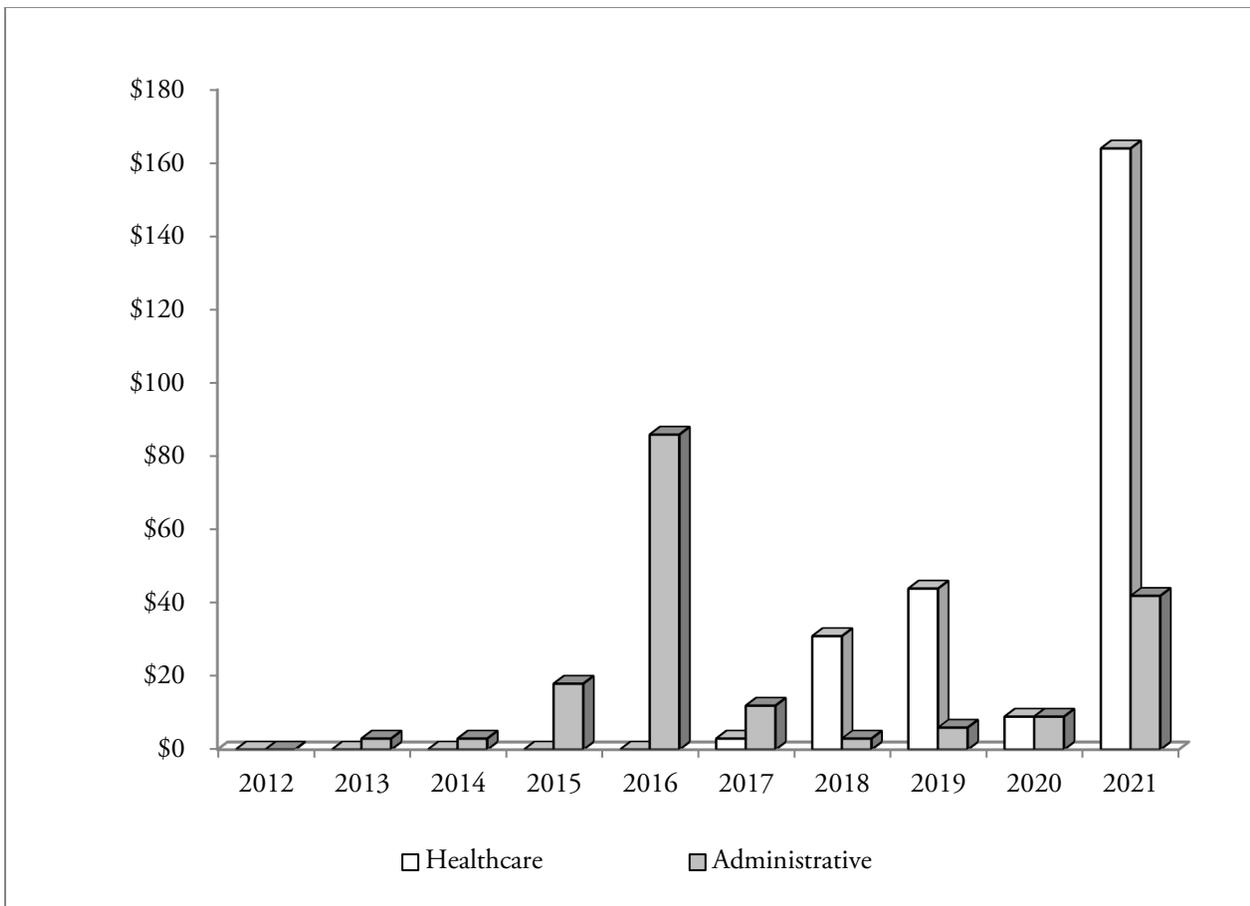
10-YEAR COMPARISON OF DEDUCTIONS BY TYPE
(In thousands)



Statistical Section

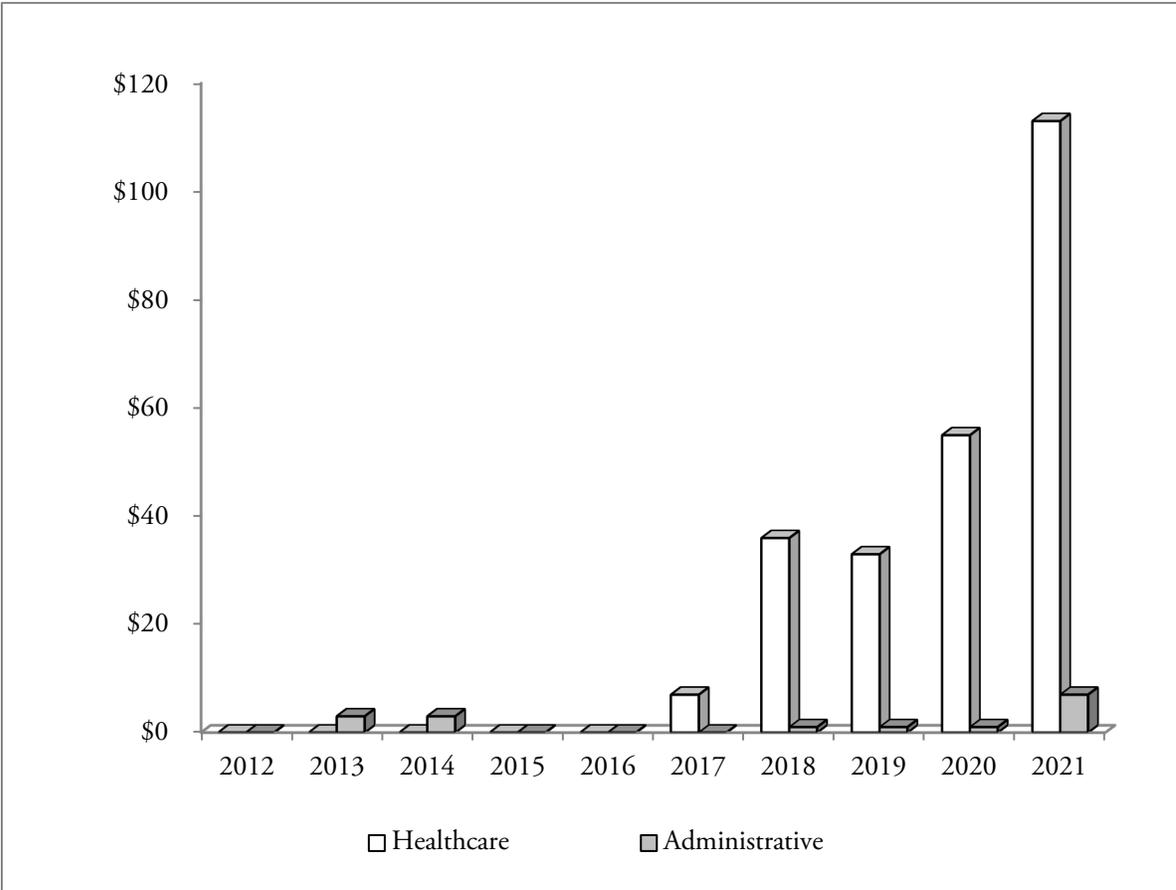
Teachers' Retirement System Defined Contribution Retirement Medical Plan Deductions by Type (In thousands)			
Plan Ended June 30	Healthcare	Administrative	Total
2012	\$ —	\$ —	\$ —
2013	—	3	3
2014	—	3	3
2015	—	18	18
2016	—	86	86
2017	3	12	15
2018	31	3	34
2019	44	6	50
2020	9	9	18
2021	164	42	206

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



Teachers' Retirement System Defined Contribution Retirement Health Reimbursement Arrangement Deductions by Type (In thousands)			
Plan Ended June 30	Healthcare	Administrative	Total
2012	\$ —	\$ —	\$ —
2013	—	3	3
2014	—	3	3
2015	—	—	—
2016	—	—	—
2017	7	—	7
2018	36	1	37
2019	33	1	34
2020	55	1	56
2021	113	7	120

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



Statistical Section

Teachers' Retirement System Schedule of Average Pension Benefit Payments New Benefit Recipients

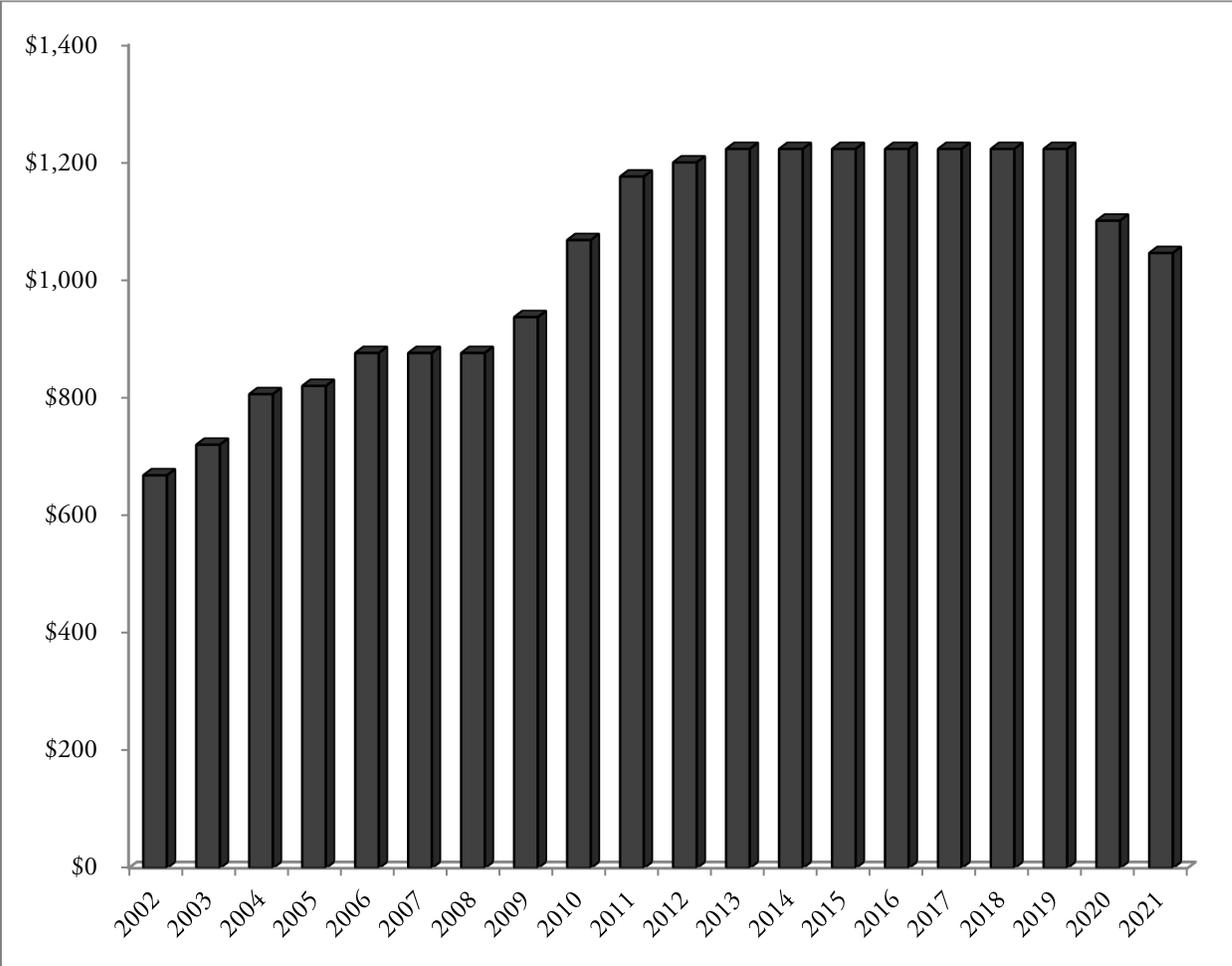
	Years of Credited Service						
	0 - 4	5 - 9	10 - 14	15 - 19	20 - 24	25 - 29	30+
Period 7/1/12 - 6/30/13:							
Average Monthly Benefit	\$253	\$1,030	\$1,496	\$2,450	\$3,281	\$4,384	\$6,052
Number of Recipients	10	57	67	90	101	79	64
Period 7/1/13 - 6/30/14:							
Average Monthly Benefit	\$235	\$904	\$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
Period 7/1/18 - 6/30/19:							
Average Monthly Benefit	\$334	\$891	\$1,540	\$2,760	\$3,567	\$4,666	\$6,777
Number of Recipients	4	23	39	87	93	85	41
Period 7/1/19 - 6/30/20:							
Average Monthly Benefit	\$243	\$1,054	\$1,647	\$2,600	\$3,616	\$4,874	\$6,772
Number of Recipients	8	19	26	72	90	78	40

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

Beneficiaries are not included in the table above

Teachers' Retirement System Schedule of Pension and Healthcare Benefits Deductions by Type (In thousands)						
Year Ended June 30	Service	Disability	Survivor	Dependent	Healthcare	Total
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
2020	464,483	1,026	23,244	19	135,630	624,402
2021	474,220	936	24,805	6	148,137	648,104

20-YEAR COMPARISON OF RETIREE MONTHLY COMPOSITE MEDICAL PREMIUMS



Statistical Section

Teachers' Retirement System Schedule of Pension Benefit Recipients by Type of Pension Benefit and Option Elected Valuation as of June 30, 2021

Amount of Monthly Pension Benefit	Number of Recipients	Type of Pension Benefit			Option Selected			
		1	2	3	1	2	3	4
\$ 1 - 300	233	159	74	—	143	45	38	7
301 - 600	394	276	118	—	213	72	86	23
601 - 900	657	505	152	—	359	132	128	38
901 - 1,200	827	656	171	—	487	162	144	34
1,201 - 1,500	727	567	160	—	393	164	148	22
1,501 - 1,800	729	562	167	—	411	157	138	23
1,801 - 2,100	743	593	150	—	387	155	174	27
2,101 - 2,400	828	704	124	—	371	203	224	30
2,401 - 2,700	990	901	89	—	438	240	279	33
2,701 - 3,000	1,053	984	66	3	444	247	329	33
3,001 - 3,300	969	921	42	6	384	229	326	30
3,301 - 3,600	938	905	31	2	386	197	330	25
3,601 - 3,900	842	823	17	2	323	177	317	25
3,901 - 4,200	739	723	13	3	290	162	267	20
over \$4,200	3,020	2,988	28	4	1,118	524	1,277	101
Totals	13,689	12,267	1,402	20	6,147	2,866	4,205	471

Type of Pension Benefit

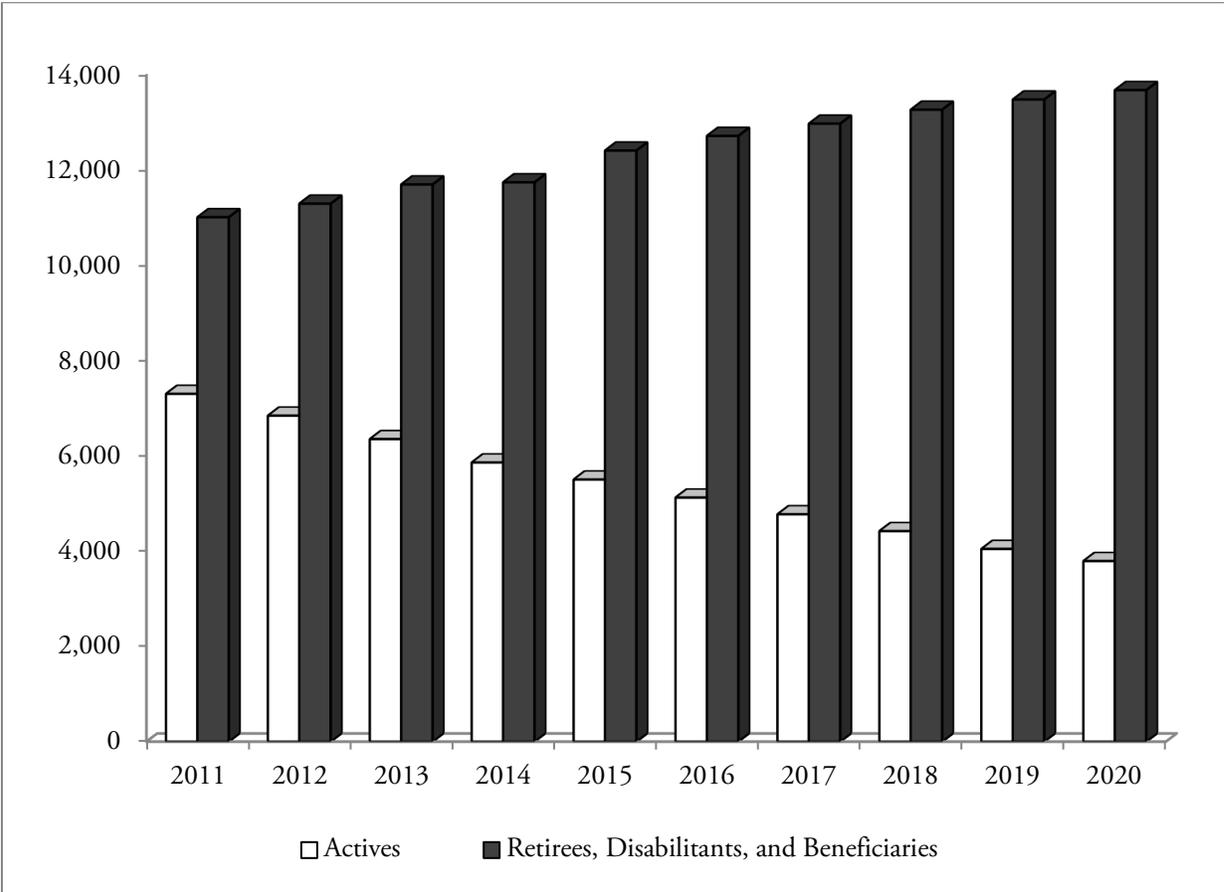
- 1 - Regular retirement
- 2 - Survivor payment
- 3 - Disability

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
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
2019	4,044	13,491	812	1,810	20,157
2020	3,789	13,689	764	1,744	19,986

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



Statistical Section

Teachers' Retirement System Principal Participating Employers June 30, 2021			
Employer	Non-retired Members	Rank	Percentage of Total Non-retired Members
Anchorage School District	4,935	1	31.18%
Matanuska-Susitna Borough School District	1,715	2	10.83
Fairbanks North Star Borough School District	<u>1,361</u>	3	<u>8.60</u>
Total	<u>8,011</u>		<u>50.61%</u>

Teachers' Retirement System Participating Employers June 30, 2021

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



STATE OF ALASKA • DEPARTMENT OF ADMINISTRATION

• *Division of Retirement and Benefits* •

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