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STATE OF ALASKA
TEACHERS' RETIREMENT SYSTEM

(A Component Unit of the State of Alaska)

Financial Statements and Supplemental Schedules

June 30, 2019

(With summarized financial information for June 30, 2018)

(With Independent Auditors' Report Thereon)

STATE OF ALASKA
TEACHERS' RETIREMENT SYSTEM
(A Component Unit of the State of Alaska)

Table of Contents

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

Management's Responsibility for the Financial Statements

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

Auditors' Responsibility

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

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the financial statements. The procedures selected depend on the auditors' judgment, including the assessment of the risks of material misstatement of the financial statements, whether due to fraud or error. In making those risk assessments, the auditor considers internal control relevant to the entity's preparation and fair presentation of the financial statements in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the entity's internal control. Accordingly, we express no such opinion. An audit also includes evaluating the appropriateness of accounting policies used and the reasonableness of significant accounting estimates made by management, as well as evaluating the overall presentation of the financial statements.

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

Opinion

In our opinion, the financial statements referred to above present fairly, in all material respects, the fiduciary net position of the State of Alaska Teachers' Retirement System as of June 30, 2019, and the changes in fiduciary net position for the year then ended, in accordance with U.S. generally accepted accounting principles.

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Other Matters

Prior-Year Comparative Information

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

Required Supplementary Information

U.S. generally accepted accounting principles require that the management's discussion and analysis on pages 3–12 and the schedules of changes in employer net pension and other post-employment benefits liabilities and related ratios, schedules of employer and nonemployer contributions, and schedules of investment returns on pages 33–44 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 60–61 are presented for purposes of additional analysis and are not a required part of the basic financial statements. The supplemental schedules are the responsibility of management and were derived from and relate directly to the underlying accounting and other records used to prepare the basic financial statements. Such information has been subjected to the auditing procedures applied in the audit of the basic financial statements and certain additional procedures, including comparing and reconciling such information directly to the underlying accounting and other records used to prepare the basic financial statements or to the basic financial statements themselves, and other additional procedures in accordance with auditing standards generally accepted in the United States of America. In our opinion, the supplemental schedules are fairly stated in all material respects in relation to the basic financial statements as a whole.

KPMG LLP

October 23, 2019

This section presents management's discussion and analysis (MD&A) of the Teachers' Retirement System's (the System) financial position and performance for the year ended June 30, 2019. This section is presented as a narrative overview and analysis. Please read the MD&A in conjunction with the financial statements, notes to financial statements, required supplementary information, and supplemental schedules to better understand the financial condition and performance of the System during the fiscal year ended June 30, 2019.

Financial Highlights

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

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

Overview of the Financial Statements

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

Combining Statement of Fiduciary Net Position – This statement presents information regarding the System's assets, liabilities, and resulting net position restricted for pension benefits, postemployment healthcare benefits, and individuals. This statement reflects the System's investments at fair value, along with cash and cash equivalents, receivables, and other assets less liabilities at June 30, 2019.

Combining Statement of Changes in Fiduciary Net Position – This statement presents how the System's net position restricted for pension benefits, postemployment healthcare benefits, and individuals changed during the fiscal year ended June 30, 2019. This statement presents contributions and investment income during the period. Deductions for pension and postemployment healthcare benefits, refunds, and operating deductions are also presented.

The above statements represent resources available for investment and payment of benefits as of June 30, 2019, and the sources and uses of those funds during fiscal year 2019.

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

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

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

Condensed Financial Information

System net position (In thousands)

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

Condensed Financial Information (continued)

Changes in system net position (In thousands)

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

Financial Analysis of the System

The statements of fiduciary net position as of June 30, 2019 and 2018 show net position restricted for pension benefits, postemployment healthcare benefits, and individuals of $9,136,664,000 and $8,937,422,000, respectively. The entire amount is available to cover the System's obligations to pay pension and postemployment healthcare benefits to its members and their beneficiaries as well as administrative costs.

This represents an increase in the System's net position restricted for pension benefits, postemployment healthcare benefits, and individuals of $199,242 or 2.2% from fiscal year 2018 to 2019, and an increase of $373,462,000 or 4.4% from fiscal year 2017 to 2018. Over the long term, plan member, employer, and nonemployer contributions, as well as investment income earned, are anticipated to sufficiently fund the pension benefit and postemployment healthcare costs of the System.

During the 30th Alaska State Legislature and as part of the State's Fiscal Year 2019 Operating Budget, House Bill 286 appropriated $128,174,000 from the General Fund and the Alaska Higher Education Investment Fund to the Department of Administration for deposit in the Defined Benefit Pension fund. The amount of the appropriation allocated to the State of Alaska as an employer is included in Contributions – Employer. The remaining appropriation is reported as Contributions – Nonemployer State of Alaska.

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

System Asset Allocation

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

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

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

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

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

The State provided $127,365,000 and $111,042,000 for fiscal years 2019 and 2018, respectively, in nonemployer contributions per Alaska Statute (AS) 14.25.085. The employer on-behalf amount (or additional State contribution as defined in AS 14.25.085) is calculated by the System's actuary. It is based on projected payroll and the difference between the actuarially determined contribution rate and the statutory effective rate. The statutory employer effective contribution rate of 12.56% is established in AS 14.25.070(a).

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

Effective January 1, 2019, the Division implemented a group Medicare Part D prescription drug plan known as an enhanced Employer Group Waiver Plan (EGWP) for all Medicare-eligible members covered under the Plan. For the period January 1 to June 30, 2019, the Plan received $2,518,000 in EGWP funds from the Center of Medicare and Medicaid Services (CMS) through the EGWP Plan Sponsor, OptumRx.

The Plan also participates in the Medicare Part D retiree drug subsidy (RDS) program. A provision of Medicare Part D provides sponsors of postemployment healthcare funds the opportunity to receive an RDS payment if the sponsor's fund provides a prescription drug benefit that is actuarially equivalent to the Medicare Part D benefit. The RDS is equal to 28% of the amount of eligible prescription drug benefit costs of retirees who are eligible for, but not enrolled in, Medicare Part D, by virtue of continuing to be covered by the sponsor's fund. The Plan received an additional $4,819,000 in fiscal year 2019 over fiscal year 2018 due to the timing of filing for and receipt of the RDS.

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

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

	Year ended		
	2019	**2018**	**2017**
System returns	6.35 %	9.62 %	13.36 %
Domestic equities	8.41	15.22	18.55
International equities	(0.08)	7.95	20.42
Private equity	17.66	26.65	17.04
Real assets	6.08	7.53	5.98
Absolute return	4.08	4.78	8.47
Fixed income	6.34	(0.71)	2.91
Opportunistic	7.21	5.63	—
Alternative equity	—	—	11.38
Cash equivalents	2.50	1.53	0.80
Actuarially assumed rate of return	7.38	8.00	8.00

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

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

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

The System's refund of contributions increased $1,468,000 or 11.1%, from fiscal year 2018 and increased $923,000, or 7.5%, from fiscal year 2017. The increase in refunds is primarily in the DCR Plan, where refunds increased $1,249,000 between fiscal year 2018 to 2019, and increased $1,217,000 from fiscal year 2017 to 2018. Increases in refunds are attributed to the refund of DCR member accounts. The System continues to look at ways to retain member contributions by emphasizing the low investment costs to members to maintain funds within the DCR Plan, with a number of investment options available.

The System's administrative costs in fiscal year 2019 increased $616,000 or 6.2% from fiscal year 2018 and increased $230,000 or 2.4% from fiscal year 2017 to 2018. The increase in administrative costs in fiscal year 2019 is primarily related to fees paid to third-party administrators.

Net Pension Liability

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

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

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

Net OPEB (Asset) Liability

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

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

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

(Continued)

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

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

Funding

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

- The employer contribution rate is adopted and set by the Board annually based on actuarial determinations made by the System's consulting actuary as reviewed by the Board's contracted actuary. AS 14.25.070(a) sets the employer effective contribution rate at 12.56%. The difference between the actuarially determined contribution rate adopted by the Board and the statutory employer effective rate is paid by the State as a direct nonemployer contribution per AS 14.25.085.
- AS 14.25.085 provides that additional State contributions are made each July 1 or as soon after July 1 for the ensuing fiscal year that when combined with the total employer contributions are sufficient to pay the System's past service liability at the contribution rate adopted by the Board for that fiscal year.
- Plan member contributions are established by AS 14.25.050 for the DB Plan and AS 14.25.340 for the DCR Plan.
- The Board works with an external consultant to determine the proper asset allocation strategy.

Legislation

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

This appropriation is to fund the difference between the statutory employer required contribution of 12.56% paid by participating employers for both defined benefit and defined contribution members and the actuarially determined contribution rate adopted by the Board for that fiscal year. This additional state contribution is specified in AS 14.25.085 – Additional State Contributions.

(Continued)

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

Net investment income decreased from $703,592,000 in fiscal year 2018 to $525,251,000 in fiscal year 2019, a decrease of $178,341,000 or 25.3%. The return on the System's investments was below the 7.38% actuarially assumed rate of return with the System's rate of return of 6.35% at June 30, 2019. In fiscal year 2018, the System's investments returned 9.62%, more than the actuarially assumed return of 8.00%. The Board continues to work with its investment counsel and the Alaska Department of Revenue, Treasury Division, to diversify the portfolio of the System to maintain an optimal risk/return ratio.

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

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

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

Requests for Information

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

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

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

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

STATE OF ALASKA
TEACHERS' RETIREMENT SYSTEM
(A Component Unit of the State of Alaska)

Combining Statement of Fiduciary Net Position

June 30, 2019
(With summarized financial information for June 30, 2018)

(In thousands)

	Defined benefit pension	Defined contribution pension	Other Postemployment Benefit Plans				System total June 30, 2019	System total June 30, 2018
			Alaska Retiree Healthcare Trust	Occupational death and disability	Retiree medical	Health reimbursement arrangement		
Assets:								
Cash and cash equivalents (note 3):								
Short-term fixed-income pool	$ 103,177	1,215	55,081	81	782	2,339	162,675	61,215
Empower money market fund – non-participant directed	—	272	—	—	—	—	272	328
Securities lending collateral	9,426	—	5,015	7	71	210	14,729	30,555
Total cash and cash equivalents	112,603	1,487	60,096	88	853	2,549	177,676	92,098
Receivables:								
Contributions	9,645	—	—	—	—	—	9,645	8,431
Due from State of Alaska General Fund	—	6,215	1,434	34	338	1,463	9,484	5,088
Other accounts receivable	43	—	1,213	—	—	—	1,256	100
Total receivables	9,688	6,215	2,647	34	338	1,463	20,385	13,619
Investments (note 3), at fair value:								
U.S. Treasury Fixed Income Pool	577,915	—	308,702	451	4,381	13,105	904,554	770,602
Broad domestic equity:								
Large Cap Pool	1,117,298	—	596,821	871	8,469	25,336	1,748,795	1,672,443
Small Cap Pool	155,606	—	83,119	121	1,179	3,529	243,554	316,689
Total broad domestic equity	1,272,904	—	679,940	992	9,648	28,865	1,992,349	1,989,132
Global equity ex-U.S.:								
International Equity Pool	931,723	—	497,693	727	7,062	21,128	1,458,333	1,445,410
International Equity Small Cap Pool	78,072	—	41,703	61	592	1,770	122,198	131,759
Emerging Markets Equity Pool	198,729	—	106,154	155	1,506	4,506	311,050	246,381
Total global equity ex-U.S.	1,208,524	—	645,550	943	9,160	27,404	1,891,581	1,823,550
Opportunistic:								
Alternative Equity Strategies Pool	273,085	—	145,873	213	2,070	6,193	427,434	430,186
Opportunistic Fixed Income Pool	149,443	—	79,827	117	1,133	3,389	233,909	285,601
Other Opportunities Pool	24,682	—	13,184	19	187	560	38,632	109,635
Tactical Allocation Strategies Pool	88,445	—	47,244	69	670	2,006	138,434	99
Total opportunistic	535,655	—	286,128	418	4,060	12,148	838,409	825,521
Private Equity Pool	579,978	—	309,804	452	4,396	13,152	907,782	784,747
Absolute Return Pool	317,401	—	169,545	248	2,406	7,197	496,797	630,101
Real assets:								
Real Estate Pools	311,332	—	166,336	243	2,360	7,061	487,332	536,508
Real Estate Investment Trust Pool	61,859	—	33,043	48	469	1,403	96,822	65,631
Infrastructure Private Pool	117,664	—	62,852	92	892	2,668	184,168	166,071
Infrastructure Public Pool	35,118	—	18,759	27	266	796	54,966	83,319
Master Limited Partnership Pool	113,190	—	60,462	88	858	2,567	177,165	327,806
Energy Pool	18,572	—	9,921	14	141	421	29,069	32,340
Farmland Pool	176,721	—	94,398	138	1,340	4,007	276,604	272,381
Timber Pool	75,304	—	40,224	59	571	1,708	117,866	120,324
Treasury Inflation-Protected Securities Pool	—	—	—	—	—	—	—	18,377
Total real assets	909,760	—	485,995	709	6,897	20,631	1,423,992	1,622,757
Other investment funds:								
Participant directed at fair value:								
Collective investment funds	—	176,309	—	—	—	—	176,309	168,552
Pooled investment funds	—	320,284	—	—	—	—	320,284	273,730
Participant directed at contract value:								
Synthetic Investments	—	20,368	—	—	—	—	20,368	—
Total other investment funds	—	516,961	—	—	—	—	516,961	442,282
Total investments	5,402,137	516,961	2,885,664	4,213	40,948	122,502	8,972,425	8,888,692
Other assets	—	—	318	—	—	—	318	318
Total assets	5,524,428	524,663	2,948,725	4,335	42,139	126,514	9,170,804	8,994,727
Liabilities:								
Claims payable (note 6)	—	—	12,561	—	—	—	12,561	14,408
Accrued expenses	409	1,068	1,830	—	1	5	3,313	1,703
Forfeitures payable to employers	—	873	—	—	—	—	873	10,639
Due to State of Alaska General Fund	2,664	—	—	—	—	—	2,664	—
Securities lending collateral payable	9,426	—	5,015	7	71	210	14,729	30,555
Total liabilities	12,499	1,941	19,406	7	72	215	34,140	57,305
Net position restricted for pension benefits, postemployment healthcare benefits, and individuals	$ 5,511,929	522,722	2,929,319	4,328	42,067	126,299	9,136,664	8,937,422

See accompanying notes to financial statements.

STATE OF ALASKA
TEACHERS' RETIREMENT SYSTEM
(A Component Unit of the State of Alaska)

Combining Statement of Changes in Fiduciary Net Position

Year ended June 30, 2019
(With summarized financial information for June 30, 2018)

(In thousands)

	Defined benefit pension	Defined contribution pension	Other Postemployment Benefit Plans: Alaska Retiree Healthcare Trust	Occupational death and disability	Retiree medical	Health reimbursement arrangement	System total June 30, 2019	System total June 30, 2018
Additions:								
Contributions:								
Employers	$ 36,805	25,814	17,957	312	3,085	12,776	96,749	97,665
Plan members	35,763	31,438	—	—	—	—	67,201	66,505
Nonemployer State of Alaska	127,365	—	—	—	—	—	127,365	111,042
Total contributions	199,933	57,252	17,957	312	3,085	12,776	291,315	275,212
Investment income:								
Net appreciation in fair value (note 2)	216,649	31,634	117,362	172	1,670	4,978	372,465	564,363
Interest	15,664	66	8,195	11	109	320	24,365	29,644
Dividends	84,587	—	44,599	61	589	1,726	131,562	113,080
Total investment income	316,900	31,700	170,156	244	2,368	7,024	528,392	707,087
Less investment expense	2,315	191	1,176	1	15	43	3,741	4,493
Net investment income before securities lending activities	314,585	31,509	168,980	243	2,353	6,981	524,651	702,594
Securities lending income	471	—	247	—	3	10	731	1,222
Less securities lending expense	84	—	44	—	1	2	131	224
Net income from securities lending activities	387	—	203	—	2	8	600	998
Net investment income	314,972	31,509	169,183	243	2,355	6,989	525,251	703,592
Other income								
Employer Group Waiver Plan	—	—	2,518	—	—	—	2,518	—
Medicare Retiree Drug Subsidy	—	—	6,711	—	3	—	6,714	1,895
Pharmacy rebates	—	—	11,858	—	9	—	11,867	6,149
Miscellaneous income	32	132	324	—	—	—	488	369
Total other income	32	132	21,411	—	12	—	21,587	8,413
Total additions	514,937	88,893	208,551	555	5,452	19,765	838,153	987,217
Deductions:								
Pension and postemployment benefits	470,414	—	143,126	24	44	33	613,641	590,569
Refunds of contributions	2,303	12,384	—	—	—	—	14,687	13,219
Administrative	3,018	1,317	6,241	—	6	1	10,583	9,967
Total deductions	475,735	13,701	149,367	24	50	34	638,911	613,755
Net increase	39,202	75,192	59,184	531	5,402	19,731	199,242	373,462
Net position restricted for pension benefits, postemployment healthcare benefits, and individuals:								
Balance, beginning of year	5,472,727	447,530	2,870,135	3,797	36,665	106,568	8,937,422	8,563,960
Balance, end of year	$ 5,511,929	522,722	2,929,319	4,328	42,067	126,299	9,136,664	8,937,422

See accompanying notes to financial statements.

(1) Description

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

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

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

At June 30, 2019 and 2018, the number of participating local government employers and public organizations, including the State, was as follows:

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

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

Defined Benefit Pension Plan

(a) General

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

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

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

(b) Pension Benefits

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

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

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

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

Married members must receive their benefits in the form of a joint and survivor annuity unless their spouse consents to another form of benefit or benefits are payable under the 1% supplemental contributions provision.

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

(c) Contributions

Contributions requirements of the active plan members and the participating employers are actuarially determined and approved by the Board as an amount that, when combined, is expected to finance the costs of benefits earned by plan members during the year, with an additional amount to finance any unfunded accrued liability. The DB Plan members contribute 8.65% of their base salary as required by statute. The statutory employer effective contribution rate is 12.56% of annual payroll, which for fiscal year 2019 is allocated 8.41% to the DB Pension Plan and 4.15% to the DB ARHCT Plan as determined by the actuary of the Plan. Alaska Statute (AS) 14.25.085 provides that additional State contributions be made each July 1, or as soon after July 1, for the ensuing fiscal year that when combined with the total employer contributions are sufficient to pay the System's past service liability at the actuarially determined contribution rate adopted by the Board for that fiscal year. Additionally, there is a Defined Benefit Unfunded Liability (DBUL) amount levied against the DCR Plan payroll. The DBUL amount is computed as the difference between:

(A) The amount calculated for the statutory employer 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.

(d) Refunds

DB Plan member contributions may be voluntarily or, under certain circumstances, involuntarily refunded to the employee or a garnishing agency 60 days after termination of employment. Voluntary refund rights are forfeited on July 1 following the member's 75th birthday or within 50 years of the member's last termination date. Members who have had contributions refunded forfeit all retirement benefits, including postemployment healthcare benefits. Members are allowed to reinstate refunded service due to involuntary refunds by repaying the total involuntary refunded balance and accrued interest. Members are allowed to reinstate voluntarily refunded service by repaying the voluntarily refunded balance and accrued interest, as long as they reestablish an employee relationship with a participating DB Plan employer before July 1, 2010. Members who have not reestablished an employee relationship with a participating DB Plan employer by June 30, 2010 will not be eligible to reinstate voluntarily refunded service and will forfeit any claim to DB Plan membership rights. Balances previously refunded to members accrue interest at the rate of 7.0% per annum compounded semiannually.

Defined Contribution Retirement Pension Plan

(a) General

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

At June 30, 2019, membership in the DCR Plan consisted of 5,218 members.

(b) Retirement Benefits

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

(c) Contributions

State statutes require an 8.0% contribution rate for DCR Plan members. Employers are required to contribute 7.0% of the member's compensation.

(d) Participant Distributions and Refunds of Contributions

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

(e) Participant Accounts

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

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

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

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.

(Continued)

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

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

(i) OPEB Benefits

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

(ii) Contributions

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

(b) Occupational Death and Disability Plan

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

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

(i) Death Benefits

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

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

If an active DB Plan member dies from occupational causes, the spouse may receive a monthly pension from the DB Plan. When death is due to occupational causes and there is no surviving spouse, the DB Plan member's dependent child(ren) may receive a monthly pension until the child(ren) is(are) no longer dependents. If the member does not have a spouse or dependent children at the time of death, a lump-sum death benefit is payable to the named beneficiary(ies). The amount of the occupational death pension is 40% of the member's base salary at the time of death. The amount of the occupational death pension changes on the date the DB Plan member's normal retirement would have occurred if the DB Plan member had lived. The new benefit is based on the DB Plan member's average base salary at the time of death and the credited service that would have accrued had the DB Plan member lived and continued to work until normal retirement. If benefits are payable under the 1% supplemental contribution provision, benefits are not payable under this provision. If the death was from nonoccupational causes, and the DB Plan member was vested, the spouse may receive a monthly 50% joint and survivor option benefit based on the member's credited service and average base salary at the time of death. If the DB Plan member is not married or vested, a lump-sum death benefit is payable to the named beneficiary(ies).

The monthly survivor's pension section for survivors of DCR Plan employees is 40% of the employee's monthly compensation in the month in which the employee dies. While the monthly survivor's pension is being paid, the employer shall make contributions on behalf of the employee's beneficiaries based on the deceased employee's gross monthly compensation at the time of occupational death.

(ii) Disability Benefits

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

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

(iii) Contributions

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

(c) *Retiree Medical Plan*

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

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

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

(i) *OPEB Benefits*

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

(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 2019 employer effective contribution rate is 0.79% of member's compensation.

Defined Contribution Other Postemployment Benefit Plan

(a) General

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

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

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

(b) OPEB Benefits

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

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

(c) Contributions

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

(Continued)

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

Pooled participant-directed investment funds, held in trust, are stated at fair value based on the unit value as reported by the Trustees multiplied by the number of units held by the DCR Plan. The unit value is determined by the Trustees based on fair value of the underlying assets. Purchases and sales of securities are recorded on a trade-date basis. Underlying assets comprise domestic and international stocks, investment-grade bonds, federally guaranteed mortgages, money market instruments, and other cash equivalent instruments with maturities of less than one year, which include but are not limited to commercial paper, asset-backed securities, banker acceptances, certificates of deposit with ratings of A1/P1 or better, as well as obligations of the U.S. government and its agencies, and repurchase agreements collateralized by U.S. Treasury instruments.

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

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

(e) Contributions Receivable

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

(f) Administrative Costs

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

(g) Other Income

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

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

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

(i) Federal Income Tax Status

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

(Continued)

(3) Investments

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

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

Treasury provides staff for the Board. Treasury has created a pooled environment by which it manages investments of the Board. Additionally, Treasury manages a mix of pooled investment funds, collective investment funds and SICs for the DCR participant-directed pension plans under the Board's fiduciary responsibility.

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

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

Rate of Return

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

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

(Continued)

(4) Net Pension Liability – Defined Benefit Pension Plan

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

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

(a) Actuarial Assumptions

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

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

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

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

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

(b) Discount Rate

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

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

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

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

(Continued)

(5) Net OPEB Liability (Asset)

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

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

(a) Actuarial Assumptions

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

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

(Continued)

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

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+	**Years of service**

Years of service	
<15	75.0 %
15–19	80.0
20–24	85.0
25–29	90.0
30+	95.0

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

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

1. An Employer Group Waiver Plan (EGWP) was implemented effective January 1, 2019. This arrangement replaced the Retiree Drug Subsidy (RDS) under Medicare Part D and resulted in larger projected subsidies to offset the cost of prescription drug coverage.

2. Based on recent experience, the healthcare cost trend assumptions were updated.

3. Per capita claims costs were updated to reflect recent experience.

4. Healthcare cost trends were updated to reflect a Cadillac Tax load.

(Continued)

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

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

(b) Discount Rate

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

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

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

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

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

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

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

(6) Claims Payable

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

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

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

(7) Commitments and Contingencies

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

(8) Medicare Part D Retiree Drug Subsidy

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

(9) Employer Group Waiver Program

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

REQUIRED SUPPLEMENTARY INFORMATION

(Unaudited)

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)

		2019	2018	2017	2016	2015	2014	2013	2012
Total pension liability:									
Service cost	$	60,810	64,961	68,376	61,011	63,608	64,324	69,113	69,548
Interest		575,706	572,791	559,165	550,392	540,981	515,325	517,511	501,252
Differences between expected and actual experience		(135,121)	(131,092)	(65,757)	(55,682)	(5,693)	—	1,108	10,986
Changes of assumptions		(35,262)	—	—	—	156,854	—	—	—
Benefit payments, including refunds of member contributions		(472,717)	(458,511)	(448,422)	(437,582)	(418,545)	(399,001)	(397,956)	(378,113)
Net change in total pension liability		(6,584)	48,149	113,362	118,139	337,205	180,648	189,776	203,673
Total pension liability – beginning		7,387,056	7,338,907	7,225,545	7,107,406	6,770,201	6,589,553	6,399,777	6,196,104
Total pension liability – ending (a)		7,380,472	7,387,056	7,338,907	7,225,545	7,107,406	6,770,201	6,589,553	6,399,777
Plan fiduciary net position:									
Contributions – employer		36,805	39,835	36,634	33,478	36,374	37,571	37,372	38,189
Contributions – member		35,763	37,674	39,878	42,654	45,506	47,724	50,201	52,020
Contributions – nonemployer entity (State)		127,365	111,757	116,700	90,589	1,662,700	208,890	196,945	157,387
Total net investment income (loss)		314,972	432,543	628,184	(31,340)	152,561	599,958	373,868	2,190
Benefit payments, including refunds of member contributions		(472,717)	(458,511)	(448,422)	(437,582)	(418,545)	(399,001)	(382,933)	(363,839)
Administrative expenses		(3,018)	(3,050)	(2,890)	(2,648)	(2,789)	(3,160)	(2,989)	(2,847)
Other income		32	184	10	95	9	27	19	17
Net change in plan fiduciary net position		39,202	160,432	370,094	(304,754)	1,475,816	492,009	272,483	(116,883)
Plan fiduciary net position – beginning		5,472,727	5,312,295	4,942,201	5,246,955	3,771,139	3,279,130	3,006,647	3,123,530
Plan fiduciary net position – ending (b)		5,511,929	5,472,727	5,312,295	4,942,201	5,246,955	3,771,139	3,279,130	3,006,647
Plan's net pension liability (a)–(b)	$	1,868,543	1,914,329	2,026,612	2,283,344	1,860,451	2,999,062	3,310,423	3,393,130
Plan fiduciary net position as a percentage of the total pension liability		74.68%	74.09%	72.39%	68.40%	73.82%	55.70%	49.76%	46.98%
Covered payroll	$	392,609	425,841	449,629	473,734	490,667	514,035	550,044	561,971
Net pension liability as a percentage of covered payroll		475.93%	449.54%	450.73%	481.99%	379.17%	583.44%	601.85%	603.79%

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

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

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)

		2019	2018	2017	2016	2015	2014	2013	2012	2011	2010
Actuarially determined contribution	$	154,083	144,391	133,417	359,790	321,971	240,366	259,786	229,509	167,978	170,788
Contributions in relation to the actuarially determined contribution		164,170	151,593	153,334	124,067	1,699,074	246,461	234,317	195,576	142,147	134,275
Contribution deficiency (excess)	$	(10,087)	(7,202)	(19,917)	235,723	(1,377,103)	(6,095)	25,469	33,933	25,831	36,513
Covered payroll	$	392,609	425,841	449,629	473,734	490,667	514,035	550,044	561,971	584,068	564,887
Contributions as a percentage of covered payroll		41.82%	35.60%	34.10%	26.19%	346.28%	47.95%	42.60%	34.80%	24.34%	23.77%

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 – Defined Benefit Pension Plan

	2019	2018	2017	2016	2015	2014
Annual money-weighted rate of return, net of investment expense	5.85%	8.30%	13.04%	(0.36%)	3.30%	18.41%

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

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

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 – Alaska Retiree Healthcare Trust Plan

(In thousands)

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

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

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

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)

		2019	2018	2017	2016	2015	2014	2013	2012	2011	2010
Actuarially determined contribution	$	19,944	19,518	42,171	336,595	352,417	320,797	330,411	192,700	167,686	312,922
Contributions in relation to the actuarially determined contribution		17,957	19,305	24,069	66,099	364,222	139,936	141,125	113,411	124,724	115,681
Contribution deficiency (excess)	$	1,987	213	18,102	270,496	(11,805)	180,861	189,286	79,289	42,962	197,241
Covered payroll	$	392,609	425,841	449,629	473,734	490,667	514,035	550,044	561,971	584,068	564,887
Contributions as a percentage of covered payroll		4.57%	4.53%	5.35%	13.95%	74.23%	27.22%	25.66%	20.18%	21.35%	20.48%

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

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

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

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

STATE OF ALASKA
TEACHERS' RETIREMENT SYSTEM
(A Component Unit of the State of Alaska)

Required Supplementary Information (Unaudited)

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

(In thousands)

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

This schedule is intended to present information for 10 years. Additional years will 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)

		2019	2018	2017	2016	2015	2014	2013	2012	2011	2010
Actuarially determined contribution	$	277	—	—	—	—	—	—	—	474	442
Contributions in relation to the actuarially determined contribution		312	—	—	1	—	—	—	(1)	474	442
Contribution deficiency (excess)	$	(35)	—	—	(1)	—	—	—	1	—	—
Covered payroll	$	346,044	327,765	300,750	289,714	255,186	229,971	206,771	200,043	170,606	118,813
Contributions as a percentage of covered payroll		0.09%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.28%	0.37%

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

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

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

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

STATE OF ALASKA
TEACHERS' RETIREMENT SYSTEM
(A Component Unit of the State of Alaska)

Required Supplementary Information (Unaudited)

Schedule of Changes in Employer Net OPEB Liability and Related Ratios – Retiree Medical Plan

(In thousands)

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

This schedule is intended to present information for 10 years. Additional years will 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)

		2019	2018	2017	2016	2015	2014	2013	2012	2011	2010
Actuarially determined contribution	$	2,734	2,983	3,158	6,837	6,099	1,334	1,241	1,420	1,422	1,628
Contributions in relation to the actuarially determined contribution		3,085	3,271	3,524	6,317	5,670	1,181	1,101	1,160	1,154	1,421
Contribution deficiency (excess)	$	(351)	(288)	(366)	520	429	153	140	260	268	207
Covered payroll	$	346,044	327,765	300,750	289,714	255,186	229,971	206,771	200,043	170,606	118,813
Contributions as a percentage of covered payroll		0.89%	1.00%	1.17%	2.18%	2.22%	0.51%	0.53%	0.58%	0.68%	1.20%

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

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

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

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

(1) Actuarial Assumptions and Methods

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

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

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

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

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

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

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

(Continued)

(b) Valuation of assets – The actuarial asset value was reinitialized to equal fair value of assets as of June 30, 2014. Beginning in FY15, the asset value method recognizes 20% of the gain or loss each year, for a period of five years. All assets are valued at fair value. Assets are accounted for on an accrued basis and are taken directly from financial statements.

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

(d) Investment return – 7.38% per year, net of expenses

(e) Salary scale – Rates based upon the 2013–2017 actual experience. Inflation 2.50% per year and productivity 0.25% per year.

(f) Payroll growth – 2.75% per year (inflation + productivity)

(g) Total inflation – Total inflation as measured by the Consumer Price Index for urban and clerical workers for Anchorage is assumed to increase 2.50% annually.

(h) Mortality (pre-termination) – Mortality rates based on the 2013–2017 actual experience. 100% of RP-2014 white-collar employee table with MP-2017 generational improvement.

(i) Mortality (post-termination) – Mortality rates based on the 2013–2017 actual experience. 93% of male and 90% of female rates of RP-2017 generational improvement. Deaths are assumed to result from occupational causes 15% of the time.

(j) Turnover – Based on the 2013–2017 actual experience

(k) Disability – Incidence rates based on the 2013–2017 actual experience. Post-disability mortality in accordance with the RP-2014 disabled table with MP-2017 generational improvement. Deaths are assumed to be from non-occupational causes 85% of the time.

(l) Retirement – Retirement rates based on the 2013–2017 actual experience. Deferred vested members are assumed to retire at their earliest unreduced retirement date. The modified cash refund annuity is valued as a three-year certain and life annuity.

(m) Spouse age difference – Males are assumed to be three years older than their wives. Females are assumed to be two years younger than husbands.

(Continued)

(n) Percent married for pension – 85% of male members and 75% female members are assumed to be marred at termination from active service.

(o) Dependent spouse medical coverage election – Applies to members who do not have dual medical coverage. 65% of male members and 60% female member are assumed to be married and cover a dependent spouse.

(p) Dependent children – Benefits 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 nonvested benefits are assumed to have their contributions refunded.

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

(s) Active rehire assumption – The normal cost used for determining contribution rates and in the projections includes a rehire assumption to account for anticipated rehires. The normal cost shown in the report includes the following assumptions (which were developed based on the prior five years of rehire loss experience through June 30, 2017). For projections, these assumptions were assumed to grade to zero uniformly over a 20-year period. Pension – 15.57% and Healthcare – 12.03%.

(t) Active data adjustment – To reflect participants who terminate employment before the valuation date and are subsequently rehired after the valuation date, participants who are listed as terminated in the June 30 census data file but active in the October 1 census data file are updated to active status as of June 30.

(u) Cost of living allowance (COLA) – Of those benefit recipients who are eligible for the COLA, 60% are assumed to remain in Alaska and receive the COLA.

(v) Sick leave – 4.5 days of unused sick leave for each year of service are assumed to be available to be credited once the member is retired, terminates, or dies.

(w) Postretirement pension adjustment (PRPA) – 50% and 75% of assumed inflation, or 1.25% and 1.875% respectively, is valued for the annual automatic PRPA as specified in the statute.

(x) Expenses – The investment return assumption is net of investment expenses. The Normal Cost as of June 30, 2018 was increased by the following amounts for administrative expenses (for projections, the % increase was assumed to remain constant in future years): Pension – $2,869,850 and Healthcare – $1,651,600.

(Continued)

(y) Part-time status – Part-time members are assumed to earn 0.75 years of credited service per year.

(z) Reemployment option – All reemployed retirees are assumed to return to work under the Standard Option.

(aa) Service – Total credited service is provided by the State. The actuary assumes that this service is the only service that should be used to calculate benefits. Additionally, the State provides claimed service (including Bureau of Indian Affairs Service). Claimed service is used for vesting and eligibility purposes.

(bb) Final average earnings – Final average earnings is provided on the data for active members. This amount is used as a minimum in the calculation of the average earnings in the future.

(cc) Per capita claims cost – Sample claims cost rates adjusted to age 65 for FY19 medical and prescription drug benefits are shown below:

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

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

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

(dd) Third-party administrator fees – $300 per person per year; assumed 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 rate used to project the cost from the shown fiscal year to the next fiscal year. For example, 7.5% is applied to the FY19 pre-Medicare medical claims costs to get the FY20 medical claims costs:

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

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

(Continued)

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

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

(gg) Aging factors:

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

(hh) Retired member contributions for medical benefits – Currently, contributions are required for System members who are under age 60 and have less than 25 years of service. Eligible Tier 1 members are exempt from contribution requirements. Annual FY19 contributions based on monthly rates shown below for calendar 2018 and 2019 are assumed based on the coverage category for current retirees. The composite rate shown is used for current active and inactive members in Tier 2 who are assumed to retire prior to age 60 with less than 25 years of service and who are not disabled. For dependent children, the System values one-third of the annual retiree contribution to estimate the per-child rate based on the assumed number of children in rates where children are covered:

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

(Continued)

(ii) Trend rate for retired member contributions – The table below shows the rate used to project the retired member medical contributions from the shown fiscal year to the next fiscal year. For example, 7.6% is applied to the FY19 retired member medical contributions to get the FY20 retired member medical contributions.

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

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

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

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

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

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

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

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

(d) Investment return – 7.38% per year, net of expenses.

(e) Salary scale – Salary scale rates based upon the 2013–2017 actual experience. Inflation 2.50% per year. Productivity 0.25% per year.

(f) Payroll growth – 2.75% per year (inflation + productivity).

(g) Total inflation – Total inflation as measured by the Consumer Price Index for urban and clerical workers for Anchorage is assumed to increase 2.50% annually.

(h) Mortality (pre-termination) – Mortality rates based upon the 2013–2017 actual experience, RP-2014 white-collar employee table with MP-2017 generational improvement.

(i) Mortality (post-termination) – Mortality rates based upon the 2013–2017 actual experience, 93% of male and 90% of female rates of RP-2014 white-collar healthy annuitant table with MP-2017 generational improvement.

(j) Turnover – Select and ultimate rates based upon the 2013–2017 actual experience.

(k) Disability – Incidence rates based upon the 2013–2017 actual experience. Disabilities are assumed to be occupational 15% of the time. Post-disability mortality in accordance with the RP-2014 disabled table with MP-2017 generational improvement.

(l) Retirement – Retirement rates based upon the 2013–2017 actual experience.

(m) Spouse age difference – Males are assumed to be three years older than their wives. Females are assumed to be two years younger than husbands.

(n) Percent married for occupational death and disability – 85% of male members and 75% of female members are assumed to be married at termination from active service.

(o) Dependent spouse medical coverage election – Applies to members who do not have dual medical coverage. 65% of male members and 60% female members are assumed to be married and cover a dependent spouse.

(p) Part-time status – Part-time employees are assumed to earn 0.75 years of service per year.

(q) Per capita claims cost – Sample claims cost rates (before base claims cost adjustments described below) adjusted to age 65 for FY19 medical and prescription drug benefits are shown below:

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

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

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

(r) Third-party administrator fees – $300 per person per year; assumed trend rate of 4.5% per year

(s) Base claims cost adjustments – Due to higher initial copays, deductibles, out-of-pocket limits, and member cost sharing compared to the DB medical plan, the following cost adjustments are applied to the per capita claims cost rates above: 0.979 for the pre-Medicare, 0.686 for both the Medicare medical plan and Medicare coordination method (2.1% reduction for the medical plan and 29.3% reduction for the coordination method), and 0.896 for the prescription drug plan.

(t) Active data adjustment – To reflect participants who terminate employment before the valuation date and are subsequently rehired after the valuation date, participants who are listed as terminated on the June 30 client data but active in the October 1 client records are updated to active status.

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

(Continued)

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

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

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

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

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

(w) Aging factors:

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

(x) Retiree medical participation:

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

Participation assumption is a combination of (i) the service-based rates for retirement from employment at age 65+ and (ii) the age-based rates for retirement from employment before age 65. These rates reflect the expected plan election rate that varies by reason for decrement, duration that a member may pay full cost prior to Medicare eligibility, and availability of alternative and/or lower cost options, particularly in the Medicare market. This assumption is based on observed trends in participation from a range of other plans.

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

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

Defined Benefit Pension and Postemployment Healthcare Benefit Plan

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

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

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

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

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

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

Defined Contribution Occupational Death and Disability and Retiree Medical Benefits Plan

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

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

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

Effective for the June 30, 2018 valuation, the Board adopted changes to the demographic and economic assumptions recommended by the actuary, based on the results of an experience analysis performed on the population experience from July 1, 2013 to June 30, 2017. The changes in assumptions/methods were adopted by the Board during the January 2019 Board meeting. The effect of the new assumptions/methods was to decrease the Actuarial Accrued Liability as of June 30, 2018 by approximately $9.5 million. Healthcare claim costs are updated annually.

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

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

SUPPLEMENTAL SCHEDULES

Schedule 1

STATE OF ALASKA
TEACHERS' RETIREMENT SYSTEM
(A Component Unit of the State of Alaska)

Schedule of Administrative and Investment Deductions

Years ended June 30, 2019 and 2018

(In thousands)

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

See accompanying independent auditors' report.

Schedule 2

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, 2019 and 2018

(In thousands)

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

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

See accompanying independent auditors' report.