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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, 2017

(With summarized financial information for June 30, 2016)

(With Independent Auditors' Report Thereon)

STATE OF ALASKA
TEACHERS' RETIREMENT SYSTEM

(A Component Unit of the State of Alaska)

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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, 2017, 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, 2017, 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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Emphasis of Matter

As discussed in Note 2 to the financial statements, in 2017, the System adopted Governmental Accounting Standards Board (GASB) Statement No. 74, *Financial Reporting for Postemployment Benefit Plans Other Than Pension Plans*. Our opinion is not modified with respect to this matter.

Other Matters

Prior-Year Comparative Information

We have previously audited the System's 2016 combining financial statements, and we expressed an unmodified opinion on those financial statements in our report dated December 22, 2016. In our opinion, the summarized comparative information presented herein as of and for the year ended June 30, 2016 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 OPEB liabilities and related ratios, schedules of employer and nonemployer contributions, schedules of investment returns, on pages 32–43 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 55 and 56 are presented for purposes of additional analysis and are not a required part of the basic financial statements. The supplemental schedules are the responsibility of management and were derived from and relate directly to the underlying accounting and other records used to prepare the basic financial statements. Such information has been subjected to the auditing procedures applied in the audit of the basic financial statements and certain additional procedures, including comparing and reconciling such information directly to the underlying accounting and other records used to prepare the basic financial statements or to the basic financial statements themselves, and other additional procedures in accordance with auditing standards generally accepted in the United States of America. In our opinion, the supplemental schedules are fairly stated in all material respects in relation to the basic financial statements as a whole.

KPMG LLP

December 5, 2017

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, 2017. 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, 2017.

Financial Highlights

The System's financial highlights as of June 30, 2017 were as follows:

- The System's fiduciary net position restricted for pension benefits, postemployment healthcare benefits, and individuals increased by $712.4 million during fiscal year 2017.
- The System's plan member and employer contributions decreased by $637 thousand during fiscal year 2017.
- The State of Alaska (the State) directly appropriated $116.7 million during fiscal year 2017.
- The System's net investment income increased $1,050.4 million to $1,006.8 million during fiscal year 2017.
- The System's pension benefit expenditures totaled $446.0 million during fiscal year 2017.
- The System's postemployment healthcare benefit expenditures totaled $120.2 million in fiscal year 2017.

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, 2017.

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, 2017. 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, 2017 and the sources and uses of those funds during fiscal year 2017.

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

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

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

Condensed Financial Information (In thousands)

System net position

Description	2017	2016	Increase (decrease) Amount	Increase (decrease) Percentage	2015
Assets:					
Cash and cash equivalents	$ 225,161	74,899	150,262	200.6%	$ 159,119
Due from State of Alaska General Fund	5,604	5,976	(372)	(6.2)	8,798
Contributions receivable	4,351	4,757	(406)	(8.5)	4,039
Other accounts receivables	1,451	87	1,364	1,567.8	87
Investments, at fair value	8,406,762	7,792,741	614,021	7.9	8,027,200
Other assets	318	711	(393)	(55.3)	711
Total assets	8,643,647	7,879,171	764,476	9.7	8,199,954
Liabilities:					
Accrued expenses	1,466	4,693	(3,227)	(68.8)	4,748
Claims payable	12,788	13,924	(1,136)	(8.2)	14,451
Forfeitures payable to employers	10,282	8,977	1,305	14.5	7,592
Securities lending collateral payable	55,150	—	55,150	—	—
Due to State of Alaska General Fund	1	—	1	—	4,425
Total liabilities	79,687	27,594	52,093	188.8	31,216
Net position	$ 8,563,960	7,851,577	712,383	9.1%	$ 8,168,738

(Continued)

Condensed Financial Information Continued (In thousands)

Changes in system net position

Description	2017	2016	Increase (decrease) Amount	Increase (decrease) Percentage	2015
Net position, beginning of year	$ 7,851,577	8,168,738	(317,161)	(3.9)%	$ 6,298,726
Additions:					
Contributions – employers and plan members	163,184	163,821	(637)	(0.4)	163,251
Contributions – nonemployer State of Alaska	116,700	130,108	(13,408)	(10.3)	2,000,000
Net investment income (loss)	1,006,847	(43,534)	1,050,381	2,412.8	235,889
Other income	13,976	9,848	4,128	41.9	15,441
Total additions	1,300,707	260,243	1,040,464	399.8	2,414,581
Deductions:					
Pension and postemployment healthcare benefits	566,291	558,653	7,638	1.4	526,094
Refunds of contributions	12,296	9,560	2,736	28.6	9,232
Administrative	9,737	9,191	546	5.9	9,243
Total deductions	588,324	577,404	10,920	1.9	544,569
Increase (decrease) in net position	712,383	(317,161)	1,029,544	324.6	1,870,012
Net position, end of year	$ 8,563,960	7,851,577	712,383	9.1%	$ 8,168,738

Financial Analysis of the System

The statements of fiduciary net position as of June 30, 2017 and 2016 show net position restricted for pension benefits, postemployment healthcare benefits, and individuals of $8,563,960,000 and $7,851,577,000, 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 $712,383,000 or 9.1% from fiscal year 2016 to 2017 and a decrease of $317,161,000 or 3.9% from fiscal year 2015 to 2016. 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 29th Alaska State Legislature and as part of the State's Fiscal Year 2016 Operating Budget, House Bill 256 appropriated $116,700,000 from the General Fund and the Alaska Higher Education Investment Fund to the Department of Administration for deposit in the Defined Benefit Pension and the Alaska Retiree Healthcare Trust funds.

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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 2017 and 2016, 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:

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

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

For fiscal years 2017 and 2016, the DB Plan's investments generated a 13.36% and (0.36)% rate of return, respectively.

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Contributions, Investment Income, and Other Additions

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

	Additions (In thousands)				
			Increase (decrease)		
	2017	**2016**	**Amount**	**Percentage**	**2015**
Contributions – plan members	$ 66,766	67,864	(1,098)	(1.6)%	$ 68,002
Contributions – employers	96,418	95,957	461	0.5	95,249
Contributions – nonemployer State of Alaska	116,700	130,108	(13,408)	(10.3)	2,000,000
Net investment income (loss)	1,006,847	(43,534)	1,050,381	2,412.8	235,889
Other income	13,976	9,848	4,128	41.9	15,441
Total	$ 1,300,707	260,243	1,040,464	399.8%	$ 2,414,581

The System's employer contributions increased from $95,957,000 in fiscal year 2016 to $96,418,000 in fiscal year 2017, an increase of $461,000 or 0.5%. The System's employer contributions increased from $95,249,000 in fiscal year 2015 to $95,957,000 in fiscal year 2016, an increase of $708,000 or 0.7%. The increase in employer contributions is attributable to increased contributions from the defined benefit unfunded liability portion of DCR Plan salaries.

The State provided $116,700,000 and $130,108,000 for fiscal years 2017 and 2016 in nonemployer contributions per Alaska Statute (AS) 14.25.085. The employer on-behalf amount (or additional State contribution as defined in AS 14.25.085) is calculated by the System's actuary. It is based on projected payroll and the difference between the actuarially determined contribution rate and the statutory effective rate. The employer effective contribution rate of 12.56% is established in AS 14.25.070(a). In fiscal year 2015, in an effort to bolster the funding levels of both pension and healthcare defined benefit plans, the Alaska legislature appropriated an amount in excess of the actuarially determined contribution rate, in anticipation that this additional funding would decrease future nonemployer contributions.

The System's net investment income in fiscal year 2017 increased by $1,050,381,000 or 2,412.8% from amounts recorded in fiscal year 2016. The System's net investment income in fiscal year 2016 decreased by $279,423,000 or 118.5% from amounts recorded in fiscal year 2015. Over the long term, investment earnings play a significant role in funding plan benefits. Prior to the most recent fiscal year, fiscal years 2016 and 2015 investment environment had been challenging to plans across the country. The Board continues to look at investment classes and strategies best suited to meet the expected earnings returns to meet future benefit payments.

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The System's investment rates of return at June 30, 2017, 2016, and 2015 are as follows:

	Year ended		
	2017	**2016**	**2015**
System returns	13.36%	(0.36)%	3.30%
Domestic equities	18.55	0.58	7.85
International equities	20.42	(9.15)	(3.28)
Private equity	17.04	4.71	13.77
Real assets	5.98	4.76	3.69
Absolute return	8.47	(3.09)	9.24
Fixed income	2.91	5.15	(0.73)
Alternative equity	11.38	3.41	(0.88)
Cash equivalents	0.80	0.55	0.27
Actuarially assumed rate of return	8.00	8.00	8.00

Benefits and Other Deductions

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

	Deductions (In thousands)				
			Increase (decrease)		
	2017	**2016**	**Amount**	**Percentage**	**2015**
Pension benefits	$ 446,044	435,699	10,345	2.4%	$ 416,354
Postemployment benefits	120,237	122,954	(2,717)	(2.2)	109,740
Refund of contributions	12,296	9,560	2,736	28.6	9,232
Administrative	9,737	9,191	546	5.9	9,243
Total	$ 588,314	577,404	10,910	1.9%	$ 544,569

The System's pension benefit payments in 2017 increased $10,345,000 or 2.4% from fiscal year 2016 and increased $19,345,000 or 4.6% from fiscal year 2015. The increase in pension benefits in fiscal year 2017 is the result of an increase in the number of retirees.

The System's postemployment healthcare benefit payments in fiscal year 2017 decreased $2,717,000 or 2.2% from fiscal year 2016 and increased $13,214,000 or 12.0% from fiscal year 2015. 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

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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 $2,736,000 or 28.6% from fiscal year 2016 and increased $328,000 or 3.6% from fiscal year 2015. The increase in refunds is largely in the DCR Plan, where refunds increased $2,241,000 between fiscal year 2016 to 2017, and increased $636,000 between fiscal year 2015 to 2016. 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 2017 increased $546,000 or 5.9% from fiscal year 2016 and decreased $52,000 or 0.6% from fiscal year 2015 to 2016. The increase in administrative costs in fiscal year 2017 is related to increases in management, consulting, and other professional services, offset by a decrease in Patient Protection and Affordable Care Act transitional reinsurance program fees.

Net Pension Liability

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

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

		2017	2016
Total pension liability	$	7,338,907	7,225,545
Plan fiduciary net position		(5,312,295)	(4,942,201)
Employers' net pension liablity	$	2,026,612	2,283,344
Plan fiduciary net position as a percentage of the total pension liability		72.39%	68.40%

Net OPEB (Asset) Liability

GASB Statement No. 74, implemented in 2017, requires the Defined Benefit (DB) Other Postemployment Benefit (OPEB) Plans to report the Total OPEB Liability (TOL), FNP, and Net OPEB Liability (NOL) for each plan. The TOL determines the total obligation for the DB 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 DB Plan's FNP determines the assets available to pay the DB 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 DB Plans. The difference between the TOL and FNP is the NOL, or the unfunded portion of the TOL.

The components of the net OPEB (asset) liability of the participating employers for the Plan were as follows (in thousands):

		2017		
		Alaska Retiree Healthcare Trust Plan (ARHCT)	**Occupational Death and Disability (ODD)**	**Retiree Medical Plan (RMP)**
Total OPEB liability	$	2,941,598	263	26,108
Plan fiduciary net position		(2,757,665)	(3,531)	(30,848)
Employers' net OPEB liability (asset)	$	183,933	(3,268)	(4,740)
Plan fidicuiary net position as a percentage of the total OPEB liability		93.75%	1,242.59%	118.16%

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 2017, the 30th Alaska State Legislature enacted one law that affects the System. Conference Committee Substitute House Bill (CCS HB) 57, Section 41(b) appropriates $111.8 million from the General Fund and the Alaska Higher Education Investment Fund to the Department of Administration for deposit in the

System's defined benefit pension fund and the retiree healthcare trust as partial payment of the participating employers' contribution for fiscal year ending June 30, 2018. This appropriation is to fund the difference between the statutory required contribution of 12.56% paid by participating employers for both defined benefit and defined contribution members, and the actuarially determined contribution rate adopted by the Board for that fiscal year. This additional state contribution is specified in AS 14.25.085 – Additional State Contributions.

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

Fiscal year 2017 was a year of positive investment returns. Net investment income increased from a loss of $43,534,000 in fiscal year 2016 to income of $1,006,847,000 in fiscal year 2017, an increase of $1,050,381,000 or 2,412.8%. The return on the System's investments was above the 8.00% actuarially assumed rate of return with the System's rate of return of 13.36% at June 30, 2017. In fiscal year 2016, the System's investments returned (0.36)%, less than the actuarially assumed return of 8.00%. The Board continues to work with its investment counsel and the Alaska Department of Revenue, Treasury Division, to diversify the portfolio of the System to maintain an optimal risk/return ratio.

The consulting actuary recommended a decrease from the System's actuarially determined contribution rate of 29.27% in fiscal year 2016 to 28.02% in fiscal year 2017. The Board adopted the fiscal year 2017 actuarially determined contribution rate of 28.02%, which represented a decrease of 1.25%. The statutory employer effective contribution rate remained at 12.56% for fiscal years 2017 and 2016.

The June 30, 2016 and 2015 actuarial valuation reports for the DB Plan reported funding ratios based on valuation assets of 82.8% and 83.3%, respectively, as well as unfunded liabilities of $1.7 billion and $1.6 billion, respectively.

The System expected this slight increase in the DB Plan's recommended actuarially determined contribution rate and the corresponding decrease in the pension and healthcare funding ratios as of the June 30, 2016 actuarial valuation report with the investment earnings being less than the expected rate of return.

For fiscal years 2017 and 2016, the DCR Plan's employer contribution rate was established by AS 14.25.070(a) at 12.56%. The DCR Plan's actuarially determined occupational death and disability rate was adopted by the Board to be 0.00% in both fiscal years 2017 and 2016. The DCR Plan retiree medical plan actuarially determined contribution rate for fiscal years 2017 and 2016 was adopted by the Board to be 1.05% and 2.04%, respectively.

Requests for Information

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

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

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

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

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

Combining Statement of Fiduciary Net Position

June 30, 2017

(with summarized financial information for June 30, 2016)

(In thousands)

	Defined Benefit Pension	Defined Contribution Pension	Other Postemployment Benefit Plans: Alaska Retiree Healthcare Trust	Other Postemployment Benefit Plans: Occupational Death and Disability	Other Postemployment Benefit Plans: Retiree Medical	Other Postemployment Benefit Plans: Health Reimbursement Arrangement	System total June 30, 2017	System total June 30, 2016
Assets:								
Cash and cash equivalents (note 3):								
Short-term Fixed Income Pool	$ 103,659	9,118	53,156	69	612	1,760	168,374	71,744
Securities lending collateral	35,791	—	18,557	24	201	577	55,150	—
Empower money market fund – non-participant-directed	—	1,637	—	—	—	—	1,637	3,155
Total cash and cash equivalents	139,450	10,755	71,713	93	813	2,337	225,161	74,899
Receivables:								
Contributions	3,995	216	83	—	15	42	4,351	4,757
Due from State of Alaska General Fund	509	3,259	1,037	—	236	563	5,604	5,976
Other accounts receivable	87	—	1,364	—	—	—	1,451	87
Total receivables	4,591	3,475	2,484	—	251	605	11,406	10,820
Investments (note 3), at fair value:								
Fixed income securities:								
U.S. Treasury Fixed Income Pool	404,591	—	211,056	269	2,331	6,685	624,932	348,305
Taxable Municipal Bond Pool	44,317	—	23,118	29	255	732	68,451	85,645
Tactical Fixed Income Pool	47,133	—	24,587	31	272	779	72,802	53,947
High-yield Pool	135,934	—	70,910	91	783	2,246	209,964	266,254
International Fixed Income Pool	38,735	—	20,206	26	223	640	59,830	120,413
Emerging Debt Pool	35,019	—	18,268	23	202	579	54,091	51,594
Total fixed income securities	705,729	—	368,145	469	4,066	11,661	1,090,070	926,158
Broad domestic equity:								
Large Cap Pool	1,125,840	—	587,345	749	6,488	18,608	1,739,030	1,626,691
Small Cap Pool	230,717	—	120,354	154	1,329	3,812	356,366	346,033
Total broad domestic equity	1,356,557	—	707,699	903	7,817	22,420	2,095,396	1,972,724
Broad international equity:								
International Equity Pool	1,014,139	—	529,028	674	5,843	16,757	1,566,441	1,505,644
International Equity Small Cap Pool	76,038	—	39,665	51	438	1,256	117,448	102,254
Emerging Markets Equity Pool	165,246	—	86,201	110	952	2,730	255,239	216,377
Total broad international equity	1,255,423	—	654,894	835	7,233	20,743	1,939,128	1,824,275
Alternative equity:								
Alternative equity	163,374	—	85,224	109	941	2,699	252,347	257,302
Convertible Bond Pool	40,246	—	20,995	27	232	665	62,165	64,688
Total alternative equity	203,620	—	106,219	136	1,173	3,364	314,512	321,990
Private Equity Pool	447,288	—	233,329	298	2,577	7,391	690,883	603,489
Absolute Return Pool	336,373	—	175,470	224	1,938	5,558	519,563	498,015
Real assets:								
Real Estate Pool	303,377	—	158,121	202	1,746	5,008	468,454	480,701
Real Estate Investment Trust Pool	74,337	—	38,778	49	428	1,228	114,820	115,495
Infrastructure Private Pool	83,329	—	43,469	55	480	1,377	128,710	105,024
Infrastructure Public Pool	51,900	—	27,074	35	299	858	80,166	67,995
Master Limited Partnership Pool	105,784	—	55,182	70	610	1,748	163,394	159,952
Energy Pool	19,458	—	10,150	13	112	322	30,055	23,508
Farmland Pool	176,079	—	91,852	117	1,014	2,909	271,971	265,313
Timber Pool	73,908	—	38,555	49	426	1,221	114,159	123,740
Treasury Inflation Protected Securities Pool	11,681	—	6,094	8	67	193	18,043	18,250
Total real assets	899,853	—	469,275	598	5,182	14,864	1,389,772	1,359,978
Other investment funds:								
Pooled investment funds	—	212,872	—	—	—	—	212,872	159,045
Collective investment funds	—	154,566	—	—	—	—	154,566	127,067
Total other investment funds	—	367,438	—	—	—	—	367,438	286,112
Total investments	5,204,843	367,438	2,715,031	3,463	29,986	86,001	8,406,762	7,792,741
Other assets	—	—	318	—	—	—	318	711
Total assets	5,348,884	381,668	2,789,546	3,556	31,050	88,943	8,643,647	7,879,171
Liabilities:								
Accrued expenses	798	94	569	—	1	4	1,466	4,693
Claims payable (note 6)	—	—	12,788	—	—	—	12,788	13,924
Forfeitures payable	—	10,282	—	—	—	—	10,282	8,977
Securities lending collateral payable	35,791	—	18,557	24	201	577	55,150	—
Due to State of Alaska General Fund	—	—	—	1	—	—	1	—
Total liabilities	36,589	10,376	31,914	25	202	581	79,687	27,594
Net position restricted for pension benefits, postemployment healthcare benefits, and individuals	$ 5,312,295	371,292	2,757,632	3,531	30,848	88,362	8,563,960	7,851,577

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, 2017

(with summarized financial information for June 30, 2016)

(In thousands)

	Defined Benefit Pension	Defined Contribution Pension	Other Postemployment Benefit Plans: Alaska Retiree Healthcare Trust	Other Postemployment Benefit Plans: Occupational Death and Disability	Other Postemployment Benefit Plans: Retiree Medical	Other Postemployment Benefit Plans: Health Reimbursement Arrangement	System total June 30, 2017	System total June 30, 2016
Additions:								
Contributions:								
Employers	$ 36,634	22,165	24,069	—	3,524	10,026	96,418	95,957
Plan members	39,878	26,888	—	—	—	—	66,766	67,864
Nonemployer State of Alaska	116,700	—	—	—	—	—	116,700	130,108
Total contributions	193,212	49,053	24,069	—	3,524	10,026	279,884	293,929
Investment income (loss):								
Net appreciation (depreciation) in fair value (note 2)	542,004	43,524	277,897	350	2,805	8,057	874,637	(166,768)
Interest	18,999	16	9,727	12	98	281	29,133	29,378
Dividends	69,763	—	35,928	45	363	1,043	107,142	111,135
Total investment income (loss)	630,766	43,540	323,552	407	3,266	9,381	1,010,912	(26,255)
Less investment expense	2,808	123	1,450	1	8	23	4,413	17,279
Net investment income (loss) before securities lending activities	627,958	43,417	322,102	406	3,258	9,358	1,006,499	(43,534)
Securities lending income	282	—	146	—	2	4	434	—
Less securities lending expense	56	—	29	—	—	1	86	—
Net income from securities lending activities	226	—	117	—	2	3	348	—
Net investment income (loss)	628,184	43,417	322,219	406	3,260	9,361	1,006,847	(43,534)
Other income	10	57	13,909	—	—	—	13,976	9,848
Total additions	821,406	92,527	360,197	406	6,784	19,387	1,300,707	260,243
Deductions:								
Pension and postemployment benefits	446,044	—	120,237	—	3	7	566,291	558,653
Refunds of contributions	2,378	9,918	—	—	—	—	12,296	9,560
Administrative	2,890	915	5,908	12	12	—	9,737	9,191
Total deductions	451,312	10,833	126,145	12	15	7	588,324	577,404
Net increase (decrease)	370,094	81,694	234,052	394	6,769	19,380	712,383	(317,161)
Net position restricted for pension benefits, postemployment healthcare benefits, and individuals:								
Balance, beginning of year	4,942,201	289,598	2,523,580	3,137	24,079	68,982	7,851,577	8,168,738
Balance, end of year	$ 5,312,295	371,292	2,757,632	3,531	30,848	88,362	8,563,960	7,851,577

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 governed by the Alaska Retirement Management Board (the Board), which consists of nine trustees, as follows: two members, consisting of the commissioner of administration and the commissioner of revenue; two trustees who are members of the general public; one trustee who is employed as a finance officer for a political subdivision participating in either the Public Employees' Retirement System (PERS) or TRS; two trustees who are members of PERS; and two trustees who are members of TRS.

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

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

At June 30, 2017 and 2016, the number of participating local government employers and public organizations including the State was as follows:

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

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

Defined Benefit Pension Plan

General

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

The DB Plan's membership consisted of the following at June 30, 2017:

Inactive plan members or beneficiaries currently receiving benefits	12,701
Inactive plan members entitled to but not yet receiving benefits	2,846
Active plan members	4,937
Total DB Plan membership	20,484

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.

Contributions

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

(A) The amount calculated for the statutory employer contribution rate of 12.56% on eligible salary less

(B) The total of the employer contributions for:

(1) The defined contribution employer matching amount

(2) Major medical

(3) Occupational death and disability

(4) Health reimbursement arrangement.

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

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

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, 2017, membership in the DCR Plan consisted of 4,937 members.

Retirement Benefits

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

Contributions

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

Participant Distributions and Refunds of Contributions

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

Participant Accounts

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

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

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

Defined Benefit Other Postemployment Benefit Plans

Alaska Retiree Healthcare Trust Plan

Beginning July 1, 2007, the Alaska Retiree Healthcare Trust Plan (ARHCT), a healthcare trust fund of the State, was established. The ARHCT is self-funded and provides major medical coverage to retirees of the

DB Plan. The System retains the risk of loss of allowable claims for eligible members. The ARHCT began paying member healthcare claims on March 1, 2008. Prior to that, healthcare claims were paid for by the Retiree Health Fund (RHF).

Membership in the plan was as follows as of June 30, 2017:

Inactive plan members or beneficiaries currently receiving benefits	12,701
Inactive plan members entitled to but not yet receiving benefits	2,846
Active plan members	4,937
Total DB Plan membership	20,484

OPEB Benefits

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

Contributions

Employer contribution rates are actuarially determined and adopted by the Board. The 2017 employer effective contribution rate is 12.56% of member's compensation.

Occupational Death and Disability Plan

The Occupational Death and Disability Plan provides death benefits for beneficiaries of plan participants and long-term disability benefits to all active members within the System. Members in the Death and Disability Plan consisted of the following at June 30, 2017:

Active plan members	4,937
Participating employers	57
Open claims	4

(Continued)

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.

Disability Benefits

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

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

Contributions

An employer shall contribute to each member's account based on the member's compensation. For fiscal year 2017, the rate is 7.0%.

Retiree Medical Plan

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

Membership in the plan was as follows as of June 30, 2017:

Inactive plan members or beneficiaries currently receiving benefits	4
Inactive plan members entitled to but not yet receiving benefits	443
Inactive plan members not entitled to benefits	2,011
Active plan members	4,937
Total DCR Plan membership	7,395

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 takes effect on the first day of the month following the date of the Plan administrator's approval of the election and stops when the person who elects coverage dies or fails to make the required premium payment. The coverage for persons 65 years of age or older is the same as that available for persons under 65 years of age. The benefits payable to those persons 65 years of age or older supplement any benefits provided under the federal old age, survivors and disability insurance program. The medical and optional insurance premiums owed by the person who elects coverage may be deducted from the health reimbursement arrangement becomes insufficient to pay the premiums, 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 amounts established for retirees who are eligible for Medicare:

  (a) 30 percent if the member had 10 or more, but less than 15, years of service;

  (b) 25 percent if the member had 15 or more, but less than 20, years of service;

  (c) 20 percent if the member had 20 or more, but less than 25, years of service;

  (d) 15 percent if the member had 25 or more, but less than 30, years of service; and

  (e) 10 percent if the member had 30 or more years of service.

Contributions

Employer contribution rates are actuarially determined and adopted by the Board. The 2017 employer effective contribution rate is 1.05% of member's compensation.

Defined Contribution Other Postemployment Benefit Plan

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 Health Reimbursement Arrangement 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, 2017:

Inactive plan members or beneficiaries currently receiving benefits	3
Inactive plan members entitled to but not yet receiving benefits	444
Inactive plan members not entitled to benefits	2,011
Active plan members	4,937
Total DCR Plan membership	7,395

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 Plan, but do not have to retire directly from the System.

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

Contributions

An employer shall contribute to the HRA Plan trust fund an amount equal to three percent 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 2017 contribution amount was an annual contribution not to exceed $2,049.36, 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 $2,049.36 would be deposited to a member's account if that member worked less than a full year.

(2) Summary of Significant Accounting Policies

Basis of Accounting

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

Use of Estimates

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

Defined Benefit Pension and OPEB Investments

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

Defined Contribution Participant-directed Investments

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

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

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

Contributions Receivable

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

Administrative Costs

Administrative costs are paid from investment earnings.

Due from (to) State of Alaska General Fund

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

Federal Income Tax Status

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

New Accounting Pronouncements

GASB Statement No. 74, *Financial Reporting for Postemployment Benefit Plans Other Than Pension Plans*, during the year ended June 30, 2017. GASB 74 replaces the requirements of Statement No. 43, *Financial Reporting for Postemployment Benefit Plans Other Than Pension Plans, as amended*. GASB 74

(Continued)

requires the disclosures of the total OPEB liability, fiduciary net position, and net OPEB liability for single-employer and cost-sharing multiple-employer defined benefit postemployment healthcare plans. GASB Statement No. 74 also requires certain additional note disclosures for defined benefit postemployment healthcare plans, including the annual money-weighted rate of return on plan investments. GASB Statement No. 74 revised the reporting requirements for required supplementary information to include schedules, which provide trend information related to (1) changes in the net OPEB liability and related ratios, (2) the actuarially and contractually determined contributions of employer contributing entities, and (3) the annual money-weighted rate of return on plan investments.

(3) Investments

The Board is the investment oversight authority of the System's investments. As the fiduciary, the Board has the statutory authority to invest the assets under the Prudent Investor Rule. Fiduciary responsibility for the Board's invested assets is pursuant to 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 and Collective Investment Funds for the DC Participant-directed Pension Plans under the Board's fiduciary responsibility.

Actual investing is performed by investment officers in Treasury or by contracted external investment managers. The Board has developed investment guidelines, policies, and procedures for Treasury staff and external investment managers to adhere to when managing investments. Treasury manages the U.S. Treasury Fixed Income Pool, Dow Jones Dividend 100 Index Fund in the Alternative Equity Strategies Pool, Real Estate Investment Trust Pool, Treasury Inflation Protected Securities Pool, and cash holdings of certain external managers in addition to acting as oversight manager for all externally managed investments. All other investments are managed by external management companies.

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

Rate of Return

The money-weighted rate of return expresses investment performance, net of investment expense, adjusted for the changing amounts actually invested. The annual money-weighted rate of return, net of investment expense, for the year ended June 30, 2017 for the DB Plan is 13.04%, for the ARHCT is 12.58%, for the Occupational Death and Disability Plan is 12.03%, and for the Retiree Medical Plan is 11.80%.

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

(4) Net Pension Liability – Defined Benefit Pension Plan

The components of the net pension liability of the participating employers at June 30, 2017 were as follows (in thousands):

Total pension liability	$	7,338,907
Plan fiduciary net position		(5,312,295)
Employers' net pension liability	$	2,026,612
Plan fiduciary net position as a percentage of the total pension liability		72.39%

Actuarial Assumptions

The total pension liability was determined by an actuarial valuation as of June 30, 2016, using the following actuarial assumptions, applied to all periods included in the measurement, and rolled forward to the measurement date of June 30, 2017:

Inflation	3.12%
Salary increases	Graded by service, from 8.11% to 3.87%
Rate of return	8.00%, net of pension plan investment expenses. This is based on an average inflation rate of 3.12% and a real rate of return of 4.88%.

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

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

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 for each major asset class included in the pension plan's target asset

(Continued)

allocation as of June 30, 2014 (see the discussion of the pension plan's investment policy) are summarized in the following table (note that the rates shown below exclude the inflation component):

Asset class	Long-term Expected real rate of return
Domestic equity	8.83%
Global ex-U.S. equity	7.79%
Intermediate Treasuries	1.29%
Opportunistic	4.76%
Real assets	4.94%
Absolute return	4.76%
Private equity	12.02%
Cash equivalents	0.63%

Discount Rate

The discount rate used to measure the total OPEB liability was 8%. 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.

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

The following presents the net pension liability of the System calculated using the discount rate of 8%, as well as what the System's net pension liability would be if it were calculated using a discount rate that is one-percentage-point lower (7%) or one-percentage-point higher (9%) than the current rate (in thousands):

	1% decrease (7%)	Current discount rate (8%)	1% increase (9%)
Net pension liability	$ 2,856,759	2,026,612	1,329,198

(Continued)

(5) Net OPEB (Asset) Liability

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

		ARHCT	ODD	RMP
Total OPEB liability	$	2,941,598	263	26,108
Plan fiduciary net position		(2,757,665)	(3,531)	(30,848)
Employers' net OPEB liability (asset)	$	183,933	(3,268)	(4,740)
Plan fidicuiary net position as a percentage of the total OPEB liability		93.75%	1,342.59%	118.16%

Actuarial Assumptions

The total OPEB liability (asset) for each plan was determined by actuarial valuations as of June 30, 2016, using the following actuarial assumptions, applied to all periods in the measurement, and rolled forward to the measurement date of June 30, 2017:

Inflation	3.12%
Salary increases	Graded by service, from 8.11% to 3.87%
Investment rate of return	8.00%, net of postemployment healthcare plan investment expenses. This is based on an average inflation rate of 3.12% and a real rate of return of 4.88%.
Healthcare cost trend rates (ARHCT and RMP)	Pre-65 medical: 8.8% grading down to 4.4% Post-65 medical: 5.8% grading down to 4.0% Prescription drug: 5.4% grading down to 4.0%

Pre-termination mortality rates for each plan were based upon the 2010–2013 actual mortality experience, 60% of male and 65% of female post-termination rates. Deaths are assumed to be occupational 70% of the time for peace officer/firefighters, 50% of the time for all others. Post-termination mortality rates for each plan were based on 96% of all rates of the RP-2000 Combined Mortality Table, 2000 Base Year projected to 2018 with Projection Scale BB.

The actuarial assumptions used in the June 30, 2016 actuarial valuations were based on the results of an actuarial experience study for the period from July 1, 2009 to June 30, 2013.

(Continued)

The long-term expected rate of return on plan investments for each plan was determined using a building-block method in which best-estimate ranges of expected future real rates of return (expected returns, net of postretirement healthcare plan investment expense and inflation) are developed for each major asset class. These ranges are combined to produce the long-term expected rate of return by weighting the expected future real rates of return by the target asset allocation percentage and adding expected inflation. Best estimates of arithmetic rates of return for each major asset class included in the plans' target asset allocation as of June 30, 2017 (see the discussion of the plans' investment policy) are summarized in the following table (note that the rates shown below exclude the inflation component):

Asset class	Long-term Expected real rate of return
Broad domestic equity	8.83%
Global ex-U.S. equity	7.79%
Intermediate Treasuries	1.29%
Opportunistic	4.76%
Real assets	4.94%
Absolute return	4.76%
Private equity	12.02%
Cash equivalents	0.63%

Discount Rate

The discount rate used to measure the total OPEB liability for each plan was 8%. The projection of cash flows used to determine the discount rate assumed that employer and State contributions will continue to follow the current funding policy, which meets State statutes. Based on those assumptions, the fiduciary net position for each plan was projected to be available to make all projected future benefit payments of current plan members. Therefore, the long-term expected rate of return on plan investments was applied to all periods of projected benefit payments to determine the total OPEB liability for each plan in accordance with the method prescribed by GASB Statement No. 74.

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, 2017, calculated using the discount rate of 8%, 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 (7%) or one-percentage-point higher (9%) than the current rate (in thousands):

		1% decrease (7%)	Current discount rate (8%)	1% increase (9%)
ARHCT	$	560,494	183,933	(128,506)
ODD		(3,284)	(3,268)	(3,260)
RMP		2,032	(4,740)	(9,885)

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

The following presents the net OPEB liability for each plan as of June 30, 2017, calculated using the healthcare cost trend rates as summarized in the 2016 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:

		1% decrease	Current trend rate	1% increase
ARHCT	$	(171,461)	183,933	616,144
ODD		N/A	N/A	N/A
RMP		(10,911)	(4,740)	3,796

(6) Claims Payable

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

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

		2017	2016
Beginning of year:			
Due to State of Alaska General Fund	$	—	4,192
Incurred but not reported		13,924	14,451
Total, beginning of year		13,924	18,643
Benefit deductions		120,237	122,954
Benefits paid		(121,373)	(127,673)
Total, end of year	$	12,788	13,924
End of year:			
Incurred but not reported		12,788	13,924
Total, end of year	$	12,788	13,924

(7) Commitments and Contingencies

Contingencies

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

(8) Medicare Part D Retiree Drug Subsidy

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

REQUIRED SUPPLEMENTARY INFORMATION

(Unaudited)

STATE OF ALASKA
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)

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

	2017	2016	2015	2014	2013	2012	2011	2010	2009	2008
Actuarially determined contribution	$ 133,417	359,790	321,971	240,366	259,786	229,509	167,978	170,788	94,388	134,544
Contributions in relation to the actuarially determined contribution	153,334	124,067	1,699,074	246,461	234,317	195,576	142,147	134,275	131,533	142,550
Contribution deficiency (excess)	$ (19,917)	235,723	(1,377,103)	(6,095)	25,469	33,933	25,831	36,513	(37,145)	(8,006)
Covered-employee payroll	$ 449,629	473,734	490,667	514,035	550,044	561,971	584,068	564,887	557,026	549,148
Contributions as a percentage of covered-employee payroll	34.10%	26.19%	346.28%	47.95%	42.60%	34.80%	24.34%	23.77%	23.61%	25.96%

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

	2017	2016	2015	2014
Annual money-weighted rate of return, net of investment expense	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)

Year ended June 30, 2017

Total OPEB liability:	
Service cost	$ 31,605
Interest	224,435
Differences between expected and actual experience	(27,011)
Benefit payments, including refunds of member contributions	(120,204)
Net change in total OPEB liability	108,825
Total OPEB liability – beginning	2,832,773
Total OPEB liability – ending (a)	2,941,598
Plan fiduciary net position:	
Contributions – employer	24,069
Total net investment income	322,219
Other income	13,909
Benefit payments, including refunds of member contributions	(120,204)
Administrative expenses	(5,908)
Net change in plan fiduciary net position	234,085
Plan fiduciary net position – beginning	2,523,580
Plan fiduciary net position – ending (b)	2,757,665
Plan's net OPEB liability (a) – (b)	$ 183,933
Plan fiduciary net position as a percentage of the total OPEB liability	93.75%
Covered-employee payroll	$ 449,629
Net OPEB liability as a percentage of covered-employee payroll	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)

		2017	2016	2015	2014	2013	2012	2011	2010	2009	2008
Actuarially determined contribution	$	42,171	336,595	352,417	320,797	330,411	192,700	167,686	312,922	164,171	185,271
Contributions in relation to the actuarially determined contribution		24,069	66,099	364,222	139,936	141,125	113,411	124,724	115,681	149,051	202,452
Contribution deficiency	$	18,102	270,496	(11,805)	180,861	189,286	79,289	42,962	197,241	15,120	(17,181)
Covered-employee payroll	$	449,629	473,734	490,667	514,035	550,044	561,971	584,068	564,887	557,026	549,148
Contributions as a percentage of covered-employee payroll		5.35%	13.95%	74.23%	27.22%	25.66%	20.18%	21.35%	20.48%	26.76%	36.87%

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

Year ended June 30, 2017

Annual money-weighted rate of return, net of investment expense	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

Year ended June 30, 2017

(In thousands)

Total OPEB liability:		
Service cost	$	238
Interest		21
Changes of benefit terms		—
Differences between expected and actual experience		(15)
Net change in total OPEB liability		244
Total OPEB liability – beginning		19
Total OPEB liability – ending (a)		263
Plan fiduciary net position:		
Total net investment income		406
Administrative expenses		(12)
Net change in plan fiduciary net position		394
Plan fiduciary net position – beginning		3,137
Plan fiduciary net position – ending (b)		3,531
Plan's net OPEB asset (a) – (b)	$	(3,268)
Plan fiduciary net position as a percentage of the total OPEB asset		1,342.59%
Covered-employee payroll	$	300,750
Net OPEB liability as a percentage of covered-employee payroll		-1.09%

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

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

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)

		2017	2016	2015	2014	2013	2012	2011	2010	2009	2008
Actuarially determined contribution	$	—	—	—	—	—	—	474	442	623	408
Contributions in relation to the actuarially determined contribution		—	1	—	—	—	(1)	474	442	623	408
Contribution deficiency	$	—	(1)	—	—	—	1	—	—	—	—
Covered-employee payroll	$	300,750	289,714	255,186	229,971	206,771	200,043	170,606	118,813	89,708	56,369
Contributions as a percentage of covered-employee payroll		0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.28%	0.37%	0.69%	0.72%

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

Year ended June 30, 2017

Annual money-weighted rate of return, net of investment expense	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

Year ended June 30, 2017

(In thousands)

Total OPEB liability:		
Service cost	$	2,703
Interest		1,934
Differences between expected and actual experience		(2)
Benefit payments, including refunds of member contributions		(3)
Net change in total OPEB liability		4,632
Total OPEB liability – beginning		21,476
Total OPEB liability – ending (a)		26,108
Plan fiduciary net position:		
Contributions – employers		3,524
Total net investment income		3,260
Benefit payments, including refunds of member contributions		(3)
Administrative expenses		(12)
Net change in plan fiduciary net position		6,769
Plan fiduciary net position – beginning		24,079
Plan fiduciary net position – ending (b)		30,848
Plan's net OPEB asset (a) – (b)	$	(4,740)
Plan fiduciary net position as a percentage of the total OPEB asset		118.16%
Covered-employee payroll	$	300,750
Net OPEB asset as a percentage of covered-employee payroll		-1.58%

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

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

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)

		2017	2016	2015	2014	2013	2012	2011	2010	2009	2008
Actuarially determined contribution	$	3,158	6,837	6,099	1,334	1,241	1,420	1,422	1,628	1,162	763
Contributions in relation to the actuarially determined contribution		3,524	6,317	5,670	1,181	1,101	1,160	1,154	1,421	992	651
Contribution deficiency	$	(366)	520	429	153	140	260	268	207	170	112
Covered-employee payroll	$	300,750	289,714	255,186	229,971	206,771	200,043	170,606	118,813	89,708	56,369
Contributions as a percentage of covered-employee payroll		1.17%	2.18%	2.22%	0.51%	0.53%	0.58%	0.68%	1.20%	1.11%	1.15%

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

Year ended June 30, 2017

Annual money-weighted rate of return, net of investment expense	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) Description of Schedule of Funding Progress

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

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

(2) Actuarial Assumptions and Methods

The actuarial valuation was prepared by Conduent Human Resource Services. The significant actuarial methods and assumptions used in the defined benefit pension and postemployment healthcare benefit plan valuation as of June 30, 2016 are as follows:

(a) Actuarial cost method – Entry Age Normal Actuarial Cost method of funding. Any funding surplus or unfunded accrued liability is amortized over a closed 25-year period (established June 30, 2014) as a level percentage of payroll amount. State statutes allow the contribution rate to be determined on payroll for all members, defined benefit and defined contribution member payroll combined.

(b) Valuation of assets – The actuarial asset value was reinitialized to equal fair value of assets as of June 30, 2014. Beginning in 2015, the asset value method recognizes 20% of the gain or loss each year, for a period of five years. All assets are valued at fair value. Assets are accounted for on an accrued basis and are taken directly from audited financial statements.

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

(d) Investment return – 8.00% per year (geometric), compounded annually, net of expenses.

(e) Salary scale – Inflation 3.12% per year and productivity 0.50% per year.

(f) Payroll growth – 3.62% per year (inflation + productivity).

(Continued)

(g) Total inflation – Total inflation as measured by the Consumer Price Index for urban and clerical workers for Anchorage is assumed to increase 3.12% annually.

(h) Mortality (pre-termination) – Based upon the 2010–2013 actual experience, 68% of male rates and 60% of female rates of post-termination mortality. Deaths are assumed to result from nonoccupational causes 85% of the time. The mortality assumptions include an allowance for future mortality improvement. The mortality table used was set in 2014 with an Actual Deaths to Expected Deaths ratio of 110%.

(i) Mortality (post-termination) – Based upon the 2010–2013 actual experience, 94% of male and 97% of female rates of RP-2000, 2000 base year, projected to 2018 with Projection Scale BB, with a three-year setback for males and a four-year setback for females. The mortality assumptions include an allowance for future mortality improvement. The mortality table used was set in 2014 with an Actual Deaths to Expected Deaths ratio of 110%.

(j) Turnover – Select and ultimate rates based upon the 2010–2013 actual withdrawal experience.

(k) Disability – Incidence rates based upon the 2010–2013 actual experience. Post-disability mortality in accordance with the RP-2000 Disabled Retiree Mortality Table, 2000 Base Year, projected to 2018 with Projection Scale BB.

(l) Retirement – Retirement rates based on the 2010–2013 actual experience. Deferred vested members are assumed to retire at their earliest unreduced retirement date. The modified cash refund annuity is valued as a three-year certain and life annuity.

(m) Marriage and age difference – Wives are assumed to be three years younger than husbands; 85% of male members and 75% of female members are assumed to be married.

(n) Dependent children – Benefits 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).

(o) Contribution refunds – 5% of terminating members with vested benefits are assumed to have their contributions refunded; 100% of those with nonvested benefits are assumed to have their contributions refunded.

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

(q) Active rehire assumption – Starting with the June 30, 2016 valuation, 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 percentage loads (which were developed based on the prior five years of rehire loss experience): Pension – 18.49% and Healthcare – 10.39%.

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

(s) 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.

(t) 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.

(u) Postretirement pension adjustment (PRPA) – 50% and 75% of assumed inflation, or 1.56% and 2.34%, respectively, is valued for the annual automatic PRPA as specified in the statute.

(v) Expenses – The investment return assumption is net of all expenses.

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

(x) Re-employment option – All re-employed retirees are assumed to return to work under the Standard Option.

(y) 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.

(z) 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.

(aa) Per capita claims cost – Sample claims cost rates adjusted to age 65 for FY17 medical and prescription drug benefits are shown below:

		Medical	Prescription drugs
Pre-Medicare	$	14,380	3,320
Medicare Parts A and B		1,707	3,320
Medicare Part B Only		8,562	3,320
Medicare Part D		N/A	614

(bb) Third-party administrator fees – $206.88 per person per year; assumed trend rate of 5% per year.

(cc) Medicare Part B Only – For active employees and retirees not yet Medicare-eligible, participation is set based on whether the member/retiree will have 40 quarters of employment covered by Social Security after March 31, 1986, depending upon date of hire and/or rehire.

(dd) Healthcare cost trend – The table below shows the rate used to project the cost from the shown fiscal year to the next fiscal year. For example, 8.8% is applied to the FY17 pre-Medicare medical claims costs to get the FY18 medical claims costs:

Fiscal year	Medical Pre-65	Medical Post-65	Prescription drugs
2017	8.8%	5.8%	5.4%
2018	8.2	5.7	5.1
2019	7.6	5.6	4.8
2020	7.0	5.6	4.6
2021	6.5	5.6	4.4
2022	6.0	5.6	4.2
2023	5.6	5.6	4.0
2026	5.6	5.6	4.0
2051	4.4	4.0	4.0
2101	4.4	4.0	4.0

For the June 30, 2014 valuations and later, the updated Society of Actuaries' Healthcare Cost Trend Model is used to project medical and prescription drug costs. This model effectively begins estimating trend amounts beginning in 2014 and projects out to 2090. This model has been populated with assumptions that are specific to the State of Alaska.

(ee) Aging factors:

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

Note that pre-65, the factor represents the amount to increase from the ages noted to the next age. However post-65, the factor represents the adjustment to get to the ages noted up to age in the range. That is, 2.5% is used to age from 54 to 55, but 1.5% is used to age from 83 to 84.

(Continued)

(ff) 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 FY17 contributions based on monthly rates shown below for calendar 2016 and 2017 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 actuaries value one-third of the annual retiree contribution to estimate the per-child rate based upon the assumed number of children in rates where children are covered:

	Calendar 2017		Calendar 2016
Coverage category	**Annual contribution**	**Monthly contribution**	**Monthly contribution**
Retiree only	$ 9,324	777	777
Retiree and spouse	18,648	1,554	1,554
Retiree and child(ren)	13,164	1,097	1,097
Retiree and family	22,500	1,875	1,875
Composite	13,848	1,154	1,154

(gg) Trend rate for retired member contributions – The table below shows the rate used to project the retired member medical contributions from the shown fiscal year to the next fiscal year. For example, 6.2% is applied to the FY17 retired member medical contributions to get the FY18 retired member medical contributions.

Fiscal year	Trend Assumption
2017	6.2%
2018	5.8
2019	5.4
2020	5.0
2021	4.7
2022	4.4
2026	4.1
2051	4.0
2101	4.0

Graded trend rates for retired member medical contributions were reinitialized for the June 30, 2014 valuation. Note that actual FY17 retired member medical contributions are reflected in the valuation so trend on such contribution during FY17 is not applicable.

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

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, 2016 are as follows:

(a) Actuarial cost method – Liabilities and contributions are computed using 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, the net amortization period will not exceed 30 years. These requirements are being amended. Under the new accounting standards that will become applicable to postemployment benefit plans other than pension plans (GASB Statement Nos. 74 and 75), the GASB requirements will not directly control amortization periods used for funding of the plan.

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

(c) Valuation of retiree medical and prescription drug benefits – Due to the lack of experience for the DCR retiree medical plan only, base claims costs are based on those described in the actuarial valuation as of June 30, 2016 for TRS DB retiree healthcare plan 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 FY17 claims costs were reduced 3.1% for medical and 11.2% for prescription drugs. In addition, to account for the difference in Medicare coordination, upcoming FY17 medical claims costs for Medicare eligible retirees were further reduced 33.75%. The healthcare trend rate for the DB health benefits was reduced 0.2% each year for the DCR health benefits to reflect the fact that the retiree healthcare benefits to be offered to DCR members will have an annual indexing of member cost sharing features, such as deductibles and out-of-pocket amounts.

The State intends to transition to an Employer Group Waiver Program (EGWP) for this group in 2018. That impact is reflected in the valuation, but not in the base cost rates for 2016 or 2017. Conduent estimated the impact of the EGWP plan by offsetting an amount equal to 160% of the RDS amount (a one-time adjustment, trended at regular prescription drug thereafter) based upon the actuary's review of client and industry comparisons of subsidies under RDS and EGWP. A review of the 2016 Medicare Trustees report indicates varying rates of increase for CMS subsidies under both RDS and EGWP. The projections for the next ten years indicate that EGWP reimbursements for direct and reinsurance subsidies are expected to be consistently significantly higher than projected RDS reimbursements.

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

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

(d) Investment return/discount rate – 8.00% per year (geometric), compounded annually, net of expenses.

(e) Salary scale – Inflation 3.12% per year. Productivity 0.5% per year.

(f) Payroll growth – 3.62% per year (inflation + productivity).

(g) Total inflation – Total inflation as measured by the Consumer Price Index for urban and clerical workers for Anchorage is assumed to increase 3.12% annually.

(h) Mortality (pre-termination) – Based upon the 2010–2013 actual experience, 68% of male rates and 60% of female rates of post-termination mortality rates. Deaths are assumed to result from occupational causes 15% of the time. The mortality assumptions include an allowance for expected future mortality improvement. The mortality table used was set in 2014 with an Actual Death to Expected Deaths ratio of 110%.

(i) Mortality (post-termination) – Based upon the 2010–2013 actual experience, 94% of male and 97% of female rates of RP-2000 Mortality Table, 2000 Base Year projected to 2018 with Projection Scale BB, with a three-year setback for males and a four-year setback for females. Disability mortality in accordance with the RP-2000 Disabled Retiree Mortality Table, 2000 Base Year, projected to 2018 with projection scale BB. The mortality assumptions include an allowance for expected future mortality improvement. The mortality table used was set in 2014 with an Actual Death to Expected Deaths ratio of 110%.

(j) Turnover – Select and ultimate rates based upon the 2010–2013 actual withdrawal experience.

(k) Disability – Incidence rates based upon the 2010–2013 actual experience. Disabilities are assumed to result from occupational causes 15% of the time.

(l) Retirement – Retirement rates based upon the 2010–2013 actual experience. Deferred vested members are assumed to retire at their earliest unreduced retirement date.

(m) Marriage and age difference – Wives are assumed to be three years younger than husbands; 85% of male members and 75% of female members are assumed to be married at termination from active service.

(n) Per capita claims cost – Sample claims cost rates (before base claims cost adjustments described below) adjusted to age 65 for FY17 medical and prescription drug benefits are shown below:

		Medical	Prescription drugs
Pre-Medicare	$	14,380	3,320
Medicare Parts A and B		1,707	3,320
Medicare Part B Only		8,562	3,320
Medicare Part D		N/A	614

Members are assumed to attain Medicare eligibility at age 65.

(o) Third-party administrator fees – $206.88 per person per year; assumed trend rate of 5% per year.

(p) Base claims cost adjustments – Due to higher initial copays, deductibles, out-of-pocket limits, and member cost sharing compared to the DB medical plan, the following cost adjustments are applied to the per capita claims cost rates: 0.969 for the medical plan, 0.6625 for the medical Medicare coordination method, and 0.888 for the prescription drug plan.

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

(r) 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.

(s) Healthcare cost trend – The table below shows the rate used to project the cost from the shown fiscal year to the next fiscal year. For example, 8.8% is applied to the FY17 pre-Medicare medical claims cost to get the FY18 medical claims cost.

Fiscal year	Medical Pre-65	Medical Post-65	Prescription drugs
2017	8.8%	5.8%	5.4%
2018	8.2	5.7	5.1
2019	7.6	5.6	4.8
2020	7.0	5.6	4.6
2021	6.5	5.6	4.4
2022	6.0	5.6	4.2
2023	5.6	5.6	4.0
2025	5.6	5.6	4.0
2050	4.4	4.0	4.0
2100	4.4	4.0	4.0

For the June 30, 2014 valuation and later, the updated Society of Actuaries' Healthcare Cost Trend Model is used to project medical and prescription drug costs. This model effectively begins estimating trend amounts beginning in 2014 and projects out to 2090. This model has been populated with assumptions that are specific to the State of Alaska.

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

(t) Aging factors:

Age	Medical	Prescription drugs
0–44	2.0%	4.5%
45–54	2.5	3.5
55–64	3.5	3.0
65–74	4.0	1.5
75–84	1.5	0.5
85–94	0.5	—
95+	—	—

(u) Retiree medical participation:

Decrement due to disability		Decrement due to retirement		
Age	**Percent participation**	**Age**		**Percent participation**
<56	73.00%	55		40.0%
56	77.50	56		50.0
57	79.75	57		55.0
58	82.00	58		60.0
59	84.25	59		65.0
60	86.50	60		70.0
61	88.75	61		75.0
62	91.00	62		80.0
63	93.25	63		85.0
64	95.50	64		90.0
65+	94.00	65+	**Years of service**	
			<15	70.5%
			15–19	75.2
			20–24	79.9
			25–29	89.3
			30+	94.0

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

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

Defined benefit pension and postemployment healthcare benefit plan

Starting with the June 30, 2016 valuation, the normal cost used for determining contribution rates and in the projections includes a rehire assumption to account for anticipated rehires. This assumption was developed based on five years of rehire loss experience through June 30, 2015. Healthcare claim costs are updated annually.

There have been no material changes in the asset or valuation methods since the prior valuation. Enhanced health plan enrollment data resulted in some offsetting cost increases and enrollment decreases.

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

Defined contribution occupational death and disability and retiree medical benefits plan

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

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

There have been changes in DCR medical benefit provisions since the prior valuation to reflect the adopted design as of July 2016.

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, 2017 and 2016

(In thousands)

				Totals	
		Administrative	**Investment**	**2017**	**2016**
Personal services:					
Wages	$	1,807	91	1,898	1,697
Benefits		904	38	942	1,017
Total personal services		2,711	129	2,840	2,714
Travel:					
Transportation		6	35	41	47
Per diem		1	6	7	8
Moving		3	—	3	—
Total travel		10	41	51	55
Contractual services:					
Management and consulting		5,681	3,720	9,401	21,953
Accounting and auditing		103	26	129	110
Data processing		563	361	924	797
Communications		26	19	45	57
Advertising and printing		20	1	21	22
Rentals/leases		142	30	172	168
Legal		102	24	126	134
Medical specialists		25	—	25	22
Repairs and maintenance		—	—	—	—
Transportation		29	2	31	30
Securities lending		—	87	87	—
Other professional services		61	13	74	65
Total contractual services		6,752	4,283	11,035	23,358
Patient Protection and Affordable Care Act:					
Transitional Reinsurance Program		238	—	238	297
Total Patient Protection and Affordable Care Act		238	—	238	297
Other:					
Equipment		11	15	26	15
Supplies		15	31	46	31
Total other		26	46	72	46
Total administrative and investment deductions	$	9,737	4,499	14,236	26,470

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, 2017 and 2016

(In thousands)

Firm	Services	2017	2016
Conduent Human Resource Services	Actuarial services	$ 232	316
KPMG LLP	Auditing services	97	95
State Street Bank and Trust	Custodial banking services	461	416
Alaska IT Group	Data processing services	150	117
Applied Microsystems Incorporated	Data processing services	141	157
Computer Task Group	Data processing services	—	15
SHI International Corporation	Data processing services	169	133
Sungard Availability Services	Data processing services	10	—
State of Alaska, Department of Law	Legal services	119	104
The Segal Company Incorporated	Management consulting services	116	—
First Medical Advisory Group	Medical specialist and consulting	20	—
Health Care Cost Management	Medical specialist and consulting	20	—
State of Alaska, Department of Health and Social Services	Medical specialist and consulting	—	97
		$ 1,535	1,450

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

See accompanying independent auditors' report.