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

Financial Statements and Supplemental Schedules

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

(With Independent Auditors' Report Thereon)

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

Table of Contents

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

Independent Auditors' Report

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

We have audited the accompanying combining financial statements of the State of Alaska Public Employees' Retirement System (the System), a component unit of the State of Alaska, as of and for the year ended June 30, 2019, and the related notes to the financial statements, which collectively comprise the System's basic financial statements as listed in the table of contents.

Management's Responsibility for the Financial Statements

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

Auditors' Responsibility

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

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the financial statements. The procedures selected depend on the auditors' judgment, including the assessment of the risks of material misstatement of the financial statements, whether due to fraud or error. In making those risk assessments, the auditor considers internal control relevant to the entity's preparation and fair presentation of the financial statements 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 Public Employees' Retirement System as of June 30, 2019, and the changes in fiduciary net position for the year then ended, in accordance with U.S. generally accepted accounting principles.

KPMG

Other Matters

Prior-Year Comparative Information

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

Required Supplementary Information

U.S. generally accepted accounting principles require that the management's discussion and analysis on pages 3–12 and the schedules of changes in employer net pension and other post-employment benefits (OPEB) liabilities and related ratios, schedules of employer and nonemployer contributions, and schedules of investment returns on pages 35–46 be presented to supplement the basic financial statements. Such information, although not a part of the basic financial statements, is required by the Governmental Accounting Standards Board, who considers it to be an essential part of financial reporting for placing the basic financial statements in an appropriate operational, economic, or historical context. We have applied certain limited procedures to the required supplementary information in accordance with auditing standards generally accepted in the United States of America, which consisted of inquiries of management about the methods of preparing the information and comparing the information for consistency with management's responses to our inquiries, the basic financial statements, and other knowledge we obtained during our audit of the basic financial statements. We do not express an opinion or provide any assurance on the information because the limited procedures do not provide us with sufficient evidence to express an opinion or provide any assurance.

Supplemental Schedules

Our audit was conducted for the purpose of forming an opinion on the financial statements that collectively comprise the System's basic financial statements. The supplemental schedules on pages 62–63 are presented for purposes of additional analysis and are not a required part of the basic financial statements. The supplemental schedules are the responsibility of management and were derived from and relate directly to the underlying accounting and other records used to prepare the basic financial statements. Such information has been subjected to the auditing procedures applied in the audit of the basic financial statements and certain additional procedures, including comparing and reconciling such information directly to the underlying accounting and other records used to prepare the basic financial statements or to the basic financial statements themselves, and other additional procedures in accordance with auditing standards generally accepted in the United States of America. In our opinion, the supplemental schedules are fairly stated in all material respects in relation to the basic financial statements as a whole.

KPMG LLP

October 23, 2019

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

Financial Highlights

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

- The System's fiduciary net position restricted for pension benefits, postemployment healthcare benefits, and individuals increased by $603.8 million during fiscal year 2019.
- The System's plan member and employer contributions increased by $42.0 million during fiscal year 2019 when compared to fiscal year 2018.
- The State of Alaska (the State) directly appropriated $135.4 million to the System during fiscal year 2019.
- The System's net investment income decreased $346.8 million when compared to fiscal year 2018 to $1,096.0 million during fiscal year 2019.
- The System's pension benefit expenditures totaled $837.4 million during fiscal year 2019.
- The System's postemployment healthcare benefit expenditures totaled $444.8 million in fiscal year 2019.

Overview of the Financial Statements

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

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

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

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

(Continued)

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

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

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

Condensed Financial Information

System net position (In thousands)

Description	2019	2018	Increase (decrease) Amount	Increase (decrease) Percentage	2017
Assets:					
Cash and cash equivalents	$ 370,358	202,947	167,411	82.5%	$ 470,579
Contributions receivable	13,241	24,461	(11,220)	(45.9)	24,497
Due from State of Alaska General Fund	32,285	20,257	12,028	59.4	19,338
Due from PERS occupational death and disability	—	—	—	—	2
Other accounts receivable	3,773	249	3,524	1,415.3	4,423
Investments	18,734,141	18,361,435	372,706	2.0	17,230,847
Other assets	982	982	—	—	982
Total assets	19,154,780	18,610,331	544,449	2.9	17,750,668
Liabilities:					
Claims payable	44,369	45,677	(1,308)	(2.9)	43,006
Accrued expenses	11,455	4,292	7,163	166.9	4,376
Forfeiture payable to employers	2,164	35,173	(33,009)	(93.8)	32,373
Due to PERS DB Pension Fund	—	—	—	—	2
Due to State of Alaska General Fund	—	—	—	—	1,376
Securities lending collateral payable	30,489	62,648	(32,159)	(51.3)	112,258
Total liabilities	88,477	147,790	(59,313)	(40.1)	193,391
Net position	$ 19,066,303	18,462,541	603,762	3.3%	$ 17,557,277

Condensed Financial Information (continued)

Changes in system net position (In thousands)

Description	2019	2018	Increase (decrease) Amount	Increase (decrease) Percentage	2017
Net position, beginning of year	$ 18,462,541	17,557,277	905,264	5.2 %	$ 15,948,796
Additions:					
Contributions – employers and plan members	744,612	702,576	42,036	5.9	708,409
Contributions – nonemployer State of Alaska	67,857	36,399	31,458	86.4	49,433
Net investment income	1,095,977	1,442,821	(346,844)	(24.0)	2,052,072
Employer Group Waiver Plan	7,076	—	7,076	100.0	—
Medicare Retiree Drug Subsidy	20,490	5,965	14,525	243.5	18,869
Pharmacy rebates	36,940	20,268	16,672	82.3	23,953
Other income	1,351	552	799	144.7	411
Total additions	1,974,303	2,208,581	(234,278)	(10.6)	2,853,147
Deductions:					
Pension and postemployment healthcare benefits	1,282,149	1,224,012	58,137	4.7	1,172,955
Refunds of contributions	60,610	54,854	5,756	10.5	45,776
Administrative	27,782	24,451	3,331	13.6	25,935
Total deductions	1,370,541	1,303,317	67,224	5.2	1,244,666
Increase in net position	603,762	905,264	(301,502)	33.3	1,608,481
Net position, end of year	$ 19,066,303	18,462,541	603,762	3.3 %	$ 17,557,277

Financial Analysis of the System

The statements of fiduciary net position as of June 30, 2019 and 2018 show net position restricted for pension benefits, postemployment healthcare benefits, and individuals of $19,066,303,000 and $18,462,541,000, respectively. The entire amount is available to cover the System's obligation to pay pension and postemployment healthcare benefits to its members and their beneficiaries, as well as administrative costs.

These amounts represent an increase in the System's net position restricted for pension benefits, postemployment healthcare benefits, and individuals of $603,762,000 or 3.3%, from fiscal year 2018 to 2019 and individuals of $905,264,000, or 5.2%, from fiscal year 2017 to 2018. Over the long term, plan member, employer, and nonemployer contributions, as well as investment income earned, are anticipated to sufficiently fund the pension benefit and postemployment healthcare costs of the System.

During the 30th Alaska State Legislature and as part of the State's Fiscal Year 2019 Operating Budget, House Bill 286 appropriated $135,360,000 from the General Fund and the Alaska Higher Education Investment Fund to the Department of Administration for deposit in the Defined Benefit Pension fund. The amount of the appropriation allocated to the State of Alaska as an employer is included in Contributions - Employer. The remaining appropriation is reported as Contributions - Nonemployer State of Alaska.

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

System Asset Allocation

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

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

For fiscal years 2019 and 2018, the DB Plan's investments generated a 6.40% and 9.61% rate of return, respectively.

Contributions, Investment Income, and Other Additions

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

Additions (In thousands)

	2019	2018	Increase (decrease) Amount	Increase (decrease) Percentage	2017
Contributions – plan members	$ 179,604	176,369	3,235	1.8%	$ 172,838
Contributions – employers	565,008	526,207	38,801	7.3	535,571
Contributions – nonemployer State of Alaska	67,857	36,399	31,458	86.4	49,433
Net investment income	1,095,977	1,442,821	(346,844)	(24.0)	2,052,072
Employer group waiver plan	7,076	—	7,076	100.0	—
Medicare retiree drug subsidy	20,490	5,965	14,525	243.5	18,869
Pharmacy rebates	36,940	20,268	16,672	82.3	23,953
Other income	1,351	552	799	144.7	411
Total	$ 1,974,303	2,208,581	(234,278)	(10.6)%	$ 2,853,147

The System's employer contributions increased from $526,207,000 in fiscal year 2018 to $565,008,000 in fiscal year 2019, an increase of $38,801,000 or 7.30%. The System's employer contributions increased from $535,571,000 in fiscal year 2017 to $526,207,000 in fiscal year 2018, a decrease of $9,364,000, or 1.7%. Employer contributions increase or decrease in proportion to changes in the underlying salaries, which increased 0.9% in fiscal year 2018, and increased 1.6% in fiscal year 2019.

The State provided $67,857,000 and $36,399,000 for fiscal years 2019 and 2018 in nonemployer contributions per Alaska Statute (AS) 39.35.280. The employer on-behalf amount (or additional State contributions as defined in AS 39.35.280) 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 22.00% is established in AS 39.35.255(a).

The System's net investment income in fiscal year 2019 decreased by $346,844,000 or 24.0% from amounts in fiscal year 2018. The System's net investment income in fiscal year 2018 decreased by $606,251,000 or 29.7% from amounts recorded in fiscal year 2017. Fiscal year 2019 saw rates below the assumed rate of return, while fiscal year 2018 saw rates of returns above the assumed rate of return. The investment returns received in fiscal year 2019 were lower than the returns seen in fiscal year 2018 due to market conditions, causing a decrease in returns in comparison between 2019 and 2018. Over the long term, investment earnings play a significant role in funding plan benefits. The Board continues to look at investment classes and strategies best suited to meet the expected earnings returns to meet future benefit payments.

Effective January 1, 2019, the Division implemented a group Medicare Part D prescription drug plan known as an enhanced Employer Group Waiver Plan (EGWP) for all Medicare-eligible members covered under the Plan. For the period January 1 to June 30, 2019, the Plan received $7,076,000 in EGWP funds from the Center of Medicare and Medicaid Services (CMS) through the EGWP Plan Sponsor, OptumRx.

(Continued)

The Plan also participates in the Medicare Part D retiree drug subsidy (RDS) program. A provision of Medicare Part D provides sponsors of postemployment healthcare funds the opportunity to receive an RDS payment if the sponsor's fund provides a prescription drug benefit that is actuarially equivalent to the Medicare Part D benefit. The RDS is equal to 28% of the amount of eligible prescription drug benefit costs of retirees who are eligible for, but not enrolled in, Medicare Part D, by virtue of continuing to be covered by the sponsor's fund. The Plan received an additional $14,525,000 in fiscal year 2019 over fiscal year 2018 due to the timing of filing for and receipt of the RDS.

Pharmacy rebates are reimbursed to the Plan by the third-party administrators. These rebates are recorded as revenue when received by the Plan. During fiscal year 2019, the Plan received $36,940,000 compared to $20,268,000 from fiscal year 2018 due to the timing of receipt of funds.

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

	Year ended		
	2019	**2018**	**2017**
System returns	6.40 %	9.61 %	13.35%
Domestic equities	8.41	15.21	18.55
International equities	(0.80)	7.97	20.41
Private equity	17.66	26.65	17.04
Real assets	6.08	7.56	5.98
Absolute return	4.08	4.78	8.47
Fixed income	6.34	(0.71)	2.91
Opportunistic	7.21	5.64	—
Alternative equity	—	—	11.38
Cash equivalents	2.50	1.51	0.79
Actuarially assumed rate of return	7.38	8.00	8.00

Benefits and Other Deductions

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

	Deductions (In thousands)				
			Increase (decrease)		
	2019	**2018**	**Amount**	**Percentage**	**2017**
Pension benefits	$ 837,381	801,155	36,226	4.5%	$ 766,766
Postemployment benefits	444,768	422,857	21,911	5.2	406,189
Refunds of contributions	60,610	54,854	5,756	10.5	45,776
Administrative	27,782	24,451	3,331	13.6	25,935
Total	$ 1,370,541	1,303,317	67,224	5.2%	$ 1,244,666

The System's pension benefit payments in 2019 increased $36,226,000 or 4.5%, from fiscal year 2018 and increased $34,389,000, or 4.5%, from fiscal year 2017 to 2018. The increase in pension benefits in fiscal year 2019 is the result of a continued increase in the number of retirees.

The System's postemployment healthcare benefit payments in fiscal year 2019 increased $21,911,000 or 5.2%, from fiscal year 2018 and increased $16,668,000, or 4.1%, from fiscal year 2017 to 2018. The System has seen an increase in plan utilization for healthcare as the number of retirees in the DB Plan continues to increase. The System continues to look at ways for cost containment while providing benefits applicable to the plan.

The System's refund of contributions increased $5,756,000 or 10.5%, from fiscal year 2018 to 2019 and increased $9,078,000, or 19.8%, from fiscal year 2017 to 2018. The increase in refunds is primarily in the DCR Plan, where refunds increased $6,840,000 between fiscal year 2018 to 2019, and increased $7,777,000 from fiscal year 2017 to 2018. Increases in refunds are attributed to the refund of DCR member accounts. The System continues to look at ways to retain member contributions by emphasizing the low investment costs to members to maintain funds within the DCR Plan, with a number of investment options available.

Administrative deductions increased from 2018 to 2019 by $3,331,000 or 13.6%. The increase is related to additional work by management consultants related to actuarial valuations and work related to the transition to EGWP on January 1, 2019. The decrease of $1,484,000, or 5.7%, from fiscal year 2017 to 2018 is related to decreases in wages and benefits, partially offset by increases in management, consulting, and other professional services.

Net Pension Liability

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

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

		2019	2018
Total pension liability	$	14,963,635	14,275,702
Plan fiduciary net position		(9,489,405)	(9,306,675)
Employers' net pension liability	$	5,474,230	4,969,027
Plan fiduciary net position as a percentage of the total pension liability		63.42 %	65.19 %

Net OPEB (Asset) Liability

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

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

		Alaska Retiree Healthcare Trust Plan (ARHCT)	Occupational Death and Disability (ODD)	Retiree Medical Plan (RMP)
Total OPEB liability	$	7,916,072	12,280	142,162
Plan fiduciary net position		(7,767,692)	(36,525)	(118,242)
Employers' net OPEB liability (asset)	$	148,380	(24,245)	23,920
Plan fiduciary net position as a percentage of the total OPEB liability		98.13 %	297.43 %	83.17 %

(Continued)

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

		Alaska Retiree Healthcare Trust Plan (ARHCT)	Occupational Death and Disability (ODD)	Retiree Medical Plan (RMP)
Total OPEB liability	$	8,638,289	11,383	112,740
Plan fiduciary net position		(7,612,001)	(30,805)	(100,015)
Employers' net OPEB liability (asset)	$	1,026,288	(19,422)	12,725
Plan fiduciary net position as a percentage of the total OPEB liability		88.12 %	270.62 %	88.71 %

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 39.35.255(a) sets the employer effective contribution rate at 22.00%. The difference between the actuarially determined contribution rate adopted by the Board and the statutory employer effective rate is paid by the State as a direct appropriation per AS 39.35.280.
- AS 39.35.280 provides that additional State contributions are made each July 1 or soon after July 1 for the ensuing fiscal year that when combined with the total employer contributions are sufficient to pay the System's past service liability at the contribution rate adopted by the Board for that fiscal year.
- Plan member contributions are set by AS 39.35.160 for the DB Plan and AS 39.35.730 for the DCR Plan.
- The Board works with an external consultant to determine the proper asset allocation strategy.

Legislation

During fiscal year 2019, the 31st Alaska State Legislature enacted one law that affects the System. Conference Committee Substitute First Special Session House Bill 39, Section 35(a), appropriates $159.1 million from the General Fund to the Department of Administration for deposit in the System's defined benefit plan account as partial payment of the participating employers' contribution for fiscal year ending June 30, 2020.

This appropriation is to fund the difference between the statutory employer required contribution of 22% 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 39.35.280 – Additional State Contributions.

(Continued)

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

Fiscal year 2019 was a year of positive investment returns. Net investment income decreased from $1,442,821,000 in fiscal year 2018 to $1,095,976,000 in fiscal year 2019, a decrease of $346,844,000 or 24.0%. The return on the System's investments was below the 7.38% actuarially assumed rate of return with the System's actual rate of return of 6.40% at June 30, 2019. The Board continues to work with its investment counsel and the Alaska Department of Revenue, Treasury Division, to diversify the portfolio of the System to maintain an optimal risk/return ratio.

The consulting actuary recommended an increase from the System's actuarially determined contribution rate of 25.01% in fiscal year 2018 to 27.58% in fiscal year 2019. The Board adopted the fiscal year 2019 actuarially determined contribution rate of 27.58%, which represented an increase of 2.57%. The statutory employer effective contribution rate remained at 22% for fiscal years 2019 and 2018.

The June 30, 2018 and 2017 actuarial valuation reports for the DB Plan reported funding ratios based on valuation assets of 76.9% and 76.7%, respectively, as well as unfunded liabilities of $5.15 billion and $5.09 billion, respectively.

For fiscal years 2019 and 2018, the DCR Plan's employer contribution rate was established by AS 39.35.255(a) at 22.00%. The DCR Plan's actuarially determined occupational death and disability rate was adopted by the Board for fiscal years 2019 and 2018 to be 0.76% and 0.43%, respectively, for peace officers/firefighters; and 0.26% and 0.16%, respectively, for all others. The DCR Plan retiree medical plan actuarially determined contribution rate was adopted by the Board for fiscal years 2019 and 2018 to be 0.94% and 1.03%, 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 Public Employees' Retirement System
Division of Retirement and Benefits, Finance Section
P.O. Box 110203
Juneau, Alaska 99811-0203

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

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

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

Combining Statement of Fiduciary Net Position

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

(In thousands)

			Other Postemployment Benefit Plans					
	Defined benefit pension	Defined contribution pension	Alaska Retiree Healthcare Trust	Occupational death and disability	Retiree medical	Health reimbursement arrangement	System total June 30, 2019	System total June 30, 2018
Assets:								
Cash and cash equivalents (note 3):								
Short-term fixed-income pool	$ 177,173	5,145	146,236	679	2,200	7,850	339,283	138,731
Empower money market fund – non-participant directed	—	586	—	—	—	—	586	1,568
Securities lending collateral	16,199	—	13,318	61	199	712	30,489	62,648
Total cash and cash equivalents	193,372	5,731	159,554	740	2,399	8,562	370,358	202,947
Receivables:								
Contributions	13,241	—	—	—	—	—	13,241	24,461
Due from State of Alaska General Fund	11,371	11,443	5,933	299	844	2,395	32,285	20,257
Other accounts receivable	159	—	3,614	—	—	—	3,773	249
Total receivables	24,771	11,443	9,547	299	844	2,395	49,299	44,967
Investments (note 3), at fair value:								
U.S. Treasury Fixed Income Pool	993,678	—	819,561	3,803	12,324	43,986	1,873,352	1,580,356
Broad domestic equity:								
Large Cap Pool	1,921,105	—	1,584,480	7,352	23,826	85,040	3,621,803	3,428,589
Small Cap Pool	267,552	—	220,670	1,024	3,318	11,844	504,408	650,162
Total broad domestic equity	2,188,657	—	1,805,150	8,376	27,144	96,884	4,126,211	4,078,751
Global equity ex-U.S.:								
International Equity Pool	1,602,023	—	1,321,309	6,131	19,868	70,916	3,020,247	2,964,545
International Equity Small Cap Pool	134,239	—	110,717	514	1,665	5,942	253,077	270,117
Emerging Markets Equity Pool	341,699	—	281,826	1,308	4,238	15,126	644,197	504,685
Total global equity ex-U.S.	2,077,961	—	1,713,852	7,953	25,771	91,984	3,917,521	3,739,347
Opportunistic:								
Alternative Equity Pool	469,549	—	387,273	1,797	5,823	20,785	885,227	881,672
Opportunistic Fixed Income Pool	256,955	—	211,930	983	3,187	11,374	484,429	585,938
Other Opportunities Pool	42,438	—	35,002	162	526	1,879	80,007	224,926
Tactical Allocation Strategies Pool	152,075	—	125,427	582	1,886	6,732	286,702	205
Total opportunistic	921,017	—	759,632	3,524	11,422	40,770	1,736,365	1,692,741
Private Equity Pool	997,227	—	822,488	3,816	12,368	44,144	1,880,043	1,609,190
Absolute Return Pool	545,747	—	450,119	2,089	6,768	24,158	1,028,881	1,292,074
Real assets:								
Real Estate Pools	535,311	—	441,599	2,049	6,640	23,701	1,009,300	1,100,166
Real Estate Investment Trust Pool	106,361	—	87,724	407	1,319	4,708	200,519	134,580
Infrastructure Private Pool	202,313	—	166,863	774	2,509	8,956	381,415	340,542
Infrastructure Public Pool	60,383	—	49,802	231	749	2,673	113,838	170,855
Master Limited Partnership Pool	194,621	—	160,519	745	2,414	8,615	366,914	672,195
Energy Pool	31,934	—	26,338	122	396	1,414	60,204	66,316
Farmland Pool	303,858	—	250,614	1,163	3,769	13,450	572,854	558,540
Timber Pool	129,479	—	106,791	496	1,606	5,731	244,103	246,736
Treasury Inflation-Protected Securities Pool	—	—	—	—	—	—	—	37,684
Total real assets	1,564,260	—	1,290,250	5,987	19,402	69,248	2,949,147	3,327,614
Other investment funds:								
Participant directed at fair value:								
Pooled investment funds	—	745,642	—	—	—	—	745,642	638,110
Collective investment funds	—	428,015	—	—	—	—	428,015	403,252
Participant directed at contract value:								
Synthetic investment funds	—	48,964	—	—	—	—	48,964	—
Total other investment funds	—	1,222,621	—	—	—	—	1,222,621	1,041,362
Total investments	9,288,547	1,222,621	7,661,052	35,548	115,199	411,174	18,734,141	18,361,435
Other assets	15	—	967	—	—	—	982	982
Total assets	9,506,705	1,239,795	7,831,120	36,587	118,442	422,131	19,154,780	18,610,331
Liabilities:								
Claims payable (note 6)	—	—	44,369	—	—	—	44,369	45,677
Accrued expenses	1,101	4,597	5,741	1	5	10	11,455	4,292
Forfeitures payable to employers	—	2,164	—	—	—	—	2,164	35,173
Securities lending collateral payable	16,199	—	13,318	61	199	712	30,489	62,648
Total liabilities	17,300	6,761	63,428	62	204	722	88,477	147,790
Net position restricted for pension benefits, postemployment healthcare benefits, and individuals	$ 9,489,405	1,233,034	7,767,692	36,525	118,238	421,409	19,066,303	18,462,541

See accompanying notes to financial statements.

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

Combining Statement of Changes in Fiduciary Net Position

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

(In thousands)

	Defined benefit pension	Defined contribution pension	Other Postemployment Benefit Plans: Alaska Retiree Healthcare Trust	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, 2019	System total June 30, 2018
Additions:								
Contributions:								
Employers	$ 350,601	57,221	102,266	4,083	11,736	39,101	565,008	526,207
Plan members	79,609	99,995	—	—	—	—	179,604	176,369
Nonemployer State of Alaska	67,857	—	—	—	—	—	67,857	36,399
Total contributions	498,067	157,216	102,266	4,083	11,736	39,101	812,469	738,975
Investment income:								
Net appreciation in fair value (note 2)	372,865	74,717	311,499	1,448	4,686	16,818	782,033	1,158,949
Interest	26,678	239	21,762	94	304	1,090	50,167	60,394
Dividends	143,880	—	118,419	504	1,635	5,867	270,305	230,645
Total investment income	543,423	74,956	451,680	2,046	6,625	23,775	1,102,505	1,449,988
Less investment expense	3,993	449	3,120	12	41	145	7,760	9,199
Net investment income before securities lending activities	539,430	74,507	448,560	2,034	6,584	23,630	1,094,745	1,440,789
Securities lending income	801	—	655	3	9	33	1,501	2,488
Less securities lending expense	143	—	117	1	2	6	269	456
Net income from securities lending activities	658	—	538	2	7	27	1,232	2,032
Net investment income	540,088	74,507	449,098	2,036	6,591	23,657	1,095,977	1,442,821
Other income								
Employer Group Waiver Plan	—	—	7,066	—	10	—	7,076	—
Medicare Retiree Drug Subsidy	—	—	20,481	—	9	—	20,490	5,965
Pharmacy rebates	—	—	36,921	—	19	—	36,940	20,268
Miscellaneous income	23	454	874	—	—	—	1,351	552
Total other income	23	454	65,342	—	38	—	65,857	26,785
Total additions	1,038,178	232,177	616,706	6,119	18,365	62,758	1,974,303	2,208,581
Deductions:								
Pension and postemployment benefits	837,381	—	444,143	398	128	99	1,282,149	1,224,012
Refunds of contributions	10,638	49,972	—	—	—	—	60,610	54,854
Administrative	7,429	3,465	16,872	1	14	1	27,782	24,451
Total deductions	855,448	53,437	461,015	399	142	100	1,370,541	1,303,317
Net increase	182,730	178,740	155,691	5,720	18,223	62,658	603,762	905,264
Net position restricted for pension benefits, postemployment healthcare benefits, and individuals:								
Balance, beginning of year	9,306,675	1,054,294	7,612,001	30,805	100,015	358,751	18,462,541	17,557,277
Balance, end of year	$ 9,489,405	1,233,034	7,767,692	36,525	118,238	421,409	19,066,303	18,462,541

See accompanying notes to financial statements.

(1) Description

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

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

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

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

	Defined Benefit Pension	Defined Contribution Pension	OPEB plans
State of Alaska	1	1	1
Municipalities	73	74	74
School districts	52	52	52
Other	27	27	27
Total employers	153	154	154

Inclusion in the plans is a condition of employment for eligible State employees, except as otherwise provided for judges, elected officers, and certain employees of the Alaska Marine Highway System. Any local government in the State may elect to have its permanent general and peace officer and firefighter employees covered by the System.

Defined Benefit Pension Plan

(a) General

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

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

Inactive plan members or beneficiaries currently receiving benefits	36,059
Inactive plan members entitled to but not yet receiving benefits	7,361
Inactive plan members not entitled to benefits	10,808
Active plan members	12,316
Total DB Plan membership	66,544

(b) Pension Benefits

Members hired prior to July 1, 1986, with five or more paid-up years of credited service, are entitled to monthly pension benefits beginning at normal retirement age, 55, or early retirement age, 50. For members first hired after June 30, 1986, the normal and early retirement ages are 60 and 55, respectively. Members with 30 or more years of credited service (20 years for peace officers and firefighters) may retire at any age and receive a normal benefit.

The normal monthly pension benefit is based on years of service and average monthly compensation. For members hired prior to July 1, 1996, and all peace officers and firefighters, the average monthly compensation is based upon the members' three highest, consecutive years' salaries. For all other members hired after June 30, 1996, average monthly compensation is based upon the members' five highest, consecutive years' salaries.

The benefit related to all years of service prior to July 1, 1986, and for years of service through a total of 10 years for general members, is equal to 2.00% of the member's average monthly compensation for each year of service. The benefit for each year over 10 years of service subsequent to June 30, 1986 is equal to 2.25% of the member's average monthly compensation for the second 10 years and 2.50% for all remaining years of service. For peace officers and firefighters, the benefit for years of service through a total of 10 years is equal to 2.00% of the member's average monthly compensation and 2.50% for all remaining years of service.

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 another person is eligible for benefits under a qualified domestic relations order.

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

(c) Contributions

Contribution requirements of the active plan members and the participating employers are actuarially determined and approved by the Board as an amount that, when combined, is expected to finance the costs of benefits earned by plan members during the year, with an additional amount to finance any unfunded accrued liability. The DB Plan's members' contribution rates are 7.50% for peace officers and firefighters, 9.60% for some school district employees, and 6.75% for general DB Plan members, as required by statute. The statutory employer effective rate is 22.00% of annual payroll, which for fiscal year 2019 is allocated 16.17% to the DB Pension Plan and 5.83% to the DB ARHCT Plan as determined by the actuary of the Plan. Alaska Statute (AS) 39.35.280 provides that the State, as a nonemployer contributing entity, contributes each July 1, or as soon after July 1 for the ensuing fiscal year, an amount that when combined with the total employer contributions is sufficient to pay the System's past service liability at the actuarially determined contribution rate adopted by the Board for that fiscal year. Additionally, there is a Defined Benefit Unfunded Liability (DBUL) amount levied against the Defined Contribution Retirement Pension (DCR) Plan payroll. The DBUL amount is computed as the difference between:

(A) The amount calculated for the statutory employer effective contribution rate of 22.00% on eligible salary less

(B) The total of the employer contributions for:

- (1) The defined contribution employer matching amount
- (2) Major medical
- (3) Occupational death and disability
- (4) Health reimbursement arrangement.

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

(d) Refunds

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

Defined Contribution Retirement Pension Plan

(a) General

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

At June 30, 2019, membership in the DCR Plan consisted of 2,055 peace officer and firefighter members and 20,340 other members.

(b) Retirement Benefits

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

(c) Contributions

State statutes require an 8.0% contribution rate for DCR Plan members. Employers are required to contribute 5.0% of the member's compensation.

(d) Participant Distributions and Refunds of Contributions

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

(e) Participant Accounts

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

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

(Continued)

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

(a) Alaska Retiree Healthcare Trust Plan

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

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

Inactive plan members or beneficiaries currently receiving benefits	36,059
Inactive plan members entitled to but not yet receiving benefits	7,361
Inactive plan members not entitled to benefits	10,808
Active plan members	12,316
Total ARHCT Plan membership	66,544

(i) OPEB Benefits

Major medical benefits to cover medical expenses are provided to retirees and their surviving spouses at no premium cost for all members hired before July 1, 1986 (Tier 1), and disabled retirees. Members hired after June 30, 1986 (Tier 2), and their surviving spouses with 5 years of credited service (or 10 years of credited service for those first hired after June 30, 1996 [Tier 3]) must pay the full monthly premium if they are under age 60 and will receive benefits at no premium cost if they are over age 60. Tier 3 members with between 5 and 10 years of credited service must pay the full monthly premium regardless of their age. Tier 2 and Tier 3 members with less than 5 years of credited service are not eligible for postemployment healthcare benefits. Tier 2 members who are receiving a conditional benefit and are age eligible are eligible for postemployment healthcare benefits. In addition, peace officers and their surviving spouses with 25 years of peace officer membership service and all other members and their surviving spouses with 30 years of membership service receive benefits at no premium cost, regardless of their age or date of hire. Peace officers/firefighters who are disabled between 20 and 25 years must pay the full monthly premium.

(ii) Contributions

Employer contribution rates are actuarially determined and adopted by the Board. The 2018 statutory employer effective contribution rate is 22.00% of member's compensation, with 4.88% specifically allocated to ARHCT Plan.

(b) Occupational Death and Disability Plan

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

Active plan members	22,311
Participating employeers	154
Open claims	42

(i) Death Benefits

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

If an active general DB Plan member dies from occupational causes, the spouse may receive a monthly pension equal to 40% of the DB Plan's member's salary. If an active peace officer or firefighter DB Plan member dies from occupational causes, the spouse may receive a monthly pension equal to 50% of the DB Plan's member's salary or 75% of the member's retirement benefit calculated as if the member had survived until normal retirement age, whichever is greater. When death is due to occupational causes and there is no surviving spouse, the DB Plan's member's dependent child(ren) may receive the monthly pension until they 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 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 monthly compensation at the time of death and the credited service, including service that would have accrued if the DB Plan member had lived and continued to work until normal retirement. If 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 monthly compensation at the time of death. If the DB Plan member is not married or vested, a lump-sum death benefit is payable to the named beneficiary(ies).

The monthly survivor's pension benefit for survivors of DCR Plan employees who were not peace officers or firefighters is 40% of the employee's monthly compensation in the month in which the employee dies. The monthly survivor's pension for survivors of employees who were peace officers or firefighters is 50% of the monthly compensation in the month in which the employee dies. While the monthly survivor's pension is being paid, the employer shall make contributions on behalf of the employee's beneficiaries based on the deceased employee's gross monthly compensation at the time of occupational death.

(ii) Disability Benefits

Active DB Plan members who become permanently disabled due to occupational or nonoccupational causes receive disability benefits until normal retirement age, or when the service requirement for normal retirement is met. Although there are no minimum service requirements for DB Plan members to be eligible for occupational disability, DB Plan members must be vested to receive nonoccupational disability benefits. The monthly occupational disability benefit is equal to 40% of the DB Plan's salary at the time of the disability. The nonoccupational disability benefit is based on the DB Plan member's service and salary at the time of disability. At normal retirement age, a disabled general DB Plan member receives normal retirement benefits. A peace officer or firefighter DB Plan member may elect to receive normal retirement benefits calculated under the occupational disability benefit rules.

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

(iii) Contributions

An employer shall contribute to each member's account based on the member's compensation. For fiscal year 2018, the rates are 0.76% for occupational death and disability for peace officers and firefighters and 0.26% for occupational death and disability for all other members.

(c) Retiree Medical Plan

The RMP provides major medical coverage to retirees of the DCR Plan. The RMP is self-insured. Members are not eligible to use this plan until they have at least 10 years of service and are Medicare age eligible.

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

Inactive plan members or beneficiaries currently receiving benefits	34
Inactive plan members entitled to but not yet receiving benefits	1,412
Inactive plan members not entitled to benefits	13,248
Active plan members	22,311
Total RMP membership	37,005

(i) OPEB Benefits

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

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

(1) Not eligible for Medicare is an amount equal to the full monthly group premium for retiree major medical insurance coverage,

(2) Eligible for Medicare is the following percentage of the premium:

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

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

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

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

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

(ii) Contributions

Employer contribution rates are actuarially determined and adopted by the Board. The 2019 employer effective contribution rate is 0.94% of member's compensation.

Defined Contribution Other Postemployment Benefit Plan

(a) General

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

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

Inactive plan members or beneficiaries currently receiving benefits	40
Inactive plan members entitled to but not yet receiving benefits	1,412
Inactive plan members not entitled to benefits	13,248
Active plan members	22,311
Total HRA Plan membership	37,011

(b) OPEB Benefits

Persons who meet the eligibility requirements of AS 39.35.870 are eligible for reimbursements from the individual account established for a member under the HRA Plan but do not have to retire directly from the System.

The Plan Administrator may deduct the cost of monthly premiums from the HRA individual account for the RMP insurance on behalf of an eligible person who elected the retiree major medical insurance under AS 39.35.880. Upon application of an eligible person, the HRA Plan administrator shall reimburse the costs for medical care expenses defined in 26 USC 213(d). Reimbursement is limited to the medical expenses of (1) an eligible member, the spouse of an eligible member, and the dependent children of an eligible member; or (2) a surviving spouse and the dependent children of an eligible member dependent on the surviving spouse. When the member's individual account balance is exhausted, any deductions from the HRA individual account end. If all eligible persons die before exhausting the member's individual account, the account balance reverts to the HRA Plan.

(c) Contributions

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

(2) Summary of Significant Accounting Policies

(a) Basis of Accounting

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

(b) Use of Estimates

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

(c) Defined Benefit Pension and OPEB Investments

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

(d) Defined Contribution Participant-directed Investments

The Board contracts with an external investment manager, through the Treasury, who is given the authority to invest in a wholly owned pooled environment to accommodate 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 DCR Plan. The unit value is determined by the Trustees based on fair value of the underlying assets. Purchases and sales of securities are recorded on a trade-date basis. Underlying assets comprise domestic and international stocks, investment-grade bonds, federally guaranteed mortgages, money market instruments, and other cash equivalent instruments with maturities of less than one year, which include but are not limited to commercial paper, asset-backed securities, banker acceptances, certificates of deposit with ratings of A1/P1 or better as well as obligations of the U.S. government and its agencies, and repurchase agreements collateralized by U.S. Treasury instruments.

(Continued)

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

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

(e) Contributions Receivable

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

(f) Administrative Costs

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

(g) Other Income

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

(h) Due from State of Alaska General Fund

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

(i) Federal Income Tax Status

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

(3) Investments

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

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

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

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

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

Rate of Return

The money-weighted rate of return expresses investment performance, net of investment expense, adjusted for the changing amounts actually invested. The annual money-weighted rate of return, net of investment expense, for the year ended June 30, 2019 for the DB Pension Plan is 5.88%, for the ARHCT Plan is 6.03%, for the ODD Plan is 6.22%, and for the RMP is 6.21%.

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

(4) Net Pension Liability – Defined Benefit Pension Plan

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

Total pension liability	$	14,963,635
Plan fiduciary net position		(9,489,405)
Employers' net pension liability	$	5,474,230
Plan fiduciary net position as a percentage of the total pension liability		63.42%

(a) Actuarial Assumptions

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

Inflation	2.50% per year
Salary increases	For peace officer/firefighter, increases range from 7.75% to 2.75% based on service. For all others, increases range from 6.75% to 2.75% based on service.
Investment rate of return	7.38%, net of pension plan investment expenses. This is based on an average inflation rate of 2.50% and a real return of 4.88%.
Mortality	Pre-termination and post-termination mortality rates were based upon the 2013–2017 actual mortality experience. Pre-termination mortality rates were based on 100% of the RP-2014 table with MP-2017 generational improvement. Post-termination mortality rates were based on 91% of male and 96% of female rates of the RP-2014 table with MP-2017 generational improvement. Deaths are assumed to be occupational 75% of the time for peace officer/ firefighters, 40% of the time for all others.

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

The long-term expected rate of return on pension plan investments was determined using a building-block method in which best-estimate ranges of expected future real rates of return (expected

(Continued)

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

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

(b) Discount Rate

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

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

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

		1.00% decrease (6.38%)	Current discount rate (7.38%)	1.00% increase (8.38%)
Net pension liability	$	7,225,023	5,474,230	4,007,998

(5) Net OPEB Liability (Asset)

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

		ARHCT Plan	ODD Plan	RMP
Total OPEB liability	$	7,916,072	12,280	142,162
Plan fiduciary net position		(7,767,692)	(36,525)	(118,242)
Employers' net OPEB (asset) liability	$	148,380	(24,245)	23,920
Plan fiduciary net position as a percentage of the total OPEB liability		98.13%	297.43%	83.17%

(a) Actuarial Assumptions

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

Inflation	2.50% per year
Salary increases	Graded by service, from 7.75% to 2.75% for peace officer/firefighter Graded by service, from 6.75% to 2.75% for all others
Investment rate of return	7.38%, net of postretirement healthcare plan investment expenses. This is based on an average inflation rate of 2.50% and a real return of 4.88%.
Healthcare cost trend rates (ARHCT Plan and RMP)	Pre-65 medical: 7.5% grading down to 4.5% Post-65 medical: 5.5% grading down to 4.5% Prescription drug: 8.5% grading down to 4.5% EGWP: 8.5% grading down to 4.5%
Mortality	Pre-termination and post-termination mortality rates were based upon the 2013–2017 actual mortality experience. Post-termination mortality rates were based on 91% of the male rates and 96% of the female rates of the RP-2014 healthy annuitant table projected with MP-2017 generational improvement. The rates for pre-termination mortality were 100% of the RP-2014 employee table with MP-2017 generational improvement.
Participation (ARHCT)	100% system paid of members and their spouses are assumed to elect the healthcare benefits as soon as they are eligible 10% of non-system paid members and their spouses are assumed to elect the healthcare benefits as soon as they are eligible

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

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

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

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

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

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

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

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

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

Asset class	Long-term expected real rate of return	Allocation	Range
Broad domestic equity	8.16%	24.0% %	± 6%
Global equity (non-U.S.)	7.51	22.0	± 4
Intermediate treasuries	1.58	10.0	± 5
Opportunistic	3.96	10.0	± 5
Real assets	4.76	17.0	± 8
Private equity	11.39	9.0	± 5
Cash equivalents	0.83	1.0	+3/-1

(b) Discount Rate

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

(Continued)

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

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

		1.00% decrease (6.38%)	Current discount rate (7.38%)	1.00% increase (8.38%)
ARHCT Plan	$	1,193,531	148,380	(711,371)
ODD Plan		(22,998)	(24,245)	(25,253)
RMP		60,089	23,920	(3,303)

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

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

		1.00% decrease	Current healthcare cost trend rate	1.00% increase
ARHCT Plan	$	(811,925)	148,380	1,320,314
ODD Plan		N/A	N/A	N/A
RMP		(7,358)	23,920	66,746

(6) Claims Payable

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

(Continued)

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

		2019	2018
Total, beginning of year	$	45,677	43,006
Healthcare benefits		444,270	422,419
Benefits paid		(445,578)	(419,748)
Total, end of year	$	44,369	45,677
End of year:			
Incurred but not reported		44,369	45,677
Total, end of year	$	44,369	45,677

(7) Commitments and Contingencies

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

(8) Medicare Part D Retiree Drug Subsidy (RDS)

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

(9) Employer Group Waiver Program

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

REQUIRED SUPPLEMENTARY INFORMATION

(Unaudited)

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

Required Supplementary Information (Unaudited)

Schedule of Changes in Employer Net Pension Liability and Related Ratios – Defined Benefit Pension Plan

(In thousands)

	2019	2018	2017	2016	2015	2014	2013	2012
Total pension liability:								
Service cost	$ 157,708	170,816	184,411	172,304	184,712	160,828	167,203	172,968
Interest	1,118,574	1,108,068	1,072,312	1,049,226	1,020,947	940,786	927,692	887,361
Differences between expected and actual experience	(243,120)	(302,874)	(184,252)	(118,947)	10,791	—	56,229	42,847
Changes of assumptions	502,790	—	—	—	541,390	—	—	—
Benefit payments, including refunds of member contributions	(848,019)	(812,877)	(777,187)	(742,174)	(696,542)	(651,917)	(634,187)	(593,279)
Net change in total pension liability	687,933	163,133	295,284	360,409	1,061,298	449,697	516,937	509,897
Total pension liability – beginning	14,275,702	14,112,569	13,817,285	13,456,876	12,395,578	11,945,881	11,428,944	10,919,047
Total pension liability – ending (a)	14,963,635	14,275,702	14,112,569	13,817,285	13,456,876	12,395,578	11,945,881	11,428,944
Plan fiduciary net position:								
Contributions – employer	350,601	299,665	263,597	235,360	226,136	206,204	179,976	182,695
Contributions – member	79,609	84,956	89,345	96,024	100,036	106,565	110,808	112,703
Contributions – nonemployer entity (State)	67,857	72,719	99,167	88,586	1,000,000	176,794	164,087	130,912
Total net investment income (loss)	540,088	725,310	1,048,006	(49,967)	253,311	1,207,484	738,656	1,650
Benefit payments, including refunds of member contributions	(848,019)	(812,877)	(777,187)	(742,175)	(696,542)	(651,917)	(610,247)	(570,883)
Administrative expenses	(7,429)	(6,250)	(7,526)	(7,243)	(7,553)	(8,223)	(7,120)	(6,743)
Other income	23	25	38	240	36	49	28	35
Net change in plan fiduciary net position	182,730	363,548	715,440	(379,175)	875,424	1,036,956	576,188	(149,631)
Plan fiduciary net position – beginning	9,306,675	8,943,127	8,227,687	8,606,862	7,731,438	6,694,482	6,118,294	6,267,925
Plan fiduciary net position – ending (b)	9,489,405	9,306,675	8,943,127	8,227,687	8,606,862	7,731,438	6,694,482	6,118,294
Plan's net pension liability (a)–(b)	$ 5,474,230	4,969,027	5,169,442	5,589,598	4,850,014	4,664,140	5,251,399	5,310,650
Plan fiduciary net position as a percentage of the total pension liability	63.42 %	65.19 %	63.37 %	59.55 %	63.96 %	62.37 %	56.04 %	53.53 %
Covered payroll	$ 1,049,152	1,159,599	1,247,884	1,322,925	1,412,237	1,405,198	1,534,665	1,522,399
Net pension liability as a percentage of covered payroll	521.78 %	428.51 %	414.26 %	422.52 %	343.43 %	331.92 %	342.19 %	348.83 %

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

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

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

Required Supplementary Information (Unaudited)

Schedule of Employer and Nonemployer Contributions – Defined Benefit Pension Plan

Last 10 Fiscal Years

(In thousands)

	2019	2018	2017	2016	2015	2014	2013	2012	2011	2010
Actuarially determined contribution	$ 414,243	395,663	368,766	566,615	529,264	358,718	382,889	351,674	220,419	217,080
Contributions in relation to the actuarially determined contribution	418,458	372,383	362,764	323,946	1,226,136	382,998	344,063	313,607	204,262	186,617
Contribution deficiency (excess)	$ (4,215)	23,280	6,002	242,669	(696,872)	(24,280)	38,826	38,067	16,157	30,463
Covered payroll	$ 1,049,152	1,159,599	1,247,884	1,322,925	1,412,237	1,405,198	1,534,665	1,522,399	1,559,938	1,586,697
Contributions as a percentage of covered payroll	39.89 %	32.11 %	29.07 %	24.49 %	86.82 %	27.26 %	22.42 %	20.60 %	13.09 %	11.76 %

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

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

Required Supplementary Information (Unaudited)

Schedule of Investment Returns – Defined Benefit Pension Plan

	2019	2018	2017	2016	2015	2014
Annual money-weighted rate of return, net of investment expense	5.88 %	8.26 %	12.99 %	(0.68)%	3.12 %	18.43 %

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
PUBLIC EMPLOYEES' RETIREMENT SYSTEM
(A Component Unit of the State of Alaska)

Required Supplementary Information (Unaudited)

Schedule of Changes in Employer Net OPEB Liability and Related Ratios – Alaska Retiree Healthcare Trust Plan

(In thousands)

		2019	2018	2017
Total OPEB liability:				
Service cost	$	119,782	110,333	114,109
Interest		684,429	647,310	623,599
Differences between expected and actual experience		(147,463)	(149,287)	(28,042)
Changes of assumptions		(965,602)	259,497	—
Benefit payments, including refunds of member contributions		(420,429)	(413,273)	(405,872)
EGWP rebates		7,066	—	—
Net change in total OPEB liability		(722,217)	454,580	303,794
Total OPEB liability – beginning		8,638,289	8,183,709	7,879,915
Total OPEB liability – ending (a)		7,916,072	8,638,289	8,183,709
Plan fiduciary net position:				
Contributions – employer		102,266	85,731	124,541
Contributions – RDS		20,481	5,965	—
Total net investment income		449,098	598,342	859,980
Benefit payments		(444,143)	(422,378)	(405,872)
EGWP rebates		7,066	—	—
Pharmacy rebates		36,921	20,268	—
ASO fees		(13,207)	(11,163)	—
Net benefit payments		(413,363)	(413,273)	(405,872)
Administrative expenses, net of ASO fees		(3,665)	(3,822)	(15,960)
Other		874	106	43,009
Net change in plan fiduciary net position		155,691	273,049	605,698
Plan fiduciary net position – beginning		7,612,001	7,338,952	6,733,254
Plan fiduciary net position – ending (b)		7,767,692	7,612,001	7,338,952
Plan's net OPEB liability (a)–(b)	$	148,380	1,026,288	844,757
Plan fiduciary net position as a percentage of the total OPEB liability		98.13%	88.12%	89.68%
Covered payroll	$	1,049,152	1,159,599	1,247,884
Net OPEB liability as a percentage of covered payroll		14.14%	88.50%	67.70%

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
PUBLIC EMPLOYEES' RETIREMENT SYSTEM
(A Component Unit of the State of Alaska)

Required Supplementary Information (Unaudited)

Schedule of Employer and Nonemployer Contributions – Alaska Retiree Healthcare Trust Plan

Last 10 Fiscal Years

(In thousands)

	2019	2018	2017	2016	2015	2014	2013	2012	2011	2010
Actuarially determined contribution	$ 99,083	71,251	133,845	790,824	782,258	783,827	612,792	498,433	525,075	790,793
Contributions in relation to the actuarially determined contribution	102,266	85,731	124,541	193,564	171,028	340,458	373,205	334,941	362,188	313,683
Contribution deficiency (excess)	$ (3,183)	(14,480)	9,304	597,260	611,230	443,369	239,587	163,492	162,887	477,110
Covered payroll	$ 1,049,152	1,159,599	1,247,884	1,322,925	1,412,237	1,405,198	1,534,665	1,522,399	1,559,938	1,586,697
Contributions as a percentage of covered payroll	9.75 %	7.39 %	9.98 %	14.63 %	12.11 %	24.23 %	24.32 %	22.00 %	23.22 %	19.77 %

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

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

Required Supplementary Information (Unaudited)

Schedule of Investment Returns – Alaska Retiree Healthcare Trust Plan

	2019	2018	2017
Annual money-weighted rate of return, net of investment expense	6.03 %	8.35 %	12.69 %

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
PUBLIC EMPLOYEES' RETIREMENT SYSTEM
(A Component Unit of the State of Alaska)

Required Supplementary Information (Unaudited)

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

(In thousands)

	2019	2018	2017
Total OPEB liability:			
Service cost	$ 3,870	3,565	3,419
Interest	1,205	1,275	977
Differences between expected and actual experience	(3,252)	(5,625)	(470)
Changes in assumptions	(528)	—	—
Benefit payments, including refunds of member contributions	(398)	(392)	(313)
Net change in total OPEB liability	897	(1,177)	3,613
Total OPEB liability – beginning	11,383	12,560	8,947
Total OPEB liability – ending (a)	12,280	11,383	12,560
Plan fiduciary net position:			
Contributions – employer	4,083	2,215	2,196
Total net investment income	2,036	2,233	2,938
Benefit payments, including refunds of member contributions	(398)	(392)	(313)
Administrative expenses	(1)	—	(18)
Net change in plan fiduciary net position	5,720	4,056	4,803
Plan fiduciary net position – beginning	30,805	26,749	21,946
Plan fiduciary net position – ending (b)	36,525	30,805	26,749
Plan's net OPEB asset (a)–(b)	$ (24,245)	(19,422)	(14,189)
Plan fiduciary net position as a percentage of the total OPEB asset	297.43 %	270.62 %	212.97 %
Covered payroll	$ 1,218,186	1,131,411	1,059,791
Net OPEB asset as a percentage of covered payroll	(1.99)%	(1.72)%	(1.34)%

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
PUBLIC EMPLOYEES' RETIREMENT SYSTEM
(A Component Unit of the State of Alaska)

Required Supplementary Information (Unaudited)

Schedule of Employer and Nonemployer Contributions – Occupational Death and Disability Plan

Last 10 Fiscal Years

(In thousands)

	2019	2018	2017	2016	2015	2014	2013	2012	2011	2010
Actuarially determined contribution	$ 3,944	2,190	2,226	2,601	2,337	2,080	1,328	1,085	1,852	1,495
Contributions in relation to the actuarially determined contribution	4,083	2,215	2,196	3,104	2,790	2,372	1,541	1,582	1,852	1,495
Contribution deficiency (excess)	$ (139)	(25)	30	(503)	(453)	(292)	(213)	(497)	—	—
Covered payroll	$ 1,218,186	1,131,441	1,059,791	867,000	778,980	678,840	590,380	558,760	459,521	421,187
Contributions as a percentage of covered payroll	0.34 %	0.20 %	0.21 %	0.36 %	0.36 %	0.35 %	0.26 %	0.28 %	0.40 %	0.35 %

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

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

Required Supplementary Information (Unaudited)

Schedule of Investment Returns – Occupational Death and Disability Plan

	2019	**2018**	**2017**
Annual money-weighted rate of return, net of investment expense	6.22 %	8.06 %	11.97 %

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

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

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

Required Supplementary Information (Unaudited)

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

(In thousands)

	2019	2018	2017
Total OPEB liability:			
Service cost	$ 13,465	12,269	10,394
Interest	10,093	7,916	6,425
Differences between expected and actual experience	(1,340)	(724)	(46)
Change of assumptions	7,303	6,623	—
Benefit payments	(109)	(41)	—
EGWP rebates	10	—	—
Net change in total OPEB liability	29,422	26,043	16,773
Total OPEB liability – beginning	112,740	86,697	69,924
Total OPEB liability – ending (a)	142,162	112,740	86,697
Plan fiduciary net position:			
Contributions – employer	11,736	11,657	12,280
Contributions – RDS	9	—	—
Total net investment income	6,591	6,919	8,506
Benefit payments	(128)	(41)	—
EGWP rebates	10	—	—
Pharmacy rebates	19	—	—
Net benefit payments	(99)	(41)	—
Administrative expenses	(14)	(4)	(12)
Other	—	2	1
Net change in plan fiduciary net position	18,223	18,533	20,775
Plan fiduciary net position – beginning	100,015	81,482	60,707
Plan fiduciary net position – ending (b)	118,238	100,015	81,482
Plan's net OPEB liability (a)–(b)	$ 23,924	12,725	5,215
Plan fiduciary net position as a percentage of the total OPEB liability	83.17 %	88.71 %	93.98 %
Covered payroll	$ 1,218,186	1,131,441	1,059,791
Net OPEB liability as a percentage of covered payroll	1.96 %	1.12 %	0.49 %

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.

PUBLIC EMPLOYEES' RETIREMENT SYSTEM

(A Component Unit of the State of Alaska)

Required Supplementary Information (Unaudited)

Schedule of Employer and Nonemployer Contributions – Retiree Medical Plan

Last 10 Fiscal Years

(In thousands)

		2019	2018	2017	2016	2015	2014	2013	2012	2011	2010
Actuarially determined contribution	$	11,451	11,654	12,506	16,907	15,190	3,937	3,365	3,464	3,229	3,469
Contributions in relation to the actuarially determined contribution		11,736	11,657	12,280	16,184	14,552	3,708	3,195	2,850	2,527	3,031
Contribution deficiency (excess)	$	(285)	(3)	226	723	638	229	170	614	702	438
Covered payroll	$	1,218,186	1,131,441	1,059,791	867,000	778,980	678,840	590,380	558,760	459,521	421,187
Contributions as a percentage of covered payroll		0.96 %	1.03 %	1.16 %	1.87 %	1.87 %	0.55 %	0.54 %	0.51 %	0.55 %	0.72 %

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

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

Required Supplementary Information (Unaudited)

Schedule of Investment Returns – Retiree Medical Plan

	2019	2018	2017
Annual money-weighted rate of return, net of investment expense	6.21 %	7.89 %	11.93 %

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

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

(1) Actuarial Assumptions and Methods

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

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

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

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

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

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

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

(Continued)

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

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

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

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

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

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

(h) Mortality (pre-termination) – Mortality rates based upon 2013–2017 actual experience, 100% (male and female) of RP-2014 healthy annuitant table with MP-2017 generational improvement.

(i) Mortality (post-termination) – Mortality rates based upon the 2013–2017 actual experience. 91% of male and 96% of female rates of RP-2014 health annuitant table with MP-2017 generational improvement.

(j) Total turnover – Based upon the 2013–2017 actual experience

(Continued)

(k) Disability – Incidence rates based on 2013–2017 actual experience. Post-disability mortality in accordance with the RP-2014 disability table with MP-2017 generational improvement. Disabilities are assumed to be occupational 75% of the time for Peace Officer/Firefighters, 40% of the time for others.

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

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

(n) Percent married for pension – For others, 75% of male members and 70% female members are assumed to be married. For peace officer/firefighters, 85% of male members and 60% of female members are assumed to be married.

(o) Dependent spouse medical coverage election – Applies to members who do not have a dual medical coverage. For others, 65% of male members and 60% female members are assumed to be married and covered a dependent spouse. For peace officer/firefighters, 75% of male members and 50% of female members are assumed to be married and cover a dependent spouse.

(p) Dependent children – Benefits to dependent children have been valued only for members currently covering their dependent children. These benefits are only valued through the dependent children's age 23 (unless the child is disabled).

(q) Contribution refunds – For others, 5% of terminating members with vested benefits are assumed to have their contributions refunded. For peace officers/firefighters, 10% of terminating members with vested benefits are assumed to have their contributions refunded; 100% of those with nonvested benefits are assumed to have their contributions refunded.

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

(s) Active rehire assumption – The normal cost used for determining contribution rates and in the projections includes a rehire assumption to account for anticipated rehires. The normal cost includes the following percentage assumptions (which were developed based on the five years of rehire loss experience through June 30, 2017): For projections, these assumptions were assumed to grade to zero uniformly over a 20-year period. Pension – 18.7% and Healthcare – 17.09%.

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

(Continued)

(u) Cost of Living Allowance (COLA) – Of those benefit recipients who are eligible for the COLA, 70% of others and 65% of peace officer/firefighters are assumed to remain in Alaska and receive the COLA.

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

(w) Expenses – The investment return assumption is net of investment expenses. The Normal Cost as of June 30, 2018 was increased by the following amounts for administrative expenses (for projections, the % increase was assumed to remain constant in future years): Pension – $6,888,000 and Healthcare – $4,365,000.

(x) Part-time status – Part-time employees are assumed to earn 1.00 years of credited service per year for peace officer/firefighter and 0.75 years of credited service per year for other members.

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

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

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

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

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

(aa) Third-party administrator fees – $300 per person per year; assumed to increase at 4.5% per year

(bb) Medicare Part B Only – It's assumed that 5% of actives hired before April 1, 1986 and current retirees who are not yet Medicare eligible will not be eligible for Medicare Part A.

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

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

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

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

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

(dd) Aging factors:

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

(ee) Retired member contributions for medical benefits – Currently, contributions are required for System members who are under age 60 and have less than 30 years of service (25 for peace officers/ firefighters). Eligible Tier 1 members are exempt from contribution requirements. Annual FY19 contributions based on monthly rates shown below for calendar 2018 and 2019 are assumed based on the coverage category for current retirees. The composite rate shown is used for current active and inactive members in tier 2 or 3 who are assumed to retire prior to age 60 with less than 30 years of service and who are not disabled. For dependent children, the System values one-third of the annual retiree contribution is used to estimate the per-child rate based upon the assumed number of children in rates where children are covered.

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

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

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

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

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

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

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

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

(Continued)

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

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

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

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

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

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

(h) Mortality (pre-termination) – Based upon 2013–2017 actual mortality experience, 100% of male and female of RP-2014 employee table with MP-2017 generational improvement.

(i) Mortality (post-termination) – Based upon 2013–2017 actual mortality experience, 91% of male and 96% of female rates of the RP-2014 healthy annuitant table with MP-2017 generational improvement.

(j) Total turnover – Select and ultimate rates based upon the 2013–2017 actual experience

(k) Disability – Incidence rates based upon the 2013–2017 actual experience. Post-disability mortality in accordance with the RP-2014 disabled table with MP-2017 generational improvement. Disabilities are assumed to be occupational 75% of the time for peace officer/firefighters, 40% of the time for others. For peace officer/firefighters, members are assumed to take the monthly annuity 100% of the time.

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

(Continued)

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

(n) Percent married for occupational death and disability – For others, 75% of male members and 70% female members are assumed to be married. For peace officer/firefighters, 85% of male members and 60% of female members are assumed to be married.

(o) Dependent spouse medical coverage election – Applies to members who do not have dual medical coverage. For others 65% of male members and 60% female members are assumed to be married and cover a dependent spouse. For peace officer/firefighters, 75% of male members and 50% of female members are assumed to be married and cover a dependent spouse.

(p) Part-time status – Part-time employees are assumed to earn 1.00 years of credited service per year for peace officer/firefighters and 0.75 years of credited service per year for other members.

(q) Peace officer/firefighter occupational disability retirement benefit commencement – The occupational disability retirement benefit is assumed to be first payable from the member's DC account and the retirement benefit payable from the occupational death and disability trust will commence five years later.

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

		Medical	Prescription drugs
Pre-Medicare	$	13,535	3,360
Medicare Parts A and B		1,468	3,764
Medicare Part B Only		4,722	527
Medicare Part D		N/A	1,039

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

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

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

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

(u) 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.

(v) Administrative expenses – Beginning with the June 30, 2018 valuation, the normal cost is increased for administrative expenses expected to be paid for plan assets during the year. The amounts included in the June 30, 2018 normal cost, which are based on the average of actual administrative expenses during the last two fiscal years, are $9,300 for occupational death and disability and $7,600 for retiree medical.

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

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

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

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

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

(x) Aging factors:

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

(y) Retiree medical participation:

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

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

(z) Imputed data – Data changes from the prior year that are deemed to have immaterial impact on liabilities and contribution rates, are assumed to be correct in the current year's client data. 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.

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

Defined Benefit Pension and Postemployment Healthcare Benefit Plan

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

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

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

Effective for the June 30, 2018 valuation, the Board adopted changes to the demographic and economic assumptions recommended by the actuary, based on the results of an experience analysis performed on the population experience from July 1, 2013 to June 30, 2017. The changes in assumptions/methods were adopted by the Board during the January 2019 Board meeting. The new assumptions/methods increased the Actuarial Accrued Liability as of June 30, 2018 by approximately $555 million (pension) and $761 million (healthcare). Healthcare claim costs are updated annually.

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

There have been no changes in the PERS benefit provisions since the prior valuation. However, EGWP became effective as of January 1, 2019. This arrangement replaced the Retiree Drug Subsidy under Medicare Part D and resulted in larger projected subsidies to offset the cost of prescription drug coverage. This change decreased the healthcare actuarial accrued liability as of June 30, 2018 by approximately $711 million.

Defined Contribution Occupational Death and Disability and Retiree Medical Benefits Plan

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

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

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

Effective for the June 30, 2018 valuation, the Board adopted changes to the demographic and economic assumptions recommended by the actuary, based on the results of an experience analysis performed on the population experience from July 1, 2013 to June 30, 2017. The changes in assumptions/methods were adopted by the Board during the January 2019 Board meeting. The effect of the new assumptions/methods was to decrease the Actuarial Accrued Liability as of June 30, 2018 by approximately $10.5 million. Healthcare claim costs are updated annually.

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

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

SUPPLEMENTAL SCHEDULES

Schedule 1

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

Schedule of Administrative and Investment Deductions

Years ended June 30, 2019 and 2018

(In thousands)

				Totals	
		Administrative	**Investment**	**2019**	**2018**
Personal services:					
Wages	$	4,899	302	5,201	4,899
Benefits		2,980	126	3,106	2,570
Total personal services		7,879	428	8,307	7,469
Travel:					
Transportation		16	65	81	120
Per diem		3	12	15	19
Total travel		19	77	96	139
Contractual services:					
Management and consulting		16,672	6,129	22,801	22,316
Accounting and auditing		189	19	208	132
Data processing		1,331	746	2,077	2,033
Communications		85	25	110	154
Advertising and printing		59	2	61	63
Rentals/leases		375	89	464	440
Legal		423	90	513	330
Medical specialists		56	—	56	66
Repairs and maintenance		91	4	95	21
Transportation		154	3	157	171
Securities lending expense		—	269	269	456
Other professional services		344	37	381	121
Total contractual services		19,779	7,413	27,192	26,303
Other:					
Equipment		79	20	99	90
Supplies		26	91	117	105
Total other		105	111	216	195
Total administrative and investment deductions	$	27,782	8,029	35,811	34,106

See accompanying independent auditors' report.

Schedule 2

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

Schedule of Payments to Consultants Other Than Investment Advisors

Years ended June 30, 2019 and 2018

(In thousands)

Firm	Services	2019	2018
Buck Global LLC (formerly Conduent Human Resource Services)	Actuarial services	$ 709	701
Health Management Systems	Auditing services	—	251
KPMG LLP	Auditing services	173	99
State Street Bank and Trust	Custodial banking services	1,025	851
Alaska IT Group	Data processing services	351	333
Applied Microsystems Incorporated	Data processing services	385	330
Genesys Telecommunications Lab	Data processing services	—	18
International Business Machines	Data processing services	35	18
Resource Data Inc.	Data processing services	41	—
SHI International Corporation	Data processing services	287	429
Sungard Availability Services	Data processing services	33	33
State of Alaska, Department of Law	Legal services	499	310
Agnew Beck Consulting	Management consulting services	28	—
Arizona State University	Management consulting services	—	19
Maximus Incorporated	Management consulting services	—	1
The Segal Company Incorporated	Management consulting services	294	245
Managed Medical Review Origination	Medical specialist and consulting	44	59
		$ 3,904	3,697

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

See accompanying independent auditors' report.