State of Alaska

Teachers' Retirement System Defined Contribution Retirement Plan

For Occupational Death and Disability and Retiree Medical Benefits

Actuarial Valuation Report

As of June 30, 2019

May 2020

BUCK

May 7, 2020

State of Alaska
The Alaska Retirement Management Board
The Department of Revenue, Treasury Division
The Department of Administration, Division of Retirement and Benefits
P.O. Box 110203
Juneau, AK 99811-0203

Certification of Actuarial Valuation

Dear Members of The Alaska Retirement Management Board, The Department of Revenue and The Department of Administration:

This report summarizes the annual actuarial valuation results of the State of Alaska Teachers' Retirement System Defined Contribution Retirement (TRS DCR) Plan as of June 30, 2019 performed by Buck Global, LLC (Buck).

The actuarial valuation is based on financial information provided in the financial statements audited by KPMG LLP, member data provided by the Division of Retirement and Benefits, and medical enrollment data provided by the healthcare claims administrator (Aetna), as summarized in this report. The benefits considered are those delineated in Alaska statutes effective June 30, 2019. The actuary did not verify the data submitted, but did perform tests for consistency and reasonableness.

All costs, liabilities and other factors under TRS DCR were determined in accordance with generally accepted actuarial principles and procedures. An actuarial cost method is used to measure the actuarial liabilities which we believe is reasonable. Buck is solely responsible for the actuarial data and actuarial results presented in this report. This report fully and fairly discloses the actuarial position of TRS DCR as of June 30, 2019.

TRS DCR is funded by Employer Contributions in accordance with the funding policy adopted by the Alaska Retirement Management Board (Board). The funding objective for TRS DCR is to pay required contributions that remain level as a percent of TRS DCR compensation. The Board has also established a funding policy objective that the required contributions be sufficient to pay the Normal Costs of active plan members, plan expenses, and amortize the Unfunded Actuarial Accrued Liability as a level percent of TRS DCR compensation over closed layered 25-year periods. This objective is currently being met and is projected to continue to be met as required by the Alaska State statutes. Absent future gains/losses, actuarially determined contributions are expected to remain level as a percent of pay and the overall funded status is expected to remain at or above 100%.

The Board and staff of the State of Alaska may use this report for the review of the operations of TRS DCR. Use of this report, for any other purpose or by anyone other than the Board or staff of the State of Alaska may not be appropriate and may result in mistaken conclusions because of failure to understand applicable assumptions, methods or inapplicability of the report for that purpose. Because of the risk of misinterpretation of actuarial results, you should ask Buck to review any statement you wish to make on the results contained in this report. Buck will not accept any liability for any such statement made without the review by Buck.

Future actuarial measurements may differ significantly from current measurements due to plan experience differing from that anticipated by the economic and demographic assumptions, increases or decreases expected as part of the natural operation of the methodology used for these measurements, and changes in plan provisions or applicable law. In particular, retiree group benefits models necessarily rely on the use of approximations and estimates and are sensitive to changes in these approximations and estimates. Small variations in these approximations and estimates may lead to significant changes in actuarial measurements. An analysis of the potential range of such future differences is beyond the scope of this valuation.

In our opinion, the actuarial assumptions used are reasonable, taking into account the experience of the plan and reasonable long-term expectations, and represent our best estimate of the anticipated long-term experience under the plan. The actuary performs an analysis of plan experience periodically and recommends changes if, in the opinion of the actuary, assumption changes are needed to more accurately reflect expected future experience. The last full experience analysis was performed for the period July 1, 2013 to June 30, 2017. Based on that experience study, the Board adopted new assumptions effective beginning with the June 30, 2018 valuation to better reflect expected future experience. Based on our annual analysis of recent claims experience, changes were made to the per capita claims cost rates effective June 30, 2019 to better reflect expected future healthcare experience. A summary of the actuarial assumptions and methods used in this actuarial valuation is shown in Sections 4.2 and 4.3.

Governmental Accounting Standards Board (GASB) Statement No. 74 (GASB 74) was effective for TRS DCR beginning with fiscal year ending June 30, 2017, and GASB 75 was effective beginning with fiscal year ending June 30, 2018. Separate GASB 74 and GASB 75 reports have been prepared.

Assessment of Risks

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

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

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

Respectfully submitted,

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

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

Scott Young, FSA, EA, MAAA
Director
Buck

Contents

Executive Summary

Overview

The State of Alaska Teachers' Retirement System Defined Contribution Retirement (TRS DCR) Plan provides occupational death & disability and retiree medical benefits to teachers and other eligible members hired after June 30, 2006 or who have elected participation in this plan. The Commissioner of the Department of Administration is responsible for administering the plan. The Alaska Retirement Management Board has fiduciary responsibility over the assets of the plan. This report presents the results of the actuarial valuation of TRS DCR as of the valuation date of June 30, 2019.

Purpose

An actuarial valuation is performed on the plan annually as of the end of the fiscal year. The main purposes of the actuarial valuation detailed in this report are:

1. To determine the Employer contribution necessary to meet the Board's funding policy for the plan;
2. To disclose the funding assets and liability measures as of the valuation date;
3. To review the current funded status of the plan and assess the funded status as an appropriate measure for determining actuarially determined contributions;
4. To compare actual and expected experience under the plan during the last fiscal year; and
5. To report trends in contributions, assets, liabilities, and funded status over the last several years.

The actuarial valuation provides a "snapshot" of the funded position of TRS DCR based on the plan provisions, membership data, assets, and actuarial methods and assumptions as of the valuation date.

Funded Status

Where presented, references to "funded ratio" and "unfunded actuarial accrued liability" typically are measured on an actuarial value of assets basis. It should be noted that the same measurements using market value of assets would result in different funded ratios and unfunded accrued liabilities. Moreover, the funded ratio presented is appropriate for evaluating the need and level of future contributions but makes no assessment regarding the funded status of the plan if the plan were to settle (i.e. purchase annuities) for a portion or all of its liabilities.

Funded Status as of June 30 ($'s in 000's)	2018	2019
a. Actuarial Accrued Liability	$ 32,459	$ 33,221
b. Valuation Assets	40,621	46,666
c. Unfunded Actuarial Accrued Liability, (a) - (b)	$ (8,162)	$ (13,445)
d. Funded Ratio based on Valuation Assets, (b) ÷ (a)	125.1%	140.5%
e. Fair Value of Assets	$ 40,461	$ 46,395
f. Funded Ratio based on Fair Value of Assets, (e) ÷ (a)	124.7%	139.7%

The key reasons for the change in the funded status are explained below. The funded status for healthcare benefits is not necessarily an appropriate measure to confirm that assets are sufficient to settle health plan obligations as there are no available financial instruments for purchase. Future experience is likely to vary from assumptions so there is potential for actuarial gains or losses.

1. Investment Experience

The approximate FY19 investment return based on fair value of assets was 6.2% compared to the expected investment return of 7.38% (net of investment expenses of approximately 0.04%). This resulted in a loss of approximately $508,000 to the plan from investment experience. The asset valuation method recognizes 20 percent of this loss ($102,000) this year and an additional 20 percent in each of the next 4 years. In addition, 20 percent of the FY15 investment loss, 20 percent of the FY16 investment loss, 20 percent of the FY17 investment gain and 20 percent of the FY18 investment loss were recognized this year. The approximate FY19 asset return based on actuarial value of assets was 6.4% compared to the expected asset return of 7.38% (net of investment expenses).

2. Salary Increases

Salary increases for continuing active members during FY19 were less than anticipated based on the valuation assumptions, resulting in a very small liability gain of approximately $1,000.

3. Demographic Experience

The number of active members increased 1.7% from 4,915 at June 30, 2018 to 4,998 at June 30, 2019. The average age of active members increased from 40.64 to 41.06 and average credited service increased from 5.30 to 5.67 years.

The demographic experience gains/losses are shown on page 4.

4. Retiree Medical Claims Experience

Please refer to the State of Alaska Teachers' Retirement System (TRS) Defined Benefit Plan Actuarial Valuation Report as of June 30, 2019 for a full description of the assumptions and costs of the retiree medical plan. Adjustments to these costs and assumptions are described in this report.

Beginning January 1, 2019, Rx benefits were provided through a new contract with Optum. This change in vendors resulted in lower actual (and future expected) claims and higher rebates. The recent claims experience described in Section 4.2 of this report (Section 5.2 of the TRS report) created an actuarial gain of approximately $4,135,000. Approximately 95% of the gain in FY19 was attributable to Rx experience, the majority of which was due to the change in Rx vendors.

5. Changes in Methods Since the Prior Valuation

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

6. Changes in Assumptions Since the Prior Valuation

Healthcare claim costs are updated annually as described in Section 4.2. The Further Consolidated Appropriations Act, 2020 that was signed in December 2019 made several changes, including the repeal of the Cadillac Tax. The repeal of the Cadillac Tax reduced the plan's liabilities as of June 30, 2019 by approximately $286,000. The amounts included in Normal Cost for administrative expenses were updated based on the last two years of actual administrative expenses paid from plan assets. There were no other changes in actuarial assumptions since the prior valuation.

7. Changes in Benefit Provisions Since the Prior Valuation

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

Comparative Summary of Key Actuarial Valuation Results

Total Employer Contribution Rates for Occupational Death & Disability for Fiscal Year:	2021	2022
a. Employer Normal Cost Rate	0.08%	0.08%
b. Past Service Cost Rate	(0.09)%	(0.09)%
c. Total Employer Contribution Rate, (a) + (b), not less than (a)	0.08%	0.08%

Total Employer Contribution Rates for Retiree Medical for Fiscal Year:	2021	2022
a. Employer Normal Cost Rate	0.93%	0.83%
b. Past Service Cost Rate	(0.07)%	(0.15)%
c. Total Employer Contribution Rate, (a) + (b), not less than (a)	0.93%	0.83%

The exhibit below shows the historical Board-adopted employer contribution rates for TRS DCR.

		Total Employer Contribution Rate		
Valuation Date	Fiscal Year	Occupational Death & Disability	Retiree Medical	Total
N/A	FY07	N/A	1.75%	1.75%
N/A	FY08	0.56%	0.99%	1.55%
N/A	FY09	0.62%	0.99%	1.61%
June 30, 2007	FY10	0.32%	1.03%	1.35%
June 30, 2008	FY11	0.28%	0.68%	0.96%
June 30, 2009	FY12	0.00%	0.58%	0.58%
June 30, 2010	FY13	0.00%	0.49%	0.49%
June 30, 2011	FY14	0.00%	0.47%	0.47%
June 30, 2012	FY15	0.00%	2.04%	2.04%
June 30, 2013	FY16	0.00%	2.04%	2.04%
June 30, 2014	FY17	0.00%	1.05%	1.05%
June 30, 2015	FY18	0.00%	0.91%	0.91%
June 30, 2016	FY19	0.08%	0.79%	0.87%
June 30, 2017	FY20	0.08%	1.09%	1.17%
June 30, 2018	FY21	0.08%	0.93%	1.01%
June 30, 2019	FY22	TBD	TBD	TBD

Summary of Actuarial Accrued Liability Gain/(Loss)

The following table shows the FY19 gain/(loss) on actuarial accrued liability as of June 30, 2019 ($'s in 000's):

	Occupational Death & Disability	Retiree Medical	Total
Retirement Experience	$ 0	$ 218	$ 218
Termination Experience	(5)	1,926	1,921
Active Mortality Experience	108	(43)	65
Inactive Mortality Experience	0	58	58
Disability Experience	191	(20)	171
New Entrants	(208)	(600)	(808)
Rehires	(1)	(873)	(874)
Salary Increases	1	N/A	1
Medical Claims Costs[1]	N/A	4,135	4,135
Cadillac Tax – Medical Claims Costs	N/A	389	389
Cadillac Tax – Repeal	N/A	286	286
Miscellaneous	(27)	(222)	(249)
Total	$ 59	$ 5,254	$ 5,313

[1] Beginning January 1, 2019, Rx benefits were provided through a new contract with Optum. This change in vendors resulted in lower actual (and future expected) claims and higher rebates. Approximately 95% of the gain shown in this table was due to Rx experience, the majority of which was due to the change in Rx vendors.

Section 1: Actuarial Funding Results

Section 1.1: Actuarial Liabilities and Normal Cost ($'s in 000's)

As of June 30, 2019	Present Value of Projected Benefits		Actuarial Accrued (Past Service) Liability	
Active Members				
Occupational Death Benefits	$	731	$	78
Occupational Disability Benefits		1,211		(47)
Medical and Prescription Drug Benefits		65,464		40,417
Medicare Part D Subsidy		(13,089)		(8,083)
Subtotal	$	54,317	$	32,365
Benefit Recipients				
Survivor Benefits	$	0	$	0
Disability Benefits		209		209
Medical and Prescription Drug Benefits		807		807
Medicare Part D Subsidy		(160)		(160)
Subtotal	$	856	$	856
Total	**$**	**55,173**	**$**	**33,221**
Total Occupational Death & Disability	**$**	**2,151**	**$**	**240**
Total Retiree Medical, Net of Part D Subsidy	**$**	**53,022**	**$**	**32,981**
Total Retiree Medical, Gross of Part D Subsidy	**$**	**66,271**	**$**	**41,224**

As of June 30, 2019	Normal Cost	
Active Members		
Occupational Death Benefits	$	101
Occupational Disability Benefits		183
Medical and Prescription Drug Benefits		3,708
Medicare Part D Subsidy		(741)
Subtotal	$	3,251
Administrative Expense Load		
Occupational Death & Disability	$	0
Retiree Medical		5
Subtotal	$	5
Total	**$**	**3,256**
Total Occupational Death & Disability	**$**	**284**
Total Retiree Medical, Net of Part D Subsidy	**$**	**2,972**
Total Retiree Medical, Gross of Part D Subsidy	**$**	**3,713**

Section 1.2: Actuarial Contributions as of June 30, 2019 for FY22 ($'s in 000's)

Normal Cost Rate	Occupational Death & Disability	Retiree Medical	Total
1. Total Normal Cost	$ 284	$ 2,972	$ 3,256
2. DCR Plan Rate Payroll Projected for FY20	359,622	359,622	359,622
3. Employer Normal Cost Rate, (1) ÷ (2)	0.08%	0.83%	0.91%
Past Service Cost Rate			
1. Actuarial Accrued Liability	$ 240	$ 32,981	$ 33,221
2. Valuation Assets	4,359	42,307	46,666
3. Unfunded Actuarial Accrued Liability, (1) - (2)	$ (4,119)	$ (9,326)	$ (13,445)
4. Funded Ratio based on Valuation Assets	1,816.3%	128.3%	140.5%
5. Past Service Cost Amortization Payment	(326)	(555)	(881)
6. DCR Plan Rate Payroll Projected for FY20	359,622	359,622	359,622
7. Past Service Cost Rate, (5) ÷ (6)	(0.09%)	(0.15%)	(0.24%)
Total Employer Contribution Rate, not less than Normal Cost Rate	**0.08%**	**0.83%**	**0.91%**

The table below shows the total employer contribution rate based on total DB and DCR Plan payroll for informational purposes.

Total Employer Contribution Rate as Percent of Total Payroll	Occupational Death & Disability	Retiree Medical	Total
1. Total Normal Cost	$ 284	$ 2,972	$ 3,256
2. Total DB and DCR Plan Rate Payroll Projected for FY20	725,659	725,659	725,659
3. Employer Normal Cost Rate, (1) ÷ (2)	0.04%	0.41%	0.45%
4. Past Service Cost Amortization Payment	(326)	(555)	(881)
5. Past Service Cost Rate, (4) ÷ (2)	(0.04%)	(0.08%)	(0.12%)
Total Employer Contribution Rate, not less than Normal Cost Rate	**0.04%**	**0.41%**	**0.45%**

Schedule of Past Service Cost Amortizations - Occupational Death & Disability ($'s in 000's)

	Amortization Period		Balances		
Layer	Date Created	Years Remaining	Initial	Outstanding	Beginning-of-Year Payment
Initial Unfunded Liability	06/30/2007	13	$ 16	$ 15	$ 1
FY08 Gain	06/30/2008	14	(392)	(391)	(37)
Change in Assumptions	06/30/2009	15	(82)	(82)	(7)
FY09 Gain	06/30/2009	15	(594)	(605)	(54)
Change in Assumptions	06/30/2010	16	(7)	(8)	(1)
FY10 Gain	06/30/2010	16	(479)	(492)	(42)
FY11 Gain	06/30/2011	17	(560)	(578)	(47)
FY12 Gain	06/30/2012	18	(129)	(135)	(11)
FY13 Gain	06/30/2013	19	(149)	(154)	(12)
Change in Assumptions	06/30/2014	20	(50)	(53)	(4)
PRPA Modification	06/30/2014	20	(25)	(25)	(2)
FY14 Gain	06/30/2014	20	(255)	(263)	(19)
FY15 Gain	06/30/2015	21	(275)	(283)	(20)
FY16 Gain	06/30/2016	22	(209)	(215)	(15)
FY17 Gain	06/30/2017	23	(251)	(254)	(17)
Change in Assumptions[1]	06/30/2018	24	0	0	0
FY18 Gain	06/30/2018	24	(257)	(258)	(17)
FY19 Gain	06/30/2019	25	(338)	(338)	(22)
Total				**$ (4,119)**	**$ (326)**

[1] The net effect of changing assumptions was less than $1,000.

Schedule of Past Service Cost Amortizations - Retiree Medical ($'s in 000's)

	Amortization Period		Balances		
Layer	Date Created	Years Remaining	Initial	Outstanding	Beginning-of-Year Payment
Initial Unfunded Liability	06/30/2007	13	$ (239)	$ (238)	$ (24)
Change in Assumptions	06/30/2008	14	84	88	8
FY08 Gain	06/30/2008	14	(393)	(391)	(37)
Change in Assumptions	06/30/2009	15	(69)	(68)	(6)
FY09 Gain	06/30/2009	15	(281)	(288)	(26)
Change in Assumptions[1]	06/30/2010	16	0	0	0
FY10 Gain	06/30/2010	16	(545)	(559)	(48)
FY11 Gain	06/30/2011	17	(94)	(96)	(8)
Change in Assumptions	06/30/2012	18	11,518	11,948	941
FY12 Gain	06/30/2012	18	(60)	(59)	(5)
FY13 Loss	06/30/2013	19	3,439	3,571	271
Change in Assumptions	06/30/2014	20	(9,736)	(10,082)	(742)
FY14 Loss	06/30/2014	20	1,616	1,672	123
FY15 Gain	06/30/2015	21	(3,485)	(3,592)	(257)
EGWP Impact	06/30/2016	22	(6,400)	(6,552)	(455)
FY16 Loss	06/30/2016	22	958	983	68
Change in Assumptions	06/30/2017	23	7,645	7,759	525
FY17 Gain	06/30/2017	23	(1,451)	(1,473)	(100)
Change in Assumptions/Methods	06/30/2018	24	(9,505)	(9,547)	(631)
FY18 Loss	06/30/2018	24	2,491	2,502	165
FY19 Gain	06/30/2019	25	(4,904)	(4,904)	(317)
Total				**$ (9,326)**	**$ (555)**

[1] The net effect of changing assumptions was less than $1,000. The demographic assumption changes decreased liability by $133,000 and the economic assumptions changes increased the liability by $133,000. Therefore, the net effect of all assumptions changes is $0 for amortization purposes.

Schedule of Past Service Cost Amortizations - Total ($'s in 000's)

	Amortization Period		Balances		
Layer	Date Created	Years Remaining	Initial	Outstanding	Beginning-of-Year Payment
Initial Unfunded Liability	06/30/2007	13	$ (223)	$ (223)	$ (23)
Change in Assumptions	06/30/2008	14	84	88	8
FY08 Gain	06/30/2008	14	(785)	(782)	(74)
Change in Assumptions	06/30/2009	15	(151)	(150)	(13)
FY09 Gain	06/30/2009	15	(875)	(893)	(80)
Change in Assumptions	06/30/2010	16	(7)	(8)	(1)
FY10 Gain	06/30/2010	16	(1,024)	(1,051)	(90)
FY11 Gain	06/30/2011	17	(654)	(674)	(55)
Change in Assumptions	06/30/2012	18	11,518	11,948	941
FY12 Gain	06/30/2012	18	(189)	(194)	(16)
FY13 Loss	06/30/2013	19	3,290	3,417	259
Change in Assumptions	06/30/2014	20	(9,786)	(10,135)	(746)
PRPA Modification	06/30/2014	20	(25)	(25)	(2)
FY14 Loss	06/30/2014	20	1,361	1,409	104
FY15 Gain	06/30/2015	21	(3,760)	(3,875)	(277)
EGWP Impact	06/30/2016	22	(6,400)	(6,552)	(455)
FY16 Loss	06/30/2016	22	749	768	53
Change in Assumptions	06/30/2017	23	7,645	7,759	525
FY17 Gain	06/30/2017	23	(1,702)	(1,727)	(117)
Change in Assumptions/Methods	06/30/2018	24	(9,505)	(9,547)	(631)
FY18 Loss	06/30/2018	24	2,234	2,244	148
FY19 Gain	06/30/2019	25	(5,242)	(5,242)	(339)
Total				**$ (13,445)**	**$ (881)**

Section 1.3: Actuarial Gain/(Loss) for FY19 ($'s in 000's)

	Occupational Death & Disability	Retiree Medical	Total
1. Expected Actuarial Accrued Liability			
a. Actuarial Accrued Liability as of June 30, 2018	$ 30	$ 32,429	$ 32,459
b. Normal Cost	272	3,209	3,481
c. Interest on (a) and (b) at 7.38%	22	2,630	2,652
d. Medicare Part D Subsidy and EGWP	0	3	3
e. Benefit Payments	(24)	(35)	(59)
f. Interest on (d) and (e) at 7.38%, adjusted for timing	(1)	(1)	(2)
g. Assumption/Method Changes	0	0	0
h. Expected Actuarial Accrued Liability as of June 30, 2019 (a) + (b) + (c) + (d) + (e) + (f) + (g)	$ 299	$ 38,235	$ 38,534
2. Actual Actuarial Accrued Liability as of June 30, 2019	240	32,981	33,221
3. Liability Gain/(Loss), (1)(h) - (2)	**$ 59**	**$ 5,254**	**$ 5,313**
4. Expected Actuarial Asset Value			
a. Actuarial Asset Value as of June 30, 2018	$ 3,845	$ 36,776	$ 40,621
b. Interest on (a) at 7.38%	284	2,714	2,998
c. Employer Contributions	312	3,085	3,397
d. Medicare Part D Subsidy and EGWP	0	3	3
e. Interest on (c) and (d) at 7.38%, adjusted for timing	11	112	123
f. Benefit Payments	(24)	(35)	(59)
g. Administrative Expenses	0	(6)	(6)
h. Interest on (f) and (g) at 7.38%, adjusted for timing	(1)	(1)	(2)
i. Expected Actuarial Asset Value as of June 30, 2019, (a) + (b) + (c) + (d) + (e) + (f) + (g) + (h)	$ 4,427	$ 42,648	$ 47,075
5. Actuarial Asset Value as of June 30, 2019	4,359	42,307	46,666
6. Actuarial Asset Gain/(Loss), (5) - (4)(i)	**$ (68)**	**$ (341)**	**$ (409)**
7. Total Actuarial Gain/(Loss), (3) + (6)	**$ (9)**	**$ 4,913**	**$ 4,904**
8. Contribution Gain/(Loss)	**$ 341**	**$ (11)**	**$ 330**
9. Administrative Expense Gain/(Loss)	**$ 6**	**$ 2**	**$ 8**
10. FY19 Gain/(Loss), (7) + (8) + (9)	**$ 338**	**$ 4,904**	**$ 5,242**

Section 1.4: History of Unfunded Liability and Funded Ratio ($'s in 000's)

Valuation Date	Actuarial Accrued Liability	Valuation Assets	Assets as a Percent of Actuarial Accrued Liability	Unfunded Actuarial Accrued Liability (UAAL)
June 30, 2007	$ 374	$ 597	159.7%	$ (223)
June 30, 2008	801	1,728	215.7%	(927)
June 30, 2009	1,460	3,424	234.5%	(1,964)
June 30, 2010	2,448	5,472	223.5%	(3,024)
June 30, 2011	3,858	7,566	196.1%	(3,708)
June 30, 2012	16,874	9,285	55.0%	7,589
June 30, 2013	22,138	11,146	50.3%	10,992
June 30, 2014	16,296	13,611	83.5%	2,685
June 30, 2015	19,797	20,847	105.3%	(1,050)
June 30, 2016	22,007	28,733	130.6%	(6,726)
June 30, 2017	33,707	34,586	102.6%	(879)
June 30, 2018	32,459	40,621	125.1%	(8,162)
June 30, 2019	33,221	46,666	140.5%	(13,445)

Section 2: Plan Assets

Section 2.1: Summary of Fair Value of Assets ($'s in 000's)

As of June 30, 2019	Occupational Death & Disability	Retiree Medical	Total	Allocation Percent
Cash and Short-Term Investments				
- Cash and Cash Equivalents	$ 88	$ 853	$ 941	2.0%
- Subtotal	$ 88	$ 853	$ 941	2.0%
Fixed Income Investments				
- Domestic Fixed Income Pool	$ 451	$ 4,381	$ 4,832	10.5%
- International Fixed Income Pool	0	0	0	0.0%
- Tactical Fixed Income Pool	117	1,133	1,250	2.7%
- High Yield Pool	0	0	0	0.0%
- Treasury Inflation Protection Pool	0	0	0	0.0%
- Emerging Debt Pool	0	0	0	0.0%
- Subtotal	$ 568	$ 5,514	$ 6,082	13.2%
Equity Investments				
- Domestic Equity Pool	$ 992	$ 9,648	$ 10,640	23.1%
- International Equity Pool	788	7,654	8,442	18.3%
- Private Equity Pool	452	4,396	4,848	10.5%
- Emerging Markets Equity Pool	155	1,506	1,661	3.6%
- Alternative Equity	301	2,927	3,228	7.0%
- Subtotal	$ 2,688	$ 26,131	$ 28,819	62.5%
Other Investments				
- Real Estate Pool	$ 291	$ 2,829	$ 3,120	6.8%
- Other Investments Pool	418	4,068	4,486	9.7%
- Absolute Return Pool	248	2,406	2,654	5.8%
- Other Assets	0	0	0	0.0%
- Subtotal	$ 957	$ 9,303	$ 10,260	22.3%
Total Cash and Investments	$ 4,301	$ 41,801	$ 46,102	100.0%
Net Accrued Receivables	27	266	293	
Net Assets	$ 4,328	$ 42,067	$ 46,395	

Section 2.2: Changes in Fair Value of Assets During FY19 ($'s in 000's)

Fiscal Year 2019	Occupational Death & Disability	Retiree Medical	Total
1. Fair Value of Assets as of June 30, 2018	$ 3,797	$ 36,664	$ 40,461
2. Additions:			
a. Member Contributions	$ 0	$ 0	$ 0
b. Employer Contributions	312	3,085	3,397
c. Interest and Dividend Income	72	700	772
d. Net Appreciation/(Depreciation) in Fair Value of Investments	172	1,671	1,843
e. Medicare Part D Subsidy	0	3	3
f. Other	0	0	0
g. Total Additions	$ 556	$ 5,459	$ 6,015
3. Deductions:			
a. Medical Benefits	$ 0	$ 35	$ 35
b. Death & Disability Benefits	24	0	24
c. Investment Expenses	1	15	16
d. Administrative Expenses	0	6	6
e. Total Deductions	$ 25	$ 56	$ 81
4. Fair Value of Assets as of June 30, 2019	$ 4,328	$ 42,067	$ 46,395
Approximate Fair Value Investment Return Rate during FY19 Net of Investment Expenses	6.17%	6.17%	6.17%

Section 2.3: Development of Actuarial Value of Assets ($'s in 000's)

The actuarial value of assets and the fair value were $0 at June 30, 2006. Investment gains and losses are recognized 20% per year over 5 years. In no event may valuation assets be less than 80% or more than 120% of fair value as of the current valuation date.

	Occupational Death & Disability	Retiree Medical	Total
1. Investment Gain/(Loss) for FY19			
a. Fair Value as of June 30, 2018	$ 3,797	$ 36,664	$ 40,461
b. Contributions	312	3,085	3,397
c. Medicare Part D Subsidy	0	3	3
d. Benefit Payments	24	35	59
e. Administrative Expenses	0	6	6
f. Actual Investment Return (net of investment expenses)	243	2,356	2,599
g. Expected Return Rate (net of investment expenses)	7.38%	7.38%	7.38%
h. Expected Return	291	2,816	3,107
i. Investment Gain/(Loss) for the Year (f) - (h)	(48)	(460)	(508)
2. Actuarial Value as of June 30, 2019			
a. Fair Value as of June 30, 2019	$ 4,328	$ 42,067	$ 46,395
b. Deferred Investment Gain/(Loss)	(31)	(240)	(271)
c. Preliminary Actuarial Value as of June 30, 2019, (a) - (b)	4,359	42,307	46,666
d. Upper Limit: 120% of Fair Value as of June 30, 2019	5,193	50,480	55,673
e. Lower Limit: 80% of Fair Value as of June 30, 2019	3,463	33,654	37,117
f. Actuarial Value as of June 30, 2019, (c) limited by (d) and (e)	4,359	42,307	46,666
3. Ratio of Actuarial Value of Assets to Fair Value of Assets	100.7%	100.6%	100.6%
4. Approximate Actuarial Value Investment Return Rate during FY19 Net of Investment Expenses	5.67%	6.49%	6.40%

The tables below show the development of the gains/(losses) to be recognized in the current year ($'s in 000's):

Occupational Death & Disability				
Fiscal Year Ending	Asset Gain/(Loss)	Gain/(Loss) Recognized in Prior Years	Gain/(Loss) Recognized This Year	Gain/(Loss) Deferred to Future Years
June 30, 2015	$ (168)	$ (136)	$ (32)	$ 0
June 30, 2016	(269)	(162)	(54)	(53)
June 30, 2017	143	58	29	56
June 30, 2018	8	2	2	4
June 30, 2019	(48)	0	(10)	(38)
Total	**$ (334)**	**$ (238)**	**$ (65)**	**$ (31)**

Retiree Medical				
Fiscal Year Ending	Asset Gain/(Loss)	Gain/(Loss) Recognized in Prior Years	Gain/(Loss) Recognized This Year	Gain/(Loss) Deferred to Future Years
June 30, 2015	$ (694)	$ (556)	$ (138)	$ 0
June 30, 2016	(1,674)	(1,005)	(335)	(334)
June 30, 2017	1,184	474	237	473
June 30, 2018	(19)	(4)	(4)	(11)
June 30, 2019	(460)	0	(92)	(368)
Total	**$ (1,663)**	**$ (1,091)**	**$ (332)**	**$ (240)**

Total				
Fiscal Year Ending	Asset Gain/(Loss)	Gain/(Loss) Recognized in Prior Years	Gain/(Loss) Recognized This Year	Gain/(Loss) Deferred to Future Years
June 30, 2015	$ (862)	$ (692)	$ (170)	$ 0
June 30, 2016	(1,943)	(1,167)	(389)	(387)
June 30, 2017	1,327	532	266	529
June 30, 2018	(11)	(2)	(2)	(7)
June 30, 2019	(508)	0	(102)	(406)
Total	**$ (1,997)**	**$ (1,329)**	**$ (397)**	**$ (271)**

Section 2.4: Historical Asset Rates of Return

Year Ending	Actuarial Value		Fair Value	
	Annual	Cumulative[1]	Annual	Cumulative[1]
June 30, 2008	6.4%	6.4%	(0.3%)	(0.3%)
June 30, 2009	3.2%	4.8%	(12.0%)	(6.3%)
June 30, 2010	4.2%	4.6%	6.4%	(2.3%)
June 30, 2011	7.4%	5.3%	18.9%	2.6%
June 30, 2012	6.9%	5.6%	1.6%	2.4%
June 30, 2013	7.7%	6.0%	11.9%	3.9%
June 30, 2014	10.9%	6.6%	18.0%	5.8%
June 30, 2015	9.5%	7.0%	3.1%	5.5%
June 30, 2016	6.5%	6.9%	(0.1%)	4.9%
June 30, 2017	7.6%	7.0%	12.6%	5.6%
June 30, 2018	7.8%	7.1%	8.0%	5.8%
June 30, 2019	6.4%	7.0%	6.2%	5.9%

[1] Cumulative since FYE June 30, 2008

Section 3: Member Data

Section 3.1: Summary of Members Included

As of June 30	2015	2016	2017[1]	2018[2]	2019
Active Members					
1. Number	4,095	4,383	4,694	4,915	4,998[3]
2. Average Age	39.15	39.57	40.21	40.64	41.06
3. Average Credited Service	4.19	4.50	4.88	5.30	5.67
4. Average Entry Age	34.96	35.07	35.33	35.34	35.39
5. Average Annual Earnings	$ 63,635	$ 65,219	$ 66,542	$ 68,119	$ 69,619
Disabilitants and Beneficiaries (Occupational Death & Disability)					
1. Number	0	0	0	0	1
2. Average Age	N/A	N/A	N/A	N/A	53.45
3. Average Monthly Death & Disability Benefit	N/A	N/A	N/A	N/A	$ 2,024
Retirees, Surviving Spouses, and Dependent Spouses (Retiree Medical)					
1. Number	0	0	4	9	12
2. Average Age	N/A	N/A	69.72	68.59	68.54
Total Number of Members	**4,095**	**4,383**	**4,698**	**4,924**	**5,011**

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

[1] 142 members who were terminated before the valuation date were subsequently rehired, per client data as of October 1, 2017. These members were valued as active as of the valuation date.

[2] 153 members who were terminated before the valuation date were subsequently rehired, per client data as of October 1, 2018. These members were valued as active as of the valuation date.

[3] Includes 1,317 male active members and 3,681 female active members.

Section 3.2: Age and Service Distribution of Active Members

Annual Earnings by Age			
Age	Number	Total Annual Earnings	Average Annual Earnings
0 – 19	0	$ 0	$ 0
20 – 24	110	5,714,336	51,949
25 – 29	615	36,103,284	58,705
30 – 34	967	63,160,186	65,316
35 – 39	990	69,936,641	70,643
40 – 44	696	50,135,546	72,034
45 – 49	549	40,465,559	73,708
50 – 54	421	31,650,984	75,180
55 – 59	371	28,697,381	77,351
60 – 64	199	15,715,932	78,975
65 – 69	67	5,346,876	79,804
70 – 74	12	921,140	76,762
75+	1	108,962	108,962
Total	4,998	$ 347,956,827	$ 69,619

Annual Earnings by Credited Service			
Years of Service	Number	Total Annual Earnings	Average Annual Earnings
0	119	$ 6,379,869	$ 53,612
1	678	41,455,358	61,144
2	520	32,546,568	62,590
3	514	33,615,328	65,399
4	453	30,343,848	66,984
0 – 4	2,284	$ 144,340,971	$ 63,197
5 – 9	1,804	130,675,916	72,437
10 – 14	908	72,754,196	80,126
15 – 19	2	185,744	92,872
20 – 24	0	0	0
25 – 29	0	0	0
30 – 34	0	0	0
35 – 39	0	0	0
40+	0	0	0
Total	4,998	$ 347,956,827	$ 69,619

Years of Credited Service by Age										
	Years of Service									
Age	0 - 4	5 - 9	10 - 14	15 - 19	20 - 24	25 - 29	30 - 34	35 - 39	40+	Total
0 – 19	0	0	0	0	0	0	0	0	0	0
20 – 24	110	0	0	0	0	0	0	0	0	110
25 – 29	514	101	0	0	0	0	0	0	0	615
30 – 34	454	437	76	0	0	0	0	0	0	967
35 – 39	324	421	245	0	0	0	0	0	0	990
40 – 44	265	242	188	1	0	0	0	0	0	696
45 – 49	219	196	134	0	0	0	0	0	0	549
50 – 54	158	162	101	0	0	0	0	0	0	421
55 – 59	129	140	102	0	0	0	0	0	0	371
60 – 64	73	83	42	1	0	0	0	0	0	199
65 – 69	30	20	17	0	0	0	0	0	0	67
70 – 74	7	2	3	0	0	0	0	0	0	12
75+	1	0	0	0	0	0	0	0	0	1
Total	2,284	1,804	908	2	0	0	0	0	0	4,998

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

Section 3.3: Member Data Reconciliation

	Actives	Retirees and Surviving Spouses	Dependent Spouses	OD&D Disabilitants	OD&D Beneficiaries	Total
As of June 30, 2018[1]	4,915	7	2	0	0	4,924
Vested Termination	(257)	0	0	0	0	(257)
Non-vested Termination	(456)	0	0	0	0	(456)
Refund of Contributions	(31)	0	0	0	0	(31)
Disabled	0	0	0	0	0	0
Retired	(3)	3	1	0	0	1
Deceased, No Beneficiary	0	0	(1)	0	0	(1)
Deceased, With Beneficiary	0	0	0	0	0	0
Return to Active	109	0	0	0	0	109
Data Adjustment	3	0	0	1	0	4
New Entrant	718	0	0	0	0	718
As of June 30, 2019[2]	4,998	10	2	1	0	5,011

[1] 133 participants are expected to receive retiree medical benefits in a different plan and are included for OD&D benefits only.
[2] 117 participants are expected to receive retiree medical benefits in a different plan and are included for OD&D benefits only.

Section 3.4: Schedule of Active Member Valuation Data

Valuation Date	Number	Annual Earnings (000's)	Annual Average Earnings	Percent Increase/ (Decrease) in Average Earnings	Number of Participating Employers
June 30, 2019	4,998	$ 347,957	$ 69,619	2.2%	57
June 30, 2018	4,915	334,803	68,119	2.4%	57
June 30, 2017	4,694	312,347	66,542	2.0%	57
June 30, 2016	4,383	285,854	65,219	2.5%	58
June 30, 2015	4,095	260,584	63,635	2.7%	58
June 30, 2014	3,547	219,701	61,940	2.4%	58
June 30, 2013	3,272	197,944	60,496	3.5%	58
June 30, 2012	3,057	178,761	58,476	4.7%	58
June 30, 2011	2,708	151,269	55,860	5.6%	58
June 30, 2010	2,246	118,813	52,900	5.7%	58
June 30, 2009	1,792	89,708	50,061	6.4%	58
June 30, 2008	1,198	56,369	47,053	6.2%	58

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

Section 3.5: Active Member Payroll Reconciliation

Payroll Field		Payroll Data (000's)	
a)	DRB actual reported salaries FY19 – employer list	$	392,494
b)	DRB actual reported salaries FY19 – valuation data		340,363
c)	Annualized valuation data		347,957
d)	Valuation payroll as of June 30, 2019		364,235
e)	Rate payroll for FY20		359,622

a) Actual reported salaries from DRB employer listing showing all payroll paid during FY19, including those who were not active as of June 30, 2019

b) Payroll from valuation data for people who are in active status as of June 30, 2019

c) Payroll from (b) annualized for both new entrants and part-timers

d) Payroll from (c) with one year of salary scale applied to estimate salaries payable for the upcoming year

e) Payroll from (d) with the part-timer annualization removed

Section 4: Basis of the Actuarial Valuation

Section 4.1: Summary of Plan Provisions

Effective Date

July 1, 2006, with amendments through June 30, 2019.

Administration of Plan

The Commissioner of Administration or the Commissioner's designee is the administrator of the Plan. The Attorney General of the state is the legal counsel for the Plan and shall advise the administrator and represent the Plan in legal proceedings.

The Alaska Retirement Management Board prescribes policies, adopts regulations, invests the funds, and performs other activities necessary to carry out the provisions of the Plan.

Employers Included

Currently there are 57 employers participating in TRS DCR, including the State of Alaska, 53 school districts, and three other eligible organizations.

Membership

An employee of a participating employer who first enters service on or after July 1, 2006, or a member of the defined benefit plan who works for an employer who began participation on or after July 1, 2006, and meets the following criteria is a member in the Plan:

- Permanent full-time or part-time elementary or secondary teachers, school nurses, or a person in a position requiring a teaching certificate as a condition of hire in a public school of the State of Alaska, the Department of Education and Early Development or in the Department of Labor and Workforce Development.
- Full-time or part-time teachers at the University of Alaska or persons occupying full-time administrative positions requiring academic standing who are not in the University's Optional Retirement Plan.

Members can convert to TRS DCR if they are an eligible non-vested member of the TRS defined benefit plan whose employer consents to transfers to the defined contribution plan and they elect to transfer his or her account balance to TRS DCR.

Member Contributions

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

Retiree Medical Benefits

- Member must retire directly from the plan to be eligible for retiree medical coverage. Normal retirement eligibility is the earlier of a) 30 years of service or b) Medicare eligible and 10 years of service.
- No subsidized retiree medical benefits are provided until normal retirement eligibility. The member's and any covered dependent premium is 100% until the member is Medicare eligible. Upon the member's Medicare-eligibility, the required contribution will follow the service based schedule shown below.
- Coverage cannot be denied except for failure to pay premium.
- Members who are receiving disability benefits or survivors who are receiving monthly survivor benefits are not eligible until the member meets, or would have met if he/she had lived, the normal retirement eligibility requirements.
- The following is a summary of the medical benefit design adopted in July 2016. The plan description below is used for valuation purposes and indicates participant cost-sharing. Please refer to the benefit handbook for more details.

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

[1] Assumed to increase annually to mitigate impact of healthcare cost trend.
[2] OON applies only to non-Medicare eligible participants.

- Buck used its manual rate models to determine relative plan values for the defined benefit (DB) retiree medical plan and the adopted DCR retiree medical plan outlined above. We applied the ratio of the DCR retiree medical plan value to the DB retiree medical plan value to the per capita costs determined for each of pre/post-Medicare medical and pharmacy benefits to estimate corresponding values for the adopted DCR retiree medical plan design. These factors are noted in Section 4.3. We further adjusted the Medicare medical manual rate to reflect the Medicare coordination method adopted. The estimated 2020 reimbursements under EGWP were provided by Segal Consulting (who worked with the EGWP administrator, Optum, to develop those estimates). We reflect estimated discounts and pharmacy rebates in the defined benefit medical cost so no further adjustment was needed for the DCR retiree medical plan. The medical network differential is reflected in the relative plan value adjustments.
- The retiree medical plan's coverage is supplemental to Medicare. Medicare coordination is described in the 2019 DCR Plan Handbook, referred to in the industry as exclusion coordination: Medicare payment is deducted from the Medicare allowable expense and plan parameters are applied to the remaining amount. Starting in 2019, the prescription drug coverage is through a Medicare Part D EGWP arrangement.
- The premium for Medicare-eligible retirees will be based on the member's years of service. The percentage of premium paid by the member is as follows:

Years of Service	Percent of Premium Paid by Member
< 15	30%
15 – 19	25%
20 – 24	20%
25 – 29	15%
30+	10%

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

Occupational Disability Benefits

- Benefit is 40% of salary at date of disability.
- Disability Benefit Adjustment: The disability benefit is increased by 75% of the cost of living increase in the preceding calendar year or 9%, whichever is less.
- Member earns service while on occupational disability.
- Benefits cease when the member becomes eligible for normal retirement at Medicare-eligible age and 10 years of service, or at any age with 30 years of service.

- No subsidized retiree medical benefits are provided until normal retirement eligibility. The member's premium is 100% of the estimated cost until they are Medicare eligible. Medicare-eligible premiums follow the service-based schedule above.

Occupational Death Benefits

- Benefit is 40% of salary.
- Survivor's Pension Adjustment: A survivor's pension is increased by 50% of the cost of living increase in the preceding calendar year or 6%, whichever is less, if the recipient is at least age 60 on July 1, or under age 60 if the recipient has been receiving TRS benefits for at least 8 years as of July 1.
- Benefits cease when the member would have become eligible for normal retirement.
- The period during which the survivor is receiving benefits is counted as service credit toward retiree medical benefits.
- No subsidized retiree medical benefits are provided until the member would have been eligible for normal retirement. The surviving spouse's premium is 100% of the estimated cost until the member would have been Medicare eligible. Medicare-eligible premiums follow the service-based schedule above.

Changes Since the Prior Valuation

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

Section 4.2: Description of Actuarial Methods and Valuation Procedures

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

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

Actuarial Method

Entry Age Normal Cost.

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

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

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

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

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

Valuation of Assets

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

Changes in Methods Since the Prior Valuation

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

Valuation of Retiree Medical and Prescription Drug Benefits

The methodology used for the valuation of the retiree medical benefits is described in Section 5.2 of the State of Alaska Teachers' Retirement System Defined Benefit Plan Actuarial Valuation Report as of June 30, 2019.

Due to the lack of experience for the DCR retiree medical plan only, base claims costs are based on those described in the actuarial valuation as of June 30, 2019 for the Defined Benefit (DB) retiree medical plan covering TRS and PERS. The DB rates were used with some adjustments. The claims costs were adjusted to reflect the differences between the DCR medical plan and the DB medical plan. These differences include network steerage, different coverage levels, different Medicare coordination for medical benefits, and an indexing of the retiree out-of-pocket dollar amounts. To account for higher initial copays, deductibles and out-of-pocket limits, projected FY20 claims costs were reduced 2.1% for medical claims, and 10.4% for prescription drugs. In addition, to account for the difference in Medicare coordination, projected FY20 medical claims costs for Medicare eligible retirees were further reduced 29.3%. The medical and prescription drug percentages mentioned above were reduced 0.2% in each future year for the DCR medical benefits to reflect the fact that the medical benefit to be offered to DCR members will have annual indexing of member cost sharing features such as deductibles and out-of-pocket amounts.

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

The State transitioned to an Employer Group Waiver Program (EGWP) for DCR participants effective January 1, 2019. The estimated 2020 reimbursements under EGWP were provided by Segal Consulting (who worked with the EGWP administrator, Optum, to develop those estimates).

Healthcare Reform

Healthcare Reform legislation passed on March 23, 2010 included several provisions with potential implications for the State of Alaska Retiree Health Plan liability. Buck evaluated the impact due to these provisions.

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

The Further Consolidated Appropriations Act, 2020 passed in December 2019 repealed several healthcare-related taxes, including the Cadillac Tax. The valuation results included in the report reflect the repeal of this tax. The removal of the Cadillac Tax created an actuarial gain of approximately $286,000.

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

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

Section 4.3: Summary of Actuarial Assumptions

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

Investment Return

7.38% per year, net of investment expenses.

Salary Scale

Salary scale rates based upon the 2013-2017 actual experience (see Table 1).

Inflation – 2.50% per year.

Productivity – 0.25% per year.

Payroll Growth

2.75% per year (inflation + productivity).

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.

Mortality (Pre-Commencement)

Mortality rates based upon the 2013-2017 actual experience.

RP-2014 white-collar employee table, benefit-weighted, rolled back to 2006, and projected with MP-2017 generational improvement.

Mortality (Post-Commencement)

Mortality rates based upon the 2013-2017 actual experience.

93% of male and 90% of female rates of RP-2014 white-collar healthy annuitant table, benefit-weighted, rolled back to 2006, and projected with MP-2017 generational improvement.

Turnover

Select and ultimate rates based upon the 2013-2017 actual experience (see Table 2).

Disability

Incidence rates based upon the 2013-2017 actual experience (see Table 3).

Disabilities are assumed to be occupational 15% of the time.

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

Retirement

Retirement rates based upon the 2013-2017 actual experience (see Table 4).

Spouse Age Difference

Males are assumed to be three years older than their wives. Females are assumed to be two years younger than husbands.

Percent Married for Occupational Death & Disability

85% of male members and 75% female members are assumed to be married at termination from active service.

Dependent Spouse Medical Coverage Election

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

Part-Time Status

Part-time employees are assumed to earn 0.75 years of service per year.

Per Capita Claims Cost

Sample claims cost rates (before base claims cost adjustments described below) adjusted to age 65 for FY20 medical and prescription drugs are shown below:

	Medical	Prescription Drugs
Pre-Medicare	$ 14,464	$ 3,263
Medicare Parts A & B	$ 1,564	$ 3,501
Medicare Part D – EGWP	N/A	$ 1,044

Members are assumed to attain Medicare eligibility at age 65. All costs are for the 2020 fiscal year (July 1, 2019 – June 30, 2020).

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.

Third Party Administrator Fees

$348 per person per year; assumed trend rate of 4.5% per year.

Base Claims Cost Adjustments

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

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

Administrative Expenses

Beginning with the June 30, 2018 valuation, the Normal Cost is increased for administrative expenses expected to be paid from plan assets during the year. The amounts included in the June 30, 2019 Normal Cost, which are based on the average of actual administrative expenses during the last two fiscal years, are $0 for occupational death & disability and $4,700 for retiree medical.

Health Cost Trend

The table below shows the rates used to project the cost from the shown fiscal year to the next fiscal year. For example, 7.0% is applied to the FY20 pre-Medicare medical claims cost to get the FY21 medical claims cost.

Fiscal Year	Medical Pre-65	Medical Post-65	Prescription Drugs / EGWP
FY20	7.0%	5.4%	8.0%
FY21	6.5%	5.4%	7.5%
FY22	6.3%	5.4%	7.1%
FY23	6.1%	5.4%	6.8%
FY24	5.9%	5.4%	6.4%
FY25	5.8%	5.4%	6.1%
FY26	5.6%	5.4%	5.7%
FY27-FY40	5.4%	5.4%	5.4%
FY41	5.3%	5.3%	5.3%
FY42	5.2%	5.2%	5.2%
FY43	5.1%	5.1%	5.1%
FY44	5.1%	5.1%	5.1%
FY45	5.0%	5.0%	5.0%
FY46	4.9%	4.9%	4.9%
FY47	4.8%	4.8%	4.8%
FY48	4.7%	4.7%	4.7%
FY49	4.6%	4.6%	4.6%
FY50+	4.5%	4.5%	4.5%

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

Aging Factors

Age	Medical	Prescription Drugs
< 45	2.0%	4.5%
45 – 54	2.5%	3.5%
55 – 64	2.5%	1.5%
65 – 74	3.0%	2.0%
75 – 84	2.0%	-0.5%
85 – 94	0.3%	-2.5%
95+	0.0%	0.0%

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.

Imputed Data

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

Changes in Assumptions Since the Prior Valuation

The amounts included in the Normal Cost for administrative expenses were changed to $0 for occupational death & disability and $4,700 for retiree medical (based on the most recent two years of actual administrative expenses paid from plan assets). The per capita claims cost assumption is updated annually. Trend rates are no longer loaded to reflect the Cadillac Tax, which was repealed in December 2019.

Table 1: Salary Scale

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

Table 2: Turnover Rates

Select Rates during the First 6 Years of Employment

Years of Service	Male	Female
0	20.70%	21.80%
1	19.55%	18.70%
2	16.10%	15.40%
3	13.80%	13.20%
4	11.50%	11.00%
5	7.32%	8.05%

Ultimate Rates after the First 6 Years of Employment

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

Table 3: Disability Rates

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

Table 4: Retirement Rates

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

Glossary of Terms

Actuarial Accrued Liability

Total accumulated cost to fund pension or postemployment benefits arising from service in all prior years.

Actuarial Cost Method

Technique used to assign or allocate, in a systematic and consistent manner, the expected cost of a pension or postemployment plan for a group of plan members to the years of service that give rise to that cost.

Actuarial Present Value of Projected Benefits

Amount which, together with future interest, is expected to be sufficient to pay all future benefits.

Actuarial Valuation

Study of probable amounts of future pension or postemployment benefits and the necessary amount of contributions to fund those benefits.

Actuary

Person who performs mathematical calculations pertaining to pension and insurance benefits based on specific procedures and assumptions.

GASB 67 and 68

Governmental Accounting Standards Board Statement Number 67 amends Number 25 effective for the fiscal year beginning after June 15, 2013, and defines new financial reporting requirements for public pension plans. Governmental Accounting Standards Board Statement Number 68 amends Number 27 effective for fiscal years beginning after June 15, 2014 and defines new accounting and financial reporting requirements for employers sponsoring public pension plans.

GASB 74 and 75

Governmental Accounting Standards Board Statement Number 74 amends Number 43 effective for the fiscal year beginning after June 15, 2016, and defines new financial reporting requirements for public postemployment benefit plans. Governmental Accounting Standards Board Statement Number 75 amends Number 45 effective for fiscal years beginning after June 15, 2017, and defines new accounting and financial reporting requirements for employers sponsoring public postemployment benefit plans.

Normal Cost

That portion of the actuarial present value of benefits assigned to a particular year in respect to an individual participant or the plan as a whole.

Rate Payroll

Members' earnings used to determine contribution rates.

Unfunded Actuarial Accrued Liability (UAAL)

The portion of the actuarial accrued liability not offset by plan assets.

Valuation Payroll

Members' earnings used to determine Normal Cost and Actuarial Accrued Liability.

Vested Benefits

Benefits which are unconditionally guaranteed regardless of employment.