State of Alaska

Judicial Retirement System

Actuarial Valuation Report

As of June 30, 2018

August 2019

BUCK

August 9, 2019

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 actuarial valuation results of the State of Alaska Judicial Retirement System (JRS) as of June 30, 2018 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, 2018. The actuary did not verify the data submitted, but did perform tests for consistency and reasonableness.

All costs, liabilities and other factors under JRS 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 JRS as of June 30, 2018.

JRS is funded by Employer, State, and Member Contributions in accordance with the funding policy adopted by the Alaska Retirement Management Board (Board). The funding objective for JRS is to pay required contributions that remain level as a percent of total JRS 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 annual changes in Unfunded Actuarial Accrued Liability as a level percentage of payroll over closed 25-year periods. The compensation used to determine required contributions is the total compensation of all active members in JRS. This objective is currently being met and is projected to continue to be met. Absent future gains/losses, actuarially determined contributions are expected to remain level as a percent of pay and the overall funded status is expected to increase to 100% after 25 years.

The Board and staff of the State of Alaska may use this report for the review of the operations of JRS. 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 claim cost rates effective June 30, 2018 to better reflect expected future healthcare experience. Based on recent experience, the healthcare cost trend assumptions were also updated. A summary of the actuarial assumptions and methods used in this actuarial valuation is shown in Section 5.

Governmental Accounting Standards Board (GASB) Statement No. 67 (GASB 67) was effective for JRS beginning with fiscal year ending June 30, 2014, and Statement No. 74 (GASB 74) was effective for JRS beginning with the fiscal year ending June 30, 2017. Separate GASB 67 and GASB 74 reports as of June 30, 2018 have been prepared. Section 3 of this report contains accounting information previously disclosed under GASB 25 for fiscal years 1998 through 2013 and accounting information previously disclosed under GASB 43 for fiscal years 2006 through 2016. We have also prepared the member data tables shown in Section 4 of this report for the Statistical Section of the CAFR, and the summary of actuarial assumptions and analysis of financial experience for the Actuarial Section of the CAFR. Please see our separate GASB 67 and GASB 74 reports for other information needed for the CAFR.

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

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

Respectfully submitted,

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

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

Scott Young

Scott Young, FSA, EA, MAAA
Director
Buck

Contents

Executive Summary

Overview

The State of Alaska Judicial Retirement System (JRS) provides pension and postemployment healthcare benefits to judicial and other eligible members. 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 JRS as of the valuation date of June 30, 2018.

Purpose

An actuarial valuation is performed on the retirement plan once every two years as of the end of the fiscal year, and roll-forward valuations are performed every other year. The main purposes of the actuarial valuation detailed in this report are:

1. To determine the Employer/State contributions 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 future actuarially determined contributions;
4. To compare actual and expected experience under the plan during the 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 JRS based on the plan provisions, membership data, assets, and actuarial methods and assumptions as of the valuation date.

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.

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 actuarial 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		2016	2018
Pension			
a.	Actuarial Accrued Liability	$ 205,547,759	$ 226,559,580
b.	Valuation Assets	152,888,596	178,489,284
c.	Unfunded Actuarial Accrued Liability, (a) – (b)	$ 52,659,163	$ 48,070,296
d.	Funded Ratio based on Valuation Assets, (b) ÷ (a)	74.4%	78.8%
e.	Fair Value of Assets	$ 144,818,899	$ 176,794,969
f.	Funded Ratio based on Fair Value of Assets, (e) ÷ (a)	70.5%	78.0%
Healthcare			
a.	Actuarial Accrued Liability	$ 15,731,490	$ 16,846,959
b.	Valuation Assets	28,454,747	31,868,079
c.	Unfunded Actuarial Accrued Liability, (a) – (b)	$ (12,723,257)	$ (15,021,120)
d.	Funded Ratio based on Valuation Assets, (b) ÷ (a)	180.9%	189.2%
e.	Fair Value of Assets	$ 26,847,885	$ 31,497,603
f.	Funded Ratio based on Fair Value of Assets, (e) ÷ (a)	170.7%	187.0%
Total			
a.	Actuarial Accrued Liability	$ 221,279,249	$ 243,406,539
b.	Valuation Assets	181,343,343	210,357,363
c.	Unfunded Actuarial Accrued Liability, (a) – (b)	$ 39,935,906	$ 33,049,176
d.	Funded Ratio based on Valuation Assets, (b) ÷ (a)	82.0%	86.4%
e.	Fair Value of Assets	$ 171,666,784	$ 208,292,572
f.	Funded Ratio based on Fair Value of Assets, (e) ÷ (a)	77.6%	85.6%

The funded status of the plan (on an Actuarial Value of Assets basis) increased from 82.0% to 86.4%. from June 30, 2016 to June 30, 2018. This increase was the net impact of various items, as described in more detail on the following pages.

The funded status for healthcare benefits is not necessarily an appropriate measure to confirm that assets are sufficient to settle health plan obligations because there are no available financial instruments for purchase. Future experience is likely to vary from assumptions so there is a potential for future healthcare actuarial gains or losses.

1. **Investment Experience**

   The approximate investment returns based on fair value of assets were 13.0% for FY17 and 8.3% for FY18, compared to the expected investment return of 8.00%. This resulted in gains of approximately $8.5 million for FY17 and $0.4 million for FY18 from investment experience. Due to the asset valuation method that recognizes investment gains and losses over a 5-year period, the approximate rates of return based on actuarial value of assets were 8.2% for FY17 and 8.1% for FY18.

2. **Salary Increases**

   Salaries for active judges remained constant between June 30, 2016 and June 30, 2018 (excluding those who are pro tem), which resulted in an actuarial gain of approximately $4.6 million. The following table presents the annual base salaries for the different court appointments:

	June 30, 2016	June 30, 2018
District Court	$ 166,668	$ 166,668
Superior Court	196,584	196,584
Appellate Court	200,856	200,856
Supreme Court	212,604	212,604
Administrative Director	196,584	196,584
Chief Justice	213,228	213,228
Pro Tem	67,975	166,680

3. **Pension Demographic Experience**

   The number of active members decreased from 76 as of June 30, 2016 to 71 as of June 30, 2018, and there were 12 new entrants. The average age of active members decreased from 58.80 to 57.53, their average service increased from 9.39 to 9.45, and their average entry age decreased from 49.41 to 48.08. The number of benefit recipients increased from 109 to 125. The membership statistics are found in Section 4 of this report. The overall demographic experience produced an actuarial gain of approximately $0.4 million.

4. **Medical Claims Experience and Assumptions**

   As described in Section 5.2, recent medical claims experience and changes in healthcare enrollment data provided to us for the June 30, 2018 valuation generated an actuarial gain of approximately $1.8 million. The assumption regarding which participants will be eligible for Medicare Part B only was updated, which generated an actuarial loss of approximately $41,000.

5. **Changes in Methods Since the Prior Valuation**

   As part of the experience study (see item #6), 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.

6. **Changes in Assumptions Since the Prior Valuation**

   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 $13.1 million. Healthcare claim costs are updated annually as described in Section 5.2.

7. Changes in Benefit Provisions Since the Prior Valuation

There have been no changes in the JRS benefit provisions since the prior valuation. However, an Employer Group Waiver Plan (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, which is further described in Section 5.1, decreased the Actuarial Accrued Liability as of June 30, 2018 by approximately $1.7 million.

Comparative Summary of Key Actuarial Valuation Results

Recommended Employer/State Contribution Rates for Pension for Fiscal Year	**FY19**	**FY21**
a. Employer Normal Cost Rate	38.14%	42.04%
b. Past Service Cost Rate	32.45%	35.78%
c. Total Employer/State Contribution Rate, (a) + (b)	70.59%	77.82%
Recommended Employer/State Contribution Rates for Postemployment Healthcare for Fiscal Year	**FY19**	**FY21**
a. Employer Normal Cost Rate	4.47%	6.12%
b. Past Service Cost Rate	(4.82)%	(6.45)%
c. Total Employer/State Contribution Rate, (a) + (b), not less than (a)	4.47%	6.12%
Recommended Total Employer/State Contribution Rates for Fiscal Year	**FY19**	**FY21**
a. Employer Normal Cost Rate	42.61%	48.16%
b. Past Service Cost Rate	32.45%	35.78%
c. Total Employer/State Contribution Rate, (a) + (b)	75.06%	83.94%

The recommended contribution rates for FY20 based on a roll-forward valuation as of June 30, 2017 were 70.10% (pension), 4.32% (healthcare), 74.42% (total).

The following table summarizes the sources of change in the total Employer/State contribution rates since the last valuation.

	Pension	**Healthcare**	**Total**
1. Total Employer/State contribution rate from June 30, 2016 valuation	70.59%	4.47%	75.06%
2. Change during FY17	(0.49)%	(0.15)%	(0.64)%
3. Total Employer/State contribution rate from June 30, 2017 roll forward valuation	70.10%	4.32%	74.42%
4. Change due to:			
a. Effect of two-year delay in the contribution rate	0.01%	(0.37)%	(0.36)%
b. Change in assumptions/methods	10.83%	1.41%	12.24%
c. Investment experience	0.00%	0.02%	0.02%
d. State of Alaska appropriation	(2.53)%	0.00%	(2.53)%
e. Demographic experience, medical experience and new entrants[1]	(0.59)%	0.74%	0.15%
f. Total change, (a) + (b) + (c) + (d) + (e)	7.72%	1.80%	9.52%
5. Total Employer/State contribution rate as of June 30, 2018, (3) + (4)(f)	77.82%	6.12%	83.94%

[1] Includes changes in future healthcare claims costs.

The following table shows the gain/(loss) on actuarial accrued liability as of June 30, 2018:

	Pension	Healthcare	Total
Retirement Experience	$ 1,238,652	$ (187,549)	$ 1,051,103
Termination Experience	(790,009)	(2,013)	(792,022)
Active Mortality Experience	608,165	3,429	611,594
Inactive Mortality Experience	(1,497,284)	24,062	(1,473,222)
Disability Experience	7,156	6,895	14,051
New Entrants and Rehires	(998,243)	(317,784)	(1,316,027)
Salary Increases	4,581,429	N/A	4,581,429
Inactive Benefit Increases	8,482,265	N/A	8,482,265
Medical Claims Experience	N/A	1,843,422	1,843,422
Cadillac Tax	N/A	(233,344)	(233,344)
Modified Part B Only Assumption	N/A	(41,102)	(41,102)
Miscellaneous[1]	485,573	318,731	804,304
Total	$ 12,117,704	$ 1,414,747	$ 13,532,451

Other items that increased/(decreased) the actuarial accrued liability as of June 30, 2018 are shown below:

	Pension	Healthcare	Total
EGWP Implementation	$ N/A	$ (1,697,012)	$ (1,697,012)
Experience Study Assumptions/Methods	10,343,783	2,706,972[2]	13,050,755
Total	$ 10,343,783	$ 1,009,960	$ 11,353,743

[1] Includes the effects of various data changes that are typical when new census data is received for the valuation, the effects of the differences between expected and actual benefit payments, and other items that do not fit neatly into any of the other categories.

[2] Includes increase of $965,789 for new demographic/economic assumptions, increase of $2,490,499 for updated trend rates, and decrease of $749,316 for change in method from level dollar to level percent of pay.

Section 1: Actuarial Funding Results

Section 1.1: Actuarial Liabilities and Normal Cost

At June 30, 2018	Present Value of Projected Benefits	Actuarial Accrued Liability
Active Members		
Retirement Benefits	$ 100,433,454	$ 65,255,495
Disability Benefits	120,250	(14,375)
Death Benefits	1,230,605	544,581
Termination Benefits[1]	2,250,445	(511,819)
Medical and Prescription Drug Benefits	13,041,116	6,749,278
Medicare Part D Subsidy	(1,769,722)	(984,566)
Subtotal	$ 115,306,148	$ 71,038,594
Benefit Recipients		
Retiree Benefits	$ 142,247,124	$ 142,247,124
Survivor Benefits	14,375,560	14,375,560
Disability Benefits	0	0
Medical and Prescription Drug Benefits	12,230,958	12,230,958
Medicare Part D Subsidy	(1,873,359)	(1,873,359)
Subtotal	$ 166,980,283	$ 166,980,283
Vested Terminations		
Deferred Retirement Benefits	$ 4,663,014	$ 4,663,014
Medical and Prescription Drug Benefits	831,313	831,313
Medicare Part D Subsidy	(106,665)	(106,665)
Subtotal	$ 5,387,662	$ 5,387,662
Non-Vested Terminations	$ 0	$ 0
Total	**$ 287,674,093**	**$ 243,406,539**
Total Pension	**$ 265,320,452**	**$ 226,559,580**
Total Healthcare, Net of Part D Subsidy	**$ 22,353,641**	**$ 16,846,959**

[1] Includes return of contributions.

At June 30, 2018	Normal Cost
Active Members	
Retirement Benefits	$ 5,835,115
Disability Benefits	18,462
Death Benefits	122,623
Termination Benefits[1]	374,450
Medical and Prescription Drug Benefits	915,848
Medicare Part D Subsidy	(115,335)
Administrative Expenses – Pension	71,050
Administrative Expenses – Healthcare	19,250
Subtotal	$ 7,241,463
Total	**$ 7,241,463**
Total Pension	**$ 6,421,700**
Total Healthcare, Net of Part D Subsidy	**$ 819,763**

[1] Includes return of contributions.

Section 1.2: Actuarial Contributions as of June 30, 2018 (for FY21)

Normal Cost Rate	Pension	Healthcare	Total
1. Normal Cost	$ 6,421,700	$ 819,763	$ 7,241,463
2. Base Salaries for Upcoming Fiscal Year	$ 13,392,864	$ 13,392,864	$ 13,392,864
3. Normal Cost Rate, (1) ÷ (2)	47.95%	6.12%	54.07%
4. Average Member Contribution Rate	5.91%	0.00%	5.91%
5. Employer Normal Cost Rate, (3) – (4)	42.04%	6.12%	48.16%

Past Service Rate	Pension	Healthcare	Total
1. Actuarial Accrued Liability	$ 226,559,580	$ 16,846,959	$ 243,406,539
2. Valuation Assets	178,489,284	31,868,079	210,357,363
3. Unfunded Actuarial Accrued Liability, (1) – (2)	$ 48,070,296	$ (15,021,120)	$ 33,049,176
4. Funded Ratio, (2) ÷ (1)	78.8%	189.2%	86.4%
5. Past Service Cost Amortization Payment	$ 4,791,481	$ (863,435)	$ 3,928,046
6. Total Base Salaries for Upcoming Fiscal Year	$ 13,392,864	$ 13,392,864	$ 13,392,864
7. Past Service Cost Rate, (5) ÷ (6)	35.78%	(6.45)%	29.33%
Total Employer Contribution Rate, not less than Normal Cost Rate	**77.82%**	**6.12%**	**83.94%**

Pension					
	Amortization Period		Balances		
Charge	Date Created	Years Left	Initial	Outstanding	Beginning-of-Year Payment
Initial Unfunded Liability[1]	06/30/2002	9	$ 5,864,449	$ 5,122,133	$ 674,475
FY03/FY04 Loss[1]	06/30/2004	11	855,068	811,931	91,122
Loss due to revaluation of plan liabilities[1]	06/30/2005	12	9,115,451	8,907,221	935,028
FY05/FY06 Loss[1]	06/30/2006	13	18,186,558	18,163,031	1,795,581
FY07 Loss	06/30/2007	14	1,364,721	1,385,710	129,757
FY08 Gain	06/30/2008	15	(29,014,739)	(29,835,239)	(2,659,400)
FY09 Loss	06/30/2009	16	21,273,454	22,057,575	1,879,631
Change in Assumptions	06/30/2010	17	13,976,981	14,558,064	1,190,448
FY10 Loss	06/30/2010	17	6,474,780	6,743,963	551,470
FY11 Loss	06/30/2011	18	7,397,917	7,731,535	608,697
FY12 Loss	06/30/2012	19	11,916,371	12,459,031	947,160
FY13 Loss	06/30/2013	20	7,033,497	7,090,330	521,850
Change in Assumptions	06/30/2014	21	4,219,851	4,382,167	312,988
FY14 Gain	06/30/2014	21	(14,458,986)	(15,015,154)	(1,072,428)
FY15 Gain	06/30/2015	22	(3,325,706)	(3,430,536)	(238,275)
FY16 Gain	06/30/2016	23	(9,932,623)	(10,157,562)	(687,409)
FY17 Gain	06/30/2017	24	(1,137,538)	(1,151,268)	(76,044)
Change in Assumptions	06/30/2018	25	10,343,783	10,343,783	667,915
FY18 Gain	06/30/2018	25	(12,096,419)	(12,096,419)	(781,085)
Total				**$ 48,070,296**	**$ 4,791,481**

[1] The pension and healthcare split was done using a ratio of unfunded actuarial accrued liability as of June 30, 2006.

Healthcare					
	Amortization Period		Balances		
Charge	Date Created	Years Left	Initial	Outstanding	Beginning-of-Year Payment
Initial Unfunded Liability	06/30/2002	9	$ 2,295,257	$ 2,004,727	$ 263,980
FY03/FY04 Loss	06/30/2004	11	334,660	317,777	35,664
Loss due to revaluation of plan liabilities	06/30/2005	12	3,567,649	3,486,150	365,956
FY05/FY06 Loss	06/30/2006	13	7,117,943	7,108,735	702,763
FY07 Gain	06/30/2007	14	(810,073)	(822,531)	(77,021)
FY08 Change in Assumptions	06/30/2008	15	789,072	811,387	72,324
FY08 Gain	06/30/2008	15	(14,011,596)	(14,407,829)	(1,284,259)
FY09 Loss	06/30/2009	16	901,355	934,580	79,640
Change in Assumptions	06/30/2010	17	2,006,196	2,089,603	170,872
FY10 Gain	06/30/2010	17	(1,930,656)	(2,010,920)	(164,438)
FY11 Loss	06/30/2011	18	550,376	575,196	45,285
Change in Assumptions	06/30/2012	19	353,605	369,707	28,106
FY12 Gain	06/30/2012	19	(5,516,210)	(5,767,414)	(438,450)
FY13 Loss	06/30/2013	20	226,259	236,042	17,373
Change in Assumptions	06/30/2014	21	772,305	802,011	57,282
FY14 Gain	06/30/2014	21	(3,342,464)	(3,471,033)	(247,912)
FY15 Gain	06/30/2015	22	(1,416,996)	(1,461,662)	(101,523)
Change in Method	06/30/2016	23	(3,567,789)	(3,648,588)	(246,917)
FY16 Gain	06/30/2016	23	(425,711)	(435,352)	(29,462)
FY17 Gain	06/30/2017	24	(586,113)	(593,188)	(39,182)
Change in Assumptions/EGWP	06/30/2018	25	1,009,960	1,009,960	65,215
FY18 Gain	06/30/2018	25	(2,148,478)	(2,148,478)	(138,731)
Total				**$ (15,021,120)**	**$ (863,435)**

Total					
	Amortization Period		Balances		
Charge	Date Created	Years Left	Initial	Outstanding	Beginning-of-Year Payment
Initial Unfunded Liability	06/30/2002	9	$ 8,159,706	$ 7,126,860	$ 938,455
FY03/FY04 Loss	06/30/2004	11	1,189,728	1,129,708	126,786
Loss due to revaluation of plan liabilities	06/30/2005	12	12,683,100	12,393,371	1,300,984
FY05/FY06 Loss	06/30/2006	13	25,304,501	25,271,766	2,498,344
FY07 Loss	06/30/2007	14	554,648	563,179	52,736
FY08 Change in Assumptions	06/30/2008	15	789,072	811,387	72,324
FY08 Gain	06/30/2008	15	(43,026,335)	(44,243,068)	(3,943,659)
FY09 Loss	06/30/2009	16	22,174,809	22,992,155	1,959,271
Change in Assumptions	06/30/2010	17	15,983,177	16,647,667	1,361,320
FY10 Loss	06/30/2010	17	4,544,124	4,733,043	387,032
FY11 Loss	06/30/2011	18	7,948,293	8,306,731	653,982
Change in Assumptions	06/30/2012	19	353,605	369,707	28,106
FY12 Loss	06/30/2012	19	6,400,161	6,691,617	508,710
FY13 Loss	06/30/2013	20	7,259,756	7,326,372	539,223
Change in Assumptions	06/30/2014	21	4,992,156	5,184,178	370,270
FY14 Gain	06/30/2014	21	(17,801,450)	(18,486,187)	(1,320,340)
FY15 Gain	06/30/2015	22	(4,742,702)	(4,892,198)	(339,798)
Change in Method	06/30/2016	23	(3,567,789)	(3,648,588)	(246,917)
FY16 Gain	06/30/2016	23	(10,358,334)	(10,592,914)	(716,871)
FY17 Gain	06/30/2017	24	(1,723,651)	(1,744,456)	(115,226)
Change in Assumptions/EGWP	06/30/2018	25	11,353,743	11,353,743	733,130
FY18 Gain	06/30/2018	25	(14,244,897)	(14,244,897)	(919,816)
Total				**$ 33,049,176**	**$ 3,928,046**

Section 1.3: Actuarial Gain / (Loss) for FY18

		Pension	Healthcare	Total
1.	Expected Actuarial Accrued Liability			
	a. Actuarial Accrued Liability, June 30, 2017	$ 216,673,191	$ 16,874,200	$ 233,547,391
	b. Normal Cost for FY18	6,452,021	630,428	7,082,449
	c. Interest on (a) and (b) at 8.00%	17,850,017	1,400,370	19,250,387
	d. Actual Benefit Payments for FY18	(12,125,563)	(1,590,842)	(13,716,405)
	e. Refund of Contributions for FY18	(0)	(0)	(0)
	f. Interest on (d) and (e) at 8.00%, adjusted for timing	(516,165)	(62,410)	(578,575)
	g. Change in Actuarial Assumptions/Methods and EGWP	10,343,783	1,009,960	11,353,743
	h. Expected Actuarial Accrued Liability as of June 30, 2018, (a) + (b) + (c) + (d) + (e) + (f) + (g)	$ 238,677,284	$ 18,261,706	$ 256,938,990
2.	Actual Actuarial Accrued Liability, June 30, 2018	226,559,580	16,846,959	243,406,539
3.	**Liability Gain/(Loss), (1)(h) – (2)**	**$ 12,117,704**	**$ 1,414,747**	**$ 13,532,451**
4.	Expected Actuarial Asset Value			
	a. Actuarial Asset Value, June 30, 2017	$ 165,875,722	$ 30,486,517	$ 196,344,239
	b. Interest on (a) at 8.00%	13,270,058	2,437,481	15,707,539
	c. Employee Contributions for FY18	832,718	0	832,718
	d. Employer Contributions for FY18	5,142,959	620,951	5,763,910
	e. State Appropriation for FY18	5,385,000	0	5,385,000
	f. Medicare Part D Subsidy	0	20,943	20,943
	g. Interest on (c), (d), (e) and (f) at 8.00%, adjusted for timing	628,049	25,182	653,231
	h. Benefit Payments for FY18	(12,125,563)	(1,590,842)	(13,716,405)
	i. Refund of Contributions for FY18	(0)	(0)	(0)
	j. Interest on (h) and (i) at 8.00%, adjusted for timing	(516,165)	(62,410)	(578,575)
	k. Expected Actuarial Asset Value as of June 30, 2018, (a) + (b) + (c) + (d) + (e) + (f) + (g) + (h) + (i) + (j)	$ 178,492,778	$ 31,919,822	$ 210,412,600
5.	Actuarial Asset Value, June 30, 2018	178,489,284	31,868,079	210,357,363
6.	**Actuarial Asset Gain/(Loss), (5) – (4)(k)**	**$ (3,494)**	**$ (51,743)**	**$ (55,237)**
7.	**Actuarial Gain/(Loss), (3) + (6)**	**$ 12,114,210**	**$ 1,363,004**	**$ 13,477,214**
8.	**Contribution Gain/(Loss)**	**$ (17,791)**	**$ 785,474**	**$ 767,683**
9.	**FY18 Gain/(Loss), (7) + (8)**	**$ 12,096,419**	**$ 2,148,478**	**$ 14,244,897**

Section 1.4: Development of Change in Unfunded Liability during FY18

		Pension	Healthcare	Total
1.	2017 Unfunded Liability	$ 50,797,469	$ (13,594,317)	$ 37,203,152
a.	Interest on Unfunded Liability	$ 4,063,797	$ (1,087,545)	$ 2,976,252
b.	Normal Cost	6,452,021	630,428	7,082,449
c.	Employee Contributions	(832,718)	0	(832,718)
d.	Employer Contributions	(5,142,959)	(620,951)	(5,763,910)
e.	State Appropriation	(5,385,000)	0	(5,385,000)
f.	Medicare Part D Subsidy	0	(20,943)	(20,943)
g.	Interest on (b), (c), (d), (e), and (f)	(111,887)	25,252	(86,635)
h.	Change in Actuarial Assumptions/Methods and EGWP	10,343,783	1,009,960	11,353,743
i.	Expected Change in Unfunded Liability during FY18	$ 9,387,037	$ (63,799)	$ 9,323,238
2.	Expected 2018 Unfunded Liability	$ 60,184,506	$ (13,658,116)	$ 46,526,390
a.	Liability (Gain)/Loss	$ (12,117,704)	$ (1,414,747)	$ (13,532,451)
b.	Asset (Gain)/Loss	3,494	51,743	55,237
c.	Total (Gain)/Loss during FY18	$ (12,114,210)	$ (1,363,004)	$ (13,477,214)
3.	Actual 2018 Unfunded Liability, (2) + (2)(c)	$ 48,070,296	$ (15,021,120)	$ 33,049,176

Section 1.5: History of Unfunded Liability and Funded Ratio

Valuation Date	Actuarial Accrued Liability	Valuation Assets	Assets as a Pct. of Actuarial Accrued Liability	Unfunded Actuarial Accrued Liability (UAAL)
June 30, 2000	$ 73,483,475	$ 72,660,197	98.9%	$ 823,278
June 30, 2002	71,843,615	63,683,909	88.6%	8,159,706
June 30, 2004	80,052,559	70,455,634	88.0%	9,596,925
June 30, 2006	127,725,758	79,710,103	62.4%	48,015,655
June 30, 2007	133,988,906	84,773,226	63.3%	49,215,680
June 30, 2008	148,737,880	141,235,655	95.0%	7,502,225
June 30, 2009	156,679,506	127,173,616	81.2%	29,505,890
June 30, 2010	184,828,106	134,694,195	72.9%	50,133,911
June 30, 2011	194,831,317	136,546,204	70.1%	58,285,113
June 30, 2012	198,922,147	133,706,032	67.2%	65,216,115
June 30, 2013	209,088,146	136,738,696	65.4%	72,349,350
June 30, 2014	211,638,218	152,078,765	71.9%	59,559,453
June 30, 2015	223,465,344	168,991,184	75.6%	54,474,160
June 30, 2016	221,279,249	181,343,343	82.0%	39,935,906
June 30, 2017	233,547,391	196,344,239	84.1%	37,203,152
June 30, 2018	243,406,539	210,357,363	86.4%	33,049,176

Section 2: Plan Assets

Section 2.1: Summary of Fair Value of Assets

As of June 30, 2018	Pension	Healthcare	Total	Allocation Percent
Cash and Short-Term Investments				
- Cash and Cash Equivalents	$ 1,916,214	$ 310,986	$ 2,227,200	1.0%
- Subtotal	$ 1,916,214	$ 310,986	$ 2,227,200	1.0%
Fixed Income Investments				
- Domestic Fixed Income Pool	$ 15,972,902	$ 2,866,952	$ 18,839,854	9.0%
- Tactical Fixed Income Pool	2,272,484	407,885	2,680,369	1.3%
- International Fixed Income Pool	0	0	0	0.0%
- High Yield Pool	2,067	371	2,438	0.0%
- Treasury Inflation Protection Pool	380,926	68,372	449,298	0.2%
- Taxable Municipal Bond	5,919,892	1,062,552	6,982,444	3.4%
- Infrastructure Public Pool	1,727,041	309,984	2,037,025	1.0%
- Infrastructure Private Pool	3,442,284	617,850	4,060,134	1.9%
- Emerging Debt Pool	0	0	0	0.0%
- Subtotal	$ 29,717,596	$ 5,333,966	$ 35,051,562	16.8%
Equity Investments				
- Domestic Equity Pool	$ 41,230,354	$ 7,400,373	$ 48,630,727	23.3%
- Alternative Equity Pool	8,916,806	1,600,464	10,517,270	5.0%
- International Equity Pool	32,691,234	5,867,700	38,558,934	18.5%
- Private Equity Pool	16,266,086	2,919,575	19,185,661	9.2%
- Emerging Markets Equity Pool	5,106,957	916,640	6,023,597	2.9%
- Subtotal	$ 104,211,437	$ 18,704,752	$ 122,916,189	58.9%
Other Investments				
- Real Estate Pool	$ 12,480,659	$ 2,240,310	$ 14,720,969	7.1%
- Other Investments Pool	15,604,980	2,800,914	18,405,894	8.8%
- Absolute Return Pool	13,060,603	2,344,227	15,404,830	7.4%
- Other Assets	0	3,076	3,076	0.0%
- Subtotal	$ 41,146,242	$ 7,388,527	$ 48,534,769	23.3%
Total Cash and Investments	$ 176,991,489	$ 31,738,231	$ 208,729,720	100.0%
Net Accrued Receivables	(196,520)	(240,628)	(437,148)	
Net Assets	$ 176,794,969	$ 31,497,603	$ 208,292,572	

Section 2.2: Changes in Fair Value of Assets During FY17

Fiscal Year 2017		Pension	Healthcare	Total
1.	Fair Value of Assets, June 30, 2016	$ 144,818,899	$ 26,847,885	$ 171,666,784
2.	Additions:			
a.	Employee Contributions	$ 886,162	$ 0	$ 886,162
b.	Employer Contributions	5,673,683	627,649	6,301,332
c.	State Appropriation	5,412,366	0	5,412,366
d.	Interest and Dividend Income	2,683,039	492,849	3,175,888
e.	Net Appreciation/(Depreciation) in Fair Value of Investments	16,306,198	2,991,923	19,298,121
f.	Medicare Part D Subsidy	0	127,457	127,457
g.	Other	0	0	0
h.	Total Additions	$ 30,961,448	$ 4,239,878	$ 35,201,326
3.	Deductions:			
a.	Medical Benefits	$ 0	$ 1,031,148	$ 1,031,148
b.	Retirement Benefits	11,588,512	0	11,588,512
c.	Investment Expenses	79,857	14,567	94,424
d.	Administrative Expenses	79,218	50,762	129,980
e.	Refunds of Contributions	0	0	0
f.	Total Deductions	$ 11,747,587	$ 1,096,477	$ 12,844,064
4.	Fair Value of Assets, June 30, 2017	$ 164,032,760	$ 29,991,286	$ 194,024,046
	Approximate Fair Value Investment Return Rate During FY17 Net of All Expenses	12.99%	13.05%	13.00%

Section 2.3: Changes in Fair Value of Assets During FY18

Fiscal Year 2018	Pension	Healthcare	Total
1. Fair Value of Assets, June 30, 2017	$ 164,032,760	$ 29,991,286	$ 194,024,046
2. Additions:			
a. Employee Contributions	$ 832,718	$ 0	$ 832,718
b. Employer Contributions	5,142,959	620,951	5,763,910
c. State Appropriation	5,385,000	0	5,385,000
d. Interest and Dividend Income	2,940,676	529,747	3,470,423
e. Net Appreciation/(Depreciation) in Fair Value of Investments	10,735,884	1,941,615	12,677,499
f. Medicare Part D Subsidy	0	20,943	20,943
g. Other	0	43,821	43,821
h. Total Additions	$ 25,037,237	$ 3,157,077	$ 28,194,314
3. Deductions:			
a. Medical Benefits	$ 0	$ 1,590,842	$ 1,590,842
b. Retirement Benefits	12,125,563	0	12,125,563
c. Investment Expenses	86,532	16,180	102,712
d. Administrative Expenses	62,933	43,738	106,671
e. Refunds of Contributions	0	0	0
f. Total Deductions	$ 12,275,028	$ 1,650,760	$ 13,925,788
4. Fair Value of Assets, June 30, 2018	$ 176,794,969	$ 31,497,603	$ 208,292,572
Approximate Fair Value Investment Return Rate During FY18 Net of All Expenses	8.27%	8.27%	8.27%

Section 2.4: Development of Actuarial Value of Assets

Future investment gains and losses will be 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 valuation date.

		Pension	Healthcare	Total
1.	Investment Gain/(Loss) for FY18			
a.	Fair Value, June 30, 2017	$ 164,032,760	$ 29,991,286	$ 194,024,046
b.	Contributions for FY18	11,360,677	620,951	11,981,628
c.	Medicare Part D Subsidy	0	20,943	20,943
d.	Benefit Payments for FY18	12,125,563	1,590,842	13,716,405
e.	Actual Investment Return (net of expenses)	13,527,095	2,455,265	15,982,360
f.	Expected Return Rate (net of expenses)	8.00%	8.00%	8.00%
g.	Expected Return - Weighted for Timing	13,234,505	2,356,765	15,591,270
h.	Investment Gain/(Loss) for the Year, (e) – (g)	292,590	98,500	391,090
2.	Actuarial Value, June 30, 2018			
a.	Fair Value, June 30, 2018	$ 176,794,969	$ 31,497,603	$ 208,292,572
b.	Deferred Investment Gain/(Loss)	(1,694,315)	(370,476)	(2,064,791)
c.	Preliminary Actuarial Value, June 30, 2018, (a) – (b)	178,489,284	31,868,079	210,357,363
d.	Upper Limit: 120% of Fair Value, June 30, 2018	212,153,963	37,797,123	249,951,086
e.	Lower Limit: 80% of Fair Value, June 30, 2018	141,435,975	25,198,083	166,634,058
f.	Actuarial Value, June 30, 2018, [(c) limited by (d) and (e)]	$ 178,489,284	$ 31,868,079	$ 210,357,363
g.	Ratio of Actuarial Value of Assets to Fair Value of Assets	101.0%	101.2%	101.0%
h.	Approximate Actuarial Value Investment Return Rate During FY18 Net of All Expenses	8.08%	8.05%	8.08%

The tables below show the development of gain/(loss) to be recognized in the current year.

Pension				
Plan Year Ended	**Asset Gain/(Loss)**	**Gain/(Loss) Recognized in Prior Years**	**Gain/(Loss) Recognized This Year**	**Gain/(Loss) Deferred to Future Years**
6/30/2014	$ 12,319,988	$ 9,855,990	$ 2,463,998	$ 0
6/30/2015	(6,914,160)	(4,148,496)	(1,382,832)	(1,382,832)
6/30/2016	(12,208,288)	(4,883,316)	(2,441,658)	(4,883,314)
6/30/2017	7,229,597	1,445,919	1,445,919	4,337,759
6/30/2018	292,590	0	58,518	234,072
Total	**$ 719,727**	**$ 2,270,097**	**$ 143,945**	**$ (1,694,315)**

Healthcare				
Plan Year Ended	**Asset Gain/(Loss)**	**Gain/(Loss) Recognized in Prior Years**	**Gain/(Loss) Recognized This Year**	**Gain/(Loss) Deferred to Future Years**
6/30/2014	$ 2,312,384	$ 1,849,907	$ 462,477	$ 0
6/30/2015	(1,375,481)	(825,288)	(275,096)	(275,097)
6/30/2016	(2,359,113)	(943,646)	(471,823)	(943,644)
6/30/2017	1,282,441	256,488	256,488	769,465
6/30/2018	98,500	0	19,700	78,800
Total	**$ (41,269)**	**$ 337,461**	**$ (8,254)**	**$ (370,476)**

Total				
Plan Year Ended	**Asset Gain/(Loss)**	**Gain/(Loss) Recognized in Prior Years**	**Gain/(Loss) Recognized This Year**	**Gain/(Loss) Deferred to Future Years**
6/30/2014	$ 14,632,372	$ 11,705,897	$ 2,926,475	$ 0
6/30/2015	(8,289,641)	(4,973,784)	(1,657,928)	(1,657,929)
6/30/2016	(14,567,401)	(5,826,962)	(2,913,481)	(5,826,958)
6/30/2017	8,512,038	1,702,407	1,702,407	5,107,224
6/30/2018	391,090	0	78,218	312,872
Total	**$ 678,458**	**$ 2,607,558**	**$ 135,691**	**$ (2,064,791)**

Section 2.5: Historical Asset Rates of Return

Year Ending	Actuarial Value		Fair Value	
	Annual	Cumulative*	Annual	Cumulative*
June 30, 2005	8.0%	8.0%	8.0%	8.0%
June 30, 2006	11.0%	9.5%	11.0%	9.5%
June 30, 2007	10.2%	9.7%	18.1%	12.3%
June 30, 2008	7.4%	9.1%	(4.8)%	7.7%
June 30, 2009	(9.7)%	5.1%	(20.6)%	1.4%
June 30, 2010	8.7%	5.7%	10.6%	2.8%
June 30, 2011	5.0%	5.6%	20.8%	5.2%
June 30, 2012	0.7%	5.0%	0.1%	4.6%
June 30, 2013	3.6%	4.8%	12.3%	5.4%
June 30, 2014	12.2%	5.5%	18.3%	6.6%
June 30, 2015	10.8%	6.0%	3.0%	6.3%
June 30, 2016	6.6%	6.0%	(0.5)%	5.7%
June 30, 2017	8.3%	6.2%	13.0%	6.3%
June 30, 2018	8.1%	6.3%	8.3%	6.4%

* Cumulative since FYE June 30, 2005

Section 3: Accounting Information*

Section 3.1: Historical Exhibits

Schedule of Employer Contributions

Prior to adoption of GASB Statement No. 25 and 26 in 1997, an ARC was not determined pursuant to the parameters of the statements. Therefore, history prior to 1997 has not been shown. The exhibit below shows the combined annual required contribution for fiscal years ending in 2004 and before.

Fiscal Year Ending	Total Annual Required Contribution	Percentage Contributed
June 30, 1998	$ 2,204,026	100.0%
June 30, 2000	1,510,516	100.0%
June 30, 2002	1,005,968	100.0%
June 30, 2004	1,786,835	100.0%

The following shows pension disclosure under GASB No. 25 for fiscal year ending in 2006 through 2013.

Fiscal Year Ending	Total Annual Required Contribution	Percentage Contributed
June 30, 2006	$ 2,133,876	115.6%
June 30, 2007	3,168,943	100.0%
June 30, 2008	3,898,001	1,045.0%
June 30, 2009	4,937,406	100.0%
June 30, 2010	5,236,646	69.8%
June 30, 2011	3,895,881	98.5%
June 30, 2012	5,051,754	107.3%
June 30, 2013	8,366,815	96.7%

* Pension accounting figures for fiscal years after 2013 are contained in separate GASB 67 reports.

Schedule of Funding Progress

Note: Prior to adoption of GASB Statements No. 25 and 26 in 1997, information which does not meet the parameters of GASB 25 was used to determine funding requirements. Therefore, the history prior to 1997 has not been shown.

Valuation Date	Actuarial Accrued Liability (AAL)	Valuation Assets	Assets as a Pct. of AAL	Unfunded AAL (UAAL)	Annual Active Member Payroll	UAAL as a Pct. of Annual Active Member Payroll
June 30, 1998	$ 61,483,386	$ 64,689,972	105.2%	$ N/A	$ 5,716,092	N/A
June 30, 2000	73,483,475	72,660,197	98.9%	823,278	5,701,980	14.4%
June 30, 2002	71,843,615	63,683,909	88.6%	8,159,706	5,941,860	137.3%
June 30, 2004	80,052,559	70,455,634	88.0%	9,596,925	6,529,608	147.0%

The exhibit below shows the pension disclosure under GASB No. 25 through June 30, 2013.

Valuation Date	Actuarial Accrued Liability (AAL)	Valuation Assets	Assets as a Pct. of AAL	Unfunded AAL (UAAL)	Annual Active Member Payroll	UAAL as a Pct. of Annual Active Member Payroll
June 30, 2006	$ 111,819,972	$ 77,310,716	69.1%	$ 34,509,256	$ 7,130,592	484.0%
June 30, 2008	130,596,048	122,882,726	94.1%	7,713,322	10,462,322	73.7%
June 30, 2010	164,523,775	115,000,226	69.9%	49,523,594	11,845,548	418.1%
June 30, 2012	182,267,524	112,870,360	61.9%	69,397,164	11,803,164	588.0%

Section 3.2: Postemployment Healthcare

The following shows healthcare disclosure without regard to Medicare Part D subsidy under GASB No. 43 for fiscal year ending 2006 and later.

Fiscal Year Ending	Annual Required Contribution	Percentage of ARC Contributed
June 30, 2006	$ 262,631	115.6%
June 30, 2007	486,800	100.0%
June 30, 2008	567,415	2,489.4%
June 30, 2009	1,411,259	100.0%
June 30, 2010	1,432,721	60.9%
June 30, 2011	722,960	80.1%
June 30, 2012	712,911	97.8%
June 30, 2013	1,076,417	80.5%
June 30, 2014	1,094,357	86.7%
June 30, 2015	507,863	131.7%
June 30, 2016*	503,854	119.3%

* Based on estimated FY16 covered payroll.

The exhibit below shows the postemployment healthcare disclosure without regard to Medicare Part D under GASB No. 43.

Valuation Date	Actuarial Accrued Liability (AAL)	Valuation Assets	Assets as a Pct. of AAL	Unfunded AAL (UAAL)	Annual Active Member Payroll	UAAL as a Pct. of Annual Active Member Payroll
June 30, 2006	$ 17,794,213	$ 2,399,387	13.5%	$ 15,394,826	$ 7,130,592	215.9%
June 30, 2008	19,941,128	18,352,929	92.0%	1,588,199	10,462,322	15.2%
June 30, 2010	22,346,395	19,693,696	88.1%	2,652,462	11,845,548	22.4%
June 30, 2012	18,236,104	20,835,671	114.3%	(2,599,567)	11,803,164	(22.0)%
June 30, 2014	18,641,877	24,074,313	129.1%	(5,432,436)	13,730,948	(39.6)%
June 30, 2016	17,111,224	28,454,747	166.3%	(11,343,523)	13,596,652	(83.4)%

Section 4: Member Data

Section 4.1: Summary of Members Included

As of June 30	2010	2012	2014	2016	2018
Active Members					
1. Number	72	69	76	76	71
2. Average Age	56.58	57.83	57.65	58.80	57.53
3. Average Service	9.20	9.04	8.70	9.39	9.45
4. Average Entry Age	47.38	48.79	48.95	49.41	48.08
5. Average Annual Base Pay	$ 167,813	$ 174,477	$ 177,723	$ 185,377	$ 188,632
6. Number Vested	45	43	48	54	51
Vested Terminated Members					
1. Number	4	5	4	3	3
2. Average Age	57.53	52.28	53.53	57.35	59.05
3. Average Service	10.99	7.95	7.40	8.72	13.45
4. Average Monthly Benefit	$ 6,823	$ 5,937	$ 5,704	$ 7,107	$ 7,623
Non-Vested Terminated Members					
1. Number	1	0	0	0	0
2. Average Age	56.95	0	0	0	0
3. Average Service	1.5	0	0	0	0
4. Average Account Balance	$ 12,191	$ 0	$ 0	$ 0	$ 0
Benefit Recipients					
1. Number	99	108	108	109	125
2. Average Age	71.42	70.95	72.09	73.34	73.71
3. Average Monthly Benefit	$ 7,484	$ 7,774	$ 8,141	$ 8,529	$ 8,291

Section 4.2: 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	0	0	0
25 – 29	0	0	0
30 – 34	0	0	0
35 – 39	0	0	0
40 – 44	8	1,435,260	179,408
45 – 49	4	762,996	190,749
50 – 54	13	2,235,393	171,953
55 – 59	14	2,556,048	182,575
60 – 64	19	3,507,288	184,594
65 – 69	13	2,428,188	186,784
70 – 74	0	0	0
75+	0	0	0
Total	71	$ 12,925,173	$ 182,045

Annual Earnings by Service

Years of Service	Number	Total Annual Earnings	Average Annual Earnings
0	6	$ 1,051,704	$ 175,284
1	5	923,844	184,769
2	3	584,616	194,872
3	3	569,160	189,720
4	3	511,425	170,475
0 – 4	20	3,640,749	182,037
5 – 9	22	3,991,308	181,423
10 – 14	18	3,273,240	181,847
15 – 19	6	1,080,576	180,096
20 – 24	1	205,176	205,176
25 – 29	2	354,684	177,342
30 – 34	1	189,720	189,720
35 – 39	1	189,720	189,720
40+	0	0	0
Total	71	$ 12,925,173	$ 182,045

Years of 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	0	0	0	0	0	0	0	0	0	0
25 – 29	0	0	0	0	0	0	0	0	0	0
30 – 34	0	0	0	0	0	0	0	0	0	0
35 – 39	0	0	0	0	0	0	0	0	0	0
40 – 44	6	2	0	0	0	0	0	0	0	8
45 – 49	3	1	0	0	0	0	0	0	0	4
50 – 54	5	4	3	1	0	0	0	0	0	13
55 – 59	6	3	3	2	0	0	0	0	0	14
60 – 64	0	8	9	1	1	0	0	0	0	19
65 – 69	0	4	3	2	0	2	1	1	0	13
70 – 74	0	0	0	0	0	0	0	0	0	0
75+	0	0	0	0	0	0	0	0	0	0
Total	20	22	18	6	1	2	1	1	0	71

Total annual earnings are the annualized earnings for the fiscal year ending on the valuation date.

Section 4.3: Member Data Reconciliation

Pension

	Active Members	Non-Vested Members	Vested Members	Benefit Recipients	Total
As of June 30, 2016	76	0	3	109	188
New Entrants	12	0	0	0	12
Rehires	0	0	0	0	0
Vested Terminations	(1)	0	1	0	0
Non-Vested Terminations	0	0	0	0	0
Refund of Contributions	0	0	0	0	0
Retirements	(15)	0	(1)	16	0
Deaths	(1)	0	0	(6)	(7)
New Survivors	0	0	0	6	6
New QDROs	0	0	0	0	0
As of June 30, 2018	71	0	3	125	199

Healthcare

	Active Members	Inactive Individuals	Covered Spouses	Covered Children	Deferred	Total Inactive
As of June 30, 2016	54	71	35	4	3	113
New Entrants	13	0	0	0	0	0
Rehires	0	0	0	0	0	0
Vested Terminations	(1)	0	0	0	1	1
Non-Vested Terminations	0	0	0	0	0	0
Retirements	(6)	6	5	1	0	12
Retired from Deferred Status	0	1	0	0	(1)	0
Deaths	(1)	(3)	(2)	0	0	(5)
New Survivors	0	4	0	0	0	4
Added Dependent Coverage	0	0	0	0	0	0
Dropped Dependent Coverage	0	0	0	0	0	0
Added Retiree Medical Coverage	0	0	2	0	0	2
Dropped Retiree Medical Coverage	0	(1)	0	0	0	(1)
Transfers	(3)	0	0	0	0	0
As of June 30, 2018	56	78	40	5	3	126

Section 5: Basis of the Actuarial Valuation

Section 5.1: Summary of Plan Provisions

Effective Date

May 4, 1963, with amendments through June 30, 2016.

Administration of Plan

The Commissioner of Administration is responsible for administering the Judicial Retirement System (JRS). The Alaska Retirement Management Board is responsible for managing and investing the fund (Ch 5, SLA 2005).

Members Included

JRS membership is mandatory for all Supreme Court justices and Superior, District and Appellate Court judges. The administrative director of the Court System may elect to participate in either the JRS or the Public Employees' Retirement System (PERS).

Credited Service

Members receive credit for each day of JRS employment. Earlier service as a magistrate or deputy magistrate before July 1, 1967 is covered under the JRS. JRS members become vested in the plan after reaching 5 years of credited service.

Member Contributions

Members hired after July 1, 1978, are required to contribute 7% of their base annual salaries. Contributions are required for a maximum of 15 years. Members hired before July 1, 1978 are not required to contribute.

Interest Credited: 4.5% compounded semiannually on June 30 and December 31.

Refund of Contributions: Non-vested members may receive a refund of their contributions and interest earned if they terminate employment. Refunded contributions, plus 7% indebtedness interest, must be repaid before appointment to retirement.

JRS contributions for terminated members may be attached to satisfy claims under Alaska Statute 09.38.065 or federal tax levies. Contributions that are attached to satisfy claims or tax levies may be reinstated at any time. The member is not required to return to JRS employment.

Retirement Eligibility and Benefits

Normal Retirement: Members are eligible for normal retirement at age 60 if they have at least five years of JRS service. Terminated, vested members may defer retirement and begin receiving normal retirement benefits when they reach age 60. Vesting is completion of at least five years of JRS service.

Early Retirement: Members are eligible for early retirement at any age if they have at least 20 years of service. Terminated, vested members may defer retirement and begin receiving early retirement benefits when they reach age 55. Under early retirement, members receive reduced benefits equal to the actuarial equivalent of their normal retirement benefits. Early benefits are based on the member's service and early retirement date.

Type of Benefit: Lifetime monthly benefits are paid to the member. Upon the member's death, a survivor's benefit (below) may be payable if the member has an eligible spouse or dependent children.

Computation of Normal Retirement Benefit: 5% of authorized monthly base salary for each year of JRS service up to a maximum of 15 years. JRS retirement benefit payments are recalculated when the salary for the office held by the member at the time of retirement changes. The maximum JRS benefit payable to a member is 75% of the authorized salary.

Survivor's Benefits

Survivor's benefits are payable to the spouse of a member if they have been married for at least one year immediately preceding the member's death and the member has at least two years of JRS service. The monthly survivor's benefit is equal to the greater of:

a. one-half of the monthly benefit that the member would have received if retired at the time of death; or
b. 30% of the authorized monthly base salary if the member was not eligible to retire, or was entitled to less than 60% of the authorized monthly base salary.

If there is no eligible surviving spouse, the member's dependent children receive, in equal shares, 50% of the benefit under (a) or (b) until age 19 or 23 and attending an accredited educational or technical institution on a full-time basis.

When there is both an eligible surviving spouse and dependent children residing in separate households, the spouse and children share equally the benefit under (a) or (b) while the children are under 19 or 23 and attending an accredited educational or technical institution on a full-time basis.

When there is no surviving spouse or dependent children, the members' contribution account balance, including interest earned, will be paid to the designated beneficiary.

Disability Benefits

Members are eligible to receive monthly disability benefits at any age if they become incapacitated and they have at least two years of JRS service. Disability benefits are calculated the same as normal retirement benefits.

Medical Benefits

Medical benefits are provided at no cost to JRS members, their spouses and dependents while monthly retirement, disability and survivor benefits are being paid.

Changes in Benefit Provisions Valued Since the Prior Valuation

The JRS medical benefit provisions were changed since the prior valuation to reflect the implementation of EGWP as of January 1, 2019.

Section 5.2: Descriptions of Actuarial Methods and Valuation Procedures

The funding method used in this valuation was adopted by the Board in October 2006. Changes in methods were adopted by the Board in January 2019 based on the experience study for the period July 1, 2013 to June 30, 2017. The asset smoothing method used to determine valuation assets was changed effective June 30, 2014.

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

Actuarial Method

Entry Age Actuarial Cost.

Liabilities and contributions shown in the report are computed using the Entry Age Normal Actuarial Cost Method. Any funding surplus or unfunded actuarial accrued liability is amortized over 25 years as a level percentage of expected payroll.

Projected pension and preretirement spouse's death 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 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 payroll of active members. The actuarial accrued liability for active members (the portion of the total cost of the plan allocated to prior years under the method) was determined as the excess of the actuarial present value of projected benefits over the actuarial present value of future normal costs.

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

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

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

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 will be phased in over five years. Assets are initialized at market value as of June 30, 2006. All assets are valued at market 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 market value of assets.

Changes in Methods Since the Prior Valuation

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 the asset or valuation methods since the prior valuation.

Valuation of Medical and Prescription Drug Benefits

This section outlines the detailed methodology used to develop the initial per capita claims cost rates for the State of Alaska Judicial Retirement System postemployment healthcare plan. Note that methodology reflects the results of our annual experience rate update for the period July 1, 2017 to June 30, 2018. Healthcare cost trend and retiree contribution increase assumptions for the period after June 30, 2018 were updated since the prior valuation.

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

Benefits

Medical, prescription drug, dental, vision and audio coverage is provided through the AlaskaCare Retiree Health Plan and is available to employees of the State and subdivisions who meet retirement criteria based on the retirement plan tier in effect at their date of hire. Health plan provisions do not vary by retirement tier or age, except for Medicare coordination for those Medicare-eligible. Dental, vision and audio claims (DVA) are excluded from data analyzed for this valuation because those are retiree-pay all benefits where rates are assumed to be self-supporting. Buck relies upon rates set by a third-party for the DVA benefits. Buck reviewed historical rate-setting information and views contribution rate adjustments made are not unreasonable.

Administration and Data Sources

The plan was administered by Wells Fargo Insurance Services (acquired by HealthSmart, in January 2012) from July 1, 2009 through December 31, 2013 and by Aetna effective January 1, 2014.

Claims incurred for the period from July 2016 through June 2018 (FY17 through FY18) were provided by the State of Alaska from reports extracted from their data warehouse, which separated claims by Medicare status. In reviewing the claims reports generated for this year’s valuation, it was discovered that audio and vision claims were incorrectly included in the reports that were provided for the prior year valuation. These audio and vision claims accounted for approximately $9.9M in claims during fiscal 2017 (which was less than 2% of the total gross claims for that fiscal year). The claims for fiscal 2017 used in this year’s claims cost development exclude the audio and vision claims that were incorrectly included in last year’s development. Monthly enrollment data for the same period was provided by Aetna.

Aetna also provided census information identifying Medicare Part B only participants. These participants are identified when hospital claims are denied by Medicare; Aetna then flags that participant as a Part B only participant. Buck added newly identified participants to our list of Medicare Part B only participants. Buck assumes that once identified as Part B only, that participant remains in that status until we are notified otherwise.

Aetna provided a snapshot file as of July 1, 2018 of retirees and dependents that included a coverage level indicator. The monthly enrollment data includes dual coverage participants. These are participants whereby both the retiree and spouse are retirees from the State and both are reflected with Couple coverage in the enrollment. In this case, such a couple would show up as four members in the monthly enrollment (each would be both a retiree and a spouse). As a result, the snapshot census file was used to adjust the total member counts in the monthly enrollment reports to estimate that number of unique participants enrolled in coverage. Based on the snapshot files from the last two valuations, the total member count in the monthly enrollment reports needs to be reduced by approximately 13% to account for the number of participants with dual coverage.

Aetna does not provide separate experience by Medicare status in standard reporting so the special reports mentioned above from the data warehouse were used this year to obtain that information and incorporate it into the per capita rate development for each year of experience (with corresponding weights applied in the final per capita cost).

Methodology

Buck projected historical claim data to FY19 for retirees using the following summarized steps:

1. Develop historical annual incurred claim cost rates – an analysis of medical costs was completed based on claims information and enrollment data provided by the State of Alaska and Aetna for each year in the experience period of FY17 through FY18.
   - Costs for medical services and prescriptions were analyzed separately, and separate trend rates were developed to project expected future medical and prescription costs for the upcoming year (e.g. from the experience period up through FY19).
   - Because the reports provided this year reflected incurred claims, no additional adjustment was needed to determine incurred claims to be used in the valuation.
   - An offset for costs expected to be reimbursed by Medicare was incorporated beginning at age 65. Alaska retirees who do not have 40 quarters of Medicare-covered compensation do not qualify for Medicare Part A coverage free of charge. This is a relatively small and closed group. Medicare was applied to State employment for all employees hired after March 31, 1986. For the "no-Part A" individuals who are required to enroll in Medicare Part B, the State is the primary payer for hospital bills and other Part A services. Claim experience is not available separately for participants with both Medicare Parts A and B and those with Part B only. For Medicare Part B only participants, a lower average claims cost was applied to retirees covered by both Medicare Part A and B vs. retirees covered only by Medicare Part B based upon manual rate models that estimate the Medicare covered proportion of medical costs. To the extent that no-Part A claims can be isolated and applied strictly to the appropriate closed group, actuarial accrued liability will be more accurate.
   - Based on census data received from Aetna, less than 1% of the current retiree population was identified as having coverage only under Medicare Part B. We assume that 5% of actives hired before 4/1/1986 and current retirees who are not yet Medicare eligible will not be eligible for Medicare Part A.
   - Based upon a reconciliation of valuation census data to the snapshot eligibility files provided by Aetna as of July 1, 2017 and July 1, 2018, Buck adjusted member counts used for duplicate records where participants have dual coverage; i.e. primary coverage as a retiree and secondary coverage as the covered spouse of another retiree. This is to reflect the total cost per distinct individual/member which is then applied to distinct members in the valuation census.
   - Buck understands that pharmacy claims reported do not reflect rebates. Based upon reported rebates in proportion to incurred claims for State of Alaska retiree plans, Buck reduced reported pharmacy incurred claims by 12% to estimate the rebates for the retiree population. These estimates were based upon reported rebates for retirees from Aetna.
2. Develop estimated Retiree Drug Subsidy reimbursement - actual subsidy payments to the State were received for claims incurred during the 2019 through 2017 calendar years. Buck obtained this information based upon recorded and available information in the RDS Subsidy website and as provided by the State. The projected subsidy for FY19 was determined based on the historical ratio of subsidy received to claims incurred (adjusted for rebates), and then applied to the appropriate projection period. These amounts are applicable only to Medicare eligible participants.
3. Adjust for claim fluctuation, anomalous experience, etc. – explicit adjustments are often made for anticipated large claims or other anomalous experience. Due to group size and demographics, we did not make any large claim adjustments. We do blend both Alaska plan-specific and national trend factors as described below. Buck compared data utilized to lag reports and quarterly plan experience presentations provided by the State and Aetna to assess accuracy and reasonableness of data.

4. Trend all data points to the projection period – project prior years' experience forward to FY19 for retiree benefits on an incurred claim basis. Trend factors derived from historical Alaska-specific experience and national trend factors are shown in the table in item 5 below.
5. Apply credibility to prior experience – adjust prior year's data by assigning weight to recent periods, as shown at the right of the table below. The Board approved a change in the weighting of experience periods beginning with the prior valuation as outlined below. Note also that we averaged projected plan costs using Alaska-specific trend factors and national trend factors, assigning 75% weight to Alaska-specific trends and 25% to national trends:

Alaska-Specific and National Average Weighted Trend from Experience Period to Valuation Year			
Experience Period	**Medical**	**Prescription**	**Weighting Factors**
FY17 to FY18	7.0% Pre-Medicare / 4.5% Medicare	6.2%	50%
FY18 to FY19	6.2% Pre-Medicare / 4.0% Medicare	8.0%	50%

   Trend assumptions used for rate development are assessed annually and as additional/improved reporting becomes available, we will incorporate into rate development as appropriate. Based upon recent experience trending up, particularly for prescription drugs, the Board has approved our recommendation to update the valuation healthcare cost trend assumption.

6. Develop separate administration costs – no adjustments were made for internal administrative costs. Third party retiree plan administration fees for FY19 are based upon total fees projected to 2019 by Segal based on actual FY18 fees. The annual per participant per year administrative cost rate for medical and prescription benefits is $300.

Healthcare Reform

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

Because the State plan is retiree-only, and was in effect at the time the legislation was enacted, not all provisions of the health reform legislation apply to the State plan. Unlimited lifetime benefits and dependent coverage to age 26 are two of these provisions. We reviewed the impact of including these provisions, but there was no decision made to adopt them, and no requirement to do so.

Because Transitional Reinsurance fees are only in effect until 2016, we excluded these for valuation purposes.

The Plan will be subject to the high cost plan excise tax (Cadillac tax). Based upon guidance available at the valuation date, Buck estimated the tax based upon a blended test of pre and post-Medicare projected costs and enrollment projections.

- A blended test compares a weighted average per capita cost (based upon proportions of pre/post Medicare eligible enrollments) to the tax cost thresholds in each projection year. Projected enrollment was based upon the current enrollment data provided by Aetna, and valuation headcount projections for future years.
- We included administrative fees and applied Retiree Drug Subsidy / EGWP reimbursements to the Medicare rates.

We assumed claim costs would increase according to valuation trend assumptions from the June 30, 2018 valuation, and that the tax cost thresholds would increase at 2.25% (the CPI assumption of 2.50% less 0.25% to estimate the impact of using the chained CPI as required by the Tax Cut and Jobs Act passed in December 2017). The first year increased at 3.25% to reflect the additional 1% over inflation assumption.

We determined the impact to be $160,093 of the projected June 30, 2018 healthcare actuarial accrued liability for the defined benefit plans.

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 any potential impacts.

Data

In accordance with actuarial standards, we note the following specific data sources and steps taken to value retiree medical benefits:

The Division of Retirement and Benefits provided pension valuation census data, which for people currently in receipt of healthcare benefits was supplemented by coverage data from the healthcare claims administrator (Aetna)

Certain adjustments and assumptions were made to prepare the data for valuation:

- Some records provided on the Aetna data were associated with a participant social security number not listed on the RIN-to-SSN translation file. We reconciled those participants with the pension valuation data as either a surviving spouse or a retiree in the appropriate plan based on account structure information in the Aetna data.
- All records provided with retiree medical coverage on the Aetna data were included in this valuation and we relied on the Aetna data as the source of medical coverage for current retirees and their dependents.
- Some records in the Aetna data were duplicates due to the dual coverage (i.e. coverage as a retiree and as a spouse of another retiree) allowed under the plan. Records were adjusted for these members so that each member was only valued once. Any additional value of the dual coverage (due to coordination of benefits) is small and reflected in the per capita costs.
- Covered children included in the Aetna data were valued until age 23, unless disabled. We assumed that those dependents over 23 were only eligible and valued due to being disabled.
- For individuals included in the pension data expecting a future pension, we valued health benefits starting at the same point that the pension benefit is assumed to start.

We are not aware of any other data issues that would be expected to have a material impact on the results and there are no unresolved matters related to the data.

The chart below shows the basis of setting the per capita claims cost assumption, which includes PERS, TRS, and JRS.

	Medical		Prescription Drugs (Rx)	
	Pre-Medicare	**Medicare**	**Pre-Medicare**	**Medicare**
A. Fiscal 2017				
1. Incurred Claims	$ 230,671,216	$ 66,265,130	$ 64,442,324	$ 160,756,912
2. Adjustments for Rx Rebates	0	0	(7,733,079)	(19,290,829)
3. Net incurred claims	$ 230,671,216	$ 66,265,130	$ 56,709,245	$ 141,466,082
4. Average Enrollment	23,342	38,502	23,342	38,502
5. Claim Cost Rate (3) / (4)	9,882	1,721	2,430	3,674
6. Trend to Fiscal 2019	1.136	1.087	1.147	1.147
7. Fiscal 2019 Incurred Cost Rate (5) x (6)	$ 11,230	$ 1,870	$ 2,787	$ 4,214
B. Fiscal 2018				
1. Incurred Claims	$ 228,572,782	$ 72,875,570	$ 65,406,973	$ 178,763,430
2. Adjustments for Rx Rebates	0	0	(7,848,837)	(21,451,612)
3. Net incurred claims	$ 228,572,782	$ 72,875,570	$ 57,558,136	$ 157,311,819
4. Average Enrollment	21,920	40,560	21,920	40,560
5. Claim Cost Rate (3) / (4)	10,428	1,797	2,626	3,878
6. Trend to Fiscal 2019	1.062	1.040	1.080	1.080
7. Fiscal 2019 Incurred Cost Rate (5) x (6)	$ 11,074	$ 1,869	$ 2,836	$ 4,189

	Medical		Prescription Drugs (Rx)	
	Pre-Medicare	**Medicare**	**Pre-Medicare**	**Medicare**
C. Incurred Cost Rate by Fiscal Year				
1. Fiscal 2017 A.(7)	11,230	1,870	2,787	4,214
2. Fiscal 2018 B.(7)	11,074	1,869	2,836	4,189
D. Weighting by Fiscal Year				
1. Fiscal 2017	50%	50%	50%	50%
2. Fiscal 2018	50%	50%	50%	50%
E. Fiscal 2019 Incurred Cost Rate				
1. Rate at Average Age C x D	$ 11,152	$ 1,870	$ 2,811	$ 4,201
2. Average Aging Factor	0.824	1.251	0.837	1.116
3. Rate at Age 65 (1) / (2)	$ 13,535	$ 1,494	$ 3,360	$ 3,764
F. Development of Part A&B and Part B Only Cost from Pooled Rate Above				
1. Part A&B Average Enrollment		40,223		
2. Part B Only Average Enrollment		338		
3. Total Medicare Average Enrollment B(4)		40,560		
4. Cost ratio for those with Part B only to those with Parts A&B		3.180		
5. Factor to determine cost for those with Parts A&B (2) / (3) x (4) + (1) / (3) x 1.00		1.018		
6. Medicare per capita cost for all participants: E(3)		$ 1,494		
7. Cost for those eligible for Parts A&B: (6) / (5)		$ 1,468		
8. Cost for those eligible for Part B only: (7) x (4)		$ 4,667		

Following the development of total projected costs, a distribution of per capita claims cost was developed. This was accomplished by allocating total projected costs to the population census used in the valuation. The allocation was done separately for each of prescription drugs and medical costs for the Medicare eligible and pre-Medicare populations. The allocation weights were developed using participant counts by age and assumed morbidity and aging factors. Results were tested for reasonableness based on historical trend and external benchmarks for costs paid by Medicare.

Below are the results of this analysis:

Distribution of Per Capita Claims Cost by Age
for the Period July 1, 2018 through June 30, 2019

Age	Medical and Medicare Parts A & B	Medical and Medicare Part B Only	Prescription Drug	Medicare Retiree Drug Subsidy	Medicare EGWP Subsidy
45	$ 8,260	$ 8,260	$ 2,053	$ 0	$ 0
50	9,346	9,346	2,438	0	0
55	10,574	10,574	2,896	0	0
60	11,963	11,963	3,119	0	0
65	1,468	4,667	3,764	527	1,039
70	1,701	5,410	4,155	582	1,147
75	1,972	6,272	4,588	642	1,266
80	2,178	6,925	4,474	626	1,235

Section 5.3: Summary of Actuarial Assumptions

The demographic and economic assumptions used in the June 30, 2018 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

3.62% per year.

Payroll Growth

2.75% per year.

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.

Compensation and Benefit Limit Increases

Compensation is limited to the IRC 401(a)(17) amount, which was $275,000 for 2018. This limit is assumed to increase 2.50% each year thereafter.

Benefits are limited to the IRC 415 amount, which was $220,000 for 2018. This limit is assumed to increase 2.50% each year thereafter.

Benefit Payment Increases

Benefits for retired members are assumed to increase 3.62% per year.

Mortality (Pre-Termination)

Mortality rates based upon the 2013-2017 actual experience.

RP-2014 white-collar employee table projected with MP-2017 generational improvement.

Mortality (Post-Termination)

Mortality rates based upon the 2013-2017 actual experience.

93% of male and 90% of female rates of RP-2014 white-collar healthy annuitant table projected with MP-2017 generational improvement.

Turnover

3% if service is less than 10 years, 1% otherwise.

Disability

Incidence rates in accordance with Table 1.

Post-disability mortality in accordance with the RP-2014 disabled table projected with MP-2017 generational improvement.

Retirement

Retirement rates based upon the 2010-2013 experience (see Table 2).

Deferred vested members are assumed to retire at age 60.

Form of Payment

Married members are assumed to choose the 50% Joint and Survivor benefit option. Single members are assumed to choose the Modified Cash Refund Annuity.

Refund of Contributions

0% of terminating members with vested benefits are assumed to have their contributions refunded. 100% of those with non-vested benefits are assumed to have their contributions refunded.

Spouse Age Difference

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

Percent Married for Pension

90% of male members and 70% 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. 90% of male members and 70% female members are assumed to be married and cover a dependent spouse.

Dependent Children

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

Imputed Data

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

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:

- Pension: $71,050
- Healthcare: $19,250

Per Capita Claims Cost

Sample claims cost rates adjusted to age 65 for FY19 medical and prescription drugs are shown below:

	Medical	Prescription Drugs
Pre-Medicare	$ 13,535	$ 3,360
Medicare Parts A & 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 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

$300 per person per year; assumed to increase at 4.5% per year.

Medicare Part B Only

We assume that 5% of actives hired before 4/1/1986 and current retirees who are not yet Medicare eligible will not be eligible for Medicare Part A.

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 costs to get the FY20 medical claims costs.

Fiscal Year	Medical Pre-65	Medical Post-65	Prescription Drugs / EGWP	RDS
FY19	7.5%	5.5%	8.5%	4.7%
FY20	7.0%	5.4%	8.0%	4.7%
FY21	6.5%	5.4%	7.5%	4.6%
FY22	6.3%	5.4%	7.1%	4.6%
FY23	6.1%	5.4%	6.8%	4.6%
FY24	5.9%	5.4%	6.4%	4.6%
FY25	5.8%	5.4%	6.1%	4.6%
FY26	5.6%	5.4%	5.7%	4.6%
FY27-FY40	5.4%	5.4%	5.4%	4.5%
FY41	5.3%	5.3%	5.3%	4.5%
FY42	5.2%	5.2%	5.2%	4.5%
FY43	5.1%	5.1%	5.1%	4.5%
FY44	5.1%	5.1%	5.1%	4.5%
FY45	5.0%	5.0%	5.0%	4.5%
FY46	4.9%	4.9%	4.9%	4.5%

Fiscal Year	Medical Pre-65	Medical Post-65	Prescription Drugs / EGWP	RDS
FY47	4.8%	4.8%	4.8%	4.5%
FY48	4.7%	4.7%	4.7%	4.5%
FY49	4.6%	4.6%	4.6%	4.5%
FY50+	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 this year to use the newest version and incorporate recent trend survey information, which generated the updated trend rates shown above.

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

Fiscal Year	Pre-65	Post-65	Fiscal Year	Pre-65	Post-65
FY18-FY30	0.00%	0.00%	FY70	0.21%	0.46%
FY31	0.00%	0.15%	FY71	0.21%	0.45%
FY32	0.00%	0.34%	FY72	0.20%	0.44%
FY33	0.00%	0.30%	FY73	0.20%	0.43%
FY34	0.00%	0.28%	FY74	0.20%	0.42%
FY35	0.00%	0.26%	FY75	0.19%	0.41%
FY36	0.00%	0.26%	FY76	0.19%	0.40%
FY37	0.00%	0.21%	FY77	0.18%	0.39%
FY38	0.10%	0.22%	FY78	0.18%	0.38%
FY39	0.09%	0.20%	FY79	0.17%	0.37%
FY40	0.08%	0.16%	FY80	0.17%	0.36%
FY41	0.07%	0.14%	FY81	0.17%	0.35%
FY42	0.06%	0.12%	FY82	0.16%	0.34%
FY43	0.04%	0.06%	FY83	0.16%	0.33%
FY44	0.04%	0.07%	FY84	0.15%	0.32%
FY45	0.04%	0.06%	FY85	0.15%	0.31%
FY46	0.03%	0.05%	FY86	0.15%	0.31%
FY47	0.04%	0.10%	FY87	0.14%	0.30%
FY48	0.04%	0.43%	FY88	0.14%	0.29%
FY49	0.05%	0.57%	FY89	0.14%	0.29%
FY50	0.05%	0.52%	FY90	0.13%	0.28%
FY51	0.06%	0.60%	FY91	0.13%	0.27%
FY52	0.06%	0.63%	FY92	0.13%	0.27%
FY53	0.07%	0.69%	FY93	0.13%	0.26%
FY54	0.10%	0.69%	FY94	0.12%	0.25%
FY55	0.30%	0.68%	FY95	0.12%	0.25%
FY56	0.30%	0.67%	FY96	0.12%	0.24%
FY57	0.29%	0.66%	FY97	0.11%	0.24%
FY58	0.29%	0.64%	FY98	0.11%	0.23%
FY59	0.28%	0.62%	FY99	0.11%	0.22%
FY60	0.27%	0.60%	FY00	0.11%	0.22%
FY61	0.27%	0.58%	FY01	0.10%	0.21%

Fiscal Year	Pre-65	Post-65	Fiscal Year	Pre-65	Post-65
FY62	0.26%	0.57%	FY02	0.10%	0.21%
FY63	0.25%	0.56%	FY03	0.10%	0.20%
FY64	0.25%	0.54%	FY04	0.10%	0.20%
FY65	0.24%	0.53%	FY05	0.10%	0.19%
FY66	0.24%	0.51%	FY06	0.09%	0.19%
FY67	0.23%	0.50%	FY07	0.09%	0.19%
FY68	0.23%	0.49%	FY08	0.09%	0.18%
FY69	0.22%	0.47%	FY09	0.09%	0.18%

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+	0.0%	0.0%

Healthcare Participation

100% system paid of members and their spouses are assumed to elect the healthcare benefits as soon as they are eligible.

Changes in Assumptions Since the Prior Valuation

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 study performed on the population experience from July 1, 2013 to June 30, 2017. The changes in assumptions were adopted at the January 2019 Board meeting.

Table 1: Disability Rates

Age	Rate
20	0.017%
21	0.017
22	0.018
23	0.018
24	0.008
25	0.019
26	0.009
27	0.019
28	0.020
29	0.020
30	0.021
31	0.021
32	0.022
33	0.022
34	0.023
35	0.024
36	0.025
37	0.026
38	0.027
39	0.028
40	0.029%
41	0.030
42	0.032
43	0.034
44	0.037
45	0.041
46	0.044
47	0.048
48	0.052
49	0.056
50	0.060
51	0.065
52	0.072
53	0.080
54	0.089
55	0.100
56	0.115
57	0.134
58	0.153
59	0.180
60+	0.000

Table 2: Retirement Rates

Age	Rate
< 59	3%
59	10
60	20
61	20
62	10
63	10
64	10
65	20
66	20
67	10
68	10
69	10
70+	100

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.

Annual Required Contribution (ARC)

Disclosure measure of annual pension or postretirement benefit cost under GASB 25, 27, 43 and 45.

GASB 25 and 27

Governmental Accounting Standards Board Statement Number 25, which specifies how the ARC was to have been calculated, and Number 27, which specifies Employer reporting of Pension Cost.

GASB 43 and 45

Governmental Accounting Standards Board Statement Number 43, which specifies how the ARC is to be calculated, and Number 45, which specifies Employer reporting of Other Postemployment Benefit (OPEB) Cost.

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.

Unfunded Actuarial Accrued Liability (UAAL)

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

Vested Benefits

Benefits which are unconditionally guaranteed regardless of employment.