

State of Alaska Judicial Retirement System

Actuarial Valuation Report as of June 30, 2022

August 2023



August 15, 2023

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 (updated)¹

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, 2022 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, 2022. 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, 2022.

JRS is funded by Employer, State, and Member Contributions in accordance with the funding policy adopted by the Alaska Retirement Management Board (Board) and as required by Alaska state statutes. 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 funded status of the pension trust and the healthcare trust are expected to remain at or above 100%.

¹ This report is an update to the valuation report dated July 31, 2023, reflecting a change in the timing of the pensioner benefit increases to the beginning of each fiscal year. Previously, the increases were assumed to be effective at the end of each fiscal year.

i

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 due to failure to understand applicable assumptions, methodologies, or inapplicability of the report for that purpose. Because of the risk of misinterpretation of actuarial results, Buck recommends requesting its advanced review of any statement to be based on information contained in this report. Buck will accept no liability for any such statement made without its prior review.

Future actuarial measurements may differ significantly from current measurements due to plan experience differing from that anticipated by the actuarial assumptions, changes 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, 2017 to June 30, 2021. Based on that experience study, the Board adopted new assumptions effective beginning with the June 30, 2022 valuation to better reflect expected future experience. For the June 30, 2022 valuation, the salary increase and pensioner benefit increase assumptions were further modified to be 5.00% for FY23, and 3.00% per year thereafter to better reflect expected short-term experience.

Based on our analysis of recent claims experience, changes were made to the healthcare per capita claims cost rates effective June 30, 2022 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. We certify that the assumptions and methods described in Sections 4.2 and 4.3 of this report meet the requirements of all applicable Actuarial Standards of Practice.

Actuarial Standards of Practice No. 27 (ASOP 27) and No. 35 (ASOP 35) require the actuary to disclose the information and analysis used to support the actuary's determination that the assumptions selected by the plan sponsor do not significantly conflict with what, in the actuary's professional judgment, are reasonable for the purpose of the measurement. Buck provides advice on reasonable assumptions when performing periodic experience studies. The Board selects the assumptions used and the signing actuary reviews the assumptions through discussions with the Board staff and analyzing actuarial gain/loss experience. In the case of the Board's selection of the expected return on assets (EROA), the signing actuary has used economic information and tools provided by Buck's Financial Risk Management (FRM) practice. A spreadsheet tool created by the FRM practice converts averages, standard deviations, and correlations from Buck's Capital Markets Assumptions that are used for stochastic forecasting into approximate percentile ranges for the arithmetic and geometric average returns. It is intended to suggest possible reasonable ranges for EROA without attempting to predict or select a specific best estimate rate of return. It takes into account the duration (horizon) of investment and the target allocation of assets in the portfolio to various asset classes. Based on the actuary's analysis, including consistency with other assumptions used in the valuation, the percentiles generated by the spreadsheet tool described above, and review of actuarial gain/loss analysis, the actuary believes the assumptions do not significantly conflict with what, in the actuary's professional judgment, are reasonable for the purpose of the measurement.

ACFR Information

We have prepared the following information in this report for the Actuarial Section and Statistical Section of the ACFR: (i) member data tables in Section 3; (ii) changes in contribution rates in the Executive Summary; and (iii) summary of actuarial assumptions in Section 4.3.

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 fiscal year ending June 30, 2017. Please see our separate GASB 67 and GASB 74 reports for other information needed for the ACFR.

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 healthcare portion of JRS. See Section 5 of this report for further details regarding ASOP 51.

Use of Models

Actuarial Standard of Practice No. 56 (ASOP 56) provides guidance to actuaries when performing actuarial services with respect to designing, developing, selecting, modifying, using, reviewing, or evaluating models. In addition to the EROA analysis spreadsheet model disclosed above, Buck uses third-party software in the performance of actuarial valuations and projections. The model is intended to calculate the liabilities associated with the provisions of the plan using data and assumptions as of the measurement date under the funding methods specified in this report. The output from the third-party vendor software is used as input to internally developed models that apply applicable funding methods and policies to the derived liabilities and other inputs, such as plan assets and contributions, to generate many of the exhibits found in this report. Buck has an extensive review process in which the results of the liability calculations are checked using detailed sample life output, changes from year to year are summarized by source, and significant deviations from expectations are investigated. Other funding outputs and the internal models are similarly reviewed in detail and at a higher level for accuracy, reasonability, and consistency with prior results. Buck also reviews the third-party model when significant changes are made to the software. This review is performed by experts within Buck who are familiar with applicable funding methods, as well as the manner in which the model generates its output. If significant changes are made to the internal models, extra checking and review are completed. Significant changes to the internal models that are applicable to multiple clients are generally developed, checked, and reviewed by multiple experts within Buck who are familiar with the details of the required changes.

Additional models used in valuing health benefits are described later in the report.

COVID-19

The potential impact of the ongoing COVID-19 pandemic on costs and liabilities was considered and an adjustment was made in setting the medical per capita claims cost assumption. FY21 medical claims were adjusted for a COVID-19 related decline in those claims during the fiscal year. FY22 medical claims were not adjusted. A more detailed explanation on these adjustments is shown in Section 4.2.

This report was prepared under the overall direction of David Kershner, who meets the Qualification Standards of the American Academy of Actuaries to render the actuarial opinions contained herein. He is a Fellow of the Society of Actuaries, an Enrolled Actuary, a Member of the American Academy of Actuaries, and a Fellow of the Conference of Consulting Actuaries.

We are available to discuss this report with you at your convenience. David can be reached at 602-803-6174 and Brett can be reached at 260-423-1072.

Respectfully submitted,

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

Principal

Buck, A Gallagher Company

Brett Hunter, ASA, EA, MAAA

Senior Consultant

Buck, A Gallagher Company

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.

Robert Besenhofer, ASA, MAAA, FCA

Director

Buck, A Gallagher Company

Contents

Executive Sun	nmary	1
Section 1: Ac	tuarial Funding Results	6
Section 1.1	: Actuarial Liabilities and Normal Cost	6
Section 1.2	: Actuarial Contributions as of June 30, 2022 (for FY25)	8
Section 1.3	: Actuarial Gain/(Loss) for FY22	11
Section 1.4	: Development of Change in Unfunded Liability During FY22	12
Section 1.5	: History of Unfunded Liability and Funded Ratio	13
Section 2: Pla	n Assets	15
Section 2.1	: Summary of Fair Value of Assets	15
Section 2.2	: Changes in Fair Value of Assets During FY21	16
Section 2.3	: Changes in Fair Value of Assets During FY22	17
Section 2.4	: Development of Actuarial Value of Assets	18
Section 2.5	: Historical Asset Rates of Return	20
Section 3: Me	mber Data	21
Section 3.1	: Summary of Members Included	21
Section 3.2	: Age and Service Distribution of Active Members	22
Section 3.3	: Member Data Reconciliation	23
Section 4: Ba	sis of the Actuarial Valuation	25
Section 4.1	: Summary of Plan Provisions	25
Section 4.2	: Description of Actuarial Methods and Valuation Procedures	28
Section 4.3	: Summary of Actuarial Assumptions	35
Section 5: As	sessment of Risks (ASOP 51 Disclosures)	44
Glossary of To	urme	40

Executive Summary

Overview

The State of Alaska Judicial Retirement System (JRS) provides pension and postemployment healthcare benefits to judicial and other eligible participants. 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, 2022.

Purpose

An actuarial valuation is performed on the 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 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 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 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.

Fund	ded Status as of June 30		2020	2022
Pens	sion			
a.	Actuarial Accrued Liability	\$	211,742,043	\$ 227,227,808
b.	Valuation Assets	_	194,788,043	 230,801,847
C.	Unfunded Actuarial Accrued Liability, (a) - (b)	\$	16,954,000	\$ (3,574,039)
d.	Funded Ratio based on Valuation Assets, (b) ÷ (a)		92.0%	101.6%
e.	Fair Value of Assets	\$	189,844,025	\$ 227,181,866
f.	Funded Ratio based on Fair Value of Assets, (e) ÷ (a)		89.7%	100.0%

Fund	Funded Status as of June 30		2020	2022
Healt	thcare			
a.	Actuarial Accrued Liability	\$	16,763,770	\$ 17,864,257
b.	Valuation Assets	_	34,805,639	 40,855,819
C.	Unfunded Actuarial Accrued Liability, (a) - (b)	\$	(18,041,869)	\$ (22,991,562)
d.	Funded Ratio based on Valuation Assets, (b) \div (a)		207.6%	228.7%
e.	Fair Value of Assets	\$	34,036,503	\$ 40,267,620
f.	Funded Ratio based on Fair Value of Assets, (e) ÷ (a)		203.0%	225.4%

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 asset valuation method recognizes 20% of the investment gain or loss each year, for a period of five years. The investment returns based on fair value of assets were approximately 30.0% for FY21 and (6.0%) for FY22, compared to the expected investment return of 7.38% per year (net of investment expenses). This resulted in a market asset gain of approximately \$42.6 million (pension) and \$7.6 million (healthcare) for FY21, and a market asset loss of approximately \$32.8 million (pension) and \$5.8 million (healthcare) for FY22. Due to the recognition of investment gains and losses over a 5-year period, the investment returns based on actuarial value of assets were approximately 11.5% for FY21 and 8.6% for FY22, which resulted in an FY21 actuarial asset gain of approximately \$7.9 million (pension) and \$1.4 million (healthcare) and an FY22 actuarial asset gain of approximately \$2.4 million (pension) and \$0.5 million (healthcare).

2. Salary Increases

Salaries for active judges remained constant between June 30, 2020 and June 30, 2022. However, there was a small liability loss of approximately \$29,000 due to judges moving to higher courts. The following table shows the annual base salaries for each of the court appointments:

	June 30, 2020	June 30, 2022
District Court	\$ 160,848	\$ 160,848
Superior Court	189,720	189,720
Appellate Court	193,836	193,836
Supreme Court	205,176	205,176
Administrative Director	189,720	189,720
Chief Justice	205,776	205,776
Pro Tem	N/A	N/A

3. Demographic Experience

Section 3 provides statistics on active and inactive members. The number of active members increased from 72 at June 30, 2020 to 73 at June 30, 2022. There were 11 new entrants, 1 non-vested termination, and 9 retirements during this 2-year period. The average age of active members decreased from 55.03 to 53.74, their average service increased from 6.83 to 6.85 years, and their average entry age decreased from 48.20 to 46.89.

The number of benefit recipients increased from 144 to 149, and their average age increased from 73.98 to 74.88. The number of vested terminated participants decreased from 2 to 1, and their average age decreased from 55.87 to 55.17.

The overall effect of the demographic experience was a liability loss of approximately \$2.2 million (pension) and \$0.1¹ million (healthcare).

4. Retiree Medical Claims Experience

As described in Section 4.2, recent medical claims experience and changes in healthcare enrollment data provided to us for the June 30, 2022 valuation generated a liability gain of approximately \$1.4 million. Healthcare benefits paid during FY21 and FY22 generated a liability gain of approximately \$0.2 million. The EGWP subsidy received by the plan during FY22 was approximately \$165,000; the expected EGWP subsidy for FY22 was approximately \$137,000.

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

Effective for the June 30, 2022 valuation, the Board adopted the changes to the demographic and economic assumptions recommended by the actuary, based on the results of an experience study performed on the plan experience from July 1, 2017 to June 30, 2021. The changes in assumptions were adopted at the June 2022 Board meeting. For the June 30, 2022 valuation, the salary increase and pensioner benefit increase assumptions were further modified to be 5.00% for FY23, and 3.00% per year thereafter to better reflect expected short-term experience. The effect of the new assumptions was to decrease the Actuarial Accrued Liability as of June 30, 2022 by approximately \$1.2 million (pension) and \$0.8 million (healthcare).

Healthcare claim costs are updated for each valuation as described in Section 4.2. The amounts included in the Normal Cost for administrative expenses were updated based on the last two years of actual administrative expenses paid from plan assets.

7. Changes in Benefit Provisions Since the Prior Valuation

Starting in 2022, prior authorization is required for certain specialty medications for all participants, and certain preventive benefits for pre-Medicare participants are covered by the plan. These changes created an actuarial gain of approximately \$0.2 million. There have been no other changes in benefit provisions valued since the prior valuation.

¹ Includes the effect of changes in Medicare Part B only experience.

Comparative Summary of Contribution Rates

		FY 2023	FY 2025
Pens	sion		
a.	Normal Cost Rate Net of Member Contributions	38.85%	35.32%
b.	Past Service Cost Rate	24.74%	<u>17.17%</u>
C.	Total Employer/State Contribution Rate, (a) + (b), not less than (a)	63.59%	52.49%
Heal	thcare		
a.	Normal Cost Rate	6.49%	6.75%
b.	Past Service Cost Rate	<u>(8.24%)</u>	<u>(10.19%)</u>
C.	Total Employer/State Contribution Rate, (a) + (b), not less than (a)	6.49%	6.75%
Tota	I		
a.	Normal Cost Rate Net of Member Contributions	45.34%	42.07%
b.	Past Service Cost Rate	<u>24.74%</u>	<u>17.17%</u>
C.	Total Employer/State Contribution Rate, (a) + (b)	70.08%	59.24%

The contribution rates for FY24 based on the June 30, 2021 roll-forward valuation were 58.70% (pension) and 6.54% (healthcare).

Summary of Actuarial Accrued Liability Gain/(Loss) and Other Changes

The following table summarizes the sources of change in the total Employer/State contribution rates as of June 30, 2020, June 30, 2021, and June 30, 2022:

			Pension	Healthcare
1.	Tot	al Employer/State Contribution Rate as of June 30, 2020	63.59%	6.49%
2.	Cha	ange during FY21	<u>(4.89%)</u>	0.05%
3.		al Employer/State Contribution Rate as of June 30, 2021 n Roll-Forward Valuation	58.70%	6.54%
4.	Cha	ange due to:		
	a.	Investment Experience	(1.18%)	0.00%
	b.	Demographic Experience, Health Claims Experience, and New Entrants ¹	2.52%	1.15%
	C.	State Appropriation	(2.02%)	0.00%
	d.	Actual vs Expected Contributions	(1.49%)	0.00%
	e.	Assumption/Method Changes	(4.04%)	(0.86%)
	f.	Plan Changes	0.00%	(<u>0.08%)</u>
	g.	Total Change, (a) + (b) + (c) + (d) + (e) + (f)	(6.21%)	0.21%
5.		al Employer/State Contribution Rate as of June 30, 2022, + (4)(g)	52.49%	6.75%

¹ Includes changes in future healthcare claims costs.

The following table shows the 2-year gain/(loss) on actuarial accrued liability as of June 30, 2022:

	Pension	Healthcare
Retirement Experience	\$ (940,863)	\$ 19,922
Termination Experience	(327,764)	(28,809)
Disability Experience	8,026	14,101
Active Mortality Experience	(89,037)	10,884
Inactive Mortality Experience	(883,123)	(117,823)
Salary Increases	(29,107)	N/A
New Entrants	(990,663)	(213,301)
Inactive Benefit Increases	(322,451)	N/A
Benefit Payments Different than Expected	133,424	174,856
Per Capita Claims Cost	N/A	1,363,271
Medical and Prescription Drug Plan Changes	N/A	223,750
Medicare Part B Only Experience	N/A	4,887
Miscellaneous ¹	 814,211	 (894,560)
Total	\$ (2,627,347)	\$ 557,178

Other items that increased/(decreased) the actuarial accrued liability as of June 30, 2022 are shown below:

	Pension	Healthcare
Experience Study Assumption Changes	\$ (16,712,342)	\$ (630,859)
New Salary/Pensioner Benefit Increase Assumptions	15,522,714	(171,985)
Total	\$ (1,189,628)	\$ (802,844)

Includes the effects of various data changes that are typical when new census data is received for the valuation, as well as other items that do not fit neatly into any of the other categories.

Section 1: Actuarial Funding Results

Section 1.1: Actuarial Liabilities and Normal Cost

As of June 30, 2022	esent Value of jected Benefits	uarial Accrued Past Service) Liability
Active Members		
Retirement Benefits	\$ 84,099,215	\$ 47,091,634
Disability Benefits	172,547	801
Death Benefits	871,084	283,602
Termination Benefits ¹	3,382,002	83,400
Medical and Prescription Drug Benefits	15,266,645	6,910,882
Medicare Part D Subsidy	(2,363,068)	(1,142,717)
Subtotal	\$ 101,428,425	\$ 53,227,602
Benefit Recipients		
Retiree Benefits	\$ 162,117,792	\$ 162,117,792
Survivor Benefits	16,840,350	16,840,350
Disability Benefits	0	0
Medical and Prescription Drug Benefits	14,524,454	14,524,454
Medicare Part D Subsidy	(2,752,847)	 (2,752,847)
Subtotal	\$ 190,729,749	\$ 190,729,749
Vested Terminations		
Deferred Retirement Benefits	\$ 698,753	\$ 698,753
Medical and Prescription Drug Benefits	363,030	363,030
Medicare Part D Subsidy	(38,545)	(38,545)
Subtotal	\$ 1,023,238	\$ 1,023,238
Non-Vested Terminations	\$ 111,476	\$ 111,476
Total	\$ 293,292,888	\$ 245,092,065
Total Pension	\$ 268,293,219	\$ 227,227,808
Total Medical, Net of Part D Subsidy	\$ 24,999,669	\$ 17,864,257
Total Medical, Gross of Part D Subsidy	\$ 30,154,129	\$ 21,798,366

¹ Includes return of contributions.

As of June 30, 2022	No	ormal Cost
Active Members		
Retirement Benefits	\$	5,294,324
Disability Benefits		19,573
Death Benefits		85,792
Termination Benefits ¹		346,367
Medical and Prescription Drug Benefits		1,074,309
Medicare Part D Subsidy		(161,624)
Administrative Expenses (Pension)		102,000
Administrative Expenses (Medical)		34,000
Total	\$	6,794,741
Total Pension	\$	5,848,056
Total Medical, Net of Part D Subsidy	\$	946,685
Total Medical, Gross of Part D Subsidy	\$	1,108,309

¹ Includes return of contributions.

Section 1.2: Actuarial Contributions as of June 30, 2022 (for FY25)

Normal Cost Rate	Pension		ŀ	Healthcare
1. Total Normal Cost	\$	5,848,056	\$	946,685
2. Base Salaries for Upcoming Fiscal Year		14,035,020		14,035,020
3. Normal Cost Rate, (1) ÷ (2)		41.67%		6.75%
4. Average Member Contribution Rate		6.35%		0.00%
5. Employer Normal Cost Rate, (3) - (4)		35.32%		6.75%

Past Service Rate	Pension		Н	lealthcare
1. Actuarial Accrued Liability	\$ 227,227,808		\$	17,864,257
2. Valuation Assets	 230,801,847	_		40,855,819
3. Unfunded Actuarial Accrued Liability, (1) - (2)	\$ (3,574,039)		\$	(22,991,562)
4. Funded Ratio, (2) ÷ (1)	101.6%			228.7%
5. Past Service Cost Amortization Payment	2,410,004			(1,429,646)
6. Base Salaries for Upcoming Fiscal Year	14,035,020			14,035,020
7. Past Service Rate, (5) ÷ (6)	17.17%			(10.19%)
Total Employer / State Contribution Rate,	EQ 400/			0.750/
not less than Normal Cost Rate	52.49%			6.75%

Schedule of Past Service Cost Amortizations - Pension

Amortization Period		Bala			
Layer	Date Created	Years Remaining	Initial	Outstanding	Beginning-of- Year Payment
Initial Unfunded Liability ¹	6/30/2002	5	\$ 5,864,449	\$ 3,448,446	\$ 750,044
FY03/04 Loss ¹	6/30/2004	7	855,068	625,333	101,220
Revaluation of Liabilities ¹	6/30/2005	8	9,115,451	7,182,220	1,038,079
FY05/06 Loss ¹	6/30/2006	9	18,186,558	15,199,068	1,992,415
FY07 Loss	6/30/2007	10	1,364,721	1,195,627	143,906
FY08 Gain	6/30/2008	11	(29,014,739)	(26,412,277)	(2,947,870)
FY09 Loss	6/30/2009	12	21,273,454	19,958,028	2,082,465
Change in Assumptions	6/30/2010	13	13,976,981	13,422,120	1,318,255
FY10 Loss	6/30/2010	13	6,474,780	6,217,742	610,676
FY11 Loss	6/30/2011	14	7,397,917	7,245,520	673,718
FY12 Loss	6/30/2012	15	11,916,371	11,843,943	1,047,832
FY13 Loss	6/30/2013	16	7,033,497	6,825,867	577,044
Change in Assumptions	6/30/2014	17	4,219,851	4,266,263	345,931
FY14 Gain	6/30/2014	17	(14,458,986)	(14,618,026)	(1,185,306)
FY15 Gain	6/30/2015	18	(3,325,706)	(3,373,418)	(263,235)
FY16 Gain	6/30/2016	19	(9,932,623)	(10,078,673)	(759,077)
FY17 Gain	6/30/2017	20	(1,137,538)	(1,151,634)	(83,936)
Change in Assumptions	6/30/2018	21	10,343,783	10,423,412	736,910
FY18 Gain	6/30/2018	21	(12,096,419)	(12,189,542)	(861,771)
Change in Assumptions	6/30/2019	22	(14,775,890)	(14,901,307)	(1,024,055)
FY19 Loss	6/30/2019	22	3,344,559	3,372,948	231,797
Change in Assumptions	6/30/2020	23	(21,604,253)	(21,763,015)	(1,456,623)
FY20 Loss	6/30/2020	23	5,424,705	5,464,568	365,750
FY21 Gain	6/30/2021	24	(11,633,233)	(11,685,152)	(763,045)
Change in Assumptions	6/30/2022	25	(1,189,628)	(1,189,628)	(75,911)
FY22 Gain	6/30/2022	25	(2,902,472)	(2,902,472)	(185,209)
Total				\$ (3,574,039)	\$ 2,410,004

¹ The pension and healthcare split was done based on the ratio of unfunded actuarial accrued liability as of June 30, 2006.

Schedule of Past Service Cost Amortizations - Healthcare

	Amortizat	tion Period	Balances		
Layer	Date Created	Years Remaining	Initial	Outstanding	Beginning-of- Year Payment
Initial Unfunded Liability ¹	6/30/2002	5	\$ 2,295,257	\$ 1,349,672	\$ 293,556
FY03/04 Loss ¹	6/30/2004	7	334,660	244,745	39,616
Revaluation of Liabilities ¹	6/30/2005	8	3,567,649	2,811,010	406,288
FY05/06 Loss ¹	6/30/2006	9	7,117,943	5,948,684	779,801
FY07 Gain	6/30/2007	10	(810,073)	(709,702)	(85,420)
Change in Assumptions	6/30/2008	11	789,072	718,298	80,169
FY08 Gain	6/30/2008	11	(14,011,596)	(12,754,834)	(1,423,565)
FY09 Loss	6/30/2009	12	901,355	845,622	88,234
Change in Assumptions	6/30/2010	13	2,006,196	1,926,553	189,217
FY10 Gain	6/30/2010	13	(1,930,656)	(1,854,010)	(182,092)
FY11 Loss	6/30/2011	14	550,376	539,038	50,122
Change in Assumptions	6/30/2012	15	353,605	351,454	31,093
FY12 Gain	6/30/2012	15	(5,516,210)	(5,482,685)	(485,052)
FY13 Loss	6/30/2013	16	226,259	227,238	19,210
Change in Assumptions	6/30/2014	17	772,305	780,799	63,311
FY14 Gain	6/30/2014	17	(3,342,464)	(3,379,230)	(274,006)
FY15 Gain	6/30/2015	18	(1,416,996)	(1,437,324)	(112,157)
Change in Method	6/30/2016	19	(3,567,789)	(3,620,251)	(272,660)
FY16 Gain	6/30/2016	19	(425,711)	(431,971)	(32,534)
FY17 Gain	6/30/2017	20	(586,113)	(593,377)	(43,248)
Change in Assumptions/Methods/EGWP	6/30/2018	21	1,009,960	1,017,735	71,951
FY18 Gain	6/30/2018	21	(2,148,478)	(2,165,016)	(153,061)
Change in Assumptions	6/30/2019	22	126,754	127,828	8,785
FY19 Gain	6/30/2019	22	(155,028)	(156,343)	(10,744)
Change in Assumptions	6/30/2020	23	200,955	202,432	13,549
FY20 Gain	6/30/2020	23	(2,842,610)	(2,863,498)	(191,657)
FY21 Gain	6/30/2021	24	(1,754,192)	(1,762,021)	(115,061)
Change in Assumptions	6/30/2022	25	(802,844)	(802,844)	(51,230)
Medical/Prescription Drug Plan Changes	6/30/2022	25	(223,750)	(223,750)	(14,278)
FY22 Gain	6/30/2022	25	(1,845,814)	(1,845,814)	(117,783)
Total				\$(22,991,562)	\$ (1,429,646)

¹ The pension and healthcare split was done based on the ratio of unfunded actuarial accrued liability as of June 30, 2006.

Section 1.3: Actuarial Gain/(Loss) for FY22

	Pension	Healthcare
Expected Actuarial Accrued Liability	i chision	ricaltificate
a. Actuarial Accrued Liability as of June 30, 2021	\$ 218,717,460	\$ 17,920,646
b. Normal Cost	5.850,927	829,927
	16,573,147	
c. Interest on (a) and (b) at 7.38%		1,383,792
d. Employer Group Waiver Plan	0	344,091
e. Benefit Payments	(14,770,632)	(1,222,346)
f. Refund of Contributions	0	0
g. Interest on (d) thru (f) at 7.38%, adjusted for timing	(580,813)	(31,831)
h. Assumptions/Methods Changes	(1,189,628)	(802,844)
i. Expected Actuarial Accrued Liability as of June 30, 2022 (a) + (b) + (c) + (d) + (e) + (f) + (g) + (h)	\$ 224,600,461	\$ 18,421,435
2. Actual Actuarial Accrued Liability as of June 30, 2022	227,227,808	17,864,257
3. Liability Gain/(Loss), (1)(i) - (2)	\$ (2,627,347)	\$ 557,178
4. Expected Actuarial Asset Value		
a. Actuarial Value of Assets as of June 30, 2021	\$ 215,641,198	\$ 37,884,167
b. Interest on (a) at 7.38%	15,914,320	2,795,852
c. Employee Contributions	862,028	0
d. Employer Contributions	6,638,140	622,469
e. State Appropriation	4,185,000	0
f. Employer Group Waiver Plan	0	344,091
g. Interest on (c) thru (f) at 7.38%, adjusted for timing	580,683	35,031
h. Benefit Payments	(14,770,632)	(1,222,346)
i. Refund of Contributions	0	0
j. Administrative Expenses	(107,041)	(34,990)
k. Interest on (h) thru (j) at 7.38%, adjusted for timing	(584,692)	(45,570)
I. Expected Actuarial Asset Value as of June 30, 2022 (a) + (b) + (c) + (d) + (e) + (f) + (g) + (h) + (i) + (j) + (k)	\$ 228,359,004	\$ 40,378,704
5. Actual Actuarial Asset Value as of June 30, 2022	230,801,847	40,855,819
6. Actuarial Asset Value Gain/(Loss), (5) - (4)(I)	\$ 2,442,843	\$ 477,115
7. Total Actuarial Gain/(Loss), (3) + (6)	\$ (184,504)	\$ 1,034,293
8. Contribution Gain/(Loss)	\$ 3,088,369	\$ 1,038,241
9. Administrative Expense Gain/(Loss)	\$ (1,393)	\$ (2,970)
10. FY22 Gain/(Loss), (7) + (8) + (9)	\$ 2,902,472	\$ 2,069,564

Section 1.4: Development of Change in Unfunded Liability During FY22

		Pension	Healthcare
1. 2021 Unfunded Liability	\$	3,076,262	\$ (19,963,521)
a. Interest on Unfunded Liability at 7.38%	\$	227,028	\$ (1,473,308)
b. Normal Cost		5,850,927	829,927
c. Employee Contributions		(862,028)	0
d. Employer Contributions		(6,638,140)	(622,469)
e. State Appropriation		(4,185,000)	0
f. Administrative Expenses		107,041	34,990
g. Interest on (b) thru (f) at 7.38%, adjusted for timing		(145,005)	39,956
h. Assumptions/Methods Changes	_	(1,189,628)	(802,844)
i. Expected Change in Unfunded Liability During FY22 (a) + (b) + (c) + (d) + (e) + (f) + (g) + (h)	\$	(6,834,805)	\$ (1,993,748)
2. Expected 2022 Unfunded Liability, (1) + (1)(i)	\$	(3,758,543)	\$ (21,957,269)
a. Liability (Gain)/Loss During FY22	\$	2,627,347	\$ (557,178)
b. Actuarial Assets (Gain)/Loss During FY22		(2,442,843)	(477,115)
c. Total Actuarial (Gain)/Loss During FY22	\$	184,504	\$ (1,034,293)
3. Actual 2022 Unfunded Liability, (2) + (2)(c)	\$	(3,574,039)	\$ (22,991,562)

Section 1.5: History of Unfunded Liability and Funded Ratio

Pension

Valuation Date	Total Actuarial Accrued Liability	Valuation Assets	Assets as a Percent of Actuarial Accrued Liability	Unfunded Actuarial Accrued Liability (UAAL)
June 30, 2006	\$ 111,819,972	\$ 77,310,716	69.1%	\$ 34,509,256
June 30, 2007	117,378,824	81,041,009	69.0%	36,337,815
June 30, 2008	130,596,048	122,882,726	94.1%	7,713,322
June 30, 2009	137,586,315	108,691,018	79.0%	28,895,297
June 30, 2010	164,523,775	115,000,226	69.9%	49,523,549
June 30, 2011	173,424,484	116,213,133	67.0%	57,211,351
June 30, 2012	182,267,524	112,870,360	61.9%	69,397,164
June 30, 2013	191,505,115	115,032,531	60.1%	76,472,584
June 30, 2014	194,430,266	128,004,452	65.8%	66,425,814
June 30, 2015	205,160,847	142,191,071	69.3%	62,969,776
June 30, 2016	205,547,759	152,888,596	74.4%	52,659,163
June 30, 2017	216,673,191	165,875,722	76.6%	50,797,469
June 30, 2018	226,559,580	178,489,284	78.8%	48,070,296
June 30, 2019	221,159,289	186,117,830	84.2%	35,041,459
June 30, 2020	211,742,043	194,788,043	92.0%	16,954,000
June 30, 2021	218,717,460	215,641,198	98.6%	3,076,262
June 30, 2022	227,227,808	230,801,847	101.6%	(3,574,039)

Healthcare

Valuation Date	Total Actuarial Accrued Liability	Valuation Assets	Assets as a Percent of Actuarial Accrued Liability	Unfunded Actuarial Accrued Liability (UAAL)
June 30, 2006	\$ 15,905,786	\$ 2,399,387	15.1%	\$ 13,506,399
June 30, 2007	16,610,082	3,732,217	22.5%	12,877,865
June 30, 2008	18,141,832	18,352,929	101.2%	(211,097)
June 30, 2009	19,093,191	18,482,598	96.8%	610,593
June 30, 2010	20,304,331	19,693,969	97.0%	610,362
June 30, 2011	21,406,833	20,333,071	95.0%	1,073,762
June 30, 2012	16,654,623	20,835,672	125.1%	(4,181,049)
June 30, 2013	17,583,031	21,706,165	123.4%	(4,123,134)
June 30, 2014	17,207,952	24,074,313	139.9%	(6,866,361)
June 30, 2015	18,304,497	26,800,113	146.4%	(8,495,616)
June 30, 2016	15,731,490	28,454,747	180.9%	(12,723,257)
June 30, 2017	16,874,200	30,468,517	180.6%	(13,594,317)
June 30, 2018	16,846,959	31,868,079	189.2%	(15,021,120)
June 30, 2019	18,089,100	33,319,896	184.2%	(15,230,796)
June 30, 2020	16,763,770	34,805,639	207.6%	(18,041,869)
June 30, 2021	17,920,646	37,884,167	211.4%	(19,963,521)
June 30, 2022	17,864,257	40,855,819	228.7%	(22,991,562)

Section 2: Plan Assets

Section 2.1: Summary of Fair Value of Assets

As of June 30, 2022	Pension	l	Healthcare	Allocation Percent
Cash and Short-Term Investments				
- Cash and Cash Equivalents	\$ 3,247,418	\$	552,364	1.4%
- Subtotal	\$ 3,247,418	\$	552,364	1.4%
Fixed Income Investments				
- Domestic Fixed Income Pool	\$ 48,047,351	\$	8,599,005	21.3%
- International Fixed Income Pool	0		0	0.0%
- Tactical Fixed Income Pool	0		0	0.0%
- High Yield Pool	0		0	0.0%
- Treasury Inflation Protection Pool	0		0	0.0%
- Emerging Debt Pool	0		0	0.0%
- Subtotal	\$ 48,047,351	\$	8,599,005	21.3%
Equity Investments				
- Domestic Equity Pool	\$ 54,683,501	\$	9,786,700	24.2%
- International Equity Pool	29,684,190		5,312,200	13.2%
- Private Equity Pool	37,168,110		6,652,003	16.5%
- Emerging Markets Equity Pool	6,642,988		1,188,930	2.9%
- Alternative Equity Strategies	 13,154,234		2,354,151	5.8%
- Subtotal	\$ 141,333,023	\$	25,293,984	62.6%
Other Investments				
- Real Estate Pool	\$ 16,986,777	\$	3,045,093	7.5%
- Other Investments Pool	16,268,492		2,911,603	7.2%
- Absolute Return Pool	0		0	0.0%
- Other Assets	 0		3,076	0.0%
- Subtotal	\$ 33,255,269	\$	5,959,772	14.7%
Total Cash and Investments	\$ 225,883,061	\$	40,405,125	100.0%
Net Accrued Receivables	 1,298,805		(137,505)	
Net Assets	\$ 227,181,866	\$	40,267,620	

Section 2.2: Changes in Fair Value of Assets During FY21

Fiscal Year 2021	Р	ension	H	Healthcare
1. Fair Value of Assets as of June 30, 2020	\$ 18	39,844,025	\$	34,036,503
2. Additions:				
a. Employee Contributions	\$	837,686	\$	0
b. Employer Contributions		6,962,607		654,383
c. State Appropriation		5,145,000		0
d. Interest and Dividend Income		2,691,703		479,199
e. Net Appreciation / Depreciation in Fair Value of Investments	5	54,569,848		9,640,529
f. Employer Group Waiver Plan		0		168,159
g. Other		7,891		14,345
h. Total Additions	\$ 7	70,214,735	\$	10,956,615
3. Deductions:				
a. Medical Benefits	\$	0	\$	1,692,383
b. Retirement Benefits	1	14,368,857		0
c. Refund of Contributions		0		0
d. Investment Expenses		544,884		95,170
e. Administrative Expenses		97,022		32,216
f. Total Deductions	\$ 1	15,010,763	\$	1,819,769
4. Fair Value of Assets as of June 30, 2021	\$ 24	15,047,997	\$	43,173,349
Approximate Fair Value Investment Return Rate during FY21 Net of Investment Expenses		30.0%		29.9%

Section 2.3: Changes in Fair Value of Assets During FY22

Fis	scal Year 2022	Pension	Healthcare
1.	Fair Value of Assets as of June 30, 2021	\$ 245,047,997	\$ 43,173,349
2.	Additions:		
	a. Employee Contributions	\$ 862,028	\$ 0
	b. Employer Contributions	6,638,140	622,469
	c. State Appropriation	4,185,000	0
	d. Interest and Dividend Income	3,193,800	567,838
	e. Net Appreciation / Depreciation in Fair Value of Investments	(17,274,177)	(3,079,123)
	f. Employer Group Waiver Plan	0	344,091
	g. Other	0	 101
	h. Total Additions	\$ (2,395,209)	\$ (1,544,624)
3.	Deductions:		
	a. Medical Benefits	\$ 0	\$ 1,222,346
	b. Retirement Benefits	14,770,632	0
	c. Refund of Contributions	0	0
	d. Investment Expenses	593,249	103,769
	e. Administrative Expenses	107,041	34,990
	f. Total Deductions	\$ 15,470,922	\$ 1,361,105
4.	Fair Value of Assets as of June 30, 2022	\$ 227,181,866	\$ 40,267,620
5.	Approximate Fair Value Investment Return Rate during FY22 Net of Investment Expenses	(6.0%)	(6.1%)

Section 2.4: Development of Actuarial Value of Assets

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.

	Pension	Healthcare
Deferral of Investment Gain / (Loss) for FY22		
a. Fair Value of Assets as of June 30, 2021	\$ 245,047,997	\$ 43,173,349
b. Contributions	11,685,168	622,469
c. Employer Group Waiver Plan	0	344,091
d. Benefit Payments	14,770,632	1,222,346
e. Administrative Expenses	107,041	34,990
f. Actual Investment Return (net of investment expenses)	(14,673,626)	(2,614,953)
g. Expected Return Rate (net of investment expenses)	7.38%	7.38%
h. Expected Return, Weighted for Timing	18,080,533	3,175,654
i. Investment Gain / (Loss) for the Year, (f) - (h)	(32,754,159)	(5,790,607)
2. Actuarial Value as of June 30, 2022		
a. Fair Value as of June 30, 2022	\$ 227,181,866	\$ 40,267,620
b. Deferred Investment Gain / (Loss)	(3,619,981)	(588,199)
c. Preliminary Actuarial Value as of June 30, 2022, (a) - (b)	230,801,847	40,855,819
d. Upper Limit: 120% of Fair Value as of June 30, 2022	272,618,239	48,321,144
e. Lower Limit: 80% of Fair Value as of June 30, 2022	181,745,493	32,214,096
f. Actuarial Value at June 30, 2022, (c) limited by (d) and (e)	230,801,847	40,855,819
3. Ratio of Actuarial Value of Assets to Fair Value of Assets	101.6%	101.5%
Approximate Actuarial Value Investment Return Rate during FY22 Net of Investment Expenses	8.6%	8.6%

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

		Pension		
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, 2018	\$ 292,590	\$ 234,072	\$ 58,518	\$ 0
June 30, 2019	(2,647,188)	(1,588,313)	(529,438)	(529,437)
June 30, 2020	(6,148,327)	(2,459,330)	(1,229,665)	(2,459,332)
June 30, 2021	42,620,191	8,524,038	8,524,038	25,572,115
June 30, 2022	(32,754,159)	0	(6,550,832)	(26,203,327)
Total	\$ 1,363,107	\$ 4,710,467	\$ 272,621	\$ (3,619,981)

Healthcare					
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, 2018	\$ 98,500	\$ 78,800	\$ 19,700	\$ 0	
June 30, 2019	(409,783)	(245,870)	(81,957)	(81,956)	
June 30, 2020	(1,023,945)	(409,578)	(204,789)	(409,578)	
June 30, 2021	7,559,703	1,511,941	1,511,941	4,535,821	
June 30, 2022	(5,790,607)	0	(1,158,121)	(4,632,486)	
Total	\$ 433,868	\$ 935,293	\$ 86,774	\$ (588,199)	

Section 2.5: Historical Asset Rates of Return

	Actua	rial Value	Fair	· Value
Year Ending	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%
June 30, 2019	5.7%	6.3%	6.0%	6.4%
June 30, 2020	5.9%	6.3%	4.1%	6.2%
June 30, 2021	11.5%	6.6%	30.0%	7.5%
June 30, 2022	8.6%	6.7%	(6.0%)	6.7%

Rates of return are shown based on combined assets for Pension and Healthcare.

Cumulative returns are since fiscal year ending June 30, 2005.

Section 3: Member Data

Section 3.1: Summary of Members Included

As of June 30		2014		2016	2018		2020		2022	
Active Members										
1. Number		76		76		71		72		73
2. Average Age		57.65		58.80		57.53		55.03		53.74
3. Average Service		8.70		9.39		9.49		6.83		6.85
4. Average Entry Age		48.95		49.41		48.04		48.20		46.89
5. Average Annual Earnings	\$	175,964	\$	178,903	\$	182,045	\$	182,739	\$	183,102
6. Number Vested		48		54		51		36		35
7. Percent Who Are Vested		63.2%		71.1%		71.8%		50.0%		47.9%
Retirees, Disabilitants, and Benefic	iarie	es								
1. Number		108		109		125		144		149
2. Average Age		72.09		73.34		73.71		73.98		74.88
3. Average Monthly Pension Benefit	\$	8,141	\$	8,529	\$	8,291	\$	8,305	\$	8,395
Vested Terminations (vested at term	nina	ation, not re	fund	ed contribu	tions	, and not c	omm	enced bene	efit)	
1. Number		4		3		3		2		1
2. Average Age		53.53		57.35		59.05		55.87		55.17
3. Average Monthly Pension Benefit	\$	5,704	\$	7,017	\$	7,623	\$	6,305	\$	4,049
Non-Vested Terminations (not veste	ed a	t terminatio	n an	d not refun	ded c	contribution	ns)			
1. Number		0		0		0		1		2
2. Average Account Balance	\$	0	\$	0	\$	0	\$	66,828	\$	55,738
Total Number of Members		188		188		199		219		225

As of June 30, 2022	Retirees
Summary of Retiree Medical Data Received	
Retiree records on pension data	149
2. Remove duplicates on pension data	(4)
3. Valued in a different retiree healthcare plan	(48)
4. Records without medical coverage	(1)
5. Total	96

Section 3.2: Age and Service Distribution of Active Members

Annual Earnings by Age

Total **Average** Annual Annual Earnings Age Number **Earnings** \$ 0 - 19 0 0 \$ 0 20 - 24 0 0 0 25 - 29 0 0 0 30 - 34 1 189,720 189,720 35 - 39 3 540,288 180,096 40 - 44 7 1,285,752 183,679 45 - 49 13 184,563 2,399,316 50 - 54 15 2,767,416 184,494 55 - 59 18 3,188,100 177,117 60 - 64 9 1,636,320 181,813 65 - 69 7 1,359,552 194,222 70 - 74 0 0 0 0 0 75+ 0

\$ 13,366,464

183,102

Annual Earnings by Service

Years of Service	Number	Total Annual Earnings	Average Annual Earnings
0	5	\$ 919,728	\$ 183,946
1	6	1,100,148	183,358
2	8	1,460,016	182,502
3	13	2,408,616	185,278
4	6	1,051,704	175,284
0 - 4	38	\$ 6,940,212	\$ 182,637
5 - 9	17	3,197,340	188,079
10 - 14	11	1,987,488	180,681
15 - 19	5	890,856	178,171
20 - 24	2	350,568	175,284
25 - 29	0	0	0
30 - 34	0	0	0
35 - 39	0	0	0
40+	0	0	0
Total	73	\$ 13,366,464	\$ 183,102

Years of Service by Age

73

Total

	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	1	0	0	0	0	0	0	0	0	1
35 - 39	3	0	0	0	0	0	0	0	0	3
40 - 44	7	0	0	0	0	0	0	0	0	7
45 - 49	7	5	1	0	0	0	0	0	0	13
50 - 54	7	6	1	1	0	0	0	0	0	15
55 - 59	9	2	2	4	1	0	0	0	0	18
60 - 64	4	3	2	0	0	0	0	0	0	9
65 - 69	0	1	5	0	1	0	0	0	0	7
70 - 74	0	0	0	0	0	0	0	0	0	0
75+	0	0	0	0	0	0	0	0	0	0
Total	38	17	11	5	2	0	0	0	0	73

Section 3.3: Member Data Reconciliation

Pension

		li			
	Active Members	Due a Refund	Deferred Benefits	Benefit Recipients	Total
As of June 30, 2020	72	1	2	144	219
New Entrants	11	0	0	0	11
Rehires	0	0	0	0	0
Vested Terminations	0	0	0	0	0
Non-Vested Terminations	(1)	1	0	0	0
Refund of Contributions	0	0	0	0	0
Retirements	(9)	0	(1)	10	0
Deceased	0	0	0	(8)	(8)
New Beneficiaries	0	0	0	3	3
New QDROs	0	0	0	0	0
Transfers In/Out	0	0	0	0	0
Data Corrections	0	0	0	0	0
Net Change	1	1	(1)	5	6
As of June 30, 2022	73	2	1	149	225

Healthcare

		Inactive Members						
	Active Members	Retirees	Covered Spouses	Covered Children / Dependents	Deferred	Total Inactive Members		
As of June 30, 2020	56	89	39	4	2	134		
New Entrants	11	0	0	0	0	0		
Rehires	0	0	0	0	0	0		
Vested Terminations	0	0	0	0	0	0		
Non-Vested Terminations	0	0	0	0	0	0		
Refund of Contributions	0	0	0	0	0	0		
Disability Retirements	0	0	0	0	0	0		
Age Retirements	(6)	6	4	3	0	13		
Deferred Retirements	0	1	1	0	(1)	1		
Deceased	0	(5)	0	0	0	(5)		
New Beneficiaries	0	1	(1)	0	0	0		
Added Retiree Medical Coverage	0	0	0	0	0	0		
Added Dependent Coverage	0	0	1	0	0	1		
Dropped Retiree Medical Coverage	0	0	0	0	0	0		
Dropped Dependent Coverage	0	0	0	(2)	0	(2)		
Transfers In/Out	8	4	1	0	0	5		
Net Change	13	7	6	1	(1)	13		
As of June 30, 2022	69	96	45	5	1	147		

Section 4: Basis of the Actuarial Valuation

Section 4.1: Summary of Plan Provisions

Effective Date

May 4, 1963, with amendments through June 30, 2022.

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.

Membership

Membership in JRS 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 JRS or 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 JRS. JRS members become vested in the plan after completing five years of credited service.

Member Contributions

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

Interest: Members' contributions earn 4.5% interest, 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 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.

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

Benefit Calculations for Normal Retirement: 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.

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.

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. 50% 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 age 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 age 19, or age 23 and attending an accredited educational or technical institution on a full-time basis.

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

Postemployment Healthcare 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.

Starting in 2022, prior authorization is required for certain specialty medications for all participants. There is no change to the medications that are covered by the plan.

Starting in 2022, certain preventive benefits for pre-Medicare participants are covered by the plan.

Participants in the defined benefit plan are covered under the following benefit design:

Plan Feature	Amounts
Deductible (single/family)	\$150 / \$450
Coinsurance (most services)	20%
Outpatient surgery/testing	0%
Maximum Out-of-Pocket (single/family, excluding deductible)	\$800 / \$2,400
Rx Copays (generic/brand/mail-order), does not apply to OOP max	\$4 / \$8 / \$0
Lifetime Maximum	\$2,000,000

The plan coordinates with Medicare on a traditional Coordination of Benefits Method. Starting in 2019, the prescription drug coverage is through a Medicare Part D EGWP arrangement.

Changes in Benefit Provisions Valued Since the Prior Valuation

Starting in 2022, prior authorization is required for certain specialty medications for all participants, and certain preventive benefits for pre-Medicare participants are now covered by the plan. There were no other changes in benefit provisions 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. 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 Cost Method

Liabilities and contributions shown in the report are computed using the Entry Age Normal Actuarial Cost Method, level percent of pay.

Each year's difference between actual and expected unfunded actuarial accrued liability is amortized over 25 years as a level percent of expected payroll.

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

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

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

The actuarial asset value was initialized to equal Fair Value of Assets as of June 30, 2006. Beginning in FY07, the asset valuation method recognizes 20% of the gain or loss each year, for a period of five years. All assets are valued at fair value. Assets are accounted for on an accrued basis and are taken directly from financial statements 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

This section outlines the detailed methodology used in the internal model developed by Buck to calculate the initial per capita claims cost rates for the JRS postemployment healthcare plan. Note that the methodology reflects the results of our experience rate update for the period from July 1, 2021 to June 30, 2022.

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 2020 through June 2022 (FY21 through FY22) were provided by the State of Alaska from reports extracted from their data warehouse, which separated claims by Medicare status. 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, 2022 of retirees and dependents that included a coverage level indicator. The monthly enrollment data includes double 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 the 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 double 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 FY23 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 FY21 through FY22.
 - 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 valuation year
 (e.g. from the experience period up through FY23).
 - Because the reports provided 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 2% of actives hired before April 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, 2021, and July 1, 2022, Buck adjusted member counts used for duplicate records where participants have double 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 on actual pharmacy rebate information provided by Optum, rebates were assumed to be 16.2% of pre-Medicare, and 14.3% of Medicare prescription drug claims for FY21; and 20.1% of pre-Medicare, and 13.5% of Medicare prescription drug claims for FY22.
- 2. Develop estimated EGWP reimbursements Segal provided estimated 2023 EGWP subsidies, developed with the assistance of OptumRx. 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. FY21 and FY22 experience was thoroughly reviewed to assess the impact of COVID-19 and whether an adjustment to FY21 and FY22 claims was appropriate for use in the June 30, 2022 valuation. FY21 medical per capita claims were noticeably lower than expected, so a 4% load was added to the FY21 medical claims used in the per capita claims cost development to better reflect future expected long-term costs of the plan. FY22 medical per capita claims were reasonable when compared to pre-COVID levels, so no adjustments were made to the FY22 medical claims used in the per capita claims cost development. Total prescription drug claims experience for FY21 and FY22 was reasonable and consistent with FY19 and FY20 experience. Therefore, no adjustment was made to FY21 and FY22 prescription drug claims. Due to group size and demographics, we did not make any additional 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 FY23 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 June 30, 2017 valuation as outlined below. Note also that for both years of prescription drugs 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. For both years of medical we applied 100% weight to national trends because the Alaska-specific trends were impacted by COVID-19:

Alaska-Specific and National Average Weighted Trend from Experience Period to Valuation Year				
Experience Period	Medical	Prescription	Weighting Factors	
FY21 to FY22	8.1% Pre-Medicare / 4.8% Medicare	8.0%	50%	
FY22 to FY23	7.4% Pre-Medicare / 5.6% Medicare	9.5%	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.

- 6. Starting in 2022, prior authorization is required for certain specialty medications. There is no change to the medications that are covered by the plan. Segal provided an estimate of the impact of this change to the DB retiree health plan cost for calendar year 2022. The resulting adjustment factors for pre-Medicare prescription drug, Medicare prescription drug, and EGWP costs were applied to claims experience incurred before January 1, 2022. Additionally, starting in 2022, certain preventive benefits for pre-Medicare participants are covered by the plan. Segal provided an estimate of the impact of this change to the DB retiree health plan cost for calendar year 2022. The resulting adjustment factor for pre-Medicare medical costs was applied to claims experience incurred before January 1, 2022.
- 7. Develop separate administration costs no adjustments were made for internal administrative costs. Third party retiree plan administration fees for FY23 are based upon total fees projected to 2023 by Segal based on actual FY22 fees. The annual per participant per year administrative cost rate for medical and prescription benefits is \$449.

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, 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 Further Consolidated Appropriations Act, 2020 passed in December 2019 repealed several healthcare-related taxes, including the Cadillac Tax.

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.

The Inflation Reduction Act was signed into law on August 16, 2022. The law contains several provisions that are expected to impact Alaska's Medicare prescription drug plan (EGWP), which will be considered at the next measurement date.

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.

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:

- 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 double 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 double 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.

		Med	lica	ı		Prescription	Dru	as (Rx)
	Pre-	Medicare		Medicare	P	re-Medicare		edicare
A. Fiscal 2021								
1. Incurred Claims	\$ 196	6,566,470	\$	86,512,435	\$	60,691,609	\$ 20	7,822,858
2. Adjustments for Rx Rebates and COVID (Medical only)	2	7,862,659		3,460,497		(9,832,041)	(2	<u>9,718,669)</u>
3. Net incurred claims	\$ 204	4,429,129	\$	89,972,933	\$	50,859,568	\$ 17	78,104,189
Average Enrollment		18,106		47,025		18,106		47,025
5. Claim Cost Rate (3) / (4)		11,291		1,913		2,809		3,787
6. Trend to Fiscal 2023		1.161		1.107		1.183		1.183
7. Fiscal 2023 Incurred Cost Rate (5) x (6)	\$	13,108	\$	2,117	\$	3,322	\$	4,479
8. Adjustment Factor for 2022 Plan Changes		1.014		1.000		0.913		0.976
9. Adjusted Fiscal 2023 Incurred Cost Rate (7) x (8)	\$	13,290	\$	2,117	\$	3,034	\$	4,371
B. Fiscal 2022								
1. Incurred Claims	\$ 19	7,733,173	\$	98,249,082	\$	64,076,270	\$ 23	30,832,315
2. Adjustments for Rx Rebates		<u>0</u>		<u>0</u>		(12,879,330)	(3	31,162,363 <u>)</u>
3. Net incurred claims	\$ 19	7,733,173	\$	98,249,082	\$	51,196,940	\$ 19	9,669,953
4. Average Enrollment		17,072		48,698		17,072		48,698
5. Claim Cost Rate (3) / (4)		11,582		2,018		2,999		4,100
6. Trend to Fiscal 2023		1.074		1.056		1.095		1.095
7. Fiscal 2023 Incurred Cost Rate (5) x (6)	\$	12,439	\$	2,131	\$	3,284	\$	4,490
8. Adjustment Factor for 2022 Plan Changes		1.007		1.000		0.957		0.988
9. Adjusted Fiscal 2023 Incurred Cost Rate (7) x (8)	\$	12,526	\$	2,131	\$	3,141	\$	4,436
	Med		dical		Prescription		Dru	gs (Rx)
	Pre-	Medicare		Medicare	Р	re-Medicare		edicare
C. Adjusted Incurred Cost Rate by Fiscal Year								
1. Fiscal 2021 A.(9)		13,290		2,117		3,034		4,371
2. Fiscal 2022 B.(9)		12,526		2,131		3,141		4,436
D. Weighting by Fiscal Year								
1. Fiscal 2021		50%		50%		50%		50%
2. Fiscal 2022		50%		50%		50%		50%
E. Fiscal 2023 Incurred Cost Rate								
Rate at Average Age C x D	\$	12,908	\$	2,124	\$	3,088	\$	4,403
Average Aging Factor	Ψ	0.822	Ψ	1.279	Ψ	0.832	Ψ	1.127
3. Rate at Age 65 (1) / (2)	\$	15,706	\$	1,661	\$	3,712	\$	3,907
								_
F. Development of Part A&B and Part B								
Only Cost from Pooled Rate Above				40.000				
Part A&B Average Enrollment Part B Only Average Enrollment				48,233				
2. Part B Only Average Enrollment				465				
3. Total Medicare Average Enrollment B(4)				48,698				
 Cost ratio for those with Part B only to those with Parts A&B 				3.300				
5. Factor to determine cost for those with								
Parts A&B				1.022				
(2) / (3) x (4) + (1) / (3) x 1.00				\downarrow				
6. Medicare per capita cost for all								
participants: E(3)		1	\$	1,661	ı			
7. Cost for those eligible for Parts A&B: (6) / (5)			\$	1,625				
8. Cost for those eligible for Part B only: (7) x (4)			\$	5,363				

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, 2022 through June 30, 2023

Age	Medical and Medicare Parts A & B	Medical and Medicare Part B Only	Prescription Drug	Medicare EGWP Subsidy
45	\$ 9,585	\$ 9,585	\$ 2,382	\$ 0
50	10,844	10,844	2,829	0
55	12,270	12,270	3,369	0
60	13,882	13,882	3,532	0
65	1,625	5,363	3,907	1,309
70	1,794	5,921	4,335	1,452
75	1,981	6,537	4,810	1,611
80	2,209	7,289	4,738	1,587

Section 4.3: Summary of Actuarial Assumptions

The demographic and economic assumptions used in the June 30, 2022 valuation are described below. Unless noted otherwise, these assumptions were adopted by the Board at the June 2022 meeting based on the experience study for the period July 1, 2017 to June 30, 2021. For the June 30, 2022 valuation, the salary increase and pensioner benefit increase assumptions were further modified to be 5.00% for FY23, and 3.00% per year thereafter to better reflect expected short-term experience.

Investment Return

7.25% per year, net of investment expenses.

Salary Scale

5.00% for FY23, and 3.00% per year thereafter.

Payroll Growth

2.75% per year (2.50% inflation + 0.25% 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.

Compensation and Benefit Limit Increases

Compensation is limited to the IRC 401(a)(17) amount, which was \$305,000 for 2022. This limit is assumed to increase 2.50% each year thereafter.

Benefits are limited to the IRC 415 amount, which was \$245,000 for 2022. This limit is assumed to increase 2.50% each year thereafter.

Benefit Payment Increases

Benefits for retired members are assumed to increase 5.00% for FY23, and 3.00% per year thereafter. Increases are assumed to be effective at the beginning of each fiscal year.

Mortality (Pre-Commencement)

Mortality rates based on the 2017-2021 actual experience, to the extent the experience was statistically credible.

- Pension: Pub-2010 General Employee table, above-median, amount-weighted, and projected with MP-2021 generational improvement.
- Healthcare: Pub-2010 General Employee table, above-median, headcount-weighted, and

projected with MP-2021 generational improvement.

Mortality (Post-Commencement)

Mortality rates based on the 2017-2021 actual experience, to the extent the experience was statistically credible.

Retiree mortality in accordance with the following tables:

Pension: Pub-2010 General Retiree table, above-median, amount-weighted, and

projected with MP-2021 generational improvement.

· Healthcare: Pub-2010 General Retiree table, above-median, headcount-weighted, and

projected with MP-2021 generational improvement.

Beneficiary mortality in accordance with the following tables. These tables are applied only after the death of the original member.

Pension: Pub-2010 Contingent Survivor table, above-median, amount-weighted, and

projected with MP-2021 generational improvement.

Healthcare: Pub-2010 Contingent Survivor table, above-median, headcount-weighted, and

projected with MP-2021 generational improvement.

Turnover

Select and ultimate rates as shown in Table 1. Turnover rates cease once a member is eligible for retirement.

Disability

Incidence rates as shown in Table 2. Disability rates cease once a member is eligible for retirement.

Post-disability mortality in accordance with the following tables:

Pension: Pub-2010 Non-Safety Disabled Retiree table, amount-weighted, and

projected with MP-2021 generational improvement.

• Healthcare: Pub-2010 Non-Safety Disabled Retiree table, headcount-weighted, and

projected with MP-2021 generational improvement.

Retirement

Retirement rates as shown in Table 3.

Deferred vested members are assumed to retire at age 60.

Spouse Age Difference

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

Percent Married for Pension

90% of male members and 70% of female members are assumed to be married at termination from active service.

Dependent Spouse Medical Coverage Election

Applies to members who do not have double medical coverage. 80% of male members and 60% of female members are assumed to be married and cover a dependent spouse.

Dependent Children

Pension: None.

• Healthcare: 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.

Administrative Expenses

The Normal Cost as of June 30, 2022 was increased by the following amounts. These amounts are based on the average of actual administrative expenses during the last two fiscal years.

Pension: \$ 102,000Healthcare: \$ 34,000

Contribution Refunds

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.

Early Retirement Factors

State of Alaska staff provided the early retirement factors, which reflect grandfathered factors.

Form of Payment

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

Healthcare Participation

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

Medicare Part B Only

We assume that 2% of actives hired before April 1, 1986 and current retirees who are not yet Medicare eligible will not be eligible for Medicare Part A.

Healthcare Per Capita Claims Cost

Sample claims cost rates adjusted to age 65 for FY23 medical and prescription drugs are shown below. The prescription drug costs reflect the plan change to require prior authorization for certain specialty medications. The pre-Medicare medical cost reflects the coverage of additional preventive benefits.

	Me	edical	Prescript	tion Drugs
Pre-Medicare	\$	15,706	\$	3,712
Medicare Parts A & B	\$	1,625	\$	3,907
Medicare Part B Only	\$	5,363	\$	3,907
Medicare Part D – EGWP		N/A	\$	1,309

Members are assumed to attain Medicare eligibility at age 65. All costs are for the 2023 fiscal year (July 1, 2022 – June 30, 2023).

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.

Healthcare Morbidity

Morbidity rates (also called aging factors) are used to estimate utilization of healthcare benefits at each age to reflect the fact that healthcare utilization typically increases with age. Separate morbidity rates are used for medical and prescription drug benefits. These rates are based on the 2017-2021 actual experience.

Age	Medical	Prescription Drugs
0 - 44	2.0%	4.5%
45 - 54	2.5%	3.5%
55 - 64	2.5%	1.0%
65 - 74	2.0%	2.1%
75 - 84	2.2%	(0.3%)
85 - 94	0.5%	(2.5%)
95+	0.0%	0.0%

Healthcare Third Party Administrator Fees

\$449 per person per year; assumed to increase at 4.50% per year.

Healthcare Cost Trend

The table below shows the rate used to project the cost from the shown fiscal year to the next fiscal year. For example, 7.00% is applied to the FY23 pre-Medicare medical claims costs to get the FY24 medical claims costs.

	Medical Pre-65	Medical Post-65	Prescription Drugs / EGWP
FY23	7.00%	5.50%	7.50%
FY24	6.70%	5.50%	7.20%
FY25	6.40%	5.40%	6.90%
FY26	6.20%	5.40%	6.65%
FY27	6.05%	5.35%	6.35%
FY28	5.85%	5.35%	6.10%
FY29	5.65%	5.30%	5.80%
FY30	5.45%	5.30%	5.55%
FY31-FY38	5.30%	5.30%	5.30%
FY39	5.25%	5.25%	5.25%
FY40	5.20%	5.20%	5.20%
FY41	5.10%	5.10%	5.10%
FY42	5.05%	5.05%	5.05%
FY43	4.95%	4.95%	4.95%
FY44	4.90%	4.90%	4.90%
FY45	4.80%	4.80%	4.80%
FY46	4.75%	4.75%	4.75%
FY47	4.70%	4.70%	4.70%
FY48	4.60%	4.60%	4.60%
FY49	4.55%	4.55%	4.55%
FY50+	4.50%	4.50%	4.50%

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.

Changes in Assumptions Since the Prior Valuation

Effective for the June 30, 2022 valuation, the Board adopted the changes to the demographic and economic assumptions recommended by the actuary, based on the results of an experience study performed on the plan experience from July 1, 2017 to June 30, 2021. The changes in assumptions were adopted at the June 2022 Board meeting. For the June 30, 2022 valuation, the salary increase and pensioner benefit increase assumptions were further modified to be 5.00% for FY23, and 3.00% per year thereafter to better reflect expected short-term experience.

The healthcare per capita claims cost assumption is updated for each valuation as described in Section 4.2. The amounts included in the Normal Cost for administrative expenses were changed from \$83,000 to \$102,000 for pension, and from \$24,000 to \$34,000 for healthcare (based on the most recent two years of actual administrative expenses paid from plan assets).

Table 1: Turnover Rates

Years of Service	Rate
< 1	3%
1	3%
2	3%
3	3%
4	3%
5	3%
6	3%
7	3%
8	3%
9	3%
10+	1%

Table 2: Disability Rates

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

Table 3: 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%

Section 5: Assessment of Risks (ASOP 51 Disclosures)

Funding future retirement benefits prior to when those benefits become due involves assumptions regarding future economic and demographic experience. These assumptions are applied to calculate actuarial liabilities, current contribution requirements, and the funded status of the plan. However, to the extent future experience deviates from the assumptions used, variations will occur in these calculated values. These variations create risk to the plan. Understanding the risks to the funding of the plan is important.

Actuarial Standard of Practice No. 51 (ASOP 51)¹ requires certain disclosures of potential risks to the plan and provides useful information for intended users of actuarial reports that determine plan contributions or evaluate the adequacy of specified contribution levels to support benefit provisions.

Under ASOP 51, risk is defined as the potential of actual future measurements deviating from expected future measurements resulting from actual future experience deviating from actuarially assumed experience.

It is important to note that not all risk is negative, but all risk should be understood and accepted based on knowledge, judgement, and educated decisions. Future measurements may deviate in ways that produce positive or negative financial impacts to the plan.

In the actuary's professional judgment, the following risks may reasonably be anticipated to significantly affect the pension plan's future financial condition and contribution requirements.

- Investment Risk potential that the investment return will be different than the 7.25% expected in the
 actuarial valuation
- Contribution Risk potential that the contribution actually made will be different than the actuarially determined contribution
- Long-Term Return on Investment Risk potential that changes in long-term capital market assumptions or the plan's asset allocation will create the need to update the long-term return on investment assumption
- Longevity Risk potential that participants live longer than expected compared to the valuation mortality assumptions
- Salary Increase Risk potential that future salaries will be different than expected in the actuarial valuation
- Inflation Risk potential that the consumer price index (CPI) for urban wage earners and clerical workers for Anchorage is different than the 2.5% assumed in the valuation
- Other Demographic Risk potential that other demographic experience will be different than expected

The following information is provided to comply with ASOP 51 and furnish beneficial information on potential risks to the plan. **This list is not all-inclusive**; it is an attempt to identify the more significant risks and how those risks might affect the results shown in this report.

Note that ASOP 51 does not require the actuary to evaluate the ability or willingness of the plan sponsor to make contributions to the plan when due, or to assess the likelihood or consequences of potential future changes in law. In addition, this valuation report is not intended to provide investment advice or to provide guidance on the management or reduction of risk.

¹ ASOP 51 does not apply to the healthcare portion of the plan. Accordingly, all figures in this section relate to the pension portion.

Assessment of Risks

Investment Risk

Plan costs are very sensitive to the market return.

- Any return on assets lower than assumed will increase costs.
- The plan uses an actuarial value of assets that smooths gains and losses on market returns over a five-year period to help control some of the volatility in costs due to investment risk.
- Historical experience of actual returns is shown in Section 2.5 of this report. This historical experience illustrates how returns can vary over time.

Contribution Risk

There is a risk to the plan when the employer's and/or State's actual contribution amount and the actuarially determined contribution differ.

- If the actual contribution is lower than the actuarially determined contribution, the plan may not be sustainable in the long term.
- Any underpayment of the contribution will increase future contribution amounts to help pay off the additional Unfunded Actuarial Accrued Liability associated with the underpayment(s).
- As long as the Board consistently adopts the actuarially determined contributions, this risk is mitigated
 due to Alaska statutes requiring the State to contribute additional funds necessary to pay the total
 contributions adopted by the Board.

Long-Term Return on Investment Risk

Inherent in the long-term return on investment assumption is the expectation that the current rate will be used until the last benefit payment of the plan is made. There is a risk that sustained changes in economic conditions, changes in long-term future capital market assumptions, or changes to the plan's asset allocation will necessitate an update to the long-term return on investment assumption used.

- Under a lower long-term return on investment assumption, less investment return is available to pay plan benefits. This may lead to a need for increased employer contributions.
- The liabilities will be higher at a lower assumed rate of return because future benefits will have a lower discount rate applied when calculating the present value.
- A 1% decrease in the long-term return on investment assumption will increase actuarial accrued liability by approximately 10%.

Longevity Risk

Plan costs will be increased as participants are expected to live longer.

- Benefits are paid over a longer lifetime when life expectancy is expected to increase. The longer duration of payments leads to higher liabilities.
- Health care has been improving, which affects the life expectancy of participants. As health care improves, leading to longer life expectancies, costs to the plan could increase.
- The mortality assumption for the plan mitigates this risk by assuming future improvement in mortality. However, any improvement in future mortality greater than that expected by the current mortality assumption would lead to increased costs for the plan.
- The plan provides cost-of-living adjustments on retirement benefits (based on salary changes of sitting
 judges) that increase longevity risk because members who live longer than expected will incur more
 benefit payment increases than expected and therefore increase costs.

Salary Increase Risk

Plan costs will be increased if actual salary increases are larger than expected.

- · Higher-than-expected salary increases will produce higher benefits.
- The higher benefits may be partially offset by increased employee contributions due to higher salaries.
- If future payroll grows at a rate different than assumed, contributions as a percentage of payroll will be affected.

Inflation Risk

Inflation risk may be associated with the interaction of inflation with other assumptions, but this is not significant as a standalone assumption, and therefore is considered as part of the associated assumption risk instead of being discussed here.

Other Demographic Risk

The plan is subject to risks associated with other demographic assumptions (e.g., retirement and termination). Differences between actual and expected experience for these assumptions tend to have less impact on the overall costs of the plan. The demographic assumptions used in the valuation are reevaluated regularly as part of the four-year experience studies to ensure the assumptions are consistent with long-term expectations.

Historical Information

Monitoring certain information over time may help understand risks faced by the plan. Historical information is included throughout this report. Some examples are:

- Section 1.5 shows how the plan's funded status (comparison of actuarial accrued liabilities to actuarial value of assets) has changed over time.
- Section 2.5 shows the volatility of asset returns over time.
- Section 3 includes various historical information showing how member census data has changed over time.

Plan Maturity Measures

There are certain measures that may aid in understanding the significant risks to the plan.

Ratio of Retired Liability to Total Liability

As of June 30	2018	2020	2022
Retiree and Beneficiary Accrued Liability	\$ 156,622,684	\$ 164,454,193	\$ 178,958,142
2. Total Accrued Liability	\$ 226,559,580	\$ 211,742,043	\$ 227,227,808
3. Ratio, (1) ÷ (2)	69.1%	77.7%	78.8%

A high percentage of liability concentrated on participants in pay status indicates a mature plan (often a ratio above 60% - 65%). An increasing percentage may indicate a need for a less risky asset allocation, which may lead to a lower long-term return on asset assumption and increased costs. Higher percentages may also indicate greater investment risk as benefit payments may be greater than contributions creating an increased reliance on investment returns. This ratio should be monitored each year in the future.

Ratio of Cash Flow to Assets

During FYE June 30	2018	2020	2022
1. Contributions	\$ 11,360,677	\$ 11,965,820	\$ 11,685,168
2. Benefit Payments	12,125,563	14,178,500	14,770,632
3. Cash Flow, (1) - (2)	\$ (764,886)	\$ (2,212,680)	\$ (3,085,464)
4. Fair Value of Assets	\$ 176,794,969	\$ 189,844,025	\$ 227,181,866
5. Ratio, (3) ÷ (4)	(0.4%)	(1.2%)	(1.4%)

When this cash flow ratio is negative, more cash is being paid out than deposited in the trust. Negative cash flow indicates the trust needs to rely on investment returns to cover benefit payments and / or may need to invest in more liquid assets to cover the benefit payments. More liquid assets may not generate the same returns as less liquid assets, which can increase the investment risk. Currently, the low magnitude of the ratio implies there may already be enough liquid assets to cover the benefit payments, less investment return is needed to cover the shortfall, or only a small portion of assets will need to be converted to cash. Therefore, the investment risk is likely not amplified at this time. This maturity measure should be monitored in the future.

Contribution Volatility

As of June 30	2018	2020	2022
1. Fair Value of Assets	\$ 176,794,969	\$ 189,844,025	\$ 227,181,866
2. Payroll	\$ 13,392,864	\$ 13,157,172	\$ 14,035,020
 Asset to Payroll Ratio, (1) ÷ (2) 	1,320.1%	1,442.9%	1,618.7%
4. Accrued Liability	\$ 226,559,580	\$ 211,742,043	\$ 227,227,808
 Liability to Payroll Ratio, (4) ÷ (2) 	1,691.6%	1,609.3%	1,619.0%

Plans that have higher asset-to-payroll ratios experience more volatile employer contributions (as a percentage of payroll) due to investment return. For example, a plan with an asset-to-payroll ratio of 10% may experience twice the contribution volatility due to investment return volatility than a plan with an asset-to-payroll ratio of 5%. Plans that have higher liability-to-payroll ratios experience more volatile employer contributions (as a percentage of payroll) due to changes in liability. For example, if an assumption change increases the liability of two plans by the same percent, the plan with a liability-to-payroll ratio of 10% may experience twice the contribution volatility than a plan with a liability-to-payroll ratio of 5%.

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.

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.