



State of Alaska

Teachers' Retirement System

Actuarial Valuation Report
As of June 30, 2022

April 2023



April 24, 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

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

This report summarizes the annual actuarial valuation results of the State of Alaska Teachers' Retirement System (TRS) 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 TRS were determined in accordance with generally accepted actuarial principles and procedures. An actuarial cost method is used to measure the actuarial liabilities which we believe is reasonable. Buck is solely responsible for the actuarial data and actuarial results presented in this report. This report fully and fairly discloses the actuarial position of TRS as of June 30, 2022.

TRS 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 TRS is to pay required contributions that remain level as a percent of total TRS compensation. The Board has also established a funding policy objective that the required contributions be sufficient to pay the Normal Costs of active plan members, plan expenses, and amortize the Unfunded Actuarial Accrued Liability (UAAL) as a level percentage of total TRS compensation over a closed 25-year period as required by Alaska state statutes. The closed 25-year period was originally established effective June 30, 2014. Effective June 30, 2018, the Board adopted a 25-year layered UAAL amortization method as described in Section 5.2. The UAAL amortization continues to be on a level percent of pay basis. The compensation used to determine required contributions is the total compensation of all active members in TRS, including those hired after July 1, 2006 who are members of the Defined Contribution Retirement (DCR) Plan. 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 is expected to increase to 100% in FY52. The funded status of the healthcare trust is expected to remain at or above 100%.

The Board and staff of the State of Alaska may use this report for the review of the operations of TRS. 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. Based on our annual 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 5.2 and 5.3. We certify that the assumptions and methods described in Sections 5.2 and 5.3 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 annually 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 4; (ii) analysis of financial experience in Section 1.6; (iii) summary of actuarial assumptions in Section 5.3; and (iv) historical information in Section 7.

Governmental Accounting Standards Board (GASB) Statement No. 67 (GASB 67) was effective for TRS beginning with fiscal year ending June 30, 2014, and Statement No. 74 (GASB 74) was effective for TRS 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 TRS. See Section 6 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 annual 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 5.2.

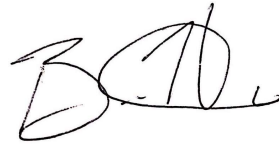
This report was prepared under the overall direction of David Kershner, who meets the Qualification Standards of the American Academy of Actuaries to render the actuarial opinions contained herein. He is a Fellow of the Society of Actuaries, an Enrolled Actuary, a Member of the American Academy of Actuaries,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



Brett Hunter, ASA, EA, MAAA
Senior Consultant
Buck

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



Stephen R. Oates, ASA, EA, MAAA, FCA
Principal
Buck

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Executive Summary

Overview

The State of Alaska Teachers' Retirement System (TRS) provides pension and postemployment healthcare benefits to teachers 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 TRS as of the valuation date of June 30, 2022.

Purpose

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

1. To determine the Employer/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 last fiscal year; and
5. To report trends in contributions, assets, liabilities, and funded status over the last several years.

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

Actuarial projections are also performed to provide a long-term view of the expected future funded status and contribution patterns (see Section 3). The future funded status and contribution patterns would be different than those shown in Section 3 if future experience does not match the actuarial assumptions used in the projections.

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.

Funded Status as of June 30 (\$'s in 000's)	2021	2022
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Pension

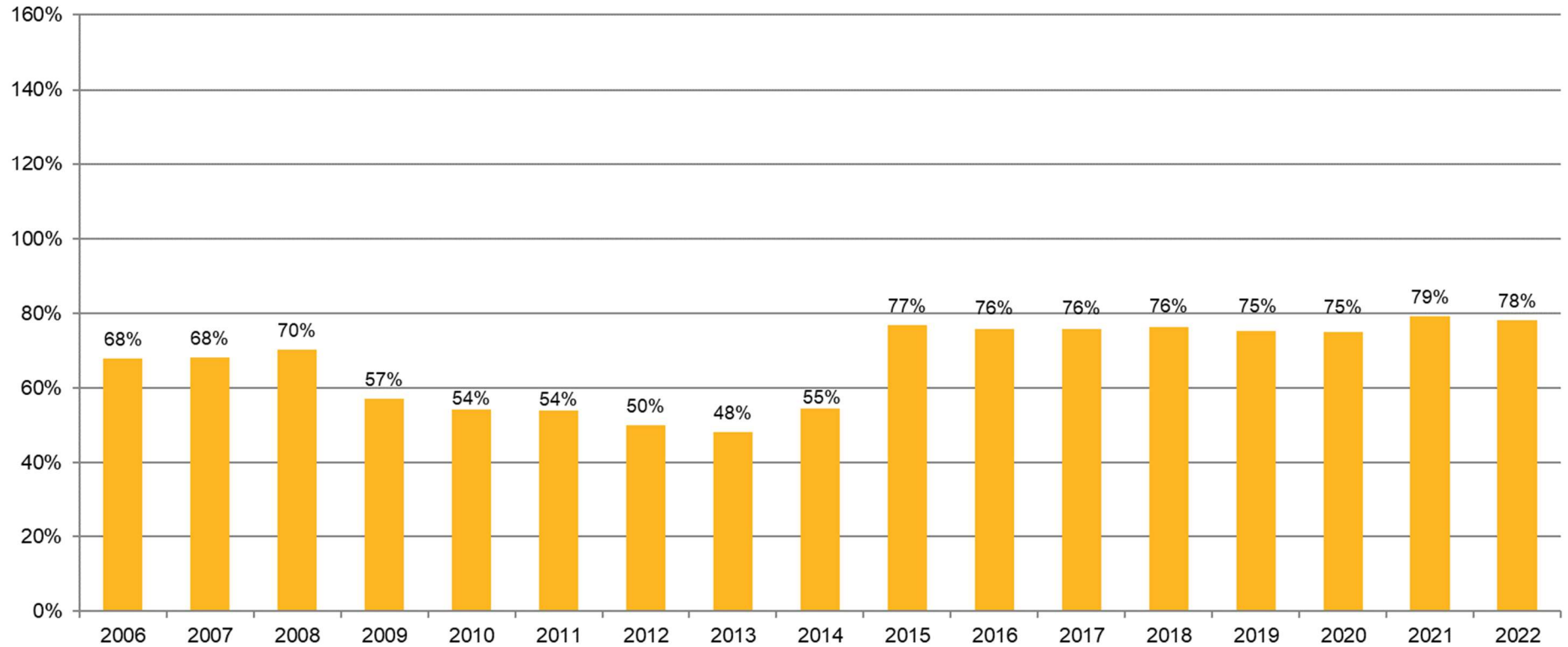
a. Actuarial Accrued Liability	\$ 7,471,887	\$ 7,804,046
b. Valuation Assets	<u>5,910,369</u>	<u>6,100,204</u>
c. Unfunded Actuarial Accrued Liability, (a) - (b)	\$ 1,561,518	\$ 1,703,842
d. Funded Ratio based on Valuation Assets, (b) ÷ (a)	79.1%	78.2%
e. Fair Value of Assets	\$ 6,731,481	\$ 6,026,651
f. Funded Ratio based on Fair Value of Assets, (e) ÷ (a)	90.1%	77.2%

Healthcare

a. Actuarial Accrued Liability	\$ 2,439,603	\$ 2,442,577
b. Valuation Assets	<u>3,267,737</u>	<u>3,437,216</u>
c. Unfunded Actuarial Accrued Liability, (a) - (b)	\$ (828,134)	\$ (994,639)
d. Funded Ratio based on Valuation Assets, (b) ÷ (a)	133.9%	140.7%
e. Fair Value of Assets	\$ 3,723,031	\$ 3,392,211
f. Funded Ratio based on Fair Value of Assets, (e) ÷ (a)	152.6%	138.9%

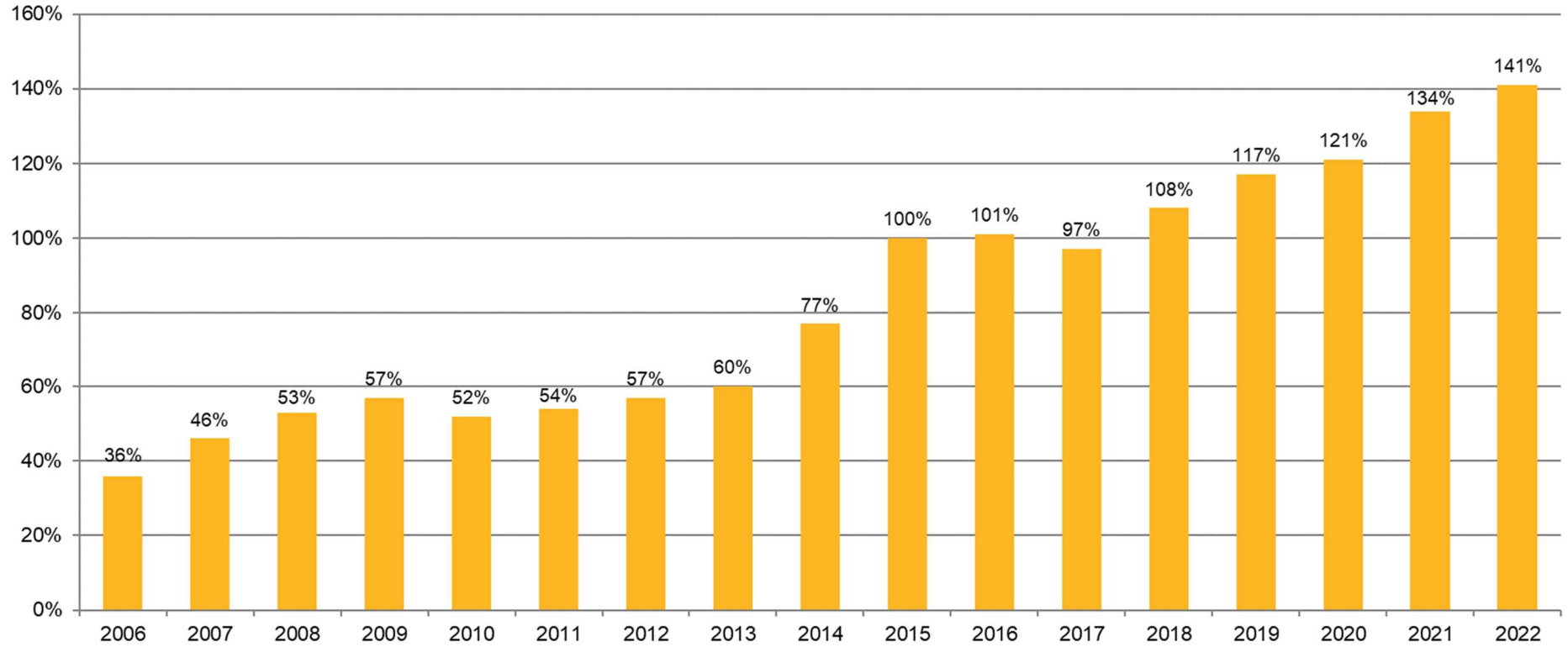
Funded Ratio History (Based on Valuation Assets)

Pension (2006 and later)



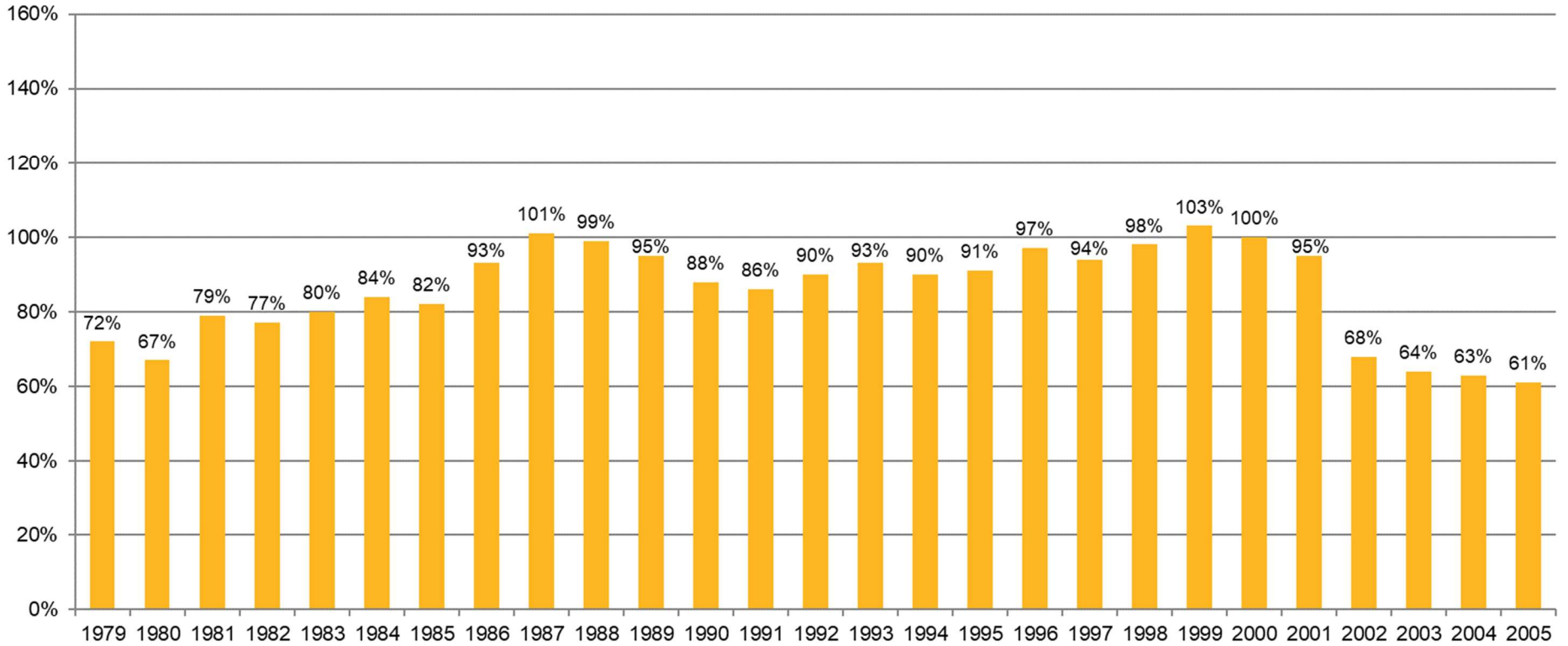
Funded Ratio History (Based on Valuation Assets)

Healthcare (2006 and later)



Funded Ratio History (Based on Valuation Assets)

Total (1979 – 2005) *



* Prior to 2006, assets and liabilities were provided in aggregate only (Pension and Healthcare combined).

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 FY22 investment return based on fair value of assets was approximately (6.0%) compared to the expected investment return of 7.38% (net of investment expenses). This resulted in a market asset loss of approximately \$881 million (pension) and \$492 million (healthcare). Due to the recognition of investment gains and losses over a 5-year period, the FY22 investment return based on actuarial value of assets was approximately 8.7%, which resulted in an actuarial asset gain of approximately \$74 million (pension) and \$42 million (healthcare).

2. Salary Increases

Salary increases for continuing active members during FY22 were higher than expected based on the valuation assumptions, resulting in a liability loss of approximately \$31 million.

3. Demographic Experience

Section 4 provides statistics on active and inactive members. The number of active members decreased 11.0% from 3,396 at June 30, 2021 to 3,023 at June 30, 2022 due to active members exiting the plan during the year (due to retirement, termination, death, and disability) and the closure of the plan to new entrants as of July 1, 2006. The average age of active members increased from 52.14 to 52.57 and average credited service increased from 20.31 to 20.85 years.

The number of benefit recipients increased 1.1% from 13,972 to 14,126, and their average age increased from 72.26 to 72.60. The number of vested terminated participants increased 0.3% from 727 to 729. Their average age increased from 52.68 to 53.22.

The overall effect of the demographic experience during FY22 was a liability loss of approximately \$7 million (pension) and \$13¹ million (healthcare).

4. COLA / PRPA Experience

The cost-of-living increases (COLA) for benefit recipients during FY22 were less than expected based on the valuation assumptions, resulting in a liability gain of approximately \$0.6 million. However, the CPI-based postretirement pension adjustments (PRPA) were more than expected, resulting in a liability loss of approximately \$85 million.

5. Retiree Medical Claims Experience

As described in Section 5.2, 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 \$94 million. Healthcare benefits paid during FY22 were less than expected, which generated a liability gain of approximately \$5 million. The EGWP subsidy received by the plan during FY22 was approximately \$19 million; the expected EGWP subsidy for FY22 was approximately \$17 million.

¹ Includes the effects of changes in dependent coverage elections and Medicare Part B only experience.

6. Changes in Methods Since the Prior Valuation

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

7. 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. The effect of the new assumptions was to increase the Actuarial Accrued Liability as of June 30, 2022 by approximately \$144 million (pension) and \$21 million (healthcare).

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

8. Changes in Benefit Provisions Since the Prior Valuation

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

Comparative Summary of Contribution Rates

	Actual FY 2024	Estimated FY 2025
Pension		
a. Normal Cost Rate Net of Member Contributions	2.05%	2.21%
b. Past Service Cost Rate	<u>16.44%</u>	<u>19.10%</u>
c. Total Employer/State Contribution Rate, (a) + (b), not less than (a) ¹	18.49%	21.31%
Healthcare		
a. Normal Cost Rate	2.41%	2.10%
b. Past Service Cost Rate	<u>(9.08%)</u>	<u>(10.26%)</u>
c. Total Employer/State Contribution Rate, (a) + (b), not less than (a) ¹	2.41%	2.10%
Total		
a. Normal Cost Rate Net of Member Contributions	4.46%	4.31%
b. Past Service Cost Rate	<u>16.44%</u>	<u>19.10%</u>
c. Total Employer/State Contribution Rate, (a) + (b) ¹	20.90%	23.41%
d. Board Adopted Total Employer/State Contribution Rate	18.49% ²	TBD
e. Defined Contribution Retirement (DCR) Rate Paid by Employers	<u>7.03%</u>	<u>7.29%</u>
f. Board Adopted Total Rate, Including DCR Rate Paid by Employers, (d) + (e)	25.52%	TBD

Contribution rates are based on total (DB and DCR) payroll. The contribution rates shown above for FY25 are estimated assuming no actuarial gains/losses during FY23 and FY24. Actual FY25 contribution rates will be adopted by the Board in September 2023 reflecting FY23 asset experience.

Contribution rates include Employer contribution rates as limited by Alaska state statutes and the Additional State Contribution required under SB 125.

¹ Beginning with the June 30, 2014 valuation, contribution rates for FY17 and beyond are determined using new methodology in accordance with 2014 legislation under HB 385 and SB 119, 2014 Alaska Laws, which changed the amortization methodology to a closed 25-year period as a level percentage of pay, and eliminated the time lag on the contribution rate calculation by using a 2-year "roll-forward" approach assuming 0% population growth. Investment gains and losses are recognized over a 5-year period beginning in FY15. Beginning with the June 30, 2018 valuation, the UAAL amortization was changed as described in Section 5.2.

² The FY24 contribution rates adopted by the Board in September 2022 were 18.49% for Pension and 0.00% for Healthcare.

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

The following table summarizes the sources of change in the total Employer/State contribution rate as of June 30, 2021 and June 30, 2022 based on DB and DCR payroll combined:

	Pension	Healthcare
1. Total Employer/State Contribution Rate as of June 30, 2021	19.32%	2.94%
2. Change due to:		
a. Health Claims Experience	N/A	(0.11%)
b. Salary Increases	0.26%	N/A
c. Investment Experience	(0.63%)	0.00%
d. Demographic Experience and Miscellaneous ¹	0.91%	(0.21%)
e. Actual vs Expected Contributions	(0.25%)	0.00%
f. Assumption/Method Changes	1.39%	(0.06%)
g. Plan Changes	<u>0.00%</u>	<u>0.00%</u>
h. Total Change, (a) + (b) + (c) + (d) + (e) + (f) + (g)	1.68%	(0.38%)
3. Total Employer/State Contribution Rate as of June 30, 2022, (1) + (2)(h)	21.00%	2.56%

The following table shows the FY22 gain/(loss) on actuarial accrued liability as of June 30, 2022 (\$'s in 000's):

	Pension	Healthcare
Retirement Experience	\$ (3,443)	\$ (13,048)
Termination Experience	(6,589)	(3,293)
Disability Experience	265	209
Active Mortality Experience	2,166	1,228
Inactive Mortality Experience	304	(291)
Salary Increases	(30,870)	N/A
Rehires (Net of Rehire Load)	131	1,927
COLA Increases	575	N/A
PRPA Increases	(85,465)	N/A
Benefit Payments Different than Expected	13,078	5,319
Per Capita Claims Cost	N/A	94,487
Medicare Part B Only Experience	N/A	1,235
Changes in Dependent Coverage Elections	N/A	1,071
Programming Changes ²	(33)	(53)
Miscellaneous ³	<u>(10,678)</u>	<u>(3,453)</u>
Total	\$ (120,559)	\$ 85,338

¹ Includes the effects of census data changes between the two valuations.

² Includes the adjustment to the post-decrement probability for the lump sum death benefit for married members (pension) and the elimination of child medical premiums for retirees over age 60 (healthcare).

³ Includes the effects of various data changes that are typical when new census data is received for the annual valuation, as well as other items that do not fit neatly into any of the other categories.

The rehire gain/(loss) amount shown on the previous page is the difference between (i) the increase in Actuarial Accrued Liability at June 30, 2022 due to rehires during the most recent plan year, and (ii) the load that was added to the June 30, 2021 Normal Cost based on the rehire load assumption used in the June 30, 2021 valuation. The development of the FY22 rehire gain/(loss) amount is shown in the table below (\$'s in 000's):

	Pension	Healthcare
1. Increase/(Decrease) in Actuarial Accrued Liability at June 30, 2022 due to Rehires	\$ 6,340	\$ 428
2. June 30, 2021 Normal Cost Rehire Load, with interest to June 30, 2022	\$ 6,471	\$ 2,355
3. Rehire Gain/(Loss), (2) - (1)	\$ 131	\$ 1,927

Other items that increased/(decreased) the actuarial accrued liability as of June 30, 2022 are shown below (\$'s in 000's):

	Pension	Healthcare
Experience Study Assumption Changes	\$ 144,033	\$ 20,542

Section 1: Actuarial Funding Results

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

As of June 30, 2022	Present Value of Projected Benefits	Actuarial Accrued (Past Service) Liability
Active Members		
Retirement Benefits	\$ 1,844,618	\$ 1,682,909
Termination Benefits	21,080	362
Disability Benefits	1,257	(2,073)
Death Benefits	8,307	6,989
Return of Contributions	1,549	(29,226)
Medical and Prescription Drug Benefits	801,479	687,118
Medicare Part D Subsidy	(99,888)	(86,129)
Indebtedness	<u>(24,627)</u>	<u>(24,627)</u>
Subtotal	\$ 2,553,775	\$ 2,235,323
Inactive Members		
Not Vested	\$ 38,632	\$ 38,632
Vested Terminations		
- Retirement Benefits	159,390	159,390
- Medical and Prescription Drug Benefits	271,946	271,946
- Medicare Part D Subsidy	(35,448)	(35,448)
- Indebtedness	(5,567)	(5,567)
Retirees & Beneficiaries		
- Retirement Benefits	5,977,257	5,977,257
- Medical and Prescription Drug Benefits	1,955,212	1,955,212
- Medicare Part D Subsidy	<u>(350,122)</u>	<u>(350,122)</u>
Subtotal	\$ 8,011,300	\$ 8,011,300
Total	\$ 10,565,075	\$ 10,246,623
Total Pension	\$ 8,021,896	\$ 7,804,046
Total Medical, Net of Part D Subsidy	\$ 2,543,179	\$ 2,442,577
Total Medical, Gross of Part D Subsidy	\$ 3,028,637	\$ 2,914,276

As of June 30, 2022	Present Value of Projected Benefits	Actuarial Accrued (Past Service) Liability
By Tier		
Tier 1		
- Pension	\$ 4,382,835	\$ 4,377,420
- Medical, Net of Part D Subsidy	1,030,113	1,027,939
Tier 2		
- Pension	3,639,061	3,426,626
- Medical, Net of Part D Subsidy	1,513,066	1,414,638
Total	\$ 10,565,075	\$ 10,246,623

As of June 30, 2022	Normal Cost
Active Members	
Retirement Benefits	\$ 29,111
Termination Benefits	3,730
Disability Benefits	595
Death Benefits	250
Return of Contributions	5,603
Medical and Prescription Drug Benefits	19,926
Medicare Part D Subsidy	(2,447)
Rehire Assumption (Pension)	4,714
Rehire Assumption (Medical)	35
Administrative Expenses (Pension)	3,626
Administrative Expenses (Medical)	1,940
Total	\$ 67,083
Total Pension	\$ 47,629
Total Medical, Net of Part D Subsidy	\$ 19,454
Total Medical, Gross of Part D Subsidy	\$ 21,901

By Tier	
Tier 1	
- Pension	\$ 1,964
- Medical, Net of Part D Subsidy	681
Tier 2	
- Pension	45,665
- Medical, Net of Part D Subsidy	18,773
Total	\$ 67,083

Section 1.2: Actuarial Contributions as of June 30, 2022 (\$'s in 000's)

Normal Cost Rate	Pension	Healthcare
1. Total Normal Cost	\$ 47,629	\$ 19,454
2. DB Rate Payroll Projected for FY23	303,011	303,011
3. DCR Rate Payroll Projected for FY23	455,927	455,927
4. Total Rate Payroll Projected for FY23	758,938	758,938
5. Normal Cost Rate		
a. Based on DB Rate Payroll, (1) ÷ (2)	15.72%	6.42%
b. Based on Total Rate Payroll, (1) ÷ (4)	6.28%	2.56%
6. Average Member Contribution Rate ¹	3.45%	0.00%
7. Employer Normal Cost, (5)(b) - (6)	2.83%	2.56%

Past Service Rate	Pension	Healthcare
1. Actuarial Accrued Liability	\$ 7,804,046	\$ 2,442,577
2. Valuation Assets	<u>6,100,204</u>	<u>3,437,216</u>
3. Unfunded Actuarial Accrued Liability, (1) - (2)	\$ 1,703,842	\$ (994,639)
4. Funded Ratio, (2) ÷ (1)	78.2%	140.7%
5. Past Service Cost Amortization Payment	137,935	(67,255)
6. Total Rate Payroll Projected for FY23	758,938	758,938
7. Past Service Rate, (5) ÷ (6)	18.17%	(8.86%)
Total Employer / State Contribution Rate, not less than Normal Cost Rate	21.00%	2.56%

Normal Cost Rate by Tier (Total Employer and Member)²

Tier 1	16.48%	5.71%
Tier 2	15.69%	6.45%

¹ Assumes no member contributions from members in the DCR plan, 9.65% contributions for Tier 1 members who elected supplemental coverage, and 8.65% for the remaining members.

² Rates determined considering the payroll for members in each tier. DCR payroll is excluded from these calculations.

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

Layer	Amortization Period		Balances		Beginning-of-Year Payment
	Date Created	Years Remaining	Initial	Outstanding	
Initial Amount	6/30/2018	17	\$ 1,720,344	\$ 1,674,843	\$ 135,805
Change in Assumptions	6/30/2018	21	14,346	14,455	1,022
FY19 Loss	6/30/2019	22	94,314	95,115	6,537
FY20 Loss	6/30/2020	23	44,395	44,722	2,993
FY21 Gain	6/30/2021	24	(285,576)	(286,851)	(18,731)
Change in Assumptions	6/30/2022	25	144,033	144,033	9,191
FY22 Loss	6/30/2022	25	17,525	<u>17,525</u>	<u>1,118</u>
Total				\$ 1,703,842	\$ 137,935

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

Layer	Amortization Period		Balances		Beginning-of-Year Payment
	Date Created	Years Remaining	Initial	Outstanding	
Initial Amount	6/30/2018	17	\$ (48,285)	\$ (47,009)	\$ (3,812)
Change in Assumptions/Methods/EGWP	6/30/2018	21	(166,274)	(167,555)	(11,846)
FY19 Gain	6/30/2019	22	(213,757)	(215,572)	(14,815)
FY20 Gain	6/30/2020	23	(101,507)	(102,254)	(6,844)
Medical/Prescription Drug Plan Changes	6/30/2021	24	(21,763)	(21,860)	(1,427)
FY21 Gain	6/30/2021	24	(273,877)	(275,099)	(17,964)
Change in Assumptions	6/30/2022	25	20,542	20,542	1,311
FY22 Gain	6/30/2022	25	(185,832)	<u>(185,832)</u>	<u>(11,858)</u>
Total				\$ (994,639)	\$ (67,255)

Section 1.3: Roll-Forward Contribution Rate Calculation for FY25 (\$'s in 000's)

	Pension	Healthcare
1. Liability Roll Forward		
a. Actuarial Accrued Liability as of June 30, 2022	\$ 7,804,046	\$ 2,442,577
b. Normal Cost	44,003	17,514
c. Interest on (a) and (b) at 7.25%	568,984	178,357
d. Estimated Benefit Payments	(550,245)	(137,591)
e. Interest on (d) at 7.25%, adjusted for timing	<u>(21,262)</u>	<u>(4,900)</u>
f. Expected Actuarial Accrued Liability as of June 30, 2023	\$ 7,845,526	\$ 2,495,957
g. Projected Normal Cost	39,619	16,023
h. Interest on (f) and (g) at 7.25%	571,673	182,119
i. Estimated Benefit Payments	(568,379)	(144,855)
j. Interest on (i) at 7.25%, adjusted for timing	<u>(21,962)</u>	<u>(5,159)</u>
k. Expected Actuarial Accrued Liability as of June 30, 2024	\$ 7,866,477	\$ 2,544,085
2. Asset Roll Forward		
a. Actuarial Value of Assets as of June 30, 2022	\$ 6,100,204	\$ 3,437,216
b. Interest on (a) at 7.25%	442,265	249,198
c. Employee Contributions	29,310	0
d. Employer Contributions	44,322	0
e. State Assistance Contributions	91,029	0
f. Interest on (c) thru (e) at 7.25%, adjusted for timing*	9,222	0
g. Estimated Benefit Payments	(550,245)	(137,591)
h. Administrative Expenses	(3,626)	(1,940)
i. Interest on (g) and (h) at 7.25%, adjusted for timing	(21,391)	(4,970)
j. AVA Adjustments	<u>4,653</u>	<u>3,207</u>
k. Expected Actuarial Value of Assets as of June 30, 2023	\$ 6,145,743	\$ 3,545,120
l. Interest on (k) at 7.25%	445,566	257,021
m. Employee Contributions	27,141	0
n. Employer Contributions	42,176	0
o. State Assistance Contributions**	98,766	0
p. Interest on (m) thru (o) at 7.25%, adjusted for timing*	9,629	0
q. Estimated Benefit Payments	(568,379)	(144,855)
r. Administrative Expenses	(3,282)	(1,775)
s. Interest on (q) and (r) at 7.25%, adjusted for timing	(22,079)	(5,222)
t. AVA Adjustments	<u>21,469</u>	<u>10,123</u>
u. Expected Actuarial Value of Assets as of June 30, 2024	\$ 6,196,750	\$ 3,660,412
3. Expected Unfunded Actuarial Accrued Liability as of June 30, 2024, 1(k) - 2(u)	\$ 1,669,727	\$ (1,116,327)

* Employee and Employer Contributions are paid throughout the year. State Assistance Contributions are assumed to be paid on July 1, 2022 for FY23, and July 1, 2023 for FY24.

** The FY24 State Assistance Contribution is expected to be contributed 100% to pension.

	Pension	Healthcare
4. Expected Annual Rate Payroll for FY25		
a. Defined Benefit Members	\$ 248,321	\$ 248,321
b. Defined Contribution Retirement Members	521,222	521,222
c. Total Rate Payroll	\$ 769,543	\$ 769,543
5. Expected FY25 Contribution Rate Calculation		
a. Projected Normal Cost for FY25	\$ 38,452	\$ 16,196
b. Projected Normal Cost Rate for FY25	5.00%	2.10%
c. Expected Member Contribution Rate for FY25	(2.79%)	0.00%
d. Expected Employer Normal Cost Rate for FY25	2.21%	2.10%
e. Expected Unfunded Liability as of June 30, 2024	\$ 1,669,727	\$ (1,116,327)
f. FY25 Layered Amortization of Expected Unfunded Liability	146,966	(78,981)
g. Expected Past Service Cost Contribution Rate for FY25	19.10%	(10.26%)
h. Expected Total Contribution Rate for FY25, not less than Normal Cost Rate	21.31%	2.10%

The components of the expected FY25 amortization amounts are shown below (totals may not add due to rounding):

Expected FY25 Schedule of Past Service Cost Amortizations - Pension (\$'s in 000's)

Layer	Amortization Period		Balances		Beginning-of-Year Payment for FY25
	Date Created	Years Remaining at 6/30/24	Initial	Outstanding at 6/30/24	
Initial Amount	6/30/2018	15	\$ 1,720,344	\$ 1,620,631	\$ 143,377
Change in Assumptions	6/30/2018	19	14,346	14,325	1,079
FY19 Loss	6/30/2019	20	94,314	94,685	6,901
FY20 Loss	6/30/2020	21	44,395	44,700	3,160
FY21 Gain	6/30/2021	22	(285,576)	(287,765)	(19,776)
Change in Assumptions	6/30/2022	23	144,033	144,974	9,703
FY22 Loss	6/30/2022	23	17,525	17,640	1,181
Expected FY23 Loss	6/30/2023	24	20,347	20,432	1,334
Expected FY24 Loss	6/30/2024	25	105	105	7
Total				\$ 1,669,727	\$ 146,966

Expected FY25 Schedule of Past Service Cost Amortizations - Healthcare (\$'s in 000's)

Layer	Amortization Period		Balances		Beginning-of-Year Payment for FY25
	Date Created	Years Remaining at 6/30/24	Initial	Outstanding at 6/30/24	
Initial Amount	6/30/2018	15	\$ (48,285)	\$ (45,487)	\$ (4,024)
Change in Assumptions/Methods/EGWP	6/30/2018	19	(166,274)	(166,052)	(12,506)
FY19 Gain	6/30/2019	20	(213,757)	(214,597)	(15,641)
FY20 Gain	6/30/2020	21	(101,507)	(102,204)	(7,226)
Medical/Prescription Drug Plan Changes	6/30/2021	22	(21,763)	(21,929)	(1,507)
FY21 Gain	6/30/2021	22	(273,877)	(275,975)	(18,966)
Change in Assumptions	6/30/2022	23	20,542	20,676	1,384
FY22 Gain	6/30/2022	23	(185,832)	(187,047)	(12,519)
Expected FY23 Gain	6/30/2023	24	(54,544)	(54,766)	(3,576)
Expected FY24 Gain	6/30/2024	25	(68,946)	(68,946)	(4,400)
Total				\$ (1,116,327)	\$ (78,981)

Section 1.4: Actuarial Gain/(Loss) for FY22 (\$'s in 000's)

	Pension	Healthcare
1. Expected Actuarial Accrued Liability		
a. Actuarial Accrued Liability as of June 30, 2021	\$ 7,471,887	\$ 2,439,603
b. Normal Cost	44,727	20,425
c. Interest on (a) and (b) at 7.38%	554,726	181,550
d. Employer Group Waiver Plan	0	18,819
e. Benefit Payments	(510,457)	(148,330)
f. Refund of Contributions	(1,305)	0
g. Interest on (d) thru (f) at 7.38%, adjusted for timing	(20,124)	(4,694)
h. Assumptions/Methods Changes	<u>144,033</u>	<u>20,542</u>
i. Expected Actuarial Accrued Liability as of June 30, 2022 (a) + (b) + (c) + (d) + (e) + (f) + (g) + (h)	\$ 7,683,487	\$ 2,527,915
2. Actual Actuarial Accrued Liability as of June 30, 2022	<u>7,804,046</u>	<u>2,442,577</u>
3. Liability Gain/(Loss), (1)(i) - (2)	\$ (120,559)	\$ 85,338
4. Expected Actuarial Asset Value		
a. Actuarial Value of Assets as of June 30, 2021	\$ 5,910,369	\$ 3,267,737
b. Interest on (a) at 7.38%	436,185	241,159
c. Employee Contributions	30,013	0
d. Employer Contributions	29,781	21,806
e. State Assistance Contributions	142,665	0
f. Employer Group Waiver Plan	0	18,819
g. Interest on (c) thru (f) at 7.38%, adjusted for timing	12,696	1,472
h. Benefit Payments	(510,457)	(148,330)
i. Refund of Contributions	(1,305)	0
j. Administrative Expenses	(3,805)	(2,044)
k. Interest on (h) thru (j) at 7.38%, adjusted for timing	<u>(20,261)</u>	<u>(5,450)</u>
l. Expected Actuarial Asset Value as of June 30, 2022 (a) + (b) + (c) + (d) + (e) + (f) + (g) + (h) + (i) + (j) + (k)	\$ 6,025,881	\$ 3,395,169
5. Actual Actuarial Asset Value as of June 30, 2022	<u>6,100,204</u>	<u>3,437,216</u>
6. Actuarial Asset Value Gain/(Loss), (5) - (4)(l)	\$ 74,323	\$ 42,047
7. Total Actuarial Gain/(Loss), (3) + (6)	\$ (46,236)	\$ 127,385
8. Contribution Gain/(Loss)	\$ 29,199	\$ 58,843
9. Administrative Expense Gain/(Loss)	\$ (488)	\$ (396)
10. FY22 Gain/(Loss), (7) + (8) + (9)	\$ (17,525)	\$ 185,832

Section 1.5: Development of Change in Unfunded Liability During FY22 (\$'s in 000's)

	Pension	Healthcare
1. 2021 Unfunded Liability	\$ 1,561,518	\$ (828,134)
a. Interest on Unfunded Liability at 7.38%	\$ 115,240	\$ (61,116)
b. Normal Cost	44,727	20,425
c. Employee Contributions	(30,013)	0
d. Employer Contributions	(29,781)	(21,806)
e. State Assistance Contributions	(142,665)	0
f. Administrative Expenses	3,805	2,044
g. Interest on (b) thru (f) at 7.38%, adjusted for timing	(9,258)	791
h. Assumptions/Methods Changes	<u>144,033</u>	<u>20,542</u>
i. Expected Change in Unfunded Liability During FY22 (a) + (b) + (c) + (d) + (e) + (f) + (g) + (h)	\$ 96,088	\$ (39,120)
2. Expected 2022 Unfunded Liability, (1) + (1)(i)	\$ 1,657,606	\$ (867,254)
a. Liability (Gain)/Loss During FY22	\$ 120,559	\$ (85,338)
b. Actuarial Assets (Gain)/Loss During FY22	<u>(74,323)</u>	<u>(42,047)</u>
c. Total Actuarial (Gain)/Loss During FY22	\$ 46,236	\$ (127,385)
3. Actual 2022 Unfunded Liability, (2) + (2)(c)	\$ 1,703,842	\$ (994,639)

Section 1.6: Analysis of Financial Experience

Pension

**Change in Employer / State Contribution Rate as of Valuation Date
Due to (Gains) and Losses in Actuarial Accrued Liabilities During the Last Five Fiscal Years
Resulting from Differences Between Assumed Experience and Actual Experience**

Type of (Gain) or Loss	Change in Employer / State Contribution Rate During Fiscal Year				
	Pension				
	2018	2019	2020	2021	2022
1. Health Claims	N/A	N/A	N/A	N/A	N/A
2. Salary Experience	(0.39%)	(0.06%)	(0.06%)	0.25%	0.26%
3. Investment Experience	0.91%	0.93%	0.83%	(1.95%)	(0.63%)
4. Demographic Experience and Miscellaneous	0.37%	0.75%	(0.28%)	(0.68%)	0.91%
5. Actual vs Expected Contributions	<u>(0.03%)</u>	<u>(0.15%)</u>	<u>(0.17%)</u>	<u>(0.03%)</u>	<u>(0.25%)</u>
6. (Gain) or Loss During Year From Experience, (1) + (2) + (3) + (4) + (5)	0.86%	1.47%	0.32%	(2.41%)	0.29%
7. Assumptions / Method Changes	(0.32%)	0.00%	0.00%	0.00%	1.39%
8. Plan Changes	<u>0.00%</u>	<u>0.00%</u>	<u>0.00%</u>	<u>0.00%</u>	<u>0.00%</u>
9. Composite (Gain) or Loss During Year, (6) + (7) + (8)	0.54%	1.47%	0.32%	(2.41%)	1.68%
10. Beginning Total Employer / State Contribution Rate	<u>19.40%</u>	<u>19.94%</u>	<u>21.41%</u>	<u>21.73%</u>	<u>19.32%</u>
11. Ending Valuation Year Employer / State Contribution Rate, (9) + (10)	19.94%	21.41%	21.73%	19.32%	21.00%
12. Fiscal Year Rates Adopted by ARMB					
a. Fiscal Year Employer / State Contribution Rate	20.94%	22.51%	17.90%	18.49%	21.31% *
b. Fiscal Year for which Rate Applies	FY21	FY22	FY23	FY24	FY25

* Expected rate. Actual rate to be determined

Healthcare

**Change in Employer / State Contribution Rate as of Valuation Date
Due to (Gains) and Losses in Actuarial Accrued Liabilities During the Last Five Fiscal Years
Resulting from Differences Between Assumed Experience and Actual Experience**

Type of (Gain) or Loss	Change in Employer / State Contribution Rate During Fiscal Year				
	Healthcare				
	2018	2019	2020	2021	2022
1. Health Claims	(1.58%)	(2.51%)	(0.95%)	(0.11%)	(0.11%)
2. Salary Experience	N/A	N/A	N/A	N/A	N/A
3. Investment Experience	0.45%	0.45%	0.38%	0.00%	0.00%
4. Demographic Experience and Miscellaneous	1.49%	1.60%	0.49%	(0.23%)	(0.21%)
5. Actual vs Expected Contributions	<u>0.05%</u>	<u>(0.02%)</u>	<u>(0.19%)</u>	<u>0.00%</u>	<u>0.00%</u>
6. (Gain) or Loss During Year From Experience, (1) + (2) + (3) + (4) + (5)	0.41%	(0.48%)	(0.27%)	(0.34%)	(0.32%)
7. Assumptions / Method Changes	0.24%	0.00%	0.00%	0.00%	(0.06%)
8. Plan Changes	<u>0.00%</u>	<u>0.00%</u>	<u>0.00%</u>	<u>(0.02%)</u>	<u>0.00%</u>
9. Composite (Gain) or Loss During Year, (6) + (7) + (8)	0.65%	(0.48%)	(0.27%)	(0.36%)	(0.38%)
10. Beginning Total Employer / State Contribution Rate	<u>3.40%</u>	<u>4.05%</u>	<u>3.57%</u>	<u>3.30%</u>	<u>2.94%</u>
11. Ending Valuation Year Employer / State Contribution Rate, (9) + (10)	4.05%	3.57%	3.30%	2.94%	2.56%
12. Fiscal Year Rates Adopted by ARMB					
a. Fiscal Year Employer / State Contribution Rate	3.40%	2.98%	0.00%	0.00%	2.10% *
b. Fiscal Year for which Rate Applies	FY21	FY22	FY23	FY24	FY25

* Expected rate. Actual rate to be determined

Section 1.7: History of Unfunded Liability and Funded Ratio (\$'s in 000's)

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	\$ 4,859,336	\$ 3,296,934	67.8%	\$ 1,562,402
June 30, 2007	5,043,448	3,441,867	68.2%	1,601,581
June 30, 2008	5,231,654	3,670,086	70.2%	1,561,568
June 30, 2009	5,463,987	3,115,719	57.0%	2,348,268
June 30, 2010	6,006,981	3,259,868	54.3%	2,747,113
June 30, 2011	6,196,104	3,345,949	54.0%	2,850,155
June 30, 2012	6,399,777	3,194,994	49.9%	3,204,783
June 30, 2013	6,589,553	3,170,313	48.1%	3,419,240
June 30, 2014	6,921,362	3,771,139	54.5%	3,150,223
June 30, 2015	7,051,724	5,422,651	76.9%	1,629,073
June 30, 2016	7,159,788	5,428,687	75.8%	1,731,101
June 30, 2017	7,217,525	5,476,835	75.9%	1,740,690
June 30, 2018	7,276,290	5,541,600	76.2%	1,734,690
June 30, 2019	7,388,020	5,563,931	75.3%	1,824,089
June 30, 2020	7,447,036	5,587,064	75.0%	1,859,972
June 30, 2021	7,471,887	5,910,369	79.1%	1,561,518
June 30, 2022	7,804,046	6,100,204	78.2%	1,703,842

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	\$ 2,370,515	\$ 844,766	35.6%	\$ 1,525,749
June 30, 2007	2,145,955	982,532	45.8%	1,163,423
June 30, 2008	2,387,524	1,266,890	53.1%	1,120,634
June 30, 2009	2,383,527	1,357,239	56.9%	1,026,288
June 30, 2010	2,840,807	1,479,260	52.1%	1,361,547
June 30, 2011	2,932,691	1,591,988	54.3%	1,340,703
June 30, 2012	2,946,667	1,674,160	56.8%	1,272,507
June 30, 2013	3,002,554	1,803,763	60.1%	1,198,791
June 30, 2014	2,919,670	2,248,135	77.0%	671,535
June 30, 2015	2,677,393	2,686,272	100.3%	(8,879)
June 30, 2016	2,747,836	2,771,704	100.9%	(23,868)
June 30, 2017	2,927,093	2,836,802	96.9%	90,291
June 30, 2018	2,684,150	2,898,709	108.0%	(214,559)
June 30, 2019	2,518,644	2,947,562	117.0%	(428,918)
June 30, 2020	2,489,675	3,021,283	121.4%	(531,608)
June 30, 2021	2,439,603	3,267,737	133.9%	(828,134)
June 30, 2022	2,442,577	3,437,216	140.7%	(994,639)

Section 2: Plan Assets

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

As of June 30, 2022	Pension	Healthcare	Allocation Percent
Cash and Short-Term Investments			
- Cash and Cash Equivalents	\$ 80,385	\$ 42,932	1.3%
- Subtotal	\$ 80,385	\$ 42,932	1.3%
Fixed Income Investments			
- Domestic Fixed Income Pool	\$ 1,284,523	\$ 726,044	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	\$ 1,284,523	\$ 726,044	21.3%
Equity Investments			
- Domestic Equity Pool	\$ 1,461,935	\$ 826,322	24.2%
- International Equity Pool	793,625	448,533	13.2%
- Private Equity Pool	993,669	561,647	16.5%
- Emerging Markets Equity Pool	177,596	100,382	3.0%
- Alternative Equity Strategies	351,670	198,773	5.8%
- Subtotal	\$ 3,778,495	\$ 2,135,657	62.7%
Other Investments			
- Real Estate Pool	\$ 454,131	\$ 257,109	7.5%
- Other Investments Pool	434,931	245,834	7.2%
- Absolute Return Pool	0	0	0.0%
- Other Assets	0	318	0.0%
- Subtotal	\$ 889,062	\$ 503,261	14.7%
Total Cash and Investments	\$ 6,032,465	\$ 3,407,894	100.0%
Net Accrued Receivables	(5,814)	(15,683)	
Net Assets	\$ 6,026,651	\$ 3,392,211	

Section 2.2: Changes in Fair Value of Assets During FY22 (\$'s in 000's)

Fiscal Year 2022	Pension	Healthcare
1. Fair Value of Assets as of June 30, 2021	\$ 6,731,481	\$ 3,723,031
2. Additions:		
a. Employee Contributions	\$ 30,013	\$ 0
b. Employer Contributions	29,781	21,806
c. State Assistance Contributions	142,665	0
d. Interest and Dividend Income	86,780	48,505
e. Net Appreciation / Depreciation in Fair Value of Investments	(462,389)	(260,772)
f. Employer Group Waiver Plan	0	18,819
g. Other	<u>36</u>	<u>47</u>
h. Total Additions	\$ (173,114)	\$ (171,595)
3. Deductions:		
a. Medical Benefits	\$ 0	\$ 148,330
b. Retirement Benefits	510,457	0
c. Refund of Contributions	1,305	0
d. Investment Expenses	16,149	8,851
e. Administrative Expenses	<u>3,805</u>	<u>2,044</u>
f. Total Deductions	\$ 531,716	\$ 159,225
4. Fair Value of Assets as of June 30, 2022	\$ 6,026,651	\$ 3,392,211
5. Approximate Fair Value Investment Return Rate during FY22 Net of Investment Expenses	(6.0%)	(6.0%)

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

The actuarial value of asset was set equal to the fair value as of June 30, 2014 and the 20% corridor was eliminated. Investment gains and losses after June 30, 2014 are recognized 20% per year over 5 years.

	Pension	Healthcare
1. Deferral of Investment Gain / (Loss) for FY22		
a. Fair Value of Assets as of June 30, 2021	\$ 6,731,481	\$ 3,723,031
b. Contributions	202,459	21,806
c. Employer Group Waiver Plan	0	18,819
d. Benefit Payments	511,762	148,330
e. Administrative Expenses	3,805	2,044
f. Actual Investment Return (net of investment expenses)	(391,722)	(221,071)
g. Expected Return Rate (net of investment expenses)	7.38%	7.38%
h. Expected Return, Weighted for Timing	489,218	270,782
i. Investment Gain / (Loss) for the Year, (f) - (h)	(880,940)	(491,853)
2. Actuarial Value as of June 30, 2022		
a. Fair Value as of June 30, 2022	\$ 6,026,651	\$ 3,392,211
b. Deferred Investment Gain / (Loss)	(73,553)	(45,005)
c. Actuarial Value as of June 30, 2022, (a) - (b)	6,100,204	3,437,216
3. Ratio of Actuarial Value of Assets to Fair Value of Assets	101.2%	101.3%
4. Approximate Actuarial Value Investment Return Rate during FY22 Net of Investment Expenses	8.7%	8.7%

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

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	\$ 13,001	\$ 10,400	\$ 2,601	\$ 0
June 30, 2019	(82,246)	(49,347)	(16,450)	(16,449)
June 30, 2020	(181,816)	(72,726)	(36,363)	(72,727)
June 30, 2021	1,200,625	240,125	240,125	720,375
June 30, 2022	<u>(880,940)</u>	<u>0</u>	<u>(176,188)</u>	<u>(704,752)</u>
Total	\$ 68,624	\$ 128,452	\$ 13,725	\$ (73,553)

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	\$ 9,619	\$ 7,696	\$ 1,923	\$ 0
June 30, 2019	(38,309)	(22,986)	(7,661)	(7,662)
June 30, 2020	(92,367)	(36,946)	(18,474)	(36,947)
June 30, 2021	655,144	131,029	131,029	393,086
June 30, 2022	<u>(491,853)</u>	<u>0</u>	<u>(98,371)</u>	<u>(393,482)</u>
Total	\$ 42,234	\$ 78,793	\$ 8,446	\$ (45,005)

Section 2.4: Historical Asset Rates of Return

Year Ending	Actuarial Value		Fair Value	
	Annual	Cumulative	Annual	Cumulative
June 30, 2005	9.1%	9.1%	8.5%	8.5%
June 30, 2006	9.6%	9.3%	11.4%	9.9%
June 30, 2007	11.9%	10.2%	18.5%	12.7%
June 30, 2008	10.2%	10.2%	(3.0%)	8.6%
June 30, 2009	(7.9%)	6.3%	(21.0%)	1.9%
June 30, 2010	8.1%	6.6%	10.6%	3.3%
June 30, 2011	6.9%	6.6%	20.5%	5.6%
June 30, 2012	0.7%	5.9%	0.2%	4.9%
June 30, 2013	3.7%	5.6%	12.2%	5.7%
June 30, 2014	22.7%	7.2%	18.2%	6.9%
June 30, 2015	7.2%	7.2%	3.2%	6.5%
June 30, 2016	5.1%	7.1%	(0.7%)	5.9%
June 30, 2017	5.6%	6.9%	12.9%	6.4%
June 30, 2018	6.2%	6.9%	8.2%	6.6%
June 30, 2019	5.5%	6.8%	5.9%	6.5%
June 30, 2020	5.8%	6.7%	4.1%	6.4%
June 30, 2021	11.6%	7.0%	30.1%	7.6%
June 30, 2022	8.7%	7.1%	(6.0%)	6.8%

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: Projections

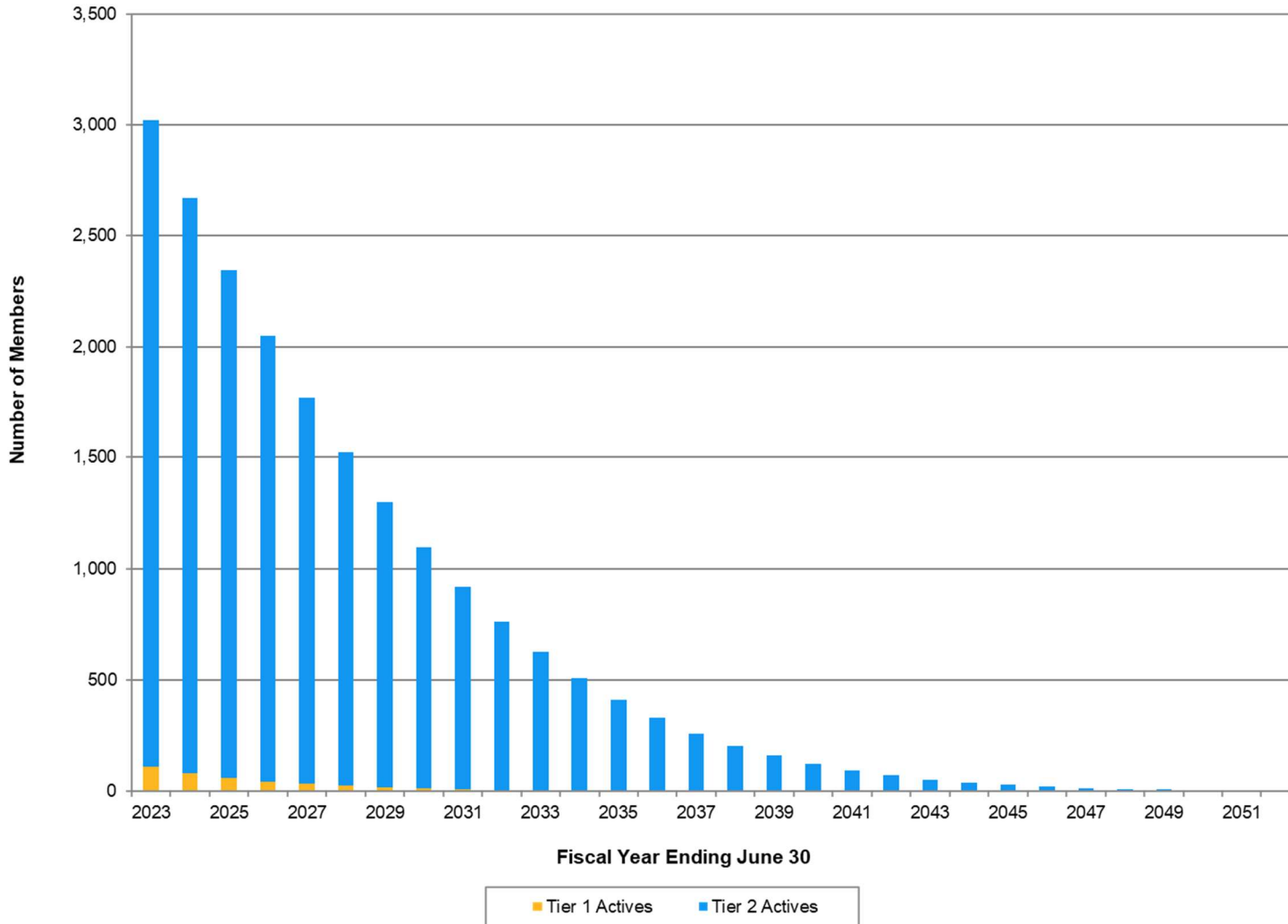
Section 3.1: Projection Assumptions and Methods

Key Assumptions

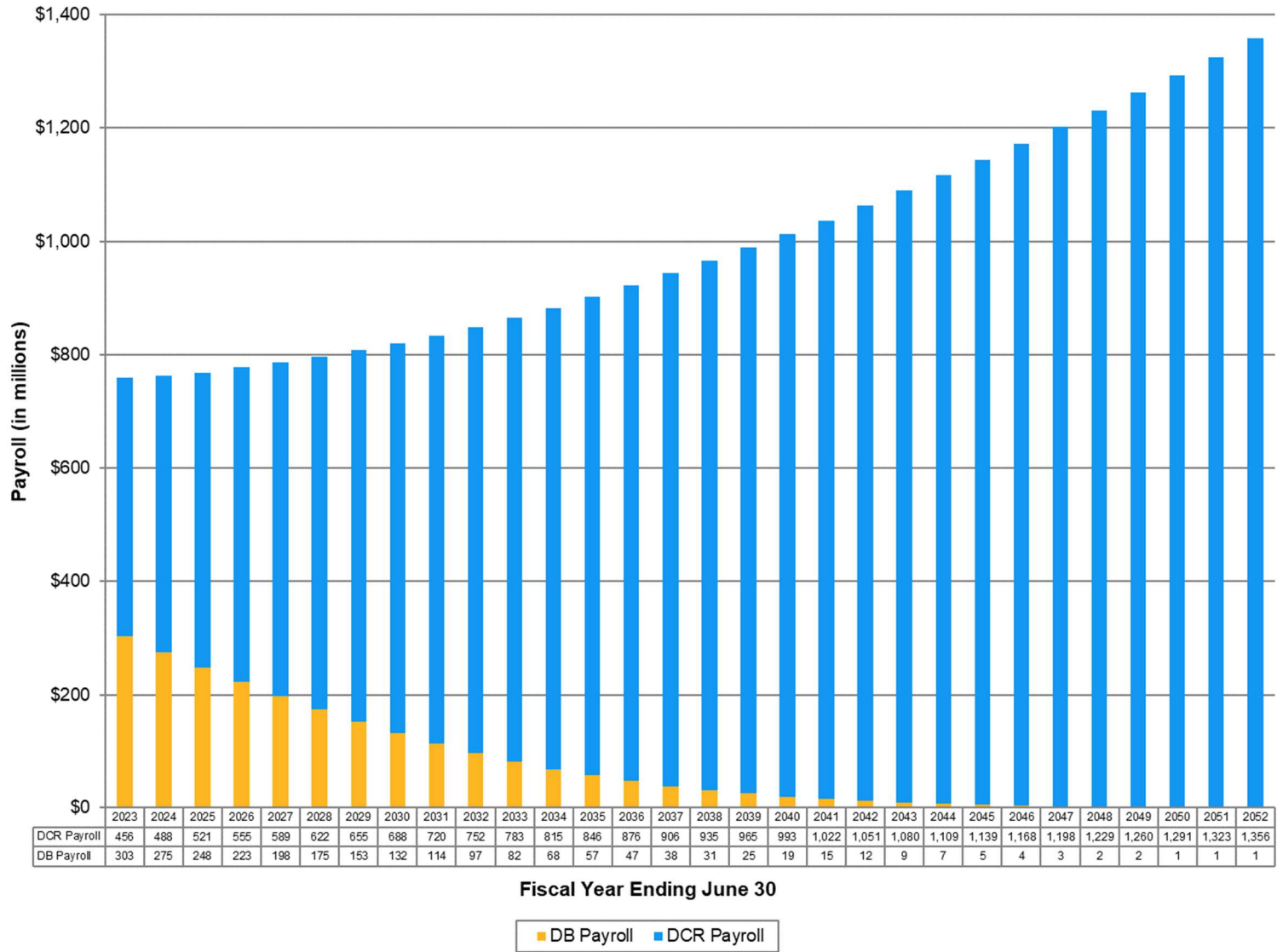
- 7.25% investment return (net of investment expenses) on the Fair Value of Assets in all future years.
- The Actuarial Value of Assets was re-initialized to Fair Value as of June 30, 2014. The Actuarial Value of Assets after June 30, 2014 reflects the deferred gains and losses generated by the smoothing method. The current deferred amount is recognized in the first four years of the projections.
- Actuarial assumptions and methods as described in Section 5. Experience after June 30, 2022 is assumed to match the assumptions.
- The projections in Section 3.6A reflect 25-year amortization in all years.
- The projections in Section 3.6B reflect 25-year amortization through FY39, and 15-year amortization in FY40 and beyond.
- The actuarially calculated contribution rate using a two-year roll-forward approach is adopted each year.
- Projections assume a 0% increase in the total active member population. All new members are expected to enter the DCR plan.
- Contribution rates are determined as a percent of total DB and DCR payroll.
- The DCR contribution rate determined as of June 30, 2022 is assumed to remain constant in all future years.
- The active rehire assumption shown in Section 5 is assumed to grade to zero on a uniform basis over 20 years.
- The Normal Cost is increased by the administrative expenses shown in Section 5. For future years, the percent increase is assumed to remain constant.
- Board-adopted contribution rates for FY23 and FY24 are reflected.
- The healthcare Normal Cost is assumed to be deposited to the healthcare trust in FY25 and beyond.

Section 3.2: Membership Projection

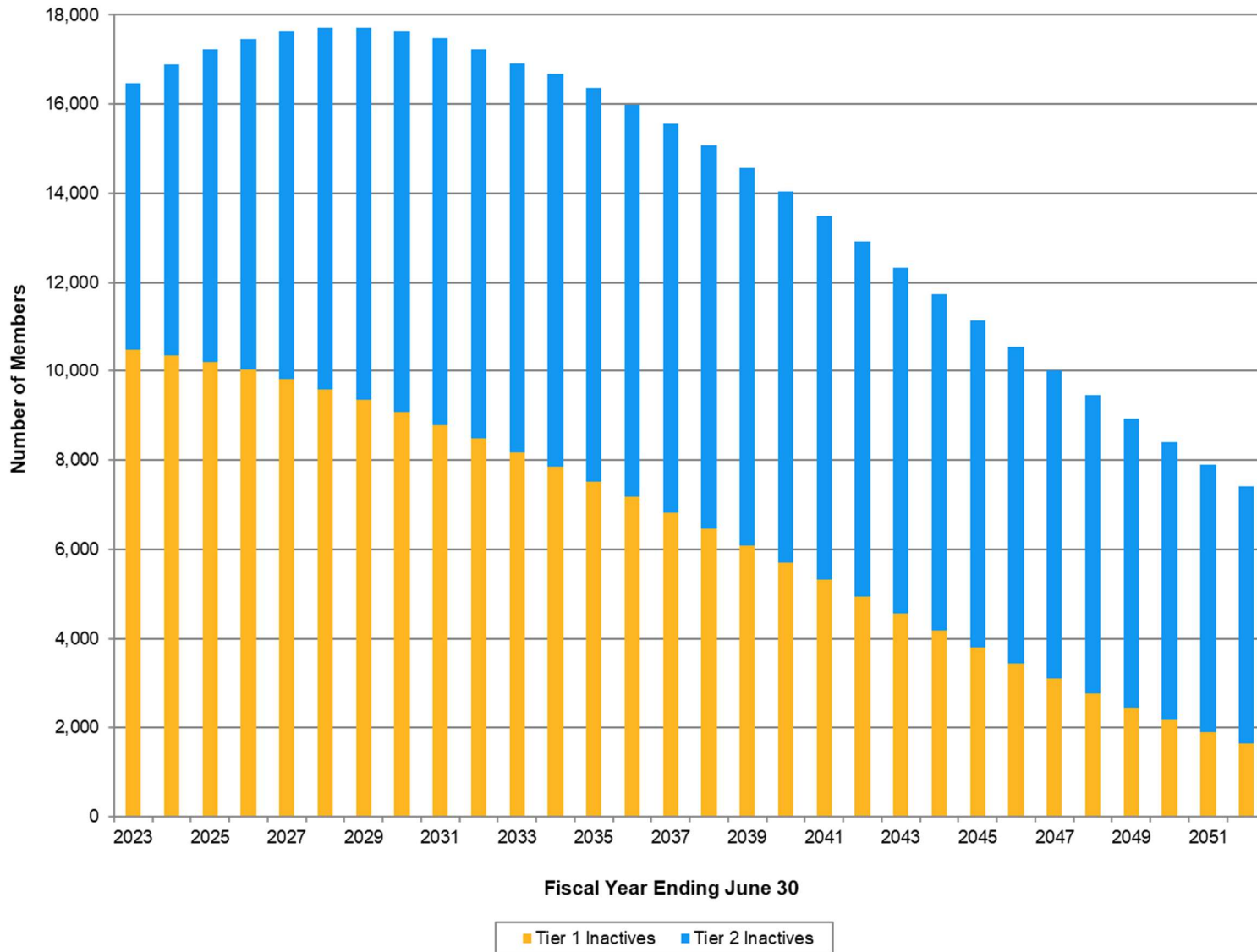
Projected Active Member Count



Projected DB and DCR Payroll

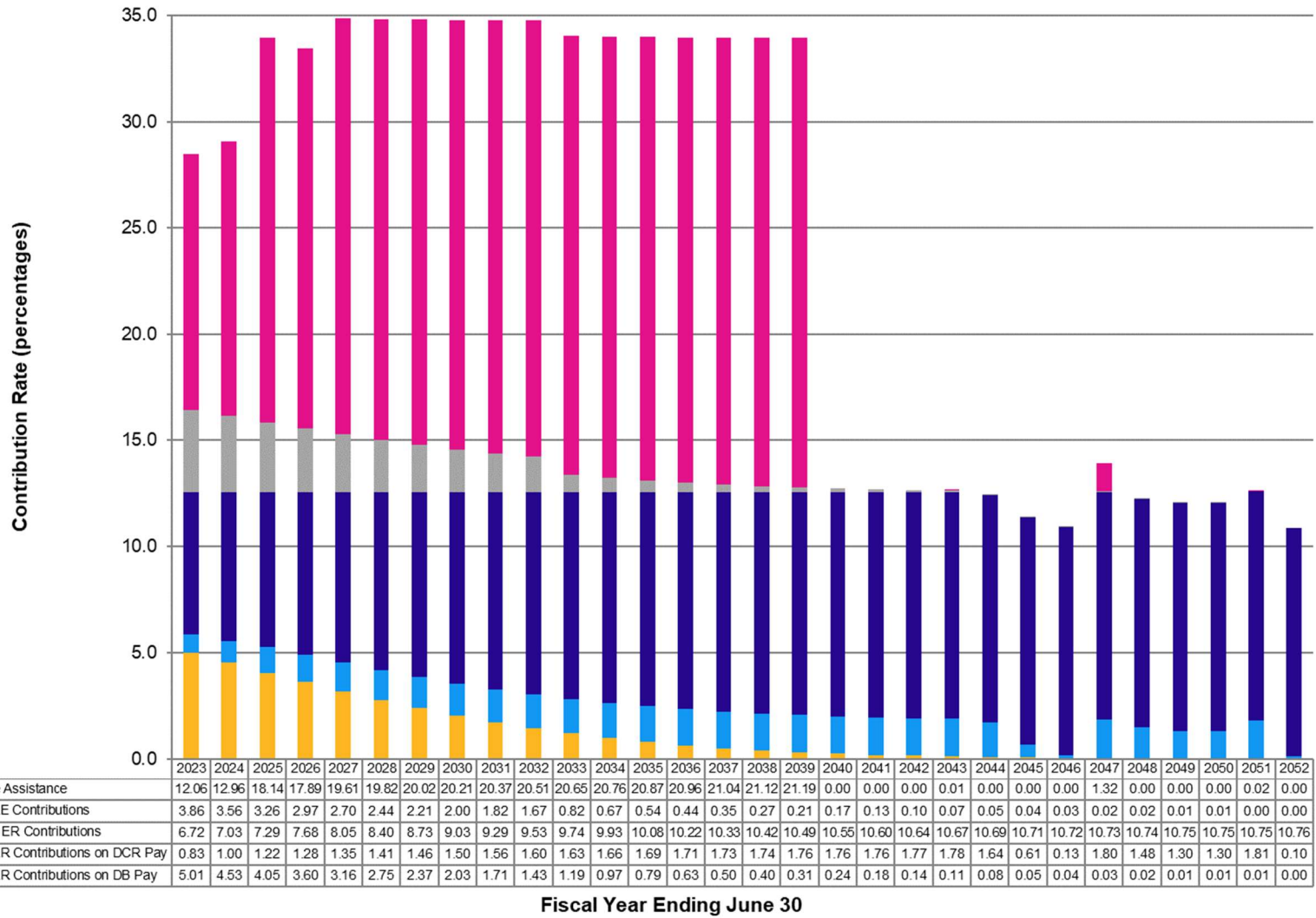


Projected Inactive Member Count



Section 3.3A: Projected Employer/State Contribution Rates

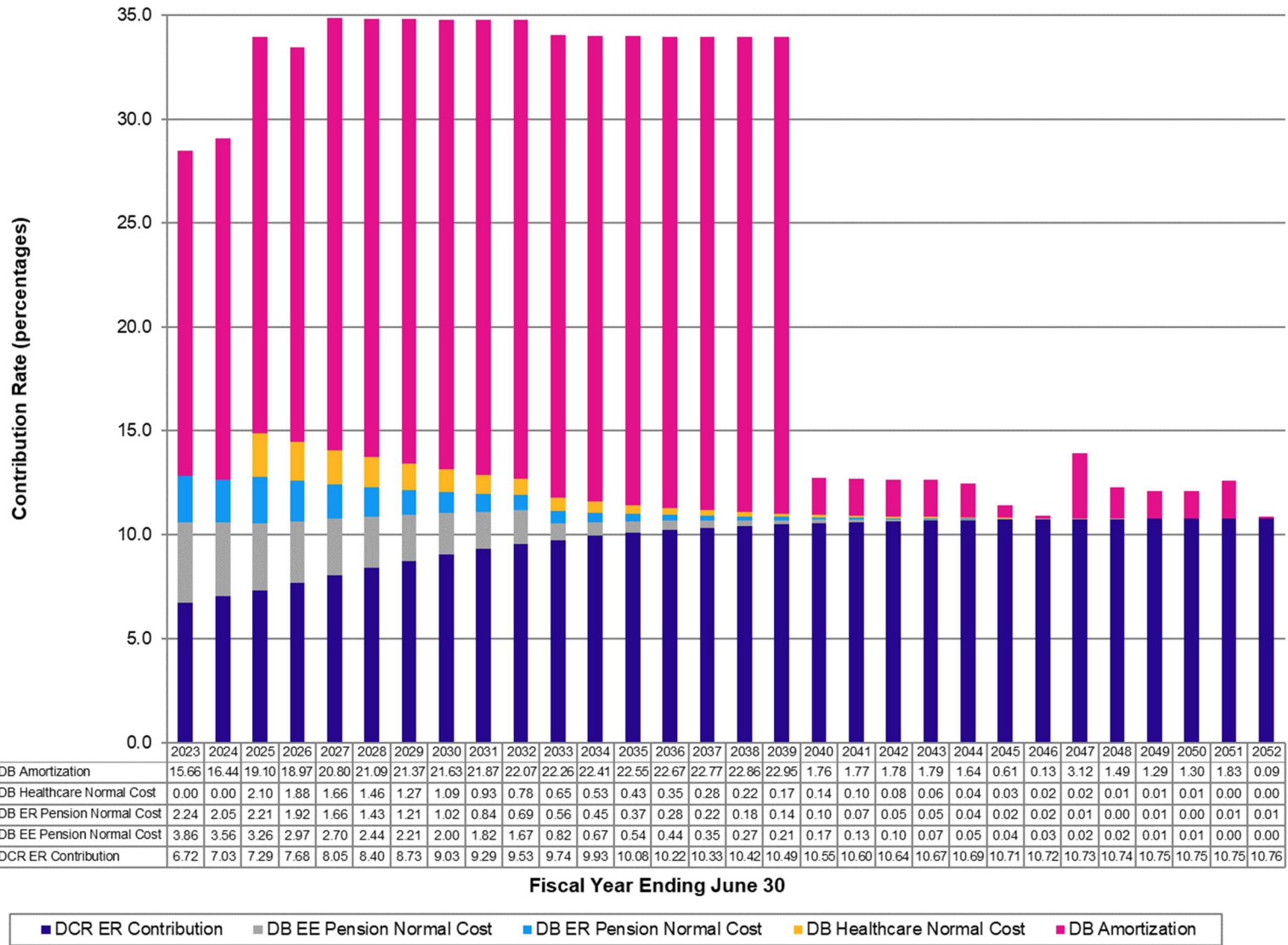
Based on Total DB and DCR Payroll



These projections reflect 25-year amortization in all years, as summarized in Section 3.6A.

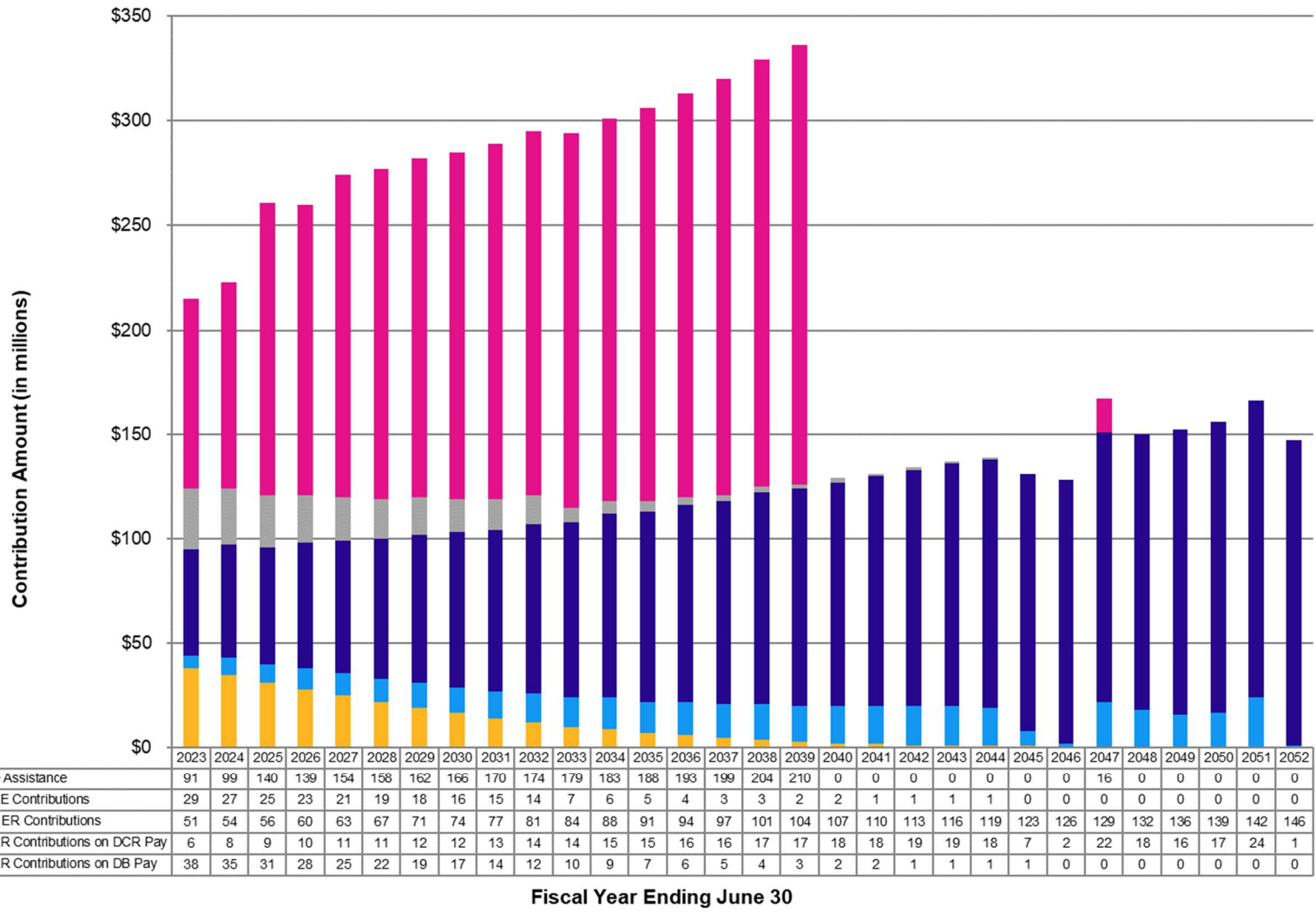
Section 3.3B: Components of Projected Total Contribution Rates

Based on Total DB and DCR Payroll



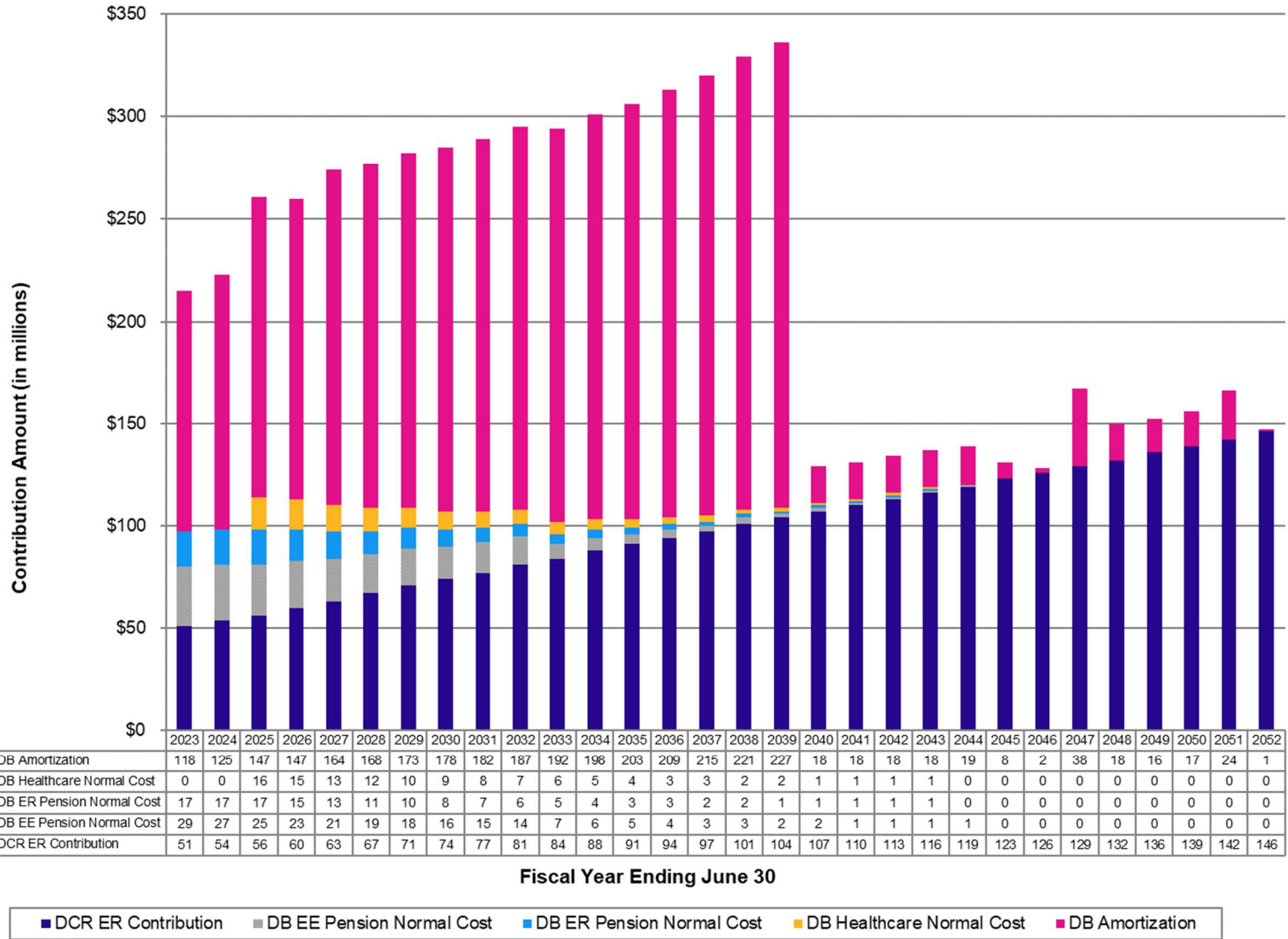
These projections reflect 25-year amortization in all years, as summarized in Section 3.6A.

Section 3.4A: Projected Employer/State Contribution Amounts



These projections reflect 25-year amortization in all years, as summarized in Section 3.6A.

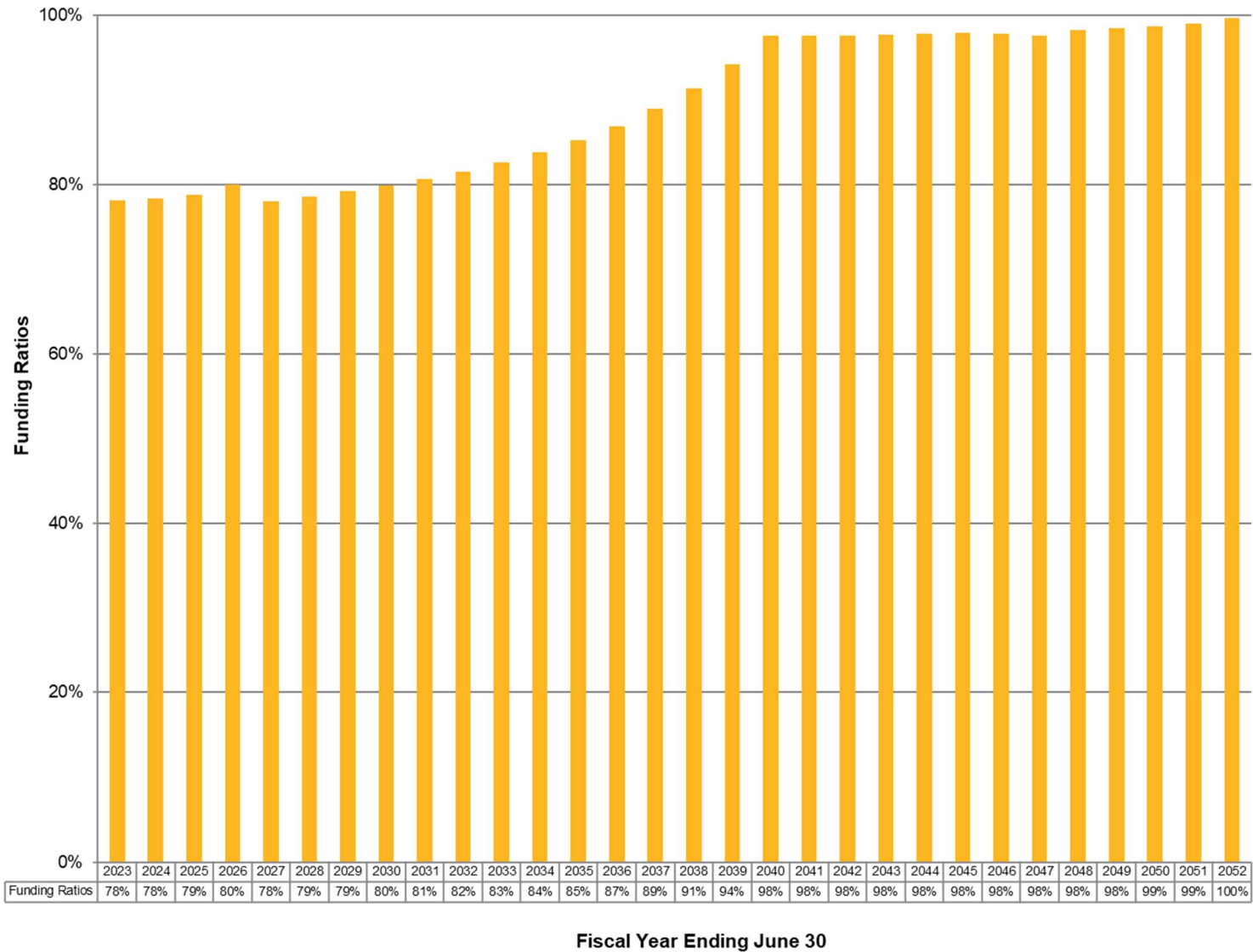
Section 3.4B: Components of Projected Total Contribution Amounts



These projections reflect 25-year amortization in all years, as summarized in Section 3.6A.

Section 3.5A: Projection of Funded Ratios

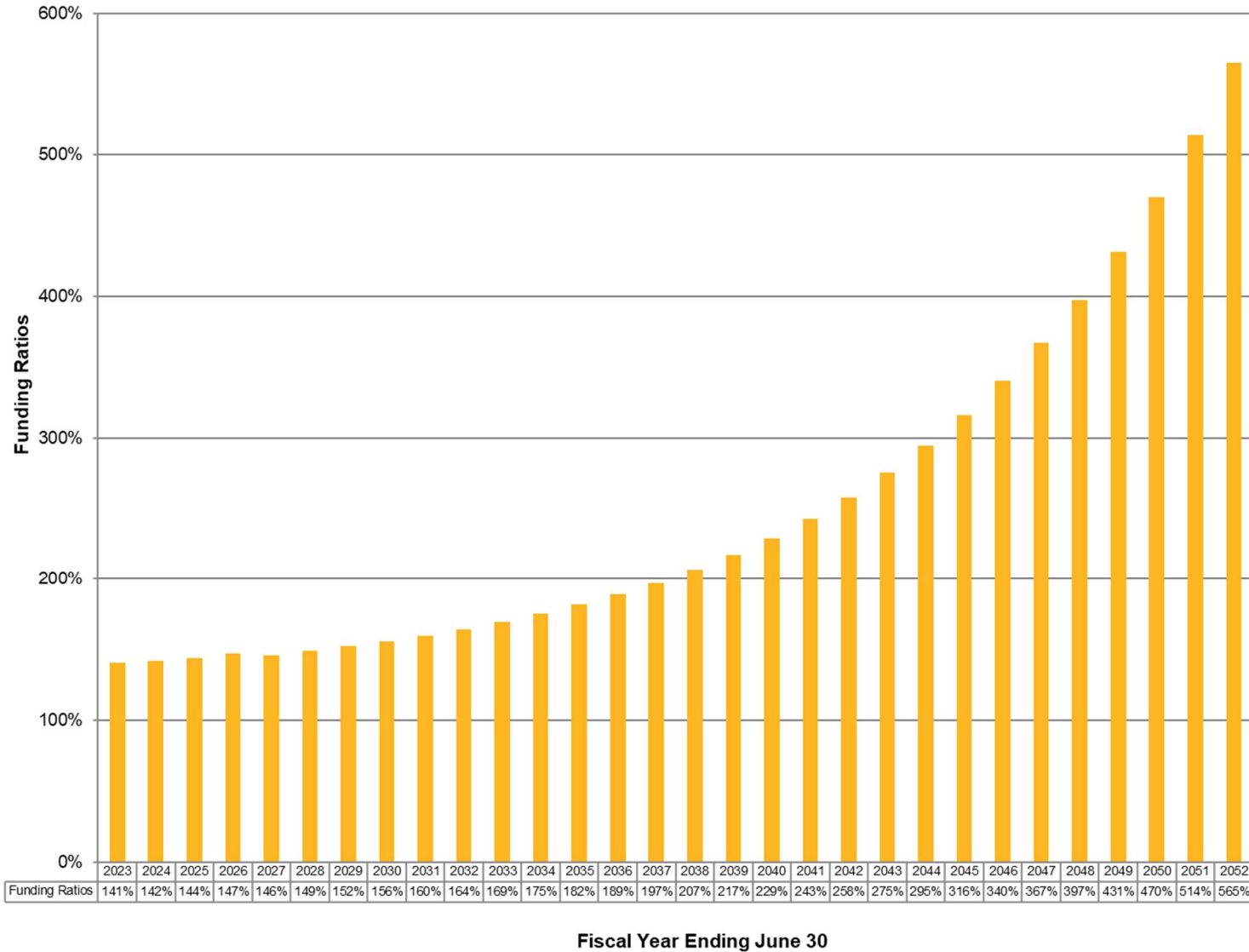
Pension



These projections reflect 25-year amortization in all years, as summarized in Section 3.6A.

Section 3.5B: Projection of Funded Ratios

Healthcare



These projections reflect 25-year amortization in all years, as summarized in Section 3.6A.

Section 3.6A: Table of Projected Actuarial Results (\$'s in 000's)

Fiscal Year End	Valuation Amounts on July 1 (Beginning of FY)				Cash Flow Amounts during Following 12 Months									Deferred Asset Gain / (Loss)	
	Pension		Healthcare		Total Salaries	Actuarial Contrib. Rates			DB Contributions				Benefit Payments	Pension	Healthcare
	Actuarial Assets	Accrued Liability	Actuarial Assets	Accrued Liability		DB	DCR	Total	Employer	State Assistance	Employee	Total			
2023	\$ 6,100,204	\$ 7,804,046	\$ 3,437,216	\$ 2,442,577	\$ 758,938	17.90%	6.72%	24.62%	\$ 44,322	\$ 91,029	\$ 29,310	\$ 164,661	\$ 687,836	\$ (84,677)	\$ (51,528)
2024	6,145,743	7,845,526	3,545,120	2,495,957	762,674	18.49%	7.03%	25.52%	42,176	98,766	27,141	168,083	713,234	(112,251)	(65,712)
2025	6,196,750	7,866,477	3,660,412	2,544,085	769,543	23.41%	7.29%	30.70%	40,555	139,595	25,050	205,200	738,588	(176,188)	(98,371)
2026	6,291,293	7,869,818	3,809,864	2,584,873	777,644	22.77%	7.68%	30.45%	37,949	139,121	23,117	200,187	762,473	0	0
2027	6,127,916	7,851,065	3,826,993	2,619,194	786,668	24.12%	8.05%	32.17%	35,479	154,266	21,248	210,993	784,730	0	0
2028	6,139,912	7,812,051	3,941,509	2,646,615	796,835	23.98%	8.40%	32.38%	33,149	157,933	19,446	210,528	806,853	0	0
2029	6,140,008	7,752,837	4,053,972	2,665,570	807,915	23.85%	8.73%	32.58%	30,944	161,745	17,862	210,551	828,160	0	0
2030	6,129,251	7,673,759	4,163,740	2,674,980	820,089	23.74%	9.03%	32.77%	28,949	165,740	16,420	211,109	846,576	0	0
2031	6,109,225	7,575,609	4,271,816	2,675,393	833,636	23.64%	9.29%	32.93%	27,260	169,812	15,210	212,282	862,630	0	0
2032	6,081,677	7,459,306	4,378,760	2,666,810	848,709	23.54%	9.53%	33.07%	25,716	174,070	14,151	213,937	876,590	0	0
2033	6,048,186	7,325,582	4,485,103	2,649,245	865,045	23.47%	9.74%	33.21%	24,394	178,632	7,093	210,119	882,275	0	0
2034	6,010,953	7,175,373	4,591,150	2,622,361	883,121	23.39%	9.93%	33.32%	23,227	183,336	5,917	212,480	889,549	0	0
2035	5,972,403	7,009,896	4,698,937	2,587,598	902,185	23.35%	10.08%	33.43%	22,374	188,286	4,872	215,532	893,381	0	0
2036	5,935,235	6,830,546	4,810,050	2,545,810	922,342	23.30%	10.22%	33.52%	21,583	193,323	4,058	218,964	893,878	0	0
2037	5,902,008	6,638,810	4,926,117	2,497,836	943,547	23.27%	10.33%	33.60%	21,041	198,522	3,302	222,865	891,655	0	0
2038	5,875,564	6,436,165	5,048,241	2,444,000	965,801	23.26%	10.42%	33.68%	20,668	203,977	2,608	227,253	886,101	0	0
2039	5,858,660	6,223,864	5,178,550	2,385,592	989,011	23.26%	10.49%	33.75%	20,472	209,571	2,077	232,120	878,715	0	0
2040	5,854,667	6,003,651	5,317,352	2,322,004	1,012,805	2.00%	10.55%	12.55%	20,256	0	1,722	21,978	869,176	0	0
2041	5,635,536	5,776,928	5,465,838	2,253,322	1,037,390	1.94%	10.60%	12.54%	20,125	0	1,349	21,474	855,473	0	0
2042	5,412,329	5,545,070	5,627,142	2,181,800	1,062,873	1.91%	10.64%	12.55%	20,301	0	1,063	21,364	838,894	0	0
2043	5,186,770	5,309,643	5,803,534	2,108,427	1,089,093	1.90%	10.67%	12.57%	20,583	109	762	21,454	818,070	0	0
2044	4,960,470	5,072,046	5,998,882	2,035,901	1,116,241	1.72%	10.69%	12.41%	19,199	0	558	19,757	795,631	0	0
2045	4,732,771	4,833,462	6,214,942	1,964,718	1,143,969	0.66%	10.71%	11.37%	7,550	0	458	8,008	770,874	0	0
2046	4,494,250	4,595,074	6,454,516	1,896,202	1,172,308	0.17%	10.72%	10.89%	1,992	0	352	2,344	746,287	0	0
2047	4,251,390	4,357,917	6,718,167	1,829,438	1,201,260	3.15%	10.73%	13.88%	21,983	15,857	240	38,080	721,645	0	0
2048	4,047,996	4,122,901	7,007,042	1,763,858	1,230,971	1.50%	10.74%	12.24%	18,464	0	246	18,710	698,153	0	0
2049	3,829,466	3,890,866	7,321,005	1,697,730	1,261,453	1.31%	10.75%	12.06%	16,525	0	126	16,651	674,519	0	0
2050	3,613,572	3,662,533	7,661,671	1,630,698	1,292,425	1.31%	10.75%	12.06%	16,931	0	129	17,060	651,137	0	0
2051	3,403,365	3,438,499	8,030,413	1,562,146	1,324,176	1.83%	10.75%	12.58%	24,024	265	0	24,289	627,261	0	0
2052	3,206,568	3,219,252	8,429,541	1,492,326	1,356,780	0.10%	10.76%	10.86%	1,395	0	0	1,395	603,307	0	0
Total									\$ 709,586	\$ 2,823,955	\$ 245,887	\$ 3,779,428			

The contribution rates, contribution amounts, and benefit payments are determined separately for Pension and Healthcare. They are aggregated solely for purposes of display in this exhibit.

These projections reflect 25-year amortization in all years.

Section 3.6A: Table of Projected Actuarial Results (\$'s in 000's) (continued)

Fiscal Year End	Valuation Amounts on July 1 (Beginning of FY)			
	Funding Ratio		Unfunded Liability / (Surplus)	
	Pension	Healthcare	Pension	Healthcare
2023	78%	141%	\$ 1,703,842	\$ (994,639)
2024	78%	142%	1,699,783	(1,049,163)
2025	79%	144%	1,669,727	(1,116,327)
2026	80%	147%	1,578,525	(1,224,991)
2027	78%	146%	1,723,149	(1,207,799)
2028	79%	149%	1,672,139	(1,294,894)
2029	79%	152%	1,612,829	(1,388,402)
2030	80%	156%	1,544,508	(1,488,760)
2031	81%	160%	1,466,384	(1,596,423)
2032	82%	164%	1,377,629	(1,711,950)
2033	83%	169%	1,277,396	(1,835,858)
2034	84%	175%	1,164,420	(1,968,789)
2035	85%	182%	1,037,493	(2,111,339)
2036	87%	189%	895,311	(2,264,240)
2037	89%	197%	736,802	(2,428,281)
2038	91%	207%	560,601	(2,604,241)
2039	94%	217%	365,204	(2,792,958)
2040	98%	229%	148,984	(2,995,348)
2041	98%	243%	141,392	(3,212,516)
2042	98%	258%	132,741	(3,445,342)
2043	98%	275%	122,873	(3,695,107)
2044	98%	295%	111,576	(3,962,981)
2045	98%	316%	100,691	(4,250,224)
2046	98%	340%	100,824	(4,558,314)
2047	98%	367%	106,527	(4,888,729)
2048	98%	397%	74,905	(5,243,184)
2049	98%	431%	61,400	(5,623,275)
2050	99%	470%	48,961	(6,030,973)
2051	99%	514%	35,134	(6,468,267)
2052	100%	565%	12,684	(6,937,215)

These projections reflect 25-year amortization in all years.

Section 3.6B: Table of Projected Actuarial Results (\$'s in 000's)

Fiscal Year End	Valuation Amounts on July 1 (Beginning of FY)				Cash Flow Amounts during Following 12 Months									Deferred Asset Gain / (Loss)	
	Pension		Healthcare		Total Salaries	Actuarial Contrib. Rates			DB Contributions				Benefit Payments	Pension	Healthcare
	Actuarial Assets	Accrued Liability	Actuarial Assets	Accrued Liability		DB	DCR	Total	Employer	State Assistance	Employee	Total			
2023	\$ 6,100,204	\$ 7,804,046	\$ 3,437,216	\$ 2,442,577	\$ 758,938	17.90%	6.72%	24.62%	\$ 44,322	\$ 91,029	\$ 29,310	\$ 164,661	\$ 687,836	\$ (84,677)	\$ (51,528)
2024	6,145,743	7,845,526	3,545,120	2,495,957	762,674	18.49%	7.03%	25.52%	42,176	98,766	27,141	168,083	713,234	(112,251)	(65,712)
2025	6,196,750	7,866,477	3,660,412	2,544,085	769,543	23.41%	7.29%	30.70%	40,555	139,595	25,050	205,200	738,588	(176,188)	(98,371)
2026	6,291,293	7,869,818	3,809,864	2,584,873	777,644	22.77%	7.68%	30.45%	37,949	139,121	23,117	200,187	762,473	0	0
2027	6,127,916	7,851,065	3,826,993	2,619,194	786,668	24.12%	8.05%	32.17%	35,479	154,266	21,248	210,993	784,730	0	0
2028	6,139,912	7,812,051	3,941,509	2,646,615	796,835	23.98%	8.40%	32.38%	33,149	157,933	19,446	210,528	806,853	0	0
2029	6,140,008	7,752,837	4,053,972	2,665,570	807,915	23.85%	8.73%	32.58%	30,944	161,745	17,862	210,551	828,160	0	0
2030	6,129,251	7,673,759	4,163,740	2,674,980	820,089	23.74%	9.03%	32.77%	28,949	165,740	16,420	211,109	846,576	0	0
2031	6,109,225	7,575,609	4,271,816	2,675,393	833,636	23.64%	9.29%	32.93%	27,260	169,812	15,210	212,282	862,630	0	0
2032	6,081,677	7,459,306	4,378,760	2,666,810	848,709	23.54%	9.53%	33.07%	25,716	174,070	14,151	213,937	876,590	0	0
2033	6,048,186	7,325,582	4,485,103	2,649,245	865,045	23.47%	9.74%	33.21%	24,394	178,632	7,093	210,119	882,275	0	0
2034	6,010,953	7,175,373	4,591,150	2,622,361	883,121	23.39%	9.93%	33.32%	23,227	183,336	5,917	212,480	889,549	0	0
2035	5,972,403	7,009,896	4,698,937	2,587,598	902,185	23.35%	10.08%	33.43%	22,374	188,286	4,872	215,532	893,381	0	0
2036	5,935,235	6,830,546	4,810,050	2,545,810	922,342	23.30%	10.22%	33.52%	21,583	193,323	4,058	218,964	893,878	0	0
2037	5,902,008	6,638,810	4,926,117	2,497,836	943,547	23.27%	10.33%	33.60%	21,041	198,522	3,302	222,865	891,655	0	0
2038	5,875,564	6,436,165	5,048,241	2,444,000	965,801	23.26%	10.42%	33.68%	20,668	203,977	2,608	227,253	886,101	0	0
2039	5,858,660	6,223,864	5,178,550	2,385,592	989,011	23.26%	10.49%	33.75%	20,472	209,571	2,077	232,120	878,715	0	0
2040	5,854,667	6,003,651	5,317,352	2,322,004	1,012,805	2.00%	10.55%	12.55%	20,256	0	1,722	21,978	869,176	0	0
2041	5,635,536	5,776,928	5,465,838	2,253,322	1,037,390	1.94%	10.60%	12.54%	20,125	0	1,349	21,474	855,473	0	0
2042	5,412,329	5,545,070	5,627,142	2,181,800	1,062,873	1.92%	10.64%	12.56%	20,407	0	1,063	21,470	838,894	0	0
2043	5,186,880	5,309,643	5,803,534	2,108,427	1,089,093	1.91%	10.67%	12.58%	20,583	218	762	21,563	818,070	0	0
2044	4,960,705	5,072,046	5,998,882	2,035,901	1,116,241	1.73%	10.69%	12.42%	19,310	0	558	19,868	795,631	0	0
2045	4,733,138	4,833,462	6,214,942	1,964,718	1,143,969	0.67%	10.71%	11.38%	7,664	0	458	8,122	770,874	0	0
2046	4,494,762	4,595,074	6,454,516	1,896,202	1,172,308	0.18%	10.72%	10.90%	2,110	0	352	2,462	746,287	0	0
2047	4,252,062	4,357,917	6,718,167	1,829,438	1,201,260	3.17%	10.73%	13.90%	21,983	16,097	240	38,320	721,645	0	0
2048	4,048,974	4,122,901	7,007,042	1,763,858	1,230,971	1.51%	10.74%	12.25%	18,588	0	246	18,834	698,153	0	0
2049	3,830,644	3,890,866	7,321,005	1,697,730	1,261,453	1.33%	10.75%	12.08%	16,777	0	126	16,903	674,519	0	0
2050	3,615,096	3,662,533	7,661,671	1,630,698	1,292,425	1.32%	10.75%	12.07%	17,060	0	129	17,189	651,137	0	0
2051	3,405,133	3,438,499	8,030,413	1,562,146	1,324,176	1.85%	10.75%	12.60%	24,024	530	0	24,554	627,261	0	0
2052	3,208,748	3,219,252	8,429,541	1,492,326	1,356,780	0.11%	10.76%	10.87%	1,530	0	0	1,530	603,307	0	0
Total									\$ 710,675	\$ 2,824,569	\$ 245,887	\$ 3,781,131			

The contribution rates, contribution amounts, and benefit payments are determined separately for Pension and Healthcare. They are aggregated solely for purposes of display in this exhibit.

These projections reflect 25-year amortization through FY39, and 15-year amortization in FY40 and beyond.

Section 3.6B: Table of Projected Actuarial Results (\$'s in 000's) (continued)

Fiscal Year End	Valuation Amounts on July 1 (Beginning of FY)			
	Funding Ratio		Unfunded Liability / (Surplus)	
	Pension	Healthcare	Pension	Healthcare
2023	78%	141%	\$ 1,703,842	\$ (994,639)
2024	78%	142%	1,699,783	(1,049,163)
2025	79%	144%	1,669,727	(1,116,327)
2026	80%	147%	1,578,525	(1,224,991)
2027	78%	146%	1,723,149	(1,207,799)
2028	79%	149%	1,672,139	(1,294,894)
2029	79%	152%	1,612,829	(1,388,402)
2030	80%	156%	1,544,508	(1,488,760)
2031	81%	160%	1,466,384	(1,596,423)
2032	82%	164%	1,377,629	(1,711,950)
2033	83%	169%	1,277,396	(1,835,858)
2034	84%	175%	1,164,420	(1,968,789)
2035	85%	182%	1,037,493	(2,111,339)
2036	87%	189%	895,311	(2,264,240)
2037	89%	197%	736,802	(2,428,281)
2038	91%	207%	560,601	(2,604,241)
2039	94%	217%	365,204	(2,792,958)
2040	98%	229%	148,984	(2,995,348)
2041	98%	243%	141,392	(3,212,516)
2042	98%	258%	132,741	(3,445,342)
2043	98%	275%	122,763	(3,695,107)
2044	98%	295%	111,341	(3,962,981)
2045	98%	316%	100,324	(4,250,224)
2046	98%	340%	100,312	(4,558,314)
2047	98%	367%	105,855	(4,888,729)
2048	98%	397%	73,927	(5,243,184)
2049	99%	431%	60,222	(5,623,275)
2050	99%	470%	47,437	(6,030,973)
2051	99%	514%	33,366	(6,468,267)
2052	100%	565%	10,504	(6,937,215)

These projections reflect 25-year amortization through FY39, and 15-year amortization in FY40 and beyond.

Section 3.7: Projected Pension Benefit Recipients and Amounts (\$'s in 000's)

Fiscal Year End	Pension		Fiscal Year End	Pension	
	Recipient Counts	Benefit Amounts		Recipient Counts	Benefit Amounts
2023	14,126	\$ 550,245	2061	3,214	\$ 252,774
2024	14,609	568,379	2062	2,926	234,215
2025	15,021	585,728	2063	2,653	215,978
2026	15,372	601,776	2064	2,394	198,109
2027	15,663	616,595	2065	2,149	180,665
2028	15,881	630,201	2066	1,918	163,709
2029	16,020	642,414	2067	1,700	147,317
2030	16,079	652,806	2068	1,496	131,570
2031	16,071	661,317	2069	1,307	116,549
2032	15,974	668,211	2070	1,131	102,337
2033	15,811	666,953	2071	970	89,003
2034	15,568	669,191	2072	825	76,626
2035	15,254	669,274	2073	693	65,252
2036	14,876	667,214	2074	576	54,921
2037	14,460	663,096	2075	473	45,654
2038	13,980	657,203	2076	383	37,455
2039	13,480	649,128	2077	307	30,303
2040	12,963	639,299	2078	243	24,161
2041	12,416	627,816	2079	188	18,972
2042	11,857	614,586	2080	144	14,662
2043	11,280	599,844	2081	109	11,145
2044	10,696	583,902	2082	81	8,327
2045	10,123	566,814	2083	59	6,115
2046	9,562	548,805	2084	43	4,411
2047	9,014	530,049	2085	30	3,127
2048	8,486	510,672	2086	21	2,180
2049	7,978	490,835	2087	15	1,499
2050	7,486	470,709	2088	10	1,017
2051	7,009	450,431	2089	7	685
2052	6,548	430,095	2090	4	459
2053	6,106	409,777	2091	4	309
2054	5,682	389,535	2092	2	211
2055	5,276	369,414	2093	2	147
2056	4,889	349,449	2094	1	104
2057	4,520	329,667	2095	1	75
2058	4,168	310,090	2096	1	55
2059	3,834	290,737	2097	0	0
2060	3,516	271,625	2098	0	0

Counts include retirees, disability, and beneficiaries.

Section 4: Member Data

Section 4.1: Summary of Members Included

As of June 30	2018	2019	2020	2021	2022
Active Members					
1. Number	4,418	4,044	3,789	3,396	3,023 ¹
2. Average Age	51.13	51.48	51.92	52.14	52.57
3. Average Credited Service	18.62	19.21	19.76	20.31	20.85
4. Average Entry Age	32.51	32.27	32.16	31.83	31.72
5. Average Annual Earnings	\$ 87,374	\$ 88,879	\$ 90,564	\$ 94,143	\$ 97,702
6. Number Vested	4,418	4,044	3,789	3,396	3,023
7. Percent Who Are Vested	100.0%	100.0%	100.0%	100.0%	100.0%
Retirees, Disabilitants, and Beneficiaries					
1. Number	13,277	13,491	13,689	13,972	14,126
2. Average Age	70.78	71.30	71.85	72.26	72.60
3. Average Years Since Retirement	14.40	14.74	15.06	15.24	15.51
4. Average Monthly Pension Benefit					
a. Base	\$ 2,273	\$ 2,303	\$ 2,330	\$ 2,363	\$ 2,411
b. COLA ²	128	126	126	125	123
c. PRPA ²	488	518	519	491	561
d. Adjustment	0	0	0	(1)	0
e. Sick	65	67	68	70	72
f. Total	\$ 2,954	\$ 3,014	\$ 3,043	\$ 3,048	\$ 3,167
Vested Terminations (vested at termination, not refunded contributions, and not commenced benefit)					
1. Number	797	812	764	727	729
2. Average Age	51.01	51.71	52.37	52.68	53.22
3. Average Monthly Pension Benefit	\$ 1,350	\$ 1,534	\$ 1,579	\$ 1,635	\$ 1,725
Non-Vested Terminations (not vested at termination and not refunded contributions)					
1. Number	1,900	1,810	1,744	1,679	1,616
2. Average Account Balance	\$ 20,872	\$ 21,612	\$ 22,591	\$ 23,388	\$ 23,906
Total Number of Members	20,392	20,157	19,986	19,774	19,494

¹ Includes 932 male active members and 2,091 female active members.

² Calculated by taking the average of the data field, as provided by the State of Alaska, for all participants in the group.

Summary of Members Included

As of June 30, 2022	DB			DCR Tier 3	Grand Total
	Tier 1	Tier 2	Total		
Active Members					
1. Number	113	2,910	3,023	5,688	8,711
2. Average Age	64.37	52.11	52.57	42.26	45.84
3. Average Credited Service	30.22	20.49	20.85	6.60	11.55
4. Average Entry Age	34.15	31.62	31.72	35.66	34.29
5. Annual Earnings					
a. Total	\$ 11,438,370	\$ 283,915,330	\$ 295,353,700	\$ 437,727,514	\$ 733,081,214
b. Average	\$ 101,225	\$ 97,565	\$ 97,702	\$ 76,956	\$ 84,156

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

As of June 30, 2022	Tier 1	Tier 2	Total
Retirees, Disabilitants, and Beneficiaries			
1. Number	10,264	3,862	14,126
2. Average Age	74.99	66.26	72.60
3. Average Years Since Retirement	18.92	6.44	15.51
4. Average Monthly Pension Benefit			
a. Base	\$ 2,392	\$ 2,462	\$ 2,411
b. COLA	147	60	123
c. PRPA	724	127	561
d. Adjustment	0	1	0
e. Sick	70	77	72
f. Total	\$ 3,333	\$ 2,727	\$ 3,167

Summary of Members Included

As of June 30, 2022	Inactive Members					Total Inactive Members
	Active Members	Retirees	Covered Spouses	Covered Children / Dependents	Deferred	
Retiree Medical Participants						
1. Retiree Coverage Only	2,997	7,814	0	0	423	8,237
2. Retiree + Spouse	0	3,996	3,996	0	543	8,535
3. Retiree + Children / Dependents	0	197	0	131	0	328
4. Family	0	318	318	505	0	1,141
5. Total	2,997	12,325	4,314	636	966	18,241

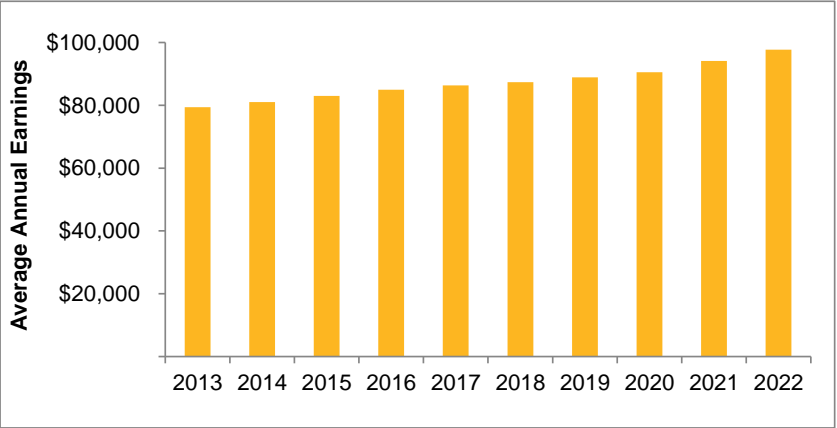
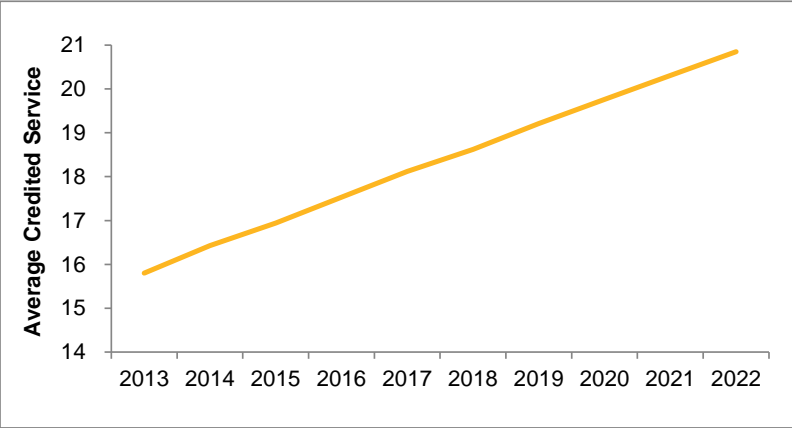
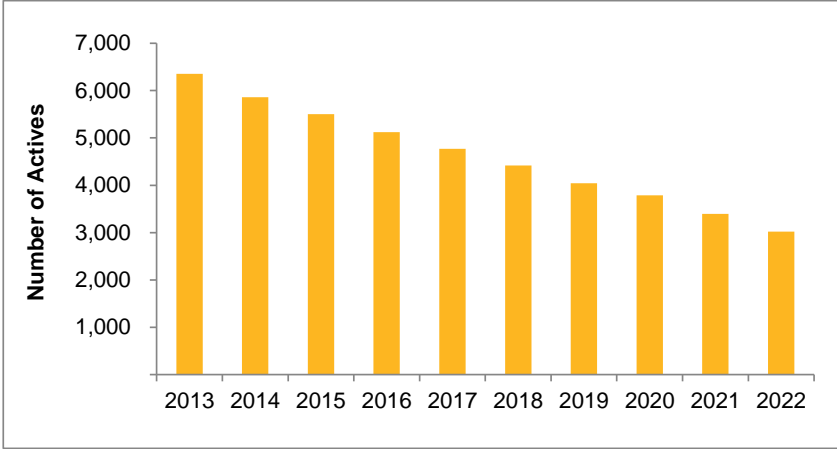
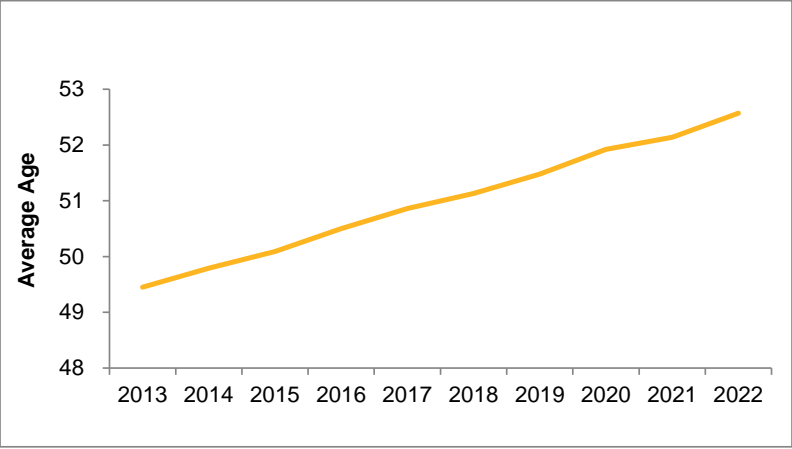
As of June 30, 2022	Retirees	Covered Spouses	Covered Children / Dependents	Deferred	Total Inactive Members
Retiree Medical Participants					
1. Pre-Medicare	2,200	1,260	636	947	5,043
2. Medicare Part A & B	9,907	3,020	0	19	12,946
3. Medicare Part B Only	218	34	0	0	252
4. Total	12,325	4,314	636	966	18,241

As of June 30, 2022	Retirees
Summary of Retiree Medical Data Received	
1. Retiree records on pension data	14,126
2. Remove duplicates on pension data	(533)
3. Valued in a different retiree healthcare plan ¹	(848)
4. Records without medical coverage	(461)
5. Medical only retirees	41
6. Total	12,325

As of June 30	2018	2019	2020	2021	2022
Retiree Medical Retirees					
1. Number	11,714	11,914	12,019	12,138	12,325
2. Average Age	71.00	71.47	72.02	72.48	72.80

¹ Each member's retiree medical benefits are valued in the plan indicated in the data from Aetna

Summary of Members Included - Active Members at June 30



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

Section 4.2: Age and Service Distribution of Active Members

Annual Earnings by Age

Age	Number	Total Annual Earnings	Average Annual Earnings
0 - 19	0	\$ 0	\$ 0
20 - 24	0	0	0
25 - 29	0	0	0
30 - 34	0	0	0
35 - 39	10	908,821	90,882
40 - 44	420	39,180,439	93,287
45 - 49	742	71,832,639	96,809
50 - 54	881	87,454,084	99,267
55 - 59	527	52,125,887	98,911
60 - 64	272	26,873,041	98,798
65 - 69	104	10,236,778	98,431
70 - 74	48	4,872,498	101,510
75+	19	1,869,513	98,395

Total 3,023 \$295,353,700 \$ 97,702

Annual Earnings by Credited Service

Years of Service	Number	Total Annual Earnings	Average Annual Earnings
0	0	\$ 0	\$ 0
1	1	53,264	53,264
2	4	326,267	81,567
3	3	102,100	34,033
4	6	422,274	70,379
0 - 4	14	\$ 903,905	\$ 64,565
5 - 9	81	6,019,002	74,309
10 - 14	192	16,193,103	84,339
15 - 19	956	90,842,789	95,024
20 - 24	1,198	120,450,569	100,543
25 - 29	428	44,602,104	104,211
30 - 34	117	12,212,111	104,377
35 - 39	26	2,870,993	110,423
40+	11	1,259,124	114,466

Total 3,023 \$295,353,700 \$ 97,702

Years of Credited Service by Age

Age	Years of Service									Total
	0 - 4	5 - 9	10 - 14	15 - 19	20 - 24	25 - 29	30 - 34	35 - 39	40+	
0 - 19	0	0	0	0	0	0	0	0	0	0
20 - 24	0	0	0	0	0	0	0	0	0	0
25 - 29	0	0	0	0	0	0	0	0	0	0
30 - 34	0	0	0	0	0	0	0	0	0	0
35 - 39	0	1	1	8	0	0	0	0	0	10
40 - 44	1	14	52	278	75	0	0	0	0	420
45 - 49	1	25	58	264	360	34	0	0	0	742
50 - 54	7	25	42	213	409	179	6	0	0	881
55 - 59	0	13	23	107	199	121	57	7	0	527
60 - 64	3	1	9	53	99	68	33	4	2	272
65 - 69	1	2	6	23	33	15	13	10	1	104
70 - 74	1	0	1	7	14	8	8	3	6	48
75+	0	0	0	3	9	3	0	2	2	19

Total 14 81 192 956 1,198 428 117 26 11 3,023

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

Section 4.3: Member Data Reconciliation

Pension

	Inactive Members						Total
	Active Members	Due a Refund	Deferred Benefits	Retired Members	Disabled Members	Bene-ficiaries	
As of June 30, 2021	3,396	1,679	727	12,459	20	1,493	19,774
Vested Terminations	(125)	0	125	0	0	0	0
Non-Vested Terminations	(4)	4	0	0	0	0	0
Refund of Contributions	0	(43)	(1)	0	0	0	(44)
Disability Retirements	0	0	0	0	0	0	0
Age Retirements	(300)	(6)	(84)	394	(4)	0	0
Deaths With Beneficiary	(4)	0	(2)	(117)	0	123	0
Deaths Without Beneficiary	(3)	(6)	(1)	(157)	0	(68)	(235)
Data Corrections	0	(2)	1	(1)	0	(20)	(22)
Transfers In/Out	9	0	0	0	0	0	9
Rehires	54	(10)	(36)	(8)	0	0	0
Pick Ups*	0	0	0	0	0	12	12
Net Change	(373)	(63)	2	111	(4)	47	(280)
As of June 30, 2022	3,023	1,616	729	12,570	16	1,540	19,494

* Pickup beneficiaries are primarily new DROs.

Healthcare

	Inactive Members					Total Inactive Members
	Active Members	Retirees	Covered Spouses	Covered Children / Dependents	Deferred	
As of June 30, 2021	3,366	12,138	4,266	661	971	18,036
Vested Terminations	(92)	0	0	0	92	92
Non-Vested Terminations	(4)	0	0	0	0	0
Refund of Contributions	0	0	0	0	0	0
Disability Retirements	(1)	1	1	0	0	2
Age Retirements	(278)	278	162	88	0	528
Deferred Retirements	0	49	24	12	(49)	36
Retired without Medical Coverage	(44)	0	0	0	44	44
Deceased	(7)	(294)	(26)	(1)	(3)	(324)
New Beneficiaries	0	63	(63)	0	0	0
Added Retiree Medical Coverage	0	93	39	18	(59)	91
Added Dependent Coverage	0	0	53	39	0	92
Dropped Retiree Medical Coverage	0	(2)	(1)	0	2	(1)
Dropped Dependent Coverage	0	0	(140)	(181)	0	(321)
Rehires	60	(5)	(3)	0	(37)	(45)
Transfers In/Out	(3)	4	2	0	5	11
Net Change	(369)	187	48	(25)	(5)	205
As of June 30, 2022	2,997	12,325	4,314	636	966	18,241

Section 4.4: Schedule of Active Member Data

Valuation Date	Number	Annual Earnings (000's)	Annual Average Earnings	Percent Increase in Average Earnings	Number of Participating Employers
June 30, 2022	3,023	\$ 295,354	\$ 97,702	3.8%	57
June 30, 2021	3,396	319,711	94,143	4.0%	56
June 30, 2020	3,789	343,146	90,564	1.9%	56
June 30, 2019	4,044	359,426	88,879	1.7%	56
June 30, 2018	4,418	386,016	87,374	1.2%	56
June 30, 2017	4,772	411,951	86,327	1.6%	57
June 30, 2016	5,123	435,222	84,954	2.4%	57
June 30, 2015	5,502	456,636	82,995	2.4%	58
June 30, 2014	5,861	474,873	81,023	2.1%	58
June 30, 2013	6,352	504,260	79,386	2.6%	58

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

Section 4.5: Active Member Payroll Reconciliation

Payroll Field	Payroll Data (000's)
a) DRB actual reported salaries FY22 in employer list	\$ 816,150
b) DRB actual reported salaries FY22 in valuation data	723,385
c) Annualized valuation data	733,081
d) Valuation payroll as of June 30, 2022	766,219
e) Rate payroll for FY23	758,938
f) Rate payroll for FY25	769,543

a) Actual reported salaries from DRB employer listing showing all payroll paid during FY22, including those who were not active as of June 30, 2022

b) Payroll from valuation data for people who are in active status as of June 30, 2022

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

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

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

f) Payroll from (e) with two years of assumed decrements and salary scale, and 0% population growth

Section 4.6: Summary of New Pension Benefit Recipients

During the Year Ending June 30	2018	2019	2020	2021	2022
Service					
1. Number	465	367	331	447	394
2. Average Age at Commencement	59.98	59.87	59.71	59.79	58.49
3. Average Monthly Pension Benefit	\$ 3,527	\$ 3,562	\$ 3,693	\$ 3,593	\$ 4,079
Survivor (including surviving spouse and DROs)					
1. Number	87	96	127	145	135
2. Average Age at Commencement	71.61	74.36	74.16	76.80	73.76
3. Average Monthly Pension Benefit	\$ 2,022	\$ 1,795	\$ 1,903	\$ 1,951	\$ 2,071
Disability					
1. Number	3	5	2	1	0
2. Average Age at Commencement	49.92	51.51	53.65	54.35	0.00
3. Average Monthly Pension Benefit	\$ 3,625	\$ 4,182	\$ 3,019	\$ 4,886	\$ 0
Total					
1. Number	555	468	460	593	529
2. Average Age at Commencement	61.75	62.75	63.67	63.94	62.39
3. Average Monthly Pension Benefit	\$ 3,292	\$ 3,206	\$ 3,196	\$ 3,194	\$ 3,567

Summary of New Pension Benefit Recipients

Average Pension Benefit Payments

	Years of Credited Service						
	0 - 4	5 - 9	10 - 14	15 - 19	20 - 24	25 - 29	30+
Period 7/1/2021 – 6/30/2022:							
Average Monthly Pension	\$ 1,073	\$ 994	\$ 1,828	\$ 2,952	\$ 3,984	\$ 4,743	\$ 6,936
Average Final Avg Salary	\$ 56,500	\$ 63,629	\$ 79,736	\$ 92,533	\$ 98,208	\$ 101,942	\$ 112,372
Number of Recipients	5	19	15	69	139	101	46
Period 7/1/2020 – 6/30/2021:							
Average Monthly Pension	\$ 451	\$ 764	\$ 1,509	\$ 2,684	\$ 3,625	\$ 4,659	\$ 6,090
Average Final Avg Salary	\$ 43,545	\$ 54,444	\$ 71,764	\$ 88,437	\$ 94,909	\$ 97,881	\$ 98,847
Number of Recipients	8	24	33	83	142	112	46
Period 7/1/2019 – 6/30/2020:							
Average Monthly Pension	\$ 243	\$ 1,054	\$ 1,647	\$ 2,600	\$ 3,616	\$ 4,874	\$ 6,772
Average Final Avg Salary	\$ 35,203	\$ 70,014	\$ 76,621	\$ 86,341	\$ 91,619	\$ 96,657	\$ 107,454
Number of Recipients	8	19	26	72	90	78	40
Period 7/1/2018 – 6/30/2019:							
Average Monthly Pension	\$ 334	\$ 891	\$ 1,540	\$ 2,760	\$ 3,567	\$ 4,666	\$ 6,777
Average Final Avg Salary	\$ 21,317	\$ 57,735	\$ 72,728	\$ 85,580	\$ 92,422	\$ 96,096	\$ 104,880
Number of Recipients	4	23	39	87	93	85	41
Period 7/1/2017 – 6/30/2018:							
Average Monthly Pension	\$ 204	\$ 899	\$ 1,583	\$ 2,583	\$ 3,422	\$ 4,580	\$ 6,083
Average Final Avg Salary	\$ 34,164	\$ 56,061	\$ 75,433	\$ 85,174	\$ 90,449	\$ 94,803	\$ 102,076
Number of Recipients	5	21	61	85	109	130	57
Period 7/1/2016 – 6/30/2017:							
Average Monthly Pension	\$ 426	\$ 795	\$ 1,626	\$ 2,433	\$ 3,549	\$ 4,536	\$ 6,351
Average Final Avg Salary	\$ 37,851	\$ 56,206	\$ 75,706	\$ 81,394	\$ 91,313	\$ 95,651	\$ 101,423
Number of Recipients	10	22	60	75	100	64	48
Period 7/1/2015 – 6/30/2016:							
Average Monthly Pension	\$ 245	\$ 1,002	\$ 1,535	\$ 2,540	\$ 3,445	\$ 4,472	\$ 6,168
Average Final Avg Salary	\$ 33,030	\$ 59,102	\$ 74,725	\$ 85,087	\$ 89,590	\$ 91,468	\$ 98,446
Number of Recipients	11	31	82	69	105	74	54
Period 7/1/2014 – 6/30/2015:							
Average Monthly Pension	\$ 349	\$ 1,041	\$ 1,342	\$ 2,205	\$ 3,267	\$ 4,220	\$ 5,900
Average Final Avg Salary	\$ 30,580	\$ 66,389	\$ 66,444	\$ 75,510	\$ 88,520	\$ 90,069	\$ 96,693
Number of Recipients	11	33	70	67	137	125	94
Period 7/1/2013 – 6/30/2014:							
Average Monthly Pension	\$ 235	\$ 904	\$ 1,435	\$ 2,398	\$ 3,016	\$ 4,073	\$ 7,485
Average Final Avg Salary	\$ 32,410	\$ 57,124	\$ 63,001	\$ 75,489	\$ 84,962	\$ 93,746	\$ 111,694
Number of Recipients	8	31	31	28	22	18	12
Period 7/1/2012 – 6/30/2013:							
Average Monthly Pension	\$ 253	\$ 1,030	\$ 1,496	\$ 2,450	\$ 3,281	\$ 4,384	\$ 6,052
Average Final Avg Salary	\$ 34,796	\$ 66,429	\$ 70,981	\$ 79,364	\$ 84,530	\$ 89,012	\$ 94,842
Number of Recipients	10	57	67	90	101	79	64

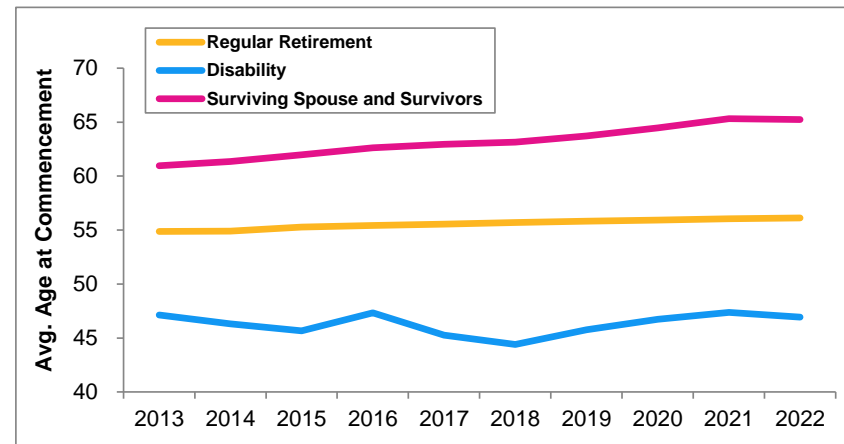
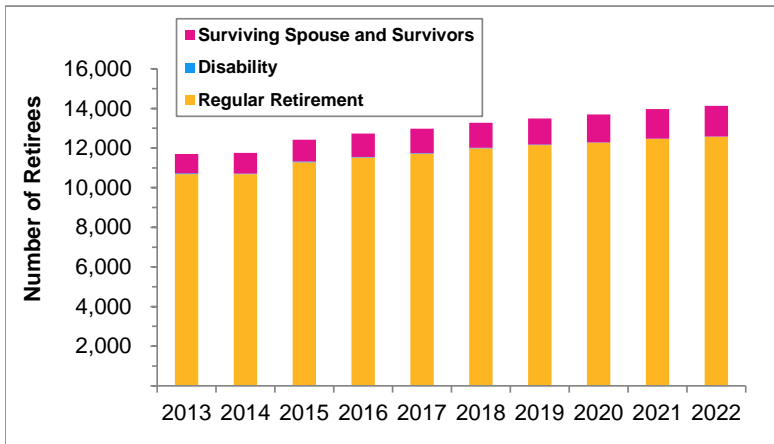
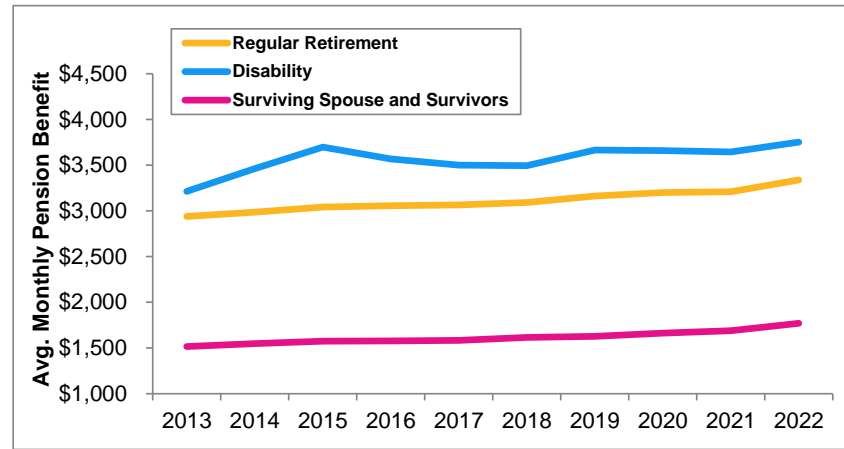
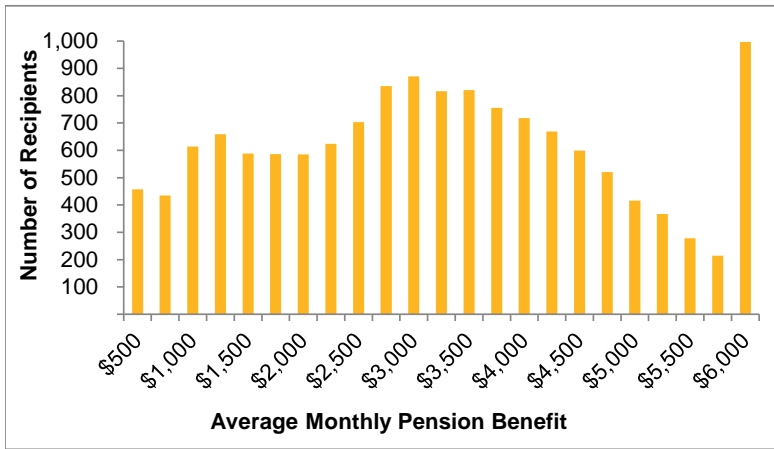
“Average Monthly Pension” includes postretirement pension adjustments and cost-of-living increases.

Beneficiaries are not included in the table above.

Section 4.7: Summary of All Pension Benefit Recipients

As of June 30	2018	2019	2020	2021	2022
Service					
1. Number, Fiscal Year Start	11,716	11,988	12,147	12,267	12,459
2. Net Change	272	159	120	192	111
3. Number, Fiscal Year End	11,988	12,147	12,267	12,459	12,570
4. Average Age at Commencement	55.70	55.82	55.93	56.05	56.12
5. Average Current Age	70.50	70.99	71.50	71.85	72.20
6. Average Monthly Pension Benefit	\$ 3,093	\$ 3,161	\$ 3,199	\$ 3,210	\$ 3,338
Surviving Spouse (including DROs)					
1. Number, Fiscal Year Start	1,237	1,261	1,315	1,400	1,493
2. Net Change	24	54	85	93	47
3. Number, Fiscal Year End	1,261	1,315	1,400	1,493	1,540
4. Average Age at Commencement	63.16	63.73	64.49	65.32	65.24
5. Average Current Age	73.90	74.65	75.26	75.97	76.13
6. Average Monthly Pension Benefit	\$ 1,618	\$ 1,629	\$ 1,665	\$ 1,688	\$ 1,770
Survivor (other than spouse)					
1. Number, Fiscal Year Start	3	3	3	2	0
2. Net Change	0	0	(1)	(2)	0
3. Number, Fiscal Year End	3	3	2	0	0
4. Average Age at Commencement	53.85	53.85	53.94	0.00	0.00
5. Average Current Age	60.65	61.65	61.56	0.00	0.00
6. Average Monthly Pension Benefit	\$ 749	\$ 765	\$ 705	\$ 0	\$ 0
Disability					
1. Number, Fiscal Year Start	27	25	26	20	20
2. Net Change	(2)	1	(6)	0	(4)
3. Number, Fiscal Year End	25	26	20	20	16
4. Average Age at Commencement	44.40	45.75	46.74	47.37	46.92
5. Average Current Age	50.02	51.08	51.73	52.85	53.23
6. Average Monthly Pension Benefit	\$ 3,494	\$ 3,666	\$ 3,658	\$ 3,643	\$ 3,752
Total					
1. Number, Fiscal Year Start	12,983	13,277	13,491	13,689	13,972
2. Net Change	294	214	198	283	154
3. Number, Fiscal Year End	13,277	13,491	13,689	13,972	14,126
4. Average Age at Commencement	56.39	56.56	56.79	57.02	57.09
5. Average Current Age	70.78	71.30	71.85	72.26	72.60
6. Average Monthly Pension Benefit	\$ 2,954	\$ 3,014	\$ 3,043	\$ 3,048	\$ 3,167

Summary of All Pension Benefit Recipients



Summary of All Pension Benefit Recipients

Distribution of Annual Pension Benefits for Benefit Recipients

Annual Pension Benefit by Age

Age	Number	Total Annual Pension Benefit	Average Annual Pension Benefit
0 - 19	0	\$ 0	\$ 0
20 - 24	0	0	0
25 - 29	0	0	0
30 - 34	0	0	0
35 - 39	0	0	0
40 - 44	6	185,086	30,848
45 - 49	66	2,589,686	39,238
50 - 54	282	12,961,903	45,964
55 - 59	698	31,141,008	44,615
60 - 64	1,599	61,948,984	38,742
65 - 69	2,624	97,313,596	37,086
70 - 74	3,329	118,456,102	35,583
75+	5,522	212,304,175	38,447
Total	14,126	\$536,900,540	\$ 38,008

Annual Pension Benefit by Years Since Commenced

Years Since Comm.	Number	Total Annual Pension Benefit	Average Annual Pension Benefit
0	468	\$ 19,871,349	\$ 42,460
1	533	21,957,990	41,197
2	464	18,370,535	39,592
3	467	18,712,392	40,069
4	482	20,163,296	41,833
0 - 4	2,414	\$ 99,075,562	\$ 41,042
5 - 9	2,515	97,855,022	38,909
10 - 14	2,151	77,048,086	35,820
15 - 19	2,019	65,415,464	32,400
20 - 24	2,069	73,529,769	35,539
25 - 29	1,665	67,904,294	40,783
30 - 34	674	28,520,266	42,315
35 - 39	514	23,990,419	46,674
40+	105	3,561,658	33,921
Total	14,126	\$536,900,540	\$ 38,008

Years Since Commencement by Age

Age	Years Since Commencement									Total
	0 - 4	5 - 9	10 - 14	15 - 19	20 - 24	25 - 29	30 - 34	35 - 39	40+	
0 - 19	0	0	0	0	0	0	0	0	0	0
20 - 24	0	0	0	0	0	0	0	0	0	0
25 - 29	0	0	0	0	0	0	0	0	0	0
30 - 34	0	0	0	0	0	0	0	0	0	0
35 - 39	0	0	0	0	0	0	0	0	0	0
40 - 44	5	1	0	0	0	0	0	0	0	6
45 - 49	56	9	1	0	0	0	0	0	0	66
50 - 54	231	46	3	0	2	0	0	0	0	282
55 - 59	430	195	59	13	0	1	0	0	0	698
60 - 64	751	458	240	123	23	3	1	0	0	1,599
65 - 69	408	911	666	378	212	48	0	0	1	2,624
70 - 74	216	554	732	851	632	298	41	2	3	3,329
75+	317	341	450	654	1,200	1,315	632	512	101	5,522
Total	2,414	2,515	2,151	2,019	2,069	1,665	674	514	105	14,126

Section 4.8: Pension Benefit Recipients by Type of Benefit and Option Elected

Amount of Monthly Pension Benefit	Number of Recipients	Type of Pension Benefit			Option Selected			
		1	2	3	1	2	3	4
\$ 1 – 300	231	156	75	0	143	43	39	6
301 – 600	387	252	135	0	230	62	74	21
601 – 900	614	471	143	0	340	123	118	33
901 – 1,200	802	631	171	0	469	153	140	40
1,201 – 1,500	721	555	166	0	413	152	136	20
1,501 – 1,800	708	524	184	0	405	148	132	23
1,801 – 2,100	705	539	166	0	398	134	152	21
2,101 – 2,400	813	681	132	0	381	192	207	33
2,401 – 2,700	927	830	97	0	419	225	255	28
2,701 – 3,000	1,051	968	80	3	472	251	294	34
3,001 – 3,300	991	923	64	4	418	232	313	28
3,301 – 3,600	958	924	32	2	371	231	330	26
3,601 – 3,900	886	855	31	0	365	187	310	24
3,901 – 4,200	811	793	16	2	324	173	284	30
4,200+	3,521	3,468	48	5	1,369	652	1,380	120
Total	14,126	12,570	1,540	16	6,517	2,958	4,164	487

Type of Pension Benefit

1. Regular Retirement
2. Survivor Payment
3. Disability

Option Selected

1. Whole Life Annuity
2. 75% Joint and Contingent Annuity
3. 50% Joint and Contingent Annuity
4. 66 2/3% Joint and Survivor Annuity

Section 4.9: Pension Benefit Recipients Added to and Removed from Rolls

Year Ended	Added to Rolls		Removed from Rolls		Rolls at End of Year		Percent Increase in Annual Pension Benefits	Average Annual Pension Benefit
	No. ¹	Annual Pension Benefits ¹	No. ¹	Annual Pension Benefits ¹	No.	Annual Pension Benefits		
June 30, 2022	529	\$ 22,643,316	375	\$ (3,174,745)	14,126	\$ 536,900,540	5.1%	\$ 38,008
June 30, 2021	593	22,728,504	310	11,391,465	13,972	511,082,479	2.3%	36,579
June 30, 2020	460	17,641,920	262	5,527,983	13,689	499,745,440	2.5%	36,507
June 30, 2019	468	18,004,896	254	871,684	13,491	487,631,503	3.6%	36,145
June 30, 2018	555	21,924,986	261	6,926,129	13,277	470,498,291	3.3%	35,437
June 30, 2017	487	17,151,684	230	7,736,025	12,983	455,499,434	2.1%	35,084
June 30, 2016	530	18,364,581	222	6,144,109	12,726	446,083,775	2.8%	35,053
June 30, 2015	888	34,120,658	220	3,531,501	12,418	433,863,303	7.6%	34,938
June 30, 2014	226	5,964,256	181	(1,150,187)	11,750	403,274,146	1.8%	34,321
June 30, 2013	576	19,387,542	172	1,652,575	11,705	396,159,703	4.7%	33,845

¹ Numbers are estimated, and include other internal transfers.

Section 5: Basis of the Actuarial Valuation

Section 5.1: Summary of Plan Provisions

Effective Date

July 1, 1955, with amendments through June 30, 2022. Chapter 97, 1990 Session Laws of Alaska, created a two-tier retirement system. Members who were first hired under TRS before July 1, 1990 (Tier 1) are eligible for different benefits than members hired after June 30, 1990 (Tier 2). Chapter 9, 2005 Session Laws of Alaska, closed the plan to new members hired after June 30, 2006.

Administration of Plan

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

Prior to June 30, 2005, the Teachers' Retirement Board prescribed policies and adopted regulations and performed other activities necessary to carry out the provisions of the system. The Alaska State Pension Investment Board, Department of Revenue, Treasury Division was responsible for investing TRS funds.

On July 27, 2005, Senate Bill 141, enacted as Chapter 9, 2005 Session laws of Alaska, replaced the Teachers' Retirement Board and the Alaska State Pension Investment Board with the Alaska Retirement Management Board.

Employers Included

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

Membership

Membership in TRS is mandatory for the following employees hired before July 1, 2006:

- certificated full-time and part-time elementary and secondary teachers, certificated school nurses, and certificated employees in positions requiring teaching certificates;
- positions requiring a teaching certificate as a condition of employment in the Department of Education and Early Development and the Department of Labor and Workforce Development;
- University of Alaska full-time and part-time teachers, and full-time administrative employees in positions requiring academic standing if approved by the TRS administrator;
- certain full-time or part-time teachers of Alaska Native language or culture who have elected to be covered under TRS;
- members on approved sabbatical leave under AS 14.20.310;
- certain State legislators who have elected to be covered under TRS; and
- a teacher who has filed for worker's compensation benefits due to an on-the-job assault and who, as a result of the physical injury, is placed on leave without pay.

Employees participating in the University of Alaska's Optional Retirement Plan or other retirement plans funded by the State are not covered by TRS.

Employees who work half-time in TRS and Public Employees' Retirement System (PERS) simultaneously are eligible for half-time TRS and PERS credit.

Senate Bill 141, signed into law on July 27, 2005, closes the plan effective July 1, 2006 to new members first hired on or after July 1, 2006.

Credited Service

TRS members receive a year of membership credit if they work a minimum of 172 days during the school year (July 1 through June 30 of the following year). Fractional credit is determined based on the number of days worked. Part-time members who work at least 50% of full-time receive membership credit for each day in proportion to full-time service. Credit is granted for all Alaskan public school service.

Members may claim other types of service, including:

- Outside teaching service in out-of-state schools or Alaska private schools (not more than ten years may be claimed);
- Military service (not more than five years of military service or ten years of combined outside and military service may be claimed);
- Alaska Bureau of Indian Affairs (BIA) service;
- Retroactive Alaskan service that was not creditable at the time it occurred, but later became creditable because of legislative change;
- Unused sick leave credit after members retire; and
- Leave of absence without pay.

Except for retroactive Alaska service that occurred before July 1, 1955, and unused sick leave, contributions are required for all claimed service.

Members receiving TRS disability benefits continue to earn TRS credit while disabled.

Survivors who are receiving occupational death benefits continue to earn TRS service credit while occupational survivor benefits are being paid.

Employer Contributions

TRS employers contribute the amounts required, in addition to employees' contributions, to fund the benefits of the system.

The normal cost rate is a uniform rate for all participating employers (less the value of members' contributions).

The past service rate is a uniform rate for all participating employers to amortize the unfunded past service liability with payments that are a level percentage of payroll amount over a closed 25-year period starting June 30, 2014. Effective June 30, 2018, each future year's unfunded service liability is separately amortized on a level percent of pay basis over 25 years.

Employer rates cannot be less than the normal cost rate.

Pursuant to AS14.25.070 effective July 1, 2008, each TRS employer will pay a simple uniform contribution rate of 12.56% of member payroll.

Additional State Contributions

Pursuant to AS14.25.085 effective July 1, 2008, the State shall contribute an amount (in addition to the State contribution as an employer) that, when combined with the employer contribution of 12.56%, will be sufficient to pay the total contribution rate adopted by the Board.

Member Contributions

Mandatory Contributions

Members are required to contribute 8.65% of their base salaries. Members' contributions are deducted from gross salaries before federal income taxes are withheld.

Contributions for Claimed Service

Member contributions are also required for most of the claimed service described above.

1% Supplemental Contributions

Members who joined the system before July 1, 1982 and elected to participate in the supplemental contributions provision are required to contribute an additional 1% of their salaries. Supplemental contributions are deducted from gross salaries after federal income taxes are withheld. Under the supplemental provision, an eligible spouse or dependent child will receive a survivor's allowance or spouse's pension if the member dies (see below). Supplemental contributions are only refundable upon death (see below).

Interest

Members' contributions earn 4.5% interest, compounded annually on June 30.

Refund of Contributions

Terminated members may receive refunds of their member contribution accounts which includes their mandatory contributions, indebtedness payments, and interest earned. Terminated members' accounts may be attached to satisfy claims under Alaska Statute 09.38.065, federal income tax levies, and valid Qualified Domestic Relations Orders.

Reinstatement of Contributions

Refunded accounts and the corresponding TRS service may be reinstated upon reemployment in TRS prior to July 1, 2010. Interest accrues on refunds until paid in full or members retire.

Retirement Benefits

Eligibility

- a. Members, including deferred vested members, are eligible for normal retirement at age 55 or early retirement at age 50 if they were hired before July 1, 1990 (Tier 1), and age 60 or early retirement at age 55 if they were hired on or after July 1, 1990 (Tier 2). Additionally, they must have at least:
 - (i) eight years of paid-up membership service;
 - (ii) 15 years of paid-up creditable service, the last five years of which are membership service, and they were first hired under TRS before July 1, 1975;
 - (iii) five years of paid-up membership service and three years of paid-up Alaska Bureau of Indian Affairs service;
 - (iv) 12 years of combined part-time and full-time paid-up membership service;
 - (v) two years of paid-up membership service if they are vested in PERS; or
 - (vi) one year of paid-up membership service if they are retired from PERS.
- b. Members may retire at any age when they have:
 - (i) 25 years of paid-up creditable service, the last five years of which are membership service;
 - (ii) 20 years of paid-up membership service;
 - (iii) 20 years of combined paid-up membership and Alaska Bureau of Indian Affairs service, the last five years of which are membership service; or
 - (iv) 20 years of combined paid-up part-time and full-time membership service.

Benefit Type

Lifetime benefits are paid to members. Eligible members may receive normal, unreduced benefits when they (1) reach normal retirement age and complete the service required; or (2) satisfy the minimum service requirements to retire at any age under (b) above. Members may receive early, actuarially reduced benefits when they reach early retirement age and complete the service required.

Members may select joint and survivor options and a last survivor option. Under these options and early retirement, benefits are actuarially adjusted so that members receive the actuarial equivalents of their normal benefit amounts.

Benefit Calculations

Retirement benefits are calculated by multiplying the average base salary (ABS) times the total TRS service times the percentage multiplier. The ABS is determined by averaging the salaries earned during the three highest school years. Members must earn at least 115 days of credit in a school year to include it in the ABS calculation. TRS pays a minimum benefit of \$25.00 per month for each year of service when the calculated benefit is less.

The percentage multipliers are 2% for the first 20 years and 2.5% for all remaining service. Service before July 1, 1990 is calculated at 2%.

Salaries are subject to compensation limits under IRC 401(a)(17) for members first hired on or after July 1, 1996. Retirement benefit amounts are subject to IRC 415(b) limits regardless of hire date.

Indebtedness

Members who terminate and refund their TRS contributions are not eligible to retire unless they return to TRS employment and pay back their refunds plus interest or accrue additional service which qualifies them for retirement. TRS refunds must be paid in full if the corresponding service is to count toward the minimum service requirements for retirement. Refunded TRS service is included in total service for the purpose of calculating retirement benefits. However, when refunds are not completely paid before retirement, benefits are actuarially reduced for life. Indebtedness balances may also be created when a member purchases qualified claimed service.

Reemployment of Retired Members

Retirees who return to work in a permanent full-time or part-time TRS position after a Normal Retirement are eligible to return under the Standard Option.

Under the Standard Option, retirement and retiree healthcare benefits are suspended while retired members are reemployed under TRS. During reemployment, members earn additional TRS service and contributions are withheld from their wages.

Members retired under the Retirement Incentive Programs (RIPs) who return to employment will:

- a. forfeit the three years of incentive credits that they received;
- b. owe TRS 110% of the benefits that they received under the RIP, which may include costs for health insurance, excluding amounts that they paid to participate; and
- c. be charged 7% interest from the date that they are reemployed until their indebtedness is paid in full or they retire again. If the indebtedness is not completely paid, future benefits will be actuarially reduced for life.

Employers make contributions to the unfunded liability of the plan on behalf of rehired retired members at the rate the employer is making contributions to the unfunded liability of the plan for other members.

Postemployment Healthcare Benefits

When pension benefits begin, major medical benefits are provided by TRS to (1) all employees first hired before July 1, 1990 (Tier 1) and their surviving spouses and (2) members and their surviving spouses who have 25 years of membership service, are disabled or age 60 or older, regardless of their initial hire dates. Employees first hired after June 30, 1990 (Tier 2) and their surviving spouses may receive major medical benefits prior to age 60 by paying premiums.

Medical, prescription drug, dental, vision, and audio coverage is provided through the AlaskaCare Retiree Health Plan. Health plan provisions do not vary by retirement tier or age, except for Medicare coordination. Participants in dental, vision, and audio coverage pay a full self-supporting rate and those benefits are not included in this valuation.

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.

Surviving spouses continue coverage only if a pension payment form that provided survivor benefits was elected. Alternate payees (i.e. individuals who are the subject of a domestic relations order or DRO) are allowed to participate in the plan, but must pay the full cost.

Where premiums are required prior to age 60 (Tier 2), the valuation bases this payment upon the age of the retiree.

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.

Disability Benefits

Monthly disability benefits are paid to permanently disabled members until they die, recover, or become eligible for normal retirement. To be eligible, members must have at least five years of paid-up membership service.

Disability benefits are equal to 50% of the member's base salary at the time of disability. The benefit is increased by 10% of the base salary for each minor child, up to a maximum of 40%. Members continue to earn TRS service until eligible for normal retirement.

Members are appointed to normal retirement on the first of the month after they become eligible.

Death Benefits

Death benefits may be paid to a spouse, dependent children, or a designated beneficiary upon the death of a member.

Occupational Death

When an active member dies from occupational causes, a monthly survivor's pension may be paid to the spouse or to the member's dependent children if there is no spouse, unless benefits are payable under the supplemental contributions provision. The pension equals 40% of the member's base salary on the date of death or disability. On the member's normal retirement date, the benefit converts to a normal retirement benefit based on the member's average base salary on the date of death and TRS service, including service accumulated from the date of death to normal retirement date.

If there is no surviving spouse or dependent children, the designated beneficiary receives the member's contribution account, which includes mandatory contributions, supplemental contributions, indebtedness payments, and interest earned. The designated beneficiary also receives a lump sum payment equal to \$1,000 plus \$100 for each year of TRS service, up to a maximum of \$3,000.

Non-Occupational Death

When a vested member dies from non-occupational causes, the surviving spouse may elect to receive a monthly 50% joint and survivor benefit or a lump sum benefit (see below), unless benefits are payable under the supplemental contributions provision. The monthly benefit is based on the member's average base salary and TRS service accrued on the date of death.

Upon the death of an active member who has less than one year of service or an inactive member who is not vested, the designated beneficiary receives the member's contribution account, which includes mandatory contributions, supplemental contributions, indebtedness payments, and interest earned. If the member has more than one year of TRS service or is vested, the designated beneficiary also receives a lump sum payment equal to \$1,000 plus \$100 for each year of TRS service, up to a maximum of \$3,000. An additional \$500 may be payable if the member is survived by dependent children.

Supplemental Contributions Provision

Members are eligible for supplemental coverage if they joined TRS before July 1, 1982, elected to participate in the supplemental provision, and made the required contributions. A survivor's allowance or spouse's pension may be payable if the member made supplemental contributions for at least one year and dies while in membership service or while disabled under TRS. In addition, the allowance and pension may be payable if the member dies while retired or in deferred vested status if supplemental contributions were made for at least five years.

Survivor's Allowance

If the member is survived by dependent children, the surviving spouse and dependent children are entitled to a survivor's allowance. The allowance for the spouse is equal to 35% of the member's base salary at the time of death or disability, plus 10% for each dependent child up to a maximum of 40%. The allowance terminates and a spouse's pension becomes payable when there is no longer an eligible dependent child.

Spouse's Pension

A monthly spouse's pension is payable to the surviving spouse if there are no dependent children. The spouse's pension is equal to 50% of the retirement benefit that the deceased member was receiving or the unreduced retirement benefit that the deceased member would have received if retired at the time of death. The spouse's pension begins on the first of the month after the member's death or termination of the survivor's allowance.

Death After Retirement

If a joint and survivor option was selected at retirement, the eligible spouse receives continuing, lifetime monthly benefits after the member dies. A survivor's allowance or spouse's pension may be payable if the member participated in the supplemental contributions provision. If a joint and survivor option was not selected and benefits are not payable under the supplemental contributions provision, the designated beneficiary receives the member's contribution account, less any benefits already paid and the member's last benefit check.

Postretirement Pension Adjustments

Postretirement pension adjustments (PRPAs) are granted annually to eligible benefit recipients when the consumer price index (CPI) for urban wage earners and clerical workers for Anchorage increases during the preceding calendar year. PRPAs are calculated by multiplying the recipient's base benefit including past PRPAs, but excluding the Alaska COLA, times:

- a. The lesser of 75% of the CPI increase in the preceding calendar year or 9% if the recipient is at least age 65 or on TRS disability; or
- b. The lesser of 50% of the CPI increase in the preceding calendar year or 6% if the recipient is at least age 60, or under age 60 if the recipient has been receiving benefits for at least eight years.

Ad hoc PRPAs, up to a maximum of 4%, may be granted to eligible recipients who were first hired before July 1, 1990 (Tier 1) if the CPI increases and the funded ratio is at least 105%.

In a year where an ad hoc PRPA is granted, eligible recipients will receive the higher of the two calculations.

Alaska Cost-of-Living Allowance (COLA)

Eligible benefit recipients who reside in Alaska receive an Alaska COLA equal to 10% of their base benefits. The following benefit recipients are eligible:

- a. members who were first hired under TRS before July 1, 1990 (Tier 1) and their survivors;
- b. members who were first hired under TRS after June 30, 1990 (Tier 2) and their survivors if they are at least age 65; and
- c. all disabled members.

Changes in Benefit Provisions Valued Since the Prior Valuation

There were no changes in benefit provisions since the prior valuation.

Section 5.2: 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.

Effective June 30, 2018, the Board adopted a layered UAAL amortization method: Layer #1 equals the sum of (i) the UAAL at June 30, 2018 based on the 2017 valuation, plus (ii) the FY18 experience gain/loss. Layer #1 is amortized over the remainder of the 25-year closed period that was originally established in 2014¹. Layer #2 equals the change in UAAL at June 30, 2018 due to the experience study and EGWP implementation. Layer #2 is amortized over a separate closed 25-year period starting in 2018. Future layers will be created each year based on the difference between actual and expected UAAL occurring that year, and will be amortized over separate closed 25-year periods. The UAAL amortization continues to be on a level percent of pay basis. State statutes allow the contribution rate to be determined on payroll for all members, defined benefit and defined contribution member payroll combined.

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

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

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

¹ Layer #1 is referred to as "initial amount" in Sections 1.2 and 1.3.

Valuation of Assets

The actuarial asset value was reinitialized to equal Fair Value of Assets as of June 30, 2014. Beginning in FY15, the asset 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.

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 TRS postemployment healthcare plan. Note that the methodology reflects the results of our annual 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 both PERS and TRS.

	Medical		Prescription Drugs (Rx)	
	Pre-Medicare	Medicare	Pre-Medicare	Medicare
A. Fiscal 2021				
1. Incurred Claims	\$ 196,566,470	\$ 86,512,435	\$ 60,691,609	\$ 207,822,858
2. Adjustments for Rx Rebates and COVID (Medical only)	<u>7,862,659</u>	<u>3,460,497</u>	<u>(9,832,041)</u>	<u>(29,718,669)</u>
3. Net incurred claims	\$ 204,429,129	\$ 89,972,933	\$ 50,859,568	\$ 178,104,189
4. 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	\$ 197,733,173	\$ 98,249,082	\$ 64,076,270	\$ 230,832,315
2. Adjustments for Rx Rebates	<u>0</u>	<u>0</u>	<u>(12,879,330)</u>	<u>(31,162,363)</u>
3. Net incurred claims	\$ 197,733,173	\$ 98,249,082	\$ 51,196,940	\$ 199,669,953
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

	Medical		Prescription Drugs (Rx)	
	Pre-Medicare	Medicare	Pre-Medicare	Medicare
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				
1. Rate at Average Age C x D	\$ 12,908	\$ 2,124	\$ 3,088	\$ 4,403
2. Average Aging Factor	0.822	1.279	0.832	1.127
3. Rate at Age 65 (1) / (2)	<u>\$ 15,706</u>	\$ 1,661	<u>\$ 3,712</u>	<u>\$ 3,907</u>

F. Development of Part A&B and Part B Only Cost from Pooled Rate Above	
1. Part A&B Average Enrollment	48,233
2. Part B Only Average Enrollment	465
3. Total Medicare Average Enrollment B(4)	48,698
4. 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 (2) / (3) x (4) + (1) / (3) x 1.00	1.022
6. Medicare per capita cost for all participants: E(3)	\$ 1,661
7. Cost for those eligible for Parts A&B: (6) / (5)	<u>\$ 1,625</u>
8. Cost for those eligible for Part B only: (7) x (4)	<u>\$ 5,363</u>

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 5.3: 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.

Investment Return

7.25% per year, net of investment expenses.

Salary Scale

Salary scale rates based on the 2017-2021 actual experience (see Table 1).

Inflation – 2.50% per year.

Productivity – 0.25% per year.

Payroll Growth

2.75% per year (inflation + productivity).

Total Inflation

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

Mortality (Pre-Commencement)

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

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

Deaths are assumed to result from occupational causes 15% of the time.

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: 97% of male and 97% of female rates of the Pub-2010 Teachers Retiree table, amount-weighted, and projected with MP-2021 generational improvement.
- Healthcare: 98% of male and 100% of female rates of the Pub-2010 Teachers Retiree table, 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: 100% of male and 95% of female rates of the Pub-2010 Contingent Survivor table, amount-weighted, and projected with MP-2021 generational improvement.
- Healthcare: 100% of male and 94% of female rates of the Pub-2010 Contingent Survivor table, headcount-weighted, and projected with MP-2021 generational improvement.

Turnover

Select and ultimate rates based on the 2017-2021 actual experience (see Table 2).

Disability

No changes to the incidence rates from the prior valuation due to insufficient 2017-2021 actual experience (see Table 3). 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 based on the 2017-2021 actual experience (see Table 4).

Deferred vested members are assumed to retire at their earliest unreduced retirement date.

The modified cash refund annuity is valued as a three-year certain and life annuity.

Spouse Age Difference

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

Percent Married for Pension

85% of male members and 75% 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. 60% of male members and 50% of female members are assumed to be married and cover a dependent spouse.

Dependent Children

- Pension: For the participants who are assumed to be married, those between ages 25 and 45 are assumed to have two dependent children.
- 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.

Active Data Adjustment

No adjustment was made to reflect participants who terminate employment before the valuation date and are subsequently rehired after the valuation date.

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. For projections, the percent increase was assumed to remain constant in future years.

- Pension: \$3,626,000
- Healthcare: \$1,940,000

Rehire Assumption

The Normal Cost used for determining contribution rates and in the projections includes a rehire assumption to account for anticipated rehires. The Normal Cost shown in the report includes the following assumptions based on the four years of rehire loss experience through June 30, 2021. For projections, these assumptions were assumed to grade to zero uniformly over a 20-year period.

- Pension: 12.00%
- Healthcare: 0.20%

Re-Employment Option

All re-employed retirees are assumed to return to work under the Standard Option.

Service

Total credited service is provided by the State. This service is assumed to be the only service that should be used to calculate benefits. Additionally, the State provides claimed service (including Bureau of Indian Affairs Service). Claimed service is used for vesting and eligibility purposes as described in Section 5.1.

Part-Time Service

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

Unused Sick Leave

5.25 days of unused sick leave for each year of service are assumed to be available to be credited once the member is retired, terminates, or dies.

Final Average Earnings

Final Average Earnings is provided on the data for active members. This amount is used as a minimum in the calculation of the average earnings in the future.

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.

Alaska Cost-of-Living Adjustments (COLA)

Of those benefit recipients who are eligible for the Alaska COLA, 60% are assumed to remain in Alaska and receive the COLA.

Postretirement Pension Adjustment (PRPA)

50% and 75% of assumed inflation, or 1.25% and 1.875% respectively, is valued for the annual automatic PRPA as specified in the statute.

Healthcare Participation

100% of system paid members and their spouses are assumed to elect healthcare benefits as soon as they are eligible. 20% of non-system paid members and their spouses are assumed to elect healthcare benefits as soon as they are eligible.

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.

	Medical	Prescription 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.

Retired Member Contributions for Medical Benefits

Currently contributions are required for TRS members who are under age 60 and have less than 25 years of service. Eligible Tier 1 members are exempt from contribution requirements. Annual FY23 contributions based on monthly rates shown below for calendar 2023 are assumed based on the coverage category for current retirees. The retiree only rate shown is used for current active and inactive members and spouses in Tier 2 who are assumed to retire prior to age 60 with less than 25 years of service and who are not disabled. For dependent children, we value 1/3 of the annual retiree contribution to estimate the per child rate based on the assumed number of children in rates where children are covered.

Coverage Category	Calendar 2023 Annual Contribution	Calendar 2023 Monthly Contribution	Calendar 2022 Monthly Contribution
Retiree Only	\$ 8,448	\$ 704	\$ 704
Retiree and Spouse	\$ 16,896	\$ 1,408	\$ 1,408
Retiree and Child(ren)	\$ 11,940	\$ 995	\$ 995
Retiree and Family	\$ 20,388	\$ 1,699	\$ 1,699
Composite	\$ 12,552	\$ 1,046	\$ 1,046

Trend Rate for Retired Member Medical Contributions

The table below shows the rate used to project the retired member medical contributions from the shown fiscal year to the next fiscal year. For example, 4.0% is applied to the FY23 retired member medical contributions to get the FY24 retired member medical contributions.

Trend Assumptions	
FY23+	4.0%

Graded trend rates for retired member medical contributions are consistent with the rates used for the June 30, 2021 valuation. Actual FY23 retired member medical contributions are reflected in the valuation.

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.

The healthcare per capita claims cost assumption is updated annually as described in Section 5.2. The amounts included in the Normal Cost for administrative expenses were changed from \$3,217,000 to \$3,626,000 for pension, and from \$1,604,000 to \$1,940,000 for healthcare (based on the most recent two years of actual administrative expenses paid from plan assets).

Table 1: Salary Scale

Years of Service	Percent Increase
< 1	7.00%
1	6.50%
2	6.00%
3	5.75%
4	5.50%
5	5.25%
6	5.00%
7	4.75%
8	4.50%
9	4.25%
10	4.00%
11	3.75%
12	3.50%
13	3.45%
14	3.35%
15	3.25%
16	3.15%
17	3.05%
18	3.00%
19	2.95%
20+	2.85%

Table 2: Turnover Rates

Select Rates during the First 8 Years of Employment

Years of Service	Male	Female
< 1	20.40%	17.00%
1	20.40%	17.00%
2	16.80%	14.00%
3	14.40%	12.00%
4	12.00%	10.00%
5	10.80%	9.00%
6	9.00%	7.50%
7	7.20%	6.00%

Ultimate Rates after the First 8 Years of Employment

Age	Male	Female
< 30	3.60%	4.60%
30 - 34	3.60%	5.40%
35 - 39	3.60%	3.90%
40 - 44	3.10%	2.60%
45 - 49	3.10%	2.60%
50 - 54	4.60%	4.80%
55+	2.80%	4.80%

Table 3: Disability Rates

Age	Male	Female	Age	Male	Female
< 31	0.0337%	0.0612%	50	0.0601%	0.1093%
31	0.0337%	0.0613%	51	0.0634%	0.1152%
32	0.0337%	0.0613%	52	0.0666%	0.1211%
33	0.0342%	0.0622%	53	0.0746%	0.1356%
34	0.0347%	0.0631%	54	0.0826%	0.1501%
35	0.0353%	0.0641%	55	0.0905%	0.1645%
36	0.0357%	0.0650%	56	0.0985%	0.1790%
37	0.0362%	0.0659%	57	0.1064%	0.1935%
38	0.0371%	0.0674%	58	0.1245%	0.2263%
39	0.0379%	0.0689%	59	0.1426%	0.2592%
40	0.0387%	0.0703%	60	0.1606%	0.2920%
41	0.0395%	0.0718%	61	0.1787%	0.3249%
42	0.0403%	0.0733%	62	0.1967%	0.3577%
43	0.0423%	0.0770%	63	0.2253%	0.4096%
44	0.0443%	0.0806%	64	0.2572%	0.4677%
45	0.0464%	0.0843%	65	0.2933%	0.5332%
46	0.0483%	0.0879%	66	0.3343%	0.6079%
47	0.0504%	0.0916%	67	0.3812%	0.6930%
48	0.0536%	0.0975%	68	0.4345%	0.7900%
49	0.0569%	0.1034%	69	0.4953%	0.9006%
			70+	0.5647%	1.0267%

Table 4: Retirement Rates

Age	Reduced		Unreduced	
	Male	Female	Male	Female
< 45	N/A	N/A	3.00%	3.00%
45	N/A	N/A	5.50%	7.00%
46	N/A	N/A	5.50%	7.00%
47	N/A	N/A	5.50%	7.00%
48	N/A	N/A	5.50%	7.00%
49	N/A	N/A	5.50%	7.00%
50	5.00%	5.00%	12.50%	13.00%
51	5.00%	5.00%	12.50%	13.00%
52	5.00%	10.00%	12.50%	13.00%
53	5.00%	5.00%	12.50%	13.00%
54	10.00%	5.00%	12.50%	13.00%
55	14.50%	11.00%	20.00%	17.50%
56	9.50%	11.00%	20.00%	17.50%
57	9.50%	11.00%	20.00%	17.50%
58	9.50%	11.00%	20.00%	17.50%
59	9.50%	11.00%	20.00%	17.50%
60 - 64	N/A	N/A	19.50%	23.50%
65 - 69	N/A	N/A	28.00%	23.50%
70 - 74	N/A	N/A	30.00%	36.00%
75 - 79	N/A	N/A	50.00%	50.00%
80+	N/A	N/A	100.00%	100.00%

Section 6: 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 2.4 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 11%.
- This risk may be increased due to the plan being closed to new entrants. As the plan continues to mature, the magnitude of negative cash flow discussed in the Plan Maturity Measures later in this section will grow, thereby creating a need for more liquid assets that may not garner the same long-term return as currently assumed.

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 Postretirement Pension Adjustments and Alaska Cost-of-Living Allowance 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

Plan costs will be increased if the actual CPI for Anchorage is greater than the 2.5% assumed in the valuation.

- Retirement benefits will be greater than expected if the CPI is greater than the assumed rate, which will increase costs.
- This risk is mitigated by the 75% and 50% of CPI provisions and the 9% and 6% maximums.
- This risk is also mitigated by the age and time in payment requirements to receive an increase.
- 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, termination, and retired members remaining in Alaska assumptions). 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 re-evaluated 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:

- Funded Ratio History shown in the Executive Summary illustrates how the plan's funded status (comparison of actuarial accrued liabilities to actuarial value of assets) has changed over time.
- Section 1.6 shows historical analysis of financial experience including how contribution rates have changed over time.
- Section 2.4 shows the volatility of asset returns over time.
- Section 4 includes various historical information showing how member census data has changed over time.
- Section 7 includes historical information for the plan's funding progress, solvency test results, and changes in member demographics.

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 (\$'s in \$000's)

As of June 30	2018	2019	2020	2021	2022
1. Retiree and Beneficiary Accrued Liability	\$ 5,353,494	\$ 5,495,907	\$ 5,570,625	\$ 5,657,056	\$ 5,977,257
2. Total Accrued Liability	\$ 7,276,290	\$ 7,388,020	\$ 7,447,036	\$ 7,471,887	\$ 7,804,046
3. Ratio, (1) ÷ (2)	73.6%	74.4%	74.8%	75.7%	76.6%

A high percentage of liability concentrated on participants in pay status indicates a mature plan (often a ratio above 60% - 65%). Because the plan was closed to new entrants in 2006, we expect the percentage in item #3 to continue to increase over time. 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 (\$'s in \$000's)

During FYE June 30	2018	2019	2020	2021	2022
1. Contributions	\$ 189,267	\$ 199,933	\$ 207,899	\$ 196,748	\$ 202,459
2. Benefit Payments	<u>458,512</u>	<u>472,717</u>	<u>490,447</u>	<u>501,429</u>	<u>511,762</u>
3. Cash Flow, (1) - (2)	\$ (269,245)	\$ (272,784)	\$ (282,548)	\$ (304,681)	\$ (309,303)
4. Fair Value of Assets	\$ 5,472,727	\$ 5,511,929	\$ 5,444,799	\$ 6,731,481	\$ 6,026,651
5. Ratio, (3) ÷ (4)	(4.9%)	(4.9%)	(5.2%)	(4.5%)	(5.1%)

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. However, due to the plan being closed, we expect this measure to become increasingly negative over time. This maturity measure should be monitored in the future.

Contribution Volatility (\$'s in \$000's)

As of June 30	2018	2019	2020	2021	2022
1. Fair Value of Assets	\$ 5,472,727	\$ 5,511,929	\$ 5,444,799	\$ 6,731,481	\$ 6,026,651
2. DB/DCR Payroll	\$ 738,653	\$ 725,659	\$ 741,090	\$ 750,334	\$ 758,938
3. Asset to Payroll Ratio, (1) ÷ (2)	740.9%	759.6%	734.7%	897.1%	794.1%
4. Accrued Liability	\$ 7,276,290	\$ 7,388,020	\$ 7,447,036	\$ 7,471,887	\$ 7,804,046
5. Liability to Payroll Ratio, (4) ÷ (2)	985.1%	1,018.1%	1,004.9%	995.8%	1,028.3%

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%.

Section 7: Historical Information¹

Section 7.1: Funding Progress

Funding Progress - Pension (\$'s in 000's)

Valuation Date	Actuarial Accrued Liability	Valuation Assets	Assets as Pct. of Actuarial Liability	Unfunded Actuarial Accrued Liability (UAAL)	Active Member Payroll	UAAL as Pct. of Active Member Payroll
June 30, 2022	\$ 7,804,046	\$ 6,100,204	78.2%	\$ 1,703,842	\$ 303,011	562.3%
June 30, 2021	7,471,887	5,910,369	79.1%	1,561,518	326,551	478.2%
June 30, 2020	7,447,036	5,587,064	75.0%	1,859,972	349,236	532.6%
June 30, 2019	7,388,020	5,563,931	75.3%	1,824,089	366,037	498.3%
June 30, 2018	7,276,290	5,541,600	76.2%	1,734,690	392,609	441.8%
June 30, 2017	7,217,525	5,476,835	75.9%	1,740,690	425,841	408.8%
June 30, 2016	7,159,788	5,428,687	75.8%	1,731,101	449,629	385.0%
June 30, 2015	7,051,724	5,422,651	76.9%	1,629,073	473,734	343.9%
June 30, 2014	6,921,362	3,771,139	54.5%	3,150,223	490,667	642.0%
June 30, 2013	6,589,553	3,170,313	48.1%	3,419,240	527,474	648.2%
June 30, 2012	6,399,777	3,194,994	49.9%	3,204,783	554,277	578.2%
June 30, 2011	6,196,104	3,345,949	54.0%	2,850,155	571,143	499.0%
June 30, 2010	6,006,981	3,259,868	54.3%	2,747,113	591,943	464.1%
June 30, 2009	5,463,987	3,115,719	57.0%	2,348,268	583,746	402.3%
June 30, 2008	5,231,654	3,670,086	70.2%	1,561,568	575,946	271.1%
June 30, 2007	5,043,448	3,441,867	68.2%	1,601,581	582,743	274.8%
June 30, 2006	4,859,336	3,296,934	67.8%	1,562,402	603,035	259.1%

Change in assumptions reflected in 2022, 2018, 2014, 2010, and 2006 valuations.

Change in methods reflected in 2014 and 2006 valuations.

¹ GASB 67 replaced GASB 25 effective for the fiscal year ending June 30, 2014, and GASB 74 replaced GASB 43 effective for the fiscal year ending June 30, 2017. At the request of the State, historical accounting information has been included in this section as if GASB 25 and GASB 43 were still effective.

Funding Progress - Healthcare (\$'s in 000's)

Valuation Date	Actuarial Accrued Liability	Valuation Assets	Assets as Pct. of Actuarial Accrued Liability	Unfunded Actuarial Accrued Liability (UAAL)	Active Member Payroll	UAAL as Pct. of Active Member Payroll
June 30, 2022	\$ 2,442,577	\$ 3,437,216	140.7%	\$ (994,639)	\$ 303,011	(328.3%)
June 30, 2021	2,439,603	3,267,737	133.9%	(828,134)	326,551	(253.6%)
June 30, 2020	2,489,675	3,021,283	121.4%	(531,608)	349,236	(152.2%)
June 30, 2019	2,518,644	2,947,562	117.0%	(428,918)	366,037	(117.2%)
June 30, 2018	2,684,150	2,898,709	108.0%	(214,559)	392,609	(54.6%)
June 30, 2017	2,927,093	2,836,802	96.9%	90,291	425,841	21.2%
June 30, 2016	2,747,836	2,771,704	100.9%	(23,868)	449,629	(5.3%)
June 30, 2015	2,677,393	2,686,272	100.3%	(8,879)	473,734	(1.9%)
June 30, 2014	2,919,670	2,248,135	77.0%	671,535	490,667	136.9%
June 30, 2013	3,002,554	1,803,763	60.1%	1,198,791	527,474	227.3%
June 30, 2012	2,946,667	1,674,160	56.8%	1,272,507	554,277	229.6%
June 30, 2011	2,932,691	1,591,988	54.3%	1,340,703	571,143	234.7%
June 30, 2010	2,840,807	1,479,260	52.1%	1,361,547	591,943	230.0%
June 30, 2009	2,383,527	1,357,239	56.9%	1,026,288	583,746	175.8%
June 30, 2008	2,387,524	1,266,890	53.1%	1,120,634	575,946	194.6%
June 30, 2007	2,145,955	982,532	45.8%	1,163,423	582,743	199.6%
June 30, 2006	2,370,515	844,766	35.6%	1,525,749	603,035	253.0%

Change in assumptions reflected in 2022, 2018, 2016, 2014, 2012, 2010, 2008, and 2006 valuations.

Change in methods reflected in 2018, 2014, 2006 valuations.

Section 7.2: Solvency Test

Solvency Test - Pension (\$'s in 000's)

Valuation Date	Actuarial Accrued Liability (AAL)			Valuation Assets	Portion of AAL Covered by Valuation Assets		
	(1)	(2)	(3)		(1)	(2)	(3)
	Active Member Contributions	Inactive Members	Active Members Employer Financed				
June 30, 2022	\$ 594,033	\$ 6,169,712	\$ 1,040,301	\$ 6,100,204	100.0%	89.2%	0.0%
June 30, 2021	634,029	5,833,812	1,004,046	5,910,369	100.0%	90.4%	0.0%
June 30, 2020	668,105	5,749,353	1,029,578	5,587,064	100.0%	85.6%	0.0%
June 30, 2019	673,540	5,672,003	1,042,477	5,563,931	100.0%	86.2%	0.0%
June 30, 2018	690,775	5,502,418	1,083,097	5,541,600	100.0%	88.2%	0.0%
June 30, 2017	706,772	5,418,948	1,091,805	5,476,835	100.0%	88.0%	0.0%
June 30, 2016	709,903	5,329,673	1,120,212	5,428,687	100.0%	88.5%	0.0%
June 30, 2015	714,422	5,192,935	1,144,367	5,422,651	100.0%	90.7%	0.0%
June 30, 2014	718,694	5,042,250	1,160,418	3,771,139	100.0%	60.5%	0.0%
June 30, 2013	726,139	4,726,282	1,137,132	3,170,313	100.0%	51.7%	0.0%
June 30, 2012	727,435	4,532,982	1,139,360	3,194,994	100.0%	54.4%	0.0%
June 30, 2011	717,819	4,352,035	1,126,250	3,345,949	100.0%	60.4%	0.0%
June 30, 2010	716,675	4,153,119	1,137,187	3,259,868	100.0%	61.2%	0.0%
June 30, 2009	692,105	3,815,020	956,862	3,115,719	100.0%	63.5%	0.0%
June 30, 2008	654,662	3,700,812	876,180	3,670,086	100.0%	81.5%	0.0%
June 30, 2007	638,420	3,567,894	837,134	3,441,867	100.0%	78.6%	0.0%
June 30, 2006	615,207	3,432,703	811,426	3,296,934	100.0%	78.1%	0.0%

Change in assumptions reflected in 2022, 2018, 2014, 2010, and 2006 valuations.

Change in methods reflected in 2014 and 2006 valuations.

Solvency Test - Healthcare (\$'s in 000's)

Valuation Date	Actuarial Accrued Liability (AAL)				Portion of AAL Covered by Valuation Assets		
	(1)	(2)	(3)	Valuation Assets	(1)	(2)	(3)
	Active Member Contributions	Inactive Members	Active Members Employer Financed				
June 30, 2022	\$ 0	\$ 1,841,588	\$ 600,989	\$ 3,437,216	100.0%	100.0%	100.0%
June 30, 2021	0	1,778,645	660,958	3,267,737	100.0%	100.0%	100.0%
June 30, 2020	0	1,776,704	712,971	3,021,283	100.0%	100.0%	100.0%
June 30, 2019	0	1,788,124	730,520	2,947,562	100.0%	100.0%	100.0%
June 30, 2018	0	1,874,333	809,817	2,898,709	100.0%	100.0%	100.0%
June 30, 2017	0	1,980,148	946,945	2,836,802	100.0%	100.0%	90.5%
June 30, 2016	0	1,853,084	894,752	2,771,704	100.0%	100.0%	100.0%
June 30, 2015	0	1,870,987	806,406	2,686,272	100.0%	100.0%	100.0%
June 30, 2014	0	2,008,223	911,447	2,248,135	100.0%	100.0%	26.3%
June 30, 2013	0	2,012,114	990,440	1,803,763	100.0%	89.6%	0.0%
June 30, 2012	0	1,933,288	1,013,379	1,674,160	100.0%	86.6%	0.0%
June 30, 2011	0	1,879,564	1,053,127	1,591,988	100.0%	84.7%	0.0%
June 30, 2010	0	1,755,961	1,084,846	1,479,260	100.0%	84.2%	0.0%
June 30, 2009	0	1,477,788	905,739	1,357,239	100.0%	91.8%	0.0%
June 30, 2008	0	1,480,864	906,660	1,266,890	100.0%	85.6%	0.0%
June 30, 2007	0	1,344,131	801,824	982,532	100.0%	73.1%	0.0%
June 30, 2006	0	1,493,219	877,296	844,766	100.0%	56.6%	0.0%

Change in assumptions reflected in 2022, 2018, 2016, 2014, 2012, 2010, 2008, and 2006 valuations.

Change in methods reflected in 2018, 2014, 2006 valuations.

Section 7.3: Member Data

As of June 30	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Active Members										
1. Number	6,352	5,861	5,502	5,123	4,772	4,418	4,044	3,789	3,396	3,023
2. Average Age	49.45	49.79	50.09	50.50	50.86	51.13	51.48	51.92	52.14	52.57
3. Average Credited Service	15.80	16.43	16.94	17.53	18.12	18.62	19.21	19.76	20.31	20.85
4. Average Entry Age	33.65	33.36	33.15	32.97	32.74	32.51	32.27	32.16	31.83	31.72
5. Average Annual Earnings	\$ 79,386	\$ 81,023	\$ 82,995	\$ 84,954	\$ 86,327	\$ 87,374	\$ 88,879	\$ 90,564	\$ 94,143	\$ 97,702
6. Number Vested	5,880	5,586	5,297	4,966	4,772	4,418	4,044	3,789	3,396	3,023
7. Percent Who Are Vested	92.6%	95.3%	96.3%	96.9%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Retirees, Disabilitants, and Beneficiaries										
1. Number	11,705	11,750	12,418	12,726	12,983	13,277	13,491	13,689	13,972	14,126
2. Average Age	68.38	69.09	69.35	69.85	70.36	70.78	71.30	71.85	72.26	72.60
3. Average Years Since Retirement	N/A	N/A	13.50	13.78	14.13	14.40	14.74	15.06	15.24	15.51
4. Average Monthly Pension Benefit	\$ 2,820	\$ 2,860	\$ 2,912	\$ 2,921	\$ 2,924	\$ 2,954	\$ 3,014	\$ 3,043	\$ 3,048	\$ 3,167
Vested Terminations (vested at termination, not refunded contributions, and not commenced benefit)										
1. Number	906	1,274	890	875	876	797	812	764	727	729
2. Average Age	49.68	52.56	50.09	50.25	50.82	51.01	51.71	52.37	52.68	53.22
3. Average Monthly Pension Benefit	\$ 1,283	\$ 1,916	\$ 1,273	\$ 1,352	\$ 1,441	\$ 1,350	\$ 1,534	\$ 1,579	\$ 1,635	\$ 1,725
Non-Vested Terminations (not vested at termination and not refunded contributions)										
1. Number	2,448	2,328	2,218	2,103	1,994	1,900	1,810	1,744	1,679	1,616
2. Average Account Balance	\$ 17,866	\$ 18,452	\$ 18,962	\$ 19,728	\$ 20,290	\$ 20,872	\$ 21,612	\$ 22,591	\$ 23,388	\$ 23,906
Total Number of Members	21,411	21,213	21,028	20,827	20,625	20,392	20,157	19,986	19,774	19,494

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

Glossary of Terms

Actuarial Accrued Liability

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

Actuarial Cost Method

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

Actuarial Present Value of Projected Benefits

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

Actuarial Valuation

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

Actuary

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

GASB 67 and 68

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

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

GASB 74 and 75

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

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

Normal Cost

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

Rate Payroll

Members' earnings used to determine contribution rates.

Unfunded Actuarial Accrued Liability (UAAL)

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

Valuation Payroll

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

Vested Benefits

Benefits which are unconditionally guaranteed regardless of employment.