

ALASKA RETIREMENT MANAGEMENT BOARD

JUNE
14, 2023

ACTUARIAL COMMITTEE

State of Alaska
ALASKA RETIREMENT MANAGEMENT BOARD

ACTUARIAL COMMITTEE MEETING

June 14, 2023 – 1:00 p.m.

Location: Atwood Conference Center Rooms 102/104 550 West 7 th Ave., Juneau, AK	Teleconference: Call-In #: 1-907-202-7104 Code: 503 112 447#

I. Call to Order

II. Roll Call

III. Public Meeting Notice

IV. Designation of Committee Chair

Bob Williams, ARMB Chair

V. A. Approval of Agenda

B. Approval of Minutes – March 15, 2023

VI. Public / Member Participation, Communications and Appearances

*(Three Minute Limit. Callers may need to select *6 to unmute.)*

VII. Actuarial Review & Certification and Acceptance of FY2022 Valuations and Reports

A. Introduction

TBD, Chair

B. Explanation of PERS & TRS Projections

David Kershner, Principal, Consulting Actuary, Buck

C. Actuarial Review

Paul Wood & Bill Detweiler, GRS

D. Update on NGNMRS and JRS Valuations

Kevin Worley, Chief Financial Officer, Division of Retirement and Benefits

David Kershner, Principal, Consulting Actuary, Buck

E. Action Items

TBD, Chair

1. Committee Recommendation of Board Acceptance of GRS Certification for FY22 PERS/TRS Defined Benefit and DCR Plan Valuations
2. Committee Recommendation of Board Acceptance of Buck Valuations for FY22 PERS/TRS DB and DCR Plan Valuations

- VII. Replication Audit**
Paul Wood & Bill Detweiler, GRS
- VIII. Committee Performance – Self Assessment** (per Charter)
- IX. Review of Committee Charter** (per Charter)
- X. Future Meetings**
 - A. Calendar Review**
 - 1. 2024 Actuarial Committee Meeting Calendar
 - B. Agenda Items**
 - C. Requests / Follow-Ups**
- XI. Other Matters to Properly Come Before the Committee**
- XII. Public / Members Comments**
- XIII. Adjournment**

**ALASKA RETIREMENT MANAGEMENT BOARD
ACTUARIAL COMMITTEE MEETING
HYBRID/TEAMS**

**March 15, 2023
1:30 p.m.**

**Originating at:
State Office Building
Department of Administration
Large Conference Room, 10th Floor
333 Willoughby Avenue
Juneau, Alaska 99801**

Trustees Present:

Allen Hippler, Chair

Donald Krohn

Lorne Bretz

Commissioner Adam Crum

Dennis Moen

Bob Williams

Sandra Ryan

Commissioner Paula Vrana

Department of Revenue Staff Present:

Zachary Hanna, Chief Investment Officer

Ryan Kauzlarich, Assistant Comptroller

Grant Ficek, Business Analyst

Pamela Leary, Director, Treasury Division

Hunter Romberg, Senior Compliance Officer

Alysia Jones, Board Liaison

Department of Law Staff Present:

Ben Hofmeister, Assistant Attorney General

Investment Advisory Council Present:

Ruth Traylor

Dr. William Jennings

Department of Administration – Division of Retirement & Benefits Staff Present:

Ajay Desai, Director, DRB

Eugenia Golofeeva, Internal Auditor

Kevin Worley, Chief Financial Officer

Callan

Steve Center, Senior Vice President

Ivan “Butch” Cliff, Executive Vice President

Guests/Presenters:

Tonya Manning, Chief Actuary, Buck

Bill Detweiler, Consultant, GRS

David Kershner, Principal, Consulting Actuary, Buck

Stephen Oates, Principal, Health Actuary, Buck

Paul Wood, Actuary, Senior Consultant & Team Leader, GRS

PROCEEDINGS

CALL TO ORDER

CHAIR HIPPLER called the Actuarial Committee of the ARM Board to order and asked if they were online so people could hear them.

MS. JONES replied they were.

CHAIR HIPPLER asked for a roll call.

MS. JONES called the roll.

PUBLIC METING NOTICE

CHAIR HIPPLER asked to confirm that the public meeting notice was met.

MS. JONES replied, yes, it had.

AGENDA APPROVAL

CHAIR HIPPLER asked for a motion to approve the agenda.

MOTION: A motion to approve the agenda was made by TRUSTEE BOB WILLIAMS; seconded by TRUSTEE KROHN.

There being no objection, the MOTION was APPROVED.

APPROVAL OF MINUTES

CHAIR HIPPLER moved to the minutes of November 30, 2022, and entertained a motion.

MOTION: A motion to accept the minutes of November 30, 2022, was made by TRUSTEE RYAN; seconded by TRUSTEE BOB WILLIAMS.

CHAIR HIPPLER asked for any corrections or amendments to the minutes, as presented.

There being no objection, the MOTION was APPROVED.

PUBLIC/MEMBER PARTICIPATION, COMMUNICATIONS AND APPEARANCES

CHAIR HIPPLER asked if there was any public member participation at this time and anyone who wished to speak. He asked Ms. Jones if anyone indicated a desire to present.

MS. JONES replied, no.

ACTUARIAL UPDATE

BUCK/GALLAGHER ANNOUNCEMENT

CHAIR HIPPLER moved to the actuarial update and stated that Buck was ready to present.

MR. WORLEY welcomed the colleagues from Buck Global and introduced Stephen Oates, health actuary; David Kershner, lead actuary; Tonya Manning, lead actuary.

MS. MANNING gave an update on the ownership of Buck, who is the assigned actuary for this plan. She stated that Buck was going through a change of ownership and had been acquired by Arthur J. Gallagher & Company. The main part of their business is a global insurance brokerage firm. They also have a sizable division that does employee benefits consulting, which includes retirement consulting. She continued that she was excited about this change, which will be very good for what Buck was doing and how Buck would be operating with the ARMB. It was an important milestone. She explained that they had been under ownership by a private equity firm which acquires, invests, and then sells the company. She added that there was a very good amount paid to acquire Buck, which is a sign of the increase in value over the ownership with the private equity firm. Part of the increase in value was the growth in technology. Gallagher is looking to increase their portfolio in the retirement area with actuaries, and they mentioned that in their announcement of the sale. There are over 200 actuaries at Gallagher, which is a Fortune 500 company. She stated that they were committed to supporting Buck and their clients; understand the business; and that is core to what they do in their employee benefits and consulting firm. She continued that it was important for the ARMB to know that there would be no change to their team, and that we are slow walking this transition. We will be operating as we are now through the end of the year, without any changes in reporting. Everything will be the same, and there will be no systems changes. She added that she would be leading the integration of the two firms, and she was excited about it.

MR. KERSHNER moved to the main presentation. At this meeting they present a complete set of valuation results for every plan, except the National Guard plan. He added that there was still trouble collecting the data. He stated that there were valuation results for all the plans. He continued that every March they run State contribution projections, and we have those to compare with the most recent set of projections that will be talked about. Also, they were asked to do some sensitivity analysis to show how funded ratios and State contributions might change, depending on plan experience. He talked about the effects of the new assumptions that the ARMB adopted in June of '22, based on the four-year experience study.

MR. OATES stated that there were some significant savings coming through from the EGWP, and we are getting more subsidies from that program than projected. He added, that helped to mitigate some of the loss on the prescription drug increase. He continued that, this current year, the EGWP subsidies increased significantly. He explained that the impact of the IRA will be felt slowly, at least as far as the changes get implemented. He added that the changes are not that meaningful in the first couple years of the act. 2025 is when the Federal Government will cut in half the catastrophic reinsurance, which is a big driver of the savings for the program.

CHAIR HIPPLER asked Mr. Kershner to continue.

MR. KERSHNER moved to the next section which showed the valuation results, and he walked through a road map of what all the numbers represented. He explained how the gains and losses were calculated.

CHAIR HIPPLER asked staff if there was a benefit derived that he was not familiar with for aggregating the funding status of the healthcare plan and the pension plan; because, otherwise, that practice needed to be discontinued. He asked if there was a reason why that was done.

MR. WORLEY stated that the funded status for pension was shown, and the funded status for

healthcare was shown. There should not be a total because they were separately funded plans; separate trusts with no need to show a total.

CHAIR HIPPLER stated that he found that confusing and misleading. He did not want to see that in the Actuary Committee in the future.

MR. KERSHNER stated that the total funded ratios were informational only. He explained that the former Board Chair asked to see the combined results, but that they certainly can be removed.

MR. WORLEY stated that if the funded ratio and totals were not shown, then the aggregate should also not be shown.

MR. KERSHNER asked about the actual valuation reports which show pension, healthcare and total as well. Perhaps the totals from the actual reports should be removed.

CHAIR HIPPLER replied yes, and we will continue the conversation later to give people time to think about it and see if things were being missed. He asked for an email on that.

MR. WORLEY asked that the timeline be considered because June is when valuation reports are adopted. He continued, that needed consideration to get taken care of.

CHAIR HIPPLER suggested collaborating on that within the next week.

MR. KERSHNER moved to the projections and stated that this was new information that was not shared at the last meeting. He continued that there were two sets of projections; the first set assumed all future experience matches the assumptions. He showed a comparison between the 2021 valuation projects, the most recent, reflecting the contribution rates for FY24 that the ARM Board adopted in September. All the projections assume zero percent goes into the healthcare trust. The increasing pattern was because, per statute, the amortization of the unfunded liability was on a level percentage of pay basis. He explained this in more detail and added that the percentage of payroll was constant, which explained the pattern. He then talked about asset returns, healthcare cost increases, and inflation increases.

CHAIR HIPPLER thanked Mr. Kershner and stated that this had been requested to assist this body in evaluating normal cost contributions. He continued that a sensitivity analysis helped with guidelines and giving some signals as to when to start contributing to normal cost again. Sensitivity analysis was crucial.

TRUSTEE BOB WILLIAMS stated that he had been shocked at how much the next five years could impact the overall.

MS. MANNING stated that this was a scenario with five really bad years, and then everything going back to normal. Markets could be really bad, then really good, and then really bad again. Not illustrated were all the different scenarios of recovery. That would be a more extensive asset liability modeling type of exercise that would look more at contributions. She added that it was a good message and a good thing to model out.

CHAIR HIPPLER directed a question to Buck on the Occupational Death and Disability Fund. He stated that the normal cost appeared to be .24 percent, and it looked like it was funded at 1600 percent. He asked if that was correct.

MR. KERSHNER replied that the ratio of the assets to liabilities was 1600 percent. He stated that the past service contribution was zero, but we are still contributing the normal cost, which is the .24 percent to the DCR plans.

CHAIR HIPPLER asked for any other questions. There being none, he moved to Gabriel, Roeder, Smith (GRS).

REVIEW OF VALUATION RESULTS AND RECOMMENDATIONS

MR. WOOD stated that it was great to be back in Juneau and added that Bill Detweiler was available online. He continued that he was there to fulfill the main duty of the review actuary, which is to provide the review of the most recent valuation report. He began with the claims and enrollment review, then moved to the assumptions, and then the test life review. He stated that Buck provided a nice PowerPoint that detailed the development of the per capita claims cost, which was the underlying benefit that was valued as part of the valuation. There was a favorable experience on the medical side, which meant that the medical claims did not grow as quickly as expected. The drug claims grew faster than expected, with an unfavorable experience on the prescription drug side. The development of the per capita claims cost was found to be reasonable. He made the recommendation to continue monitoring to see if it was appropriate to put a load on at some point in the future. He wanted to avoid a whipsaw back to super high claims and having extreme volatility in the healthcare results. He then discussed the new assumptions. He stated that the information on how well the new assumptions were working is not available until the following year. He talked about the test life review, which is the main piece of work performed as part of this review. A sample of test lives was grabbed, and the data input was reviewed. Received was the raw data and the data used in the valuation system; the data inputs and benefit amounts were looked at to make sure that the liabilities were calculated properly. This was important this year because of the new assumptions, and to see if the plan provisions were being valued correctly. He moved to the five findings and the resolutions to those five findings. The first finding was a date-of-birth issue. There were two people in the entire population. The valuation system will be refined so this data default will have the entry age of 15 so the liability does not disappear. The second finding was the salary increase rate, and that was also a small figure. Finding No. 3 was the marriage assumption for TRS-DB. This was an occupational death benefit for married members that the marriage assumption was not applied to. Finding No. 4 was the occupational death lump sum benefit. That piece of the lump sum benefit was only available for nonoccupational death benefits. The final finding tied back to a finding that was in last year's valuation: The disabled retirees in the model were not being treated exactly the same as the healthy retirees in the model. He continued that it was recommended that those five findings be addressed in the next valuation. He also went through some small modifications to the valuation reports that surrounded the topic of early retirement factors and the basis of those factors.

FUTURE MEETINGS

CHAIR HIPPLER asked for any questions. He thanked Mr. Wood and moved to the calendar review. He noted that a meeting in Fairbanks in 2024 is being contemplated. Next on the

agenda was future agenda items. He stated that one future agenda item he would be discussing with Mr. Worley was the normal cost funding; not just for healthcare, but also for ODD. Hearing no other requests or follow-ups for future agenda items, he asked for any comments from members of the public that wished to be heard. He recognized Mr. Worley.

MR. WORLEY wanted to inform the committee that the Division was moving forward with the first amendment to the Buck contract. That would make it a three-year extension with the next contract from July 1 of this year to June 30 of 2026. That is the next amendment period that falls within the original contract.

CHAIR HIPPLER clarified that the Division of Revenue had jurisdiction over the primary actuary contract and the ARMB had jurisdiction over the review actuary contract.

MR. WORLEY replied affirmatively.

CHAIR HIPPLER asked for any member comments. His comment was that if anyone had comments about funding ratios and how they should be aggregated and presented in the materials, particularly those that could be disseminated to the public, to please send him a note. He added that he was open to suggestions about how to do that better. He asked for a motion to adjourn.

MOTION: A motion to adjourn the meeting was made by TRUSTEE KROHN; seconded by TRUSTEE RYAN.

There being no objection, the MOTION was APPROVED.

(The Actuarial Committee meeting adjourned at 2:58 p.m.)



State of Alaska

Summary of Changes from Draft June 30, 2022 Actuarial Valuation Reports

PERS

1. Cover Letter
 - a. Updated overall funding status language, showing Pension and Healthcare separately.
 - b. Modified ACFR information language.
2. Executive Summary
 - a. Funded status summary – removed Total section.
 - b. Funded ratio history graph
 - i. Added separate Pension and Healthcare graphs for 2006 and beyond.
 - ii. Changed the years in the Total graph to 1979-2005.
 - c. Description of gain/loss amounts – provided Pension and Healthcare amounts separately; added EGWP amounts.
 - d. Actuarial Accrued Liability gain/loss tables – removed Total column.
3. Section 1.2
 - a. Removed Total column.
 - b. Removed Total past service cost amortization tables.
4. Section 1.3
 - a. Removed Total column.
 - b. Removed Total past service cost amortization table.
 - c. Updated the 2-year roll-forward to reflect minor benefit timing adjustments.
5. Section 1.4
 - a. Removed Total column.
6. Section 1.5
 - a. Removed Total column.
7. Section 1.6
 - a. Removed Total table.
8. Section 1.7
 - a. Provided Pension and Healthcare tables separately.

PERS (continued)

9. Section 2.1
 - a. Removed Total column.
10. Section 2.2
 - a. Removed Total column.
11. Section 2.3
 - a. Removed Total column.
 - b. Removed Total asset gain/loss deferral table.
12. Section 3
 - a. Updated the projections to reflect minor benefit timing adjustments.
13. Section 3.1
 - a. Added a description of the amortization periods for Section 3.6A and Section 3.6B projections.
14. Sections 3.3 and 3.4
 - a. Changed the graphs to be based on 25-year amortization in all years (i.e., based on Section 3.6A projections).
15. Section 3.5
 - a. Provided projected funded ratio graphs separately for Pension and Healthcare.
 - b. Changed the graphs to be based on 25-year amortization in all years (i.e., based on Section 3.6A projections).
16. Section 3.6A (amortization period is 25 years in all years)
 - a. In the 1st exhibit:
 - i. Provided Actuarial Assets and Accrued Liability separately by Pension and Healthcare.
 - ii. Removed Funding Ratio and Unfunded Liability/(Surplus) columns.
 - iii. Provided Deferred Asset Gain/(Loss) separately by Pension and Healthcare.
 - iv. Added footnote clarifying that the separately determined projections of contributions and benefit payments are aggregated solely for purposes of the exhibit.
 - b. In the 2nd exhibit:
 - i. Removed Total Funded Ratio and Total Unfunded Liability/(Surplus) columns.
17. Section 3.6B (amortization period is 25 years through FY39, and 15 years in FY40+)
 - a. In the 1st exhibit:
 - i. Provided Actuarial Assets and Accrued Liability separately by Pension and Healthcare.
 - ii. Removed Funding Ratio and Unfunded Liability/(Surplus) columns.
 - iii. Provided Deferred Asset Gain/(Loss) separately by Pension and Healthcare.
 - iv. Added footnote clarifying that the separately determined projections of contributions and benefit payments are aggregated solely for purposes of the exhibit.

PERS (continued)

- b. In the 2nd exhibit:
 - i. Removed Total Funded Ratio and Total Unfunded Liability/(Surplus) columns.
- 18. Section 4.1
 - a. Added table with 5-year history of Retiree Medical retirees.
- 19. Section 4.6
 - a. Expanded table of New Pension Benefit Recipients by adding final average salary.
- 20. Section 5.3
 - a. Added description of Early Retirement Factor basis.
- 21. Section 6
 - a. In Historical Information section, added reference to the new Section 7.
 - b. In Plan Maturity Measures tables, added historical years since ASOP 51 was effective.
- 22. Section 7 (new)
 - a. At the request of DRB staff, added historical accounting (GASB 25/43) and membership information based on GFOA observations of the ACFR.

TRS

1. Cover Letter
 - a. Updated overall funding status language, showing Pension and Healthcare separately.
 - b. Modified ACFR information language.
2. Executive Summary
 - a. Funded status summary – removed Total section.
 - b. Funded ratio history graph
 - i. Added separate Pension and Healthcare graphs for 2006 and beyond.
 - ii. Changed the years in the Total graph to 1979-2005.
 - c. Description of gain/loss amounts – provided Pension and Healthcare amounts separately; added EGWP amounts.
 - d. Actuarial Accrued Liability gain/loss tables – removed Total column.
3. Section 1.2
 - a. Removed Total column.
 - b. Removed Total past service cost amortization table.
4. Section 1.3
 - a. Removed Total column.
 - b. Removed Total past service cost amortization table.
 - c. Updated the 2-year roll-forward to reflect minor benefit timing adjustments.
5. Section 1.4
 - a. Removed Total column.
6. Section 1.5
 - a. Removed Total column.
7. Section 1.6
 - a. Removed Total table.
8. Section 1.7
 - a. Provided Pension and Healthcare tables separately.
9. Section 2.1
 - a. Removed Total column.
10. Section 2.2
 - a. Removed Total column.

TRS (continued)

11. Section 2.3

- a. Removed Total column.
- b. Removed Total asset gain/loss deferral table.

12. Section 3

- a. Updated the projections to reflect minor benefit timing adjustments.

13. Section 3.1

- a. Added a description of the amortization periods for Section 3.6A and Section 3.6B projections.

14. Sections 3.3 and 3.4

- a. Changed the graphs to be based on 25-year amortization in all years (i.e., based on Section 3.6A projections).

15. Section 3.5

- a. Provided projected funded ratio graphs separately for Pension and Healthcare.
- b. Changed the graphs to be based on 25-year amortization in all years (i.e., based on Section 3.6A projections).

16. Section 3.6A (amortization period is 25 years in all years)

- a. In the 1st exhibit:
 - i. Provided Actuarial Assets and Accrued Liability separately by Pension and Healthcare.
 - ii. Removed Funding Ratio and Unfunded Liability/(Surplus) columns.
 - iii. Provided Deferred Asset Gain/(Loss) separately by Pension and Healthcare.
 - iv. Added footnote clarifying that the separately determined projections of contributions and benefit payments are aggregated solely for purposes of the exhibit.
- b. In the 2nd exhibit:
 - i. Removed Total Funded Ratio and Total Unfunded Liability/(Surplus) columns.

17. Section 3.6B (amortization period is 25 years through FY39, and 15 years in FY40+)

- a. In the 1st exhibit:
 - i. Provided Actuarial Assets and Accrued Liability separately by Pension and Healthcare.
 - ii. Removed Funding Ratio and Unfunded Liability/(Surplus) columns.
 - iii. Provided Deferred Asset Gain/(Loss) separately by Pension and Healthcare.
 - iv. Added footnote clarifying that the separately determined projections of contributions and benefit payments are aggregated solely for purposes of the exhibit.
- b. In the 2nd exhibit:
 - i. Removed Total Funded Ratio and Total Unfunded Liability/(Surplus) columns.

18. Section 4.1

- a. Added table with 5-year history of Retiree Medical retirees.

TRS (continued)

19. Section 4.6

- a. Expanded table of New Pension Benefit Recipients by adding final average salary.

20. Section 5.1

- a. Updated description of Death Benefits.

21. Section 5.3

- a. Added description of Early Retirement Factor basis.

22. Section 6

- a. In Historical Information section, added reference to the new Section 7.
- b. In Plan Maturity Measures tables, added historical years since ASOP 51 was effective.

23. Section 7 (new)

- a. At the request of DRB staff, added historical accounting (GASB 25/43) and membership information based on GFOA observations of the ACFR.

PERS DCR

1. Cover Letter
 - a. Updated overall funding status language, showing OD&D and Retiree Medical separately.
 - b. Modified ACFR information language.
2. Executive Summary
 - a. Funded status summary – removed Total section.
 - b. Description of gain/loss amounts – provided OD&D and Retiree Medical amounts separately; added EGWP amounts.
 - c. Actuarial Accrued Liability gain/loss tables – removed Total column.
3. Section 1.2
 - a. Removed Total column.
 - b. Removed Total past service cost amortization tables.
4. Section 1.3
 - a. Removed Total column.
5. Section 1.4
 - a. Provided OD&D and Retiree Medical tables separately.
6. Section 2.1
 - a. Removed Total column.
7. Section 2.2
 - a. Removed Total column.
8. Section 2.3
 - a. Removed Total column.
 - b. Removed Total asset gain/loss deferral table.
9. Section 5 (new)
 - a. At the request of DRB staff, added historical accounting (GASB 25/43) and membership information based on GFOA observations of the ACFR.

TRS DCR

1. Cover Letter
 - a. Updated overall funding status language, showing OD&D and Retiree Medical separately.
 - b. Modified ACFR information language.
2. Executive Summary
 - a. Funded status summary – removed Total section.
 - b. Description of gain/loss amounts – provided OD&D and Retiree Medical amounts separately; added EGWP amounts.
 - c. Actuarial Accrued Liability gain/loss tables – removed Total column.
3. Section 1.2
 - a. Removed Total column.
 - b. Removed Total past service cost amortization table.
4. Section 1.3
 - a. Removed Total column.
5. Section 1.4
 - a. Provided OD&D and Retiree Medical tables separately.
6. Section 2.1
 - a. Removed Total column.
7. Section 2.2
 - a. Removed Total column.
8. Section 2.3
 - a. Removed Total column.
 - b. Removed Total asset gain/loss deferral table.
9. Section 5 (new)
 - a. At the request of DRB staff, added historical accounting (GASB 25/43) and membership information based on GFOA observations of the ACFR.

State of Alaska

Differences in 30-Year Projections Included in June 30, 2022 Valuation Reports (\$000's)

	Section 3.6A	Section 3.6B	Increase (Decrease) Due to Shorter Amortization
Amortization Period thru FY39:	25 years	25 years	
Amortization Period after FY39:	25 years	15 years	
<u>PERS</u>			
State-as-an-Employer Contributions thru FY52	5,368,283	5,375,816	7,533
Additional State Contributions thru FY52	1,711,266	1,711,266	0
6/30/52 Pension Funded Ratio	97.5%	97.9%	0.4%
6/30/52 Pension Unfunded Liability	158,416	135,685	(22,731)
<u>TRS</u>			
Additional State Contributions thru FY52	2,823,955	2,824,569	614
6/30/52 Pension Funded Ratio	99.6%	99.7%	0.1%
6/30/52 Pension Unfunded Liability	12,272	9,794	(2,478)



State of Alaska

Public Employees' Retirement System

Actuarial Valuation Report
As of June 30, 2022

June 2023



June 5, 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 Public Employees' Retirement System (PERS) 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 PERS 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 PERS as of June 30, 2022.

PERS 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 PERS is to pay required contributions that remain level as a percent of total PERS 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 PERS 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 PERS, 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 FY63. 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 PERS. 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 PERS beginning with fiscal year ending June 30, 2014, and Statement No. 74 (GASB 74) was effective for PERS 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 PERS. 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.

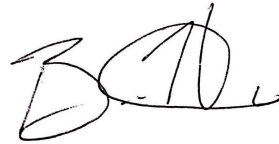
This report was prepared under the overall direction of David Kershner, who meets the Qualification Standards of the American Academy of Actuaries to render the actuarial opinions contained herein. He is a Fellow of the Society of Actuaries, an Enrolled Actuary, a Member of the American Academy of Actuaries, 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 Public Employees' Retirement System (PERS) provides pension and postemployment healthcare benefits to 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 PERS 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 PERS 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.

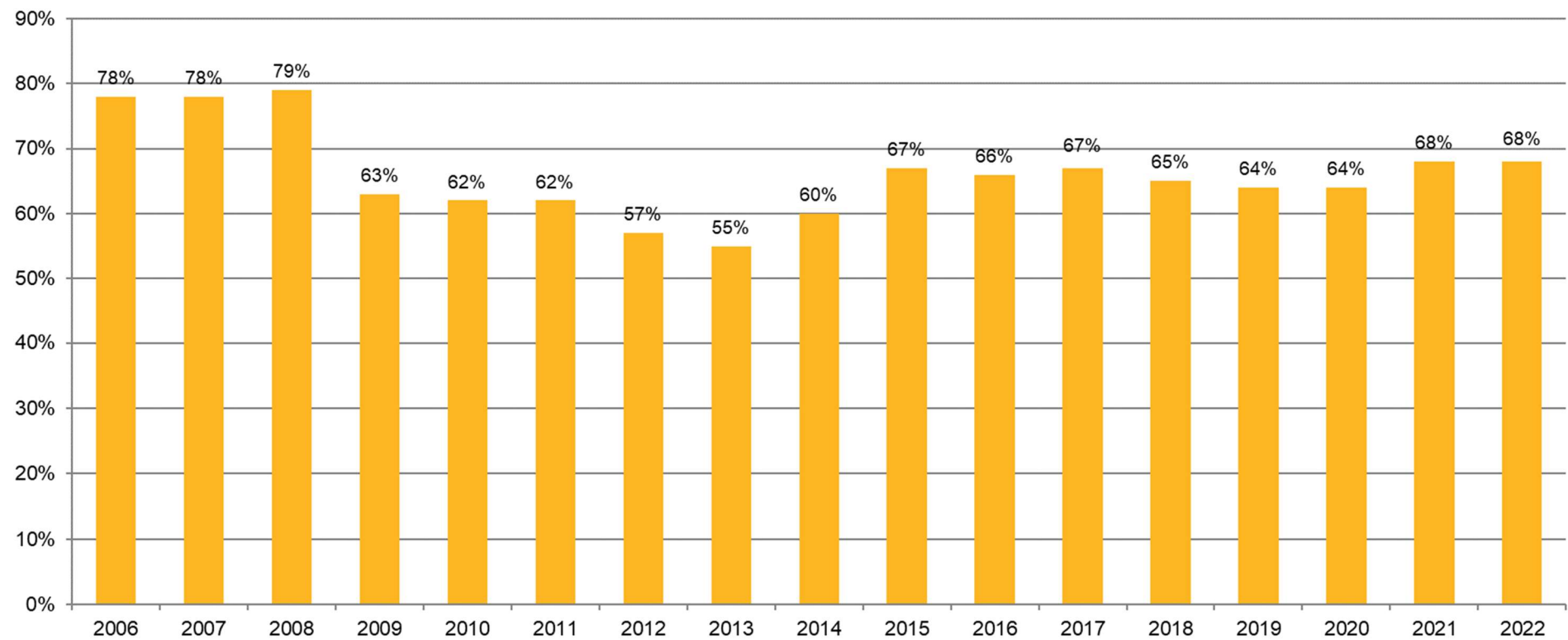
Funded Status

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
Pension			
a. Actuarial Accrued Liability	\$	15,419,975	\$ 16,093,679
b. Valuation Assets		<u>10,466,709</u>	<u>10,961,498</u>
c. Unfunded Actuarial Accrued Liability, (a) - (b)	\$	4,953,266	\$ 5,132,181
d. Funded Ratio based on Valuation Assets, (b) ÷ (a)		67.9%	68.1%
e. Fair Value of Assets	\$	11,912,309	\$ 10,816,140
f. Funded Ratio based on Fair Value of Assets, (e) ÷ (a)		77.3%	67.2%
Healthcare			
a. Actuarial Accrued Liability	\$	6,856,170	\$ 6,657,069
b. Valuation Assets		<u>8,581,155</u>	<u>8,979,943</u>
c. Unfunded Actuarial Accrued Liability, (a) - (b)	\$	(1,724,985)	\$ (2,322,874)
d. Funded Ratio based on Valuation Assets, (b) ÷ (a)		125.2%	134.9%
e. Fair Value of Assets	\$	9,784,141	\$ 8,869,134
f. Funded Ratio based on Fair Value of Assets, (e) ÷ (a)		142.7%	133.2%

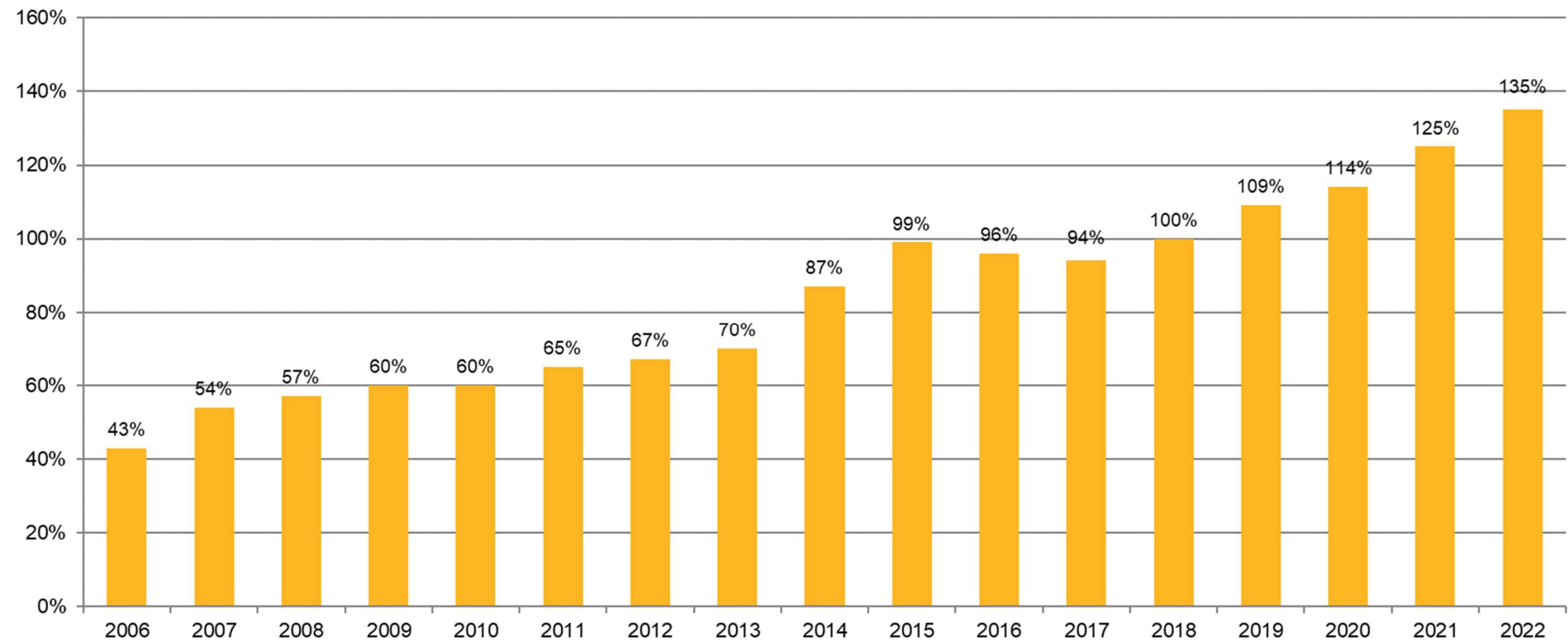
Funded Ratio History (Based on Valuation Assets)

Pension (2006 and later)



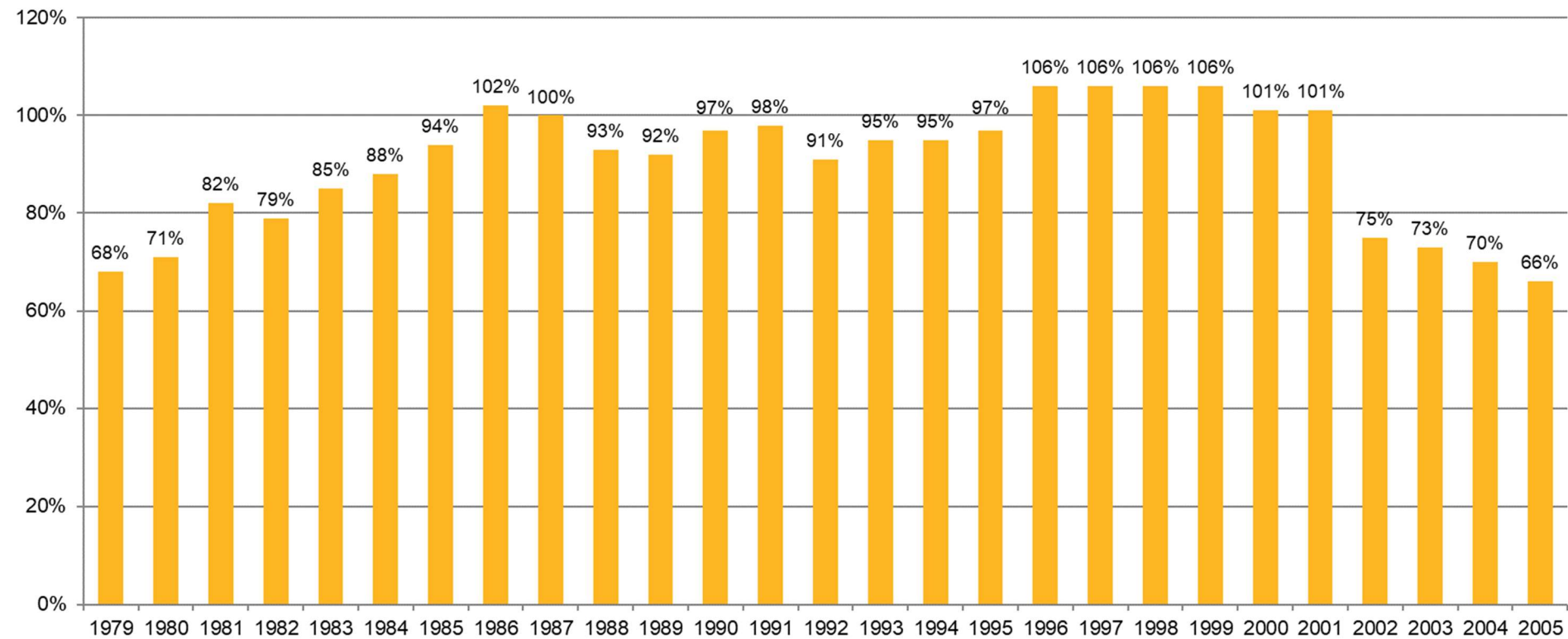
Funded Ratio History (Based on Valuation Assets)

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 \$1,570 million (pension) and \$1,288 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 \$128 million (pension) and \$114 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 \$51 million.

3. Demographic Experience

Section 4 provides statistics on active and inactive members. The number of active members decreased 11.1% from 9,888 at June 30, 2021 to 8,795 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 53.51 to 53.78 and average credited service increased from 18.96 to 19.52 years.

The number of benefit recipients increased 1.4% from 37,717 to 38,243 and their average age increased from 71.17 to 71.61. The number of vested terminated participants decreased 3.5% from 5,135 to 4,955. Their average age increased from 53.92 to 54.37.

The overall effect of the demographic experience during FY22 was a liability loss of approximately \$0.4 million (pension) and a liability gain of approximately \$10.1¹ 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 \$1.1 million. However, the CPI-based postretirement pension adjustments (PRPA) were more than expected, resulting in a liability loss of approximately \$162 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 \$252 million. Healthcare benefits paid during FY22 generated a liability gain of approximately \$12 million. The EGWP subsidy received by the plan during FY22 was approximately \$54 million; the expected EGWP subsidy for FY22 was approximately \$46 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 pension Actuarial Accrued Liability as of June 30, 2022 by approximately \$206 million and decrease the healthcare Actuarial Accrued Liability as of June 30, 2022 by approximately \$88 million.

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	2.14%	2.15%
b. Past Service Cost Rate	<u>16.33%</u>	<u>17.70%</u>
c. Total Employer/State Contribution Rate, (a) + (b), not less than (a) ¹	18.47%	19.85%
Healthcare		
a. Normal Cost Rate	2.50%	1.94%
b. Past Service Cost Rate	<u>(5.83%)</u>	<u>(7.30%)</u>
c. Total Employer/State Contribution Rate, (a) + (b), not less than (a) ¹	2.50%	1.94%
Total		
a. Normal Cost Rate Net of Member Contributions	4.64%	4.09%
b. Past Service Cost Rate	<u>16.33%</u>	<u>17.70%</u>
c. Total Employer/State Contribution Rate, (a) + (b) ¹	20.97%	21.79%
d. Board Adopted Total Employer/State Contribution Rate	18.47% ²	TBD
e. Defined Contribution Retirement (DCR) Rate Paid by Employers	<u>6.63%</u>	<u>6.73%</u>
f. Board Adopted Total Rate, Including DCR Rate Paid by Employers, (d) + (e)	25.10%	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 18.47% 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	18.93%	3.16%
2. Change due to:		
a. Health Claims Experience	N/A	(0.11%)
b. Salary Increases	0.13%	N/A
c. Investment Experience	(0.34%)	0.00%
d. Demographic Experience and Miscellaneous ¹	0.52%	(0.37%)
e. Actual vs Expected Contributions	(0.14%)	0.00%
f. Assumption/Method Changes	0.54%	(0.22%)
g. Plan Changes	<u>0.00%</u>	<u>0.00%</u>
h. Total Change, (a) + (b) + (c) + (d) + (e) + (f) + (g)	0.71%	(0.70%)
3. Total Employer/State Contribution Rate as of June 30, 2022, (1) + (2)(h)	19.64%	2.46%

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	\$ (20,482)	\$ (9,371)
Termination Experience	(6,115)	(12,796)
Disability Experience	120	282
Active Mortality Experience	8,240	3,144
Inactive Mortality Experience	17,838	6,761
Salary Increases	(50,545)	N/A
Rehires (Net of Rehire Load)	8,458	11,563
Transfers between PF and Others	(724)	631
COLA Increases	1,134	N/A
PRPA Increases	(162,028)	N/A
Benefit Payments different than Expected	17,930	11,949
Per Capita Claims Cost	N/A	251,976
Medicare Part B Only Experience	N/A	5,064
Changes in Dependent Coverage Elections	N/A	17,064
Programming Changes ²	791	(314)
Miscellaneous ³	<u>(16,449)</u>	<u>(6,702)</u>
Total	\$ (201,832)	\$ 279,251

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

² Includes adjustments to the way the 10% COLA minimum of \$50 applies for all active members (pension), the calculation of occupational death benefits for married Peace Officer/Firefighters to include a minimum of 50% of salary (pension), the timing of the PRPA increases for Peace Officer/Firefighters who retire from occupational disability to be at their normal retirement date (pension), the elimination of child medical premiums for retirees over age 60 (healthcare), and the extension of disability rates beyond age 54 (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 pension amount includes a loss of \$6,746 for unexpected beneficiaries and QDRO's based on last year's data.

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	\$ 11,800	\$ (519)
2. June 30, 2021 Normal Cost Rehire Load, with interest to June 30, 2022	\$ 20,258	\$ 11,044
3. Rehire Gain/(Loss), (2) - (1)	\$ 8,458	\$ 11,563

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	\$ 205,891	\$ (88,392)

Section 1: Actuarial Funding Results

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

Peace Officer / Firefighter

As of June 30, 2022	Present Value of Projected Benefits	Actuarial Accrued (Past Service) Liability
Active Members		
Retirement Benefits	\$ 933,907	\$ 819,088
Termination Benefits	5,794	(650)
Disability Benefits	1,151	(1,627)
Death Benefits	5,205	2,791
Return of Contributions	531	(3,932)
Medical and Prescription Drug Benefits	345,828	292,498
Medicare Part D Subsidy	(32,479)	(27,510)
Indebtedness	<u>(4,169)</u>	<u>(4,169)</u>
Subtotal	\$ 1,255,768	\$ 1,076,489
Inactive Members		
Not Vested	\$ 2,604	\$ 2,604
Vested Terminations		
- Retirement Benefits	37,113	37,113
- Medical and Prescription Drug Benefits	99,317	99,317
- Medicare Part D Subsidy	(11,459)	(11,459)
- Indebtedness	(550)	(550)
Retirees & Beneficiaries		
- Retirement Benefits	1,855,975	1,855,975
- Medical and Prescription Drug Benefits	613,845	613,845
- Medicare Part D Subsidy	<u>(93,135)</u>	<u>(93,135)</u>
Subtotal	\$ 2,503,710	\$ 2,503,710
Total	\$ 3,759,478	\$ 3,580,199
Total Pension	\$ 2,837,561	\$ 2,706,643
Total Medical, Net of Part D Subsidy	\$ 921,917	\$ 873,556
Total Medical, Gross of Part D Subsidy	\$ 1,058,990	\$ 1,005,660

Peace Officer / Firefighter

As of June 30, 2022	Present Value of Projected Benefits	Actuarial Accrued (Past Service) Liability
By Tier		
Tier 1		
- Pension	\$ 980,148	\$ 979,552
- Medical, Net of Part D Subsidy	249,473	249,070
Tier 2		
- Pension	728,229	716,835
- Medical, Net of Part D Subsidy	262,083	257,941
Tier 3		
- Pension	1,129,184	1,010,256
- Medical, Net of Part D Subsidy	410,361	366,545
Total	\$ 3,759,478	\$ 3,580,199

As of June 30, 2022	Normal Cost
Active Members	
Retirement Benefits	\$ 22,133
Termination Benefits	1,306
Disability Benefits	560
Death Benefits	483
Return of Contributions	885
Medical and Prescription Drug Benefits	10,190
Medicare Part D Subsidy	(974)
Rehire Assumption (Pension)	3,881
Rehire Assumption (Medical)	221
Administrative Expenses (Pension)	2,175
Administrative Expenses (Medical)	639
Total	\$ 41,499
Total Pension	\$ 31,423
Total Medical, Net of Part D Subsidy	\$ 10,076
Total Medical, Gross of Part D Subsidy	\$ 11,050

By Tier	
Tier 1	
- Pension	\$ 285
- Medical, Net of Part D Subsidy	174
Tier 2	
- Pension	3,775
- Medical, Net of Part D Subsidy	1,189
Tier 3	
- Pension	27,363
- Medical, Net of Part D Subsidy	8,713
Total	\$ 41,499

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

Others

As of June 30, 2022	Present Value of Projected Benefits	Actuarial Accrued (Past Service) Liability
Active Members		
Retirement Benefits	\$ 3,268,920	\$ 2,996,468
Termination Benefits	199,792	113,730
Disability Benefits	16,003	5,629
Death Benefits	24,789	19,011
Return of Contributions	10,360	(27,469)
Medical and Prescription Drug Benefits	1,695,732	1,406,497
Medicare Part D Subsidy	(238,440)	(202,857)
Indebtedness	<u>(34,830)</u>	<u>(34,830)</u>
Subtotal	\$ 4,942,326	\$ 4,276,179
Inactive Members		
Not Vested	\$ 74,813	\$ 74,813
Vested Terminations		
- Retirement Benefits	683,105	683,105
- Medical and Prescription Drug Benefits	896,206	896,206
- Medicare Part D Subsidy	(111,617)	(111,617)
- Indebtedness	(14,335)	(14,335)
Retirees & Beneficiaries		
- Retirement Benefits	9,570,914	9,570,914
- Medical and Prescription Drug Benefits	4,656,111	4,656,111
- Medicare Part D Subsidy	<u>(860,827)</u>	<u>(860,827)</u>
Subtotal	\$ 14,894,370	\$ 14,894,370
Total	\$ 19,836,696	\$ 19,170,549
Total Pension	\$ 13,799,531	\$ 13,387,036
Total Medical, Net of Part D Subsidy	\$ 6,037,165	\$ 5,783,513
Total Medical, Gross of Part D Subsidy	\$ 7,248,049	\$ 6,958,814

Others

As of June 30, 2022	Present Value of Projected Benefits	Actuarial Accrued (Past Service) Liability
By Tier		
Tier 1		
- Pension	\$ 6,012,181	\$ 5,994,690
- Medical, Net of Part D Subsidy	2,170,866	2,155,098
Tier 2		
- Pension	3,992,776	3,916,074
- Medical, Net of Part D Subsidy	1,807,987	1,758,146
Tier 3		
- Pension	3,794,574	3,476,272
- Medical, Net of Part D Subsidy	2,058,312	1,870,269
Total	\$ 19,836,696	\$ 19,170,549

As of June 30, 2022	Normal Cost
Active Members	
Retirement Benefits	\$ 52,076
Termination Benefits	13,971
Disability Benefits	1,772
Death Benefits	1,075
Return of Contributions	6,465
Medical and Prescription Drug Benefits	52,391
Medicare Part D Subsidy	(6,552)
Rehire Assumption (Pension)	11,530
Rehire Assumption (Medical)	1,100
Administrative Expenses (Pension)	6,460
Administrative Expenses (Medical)	3,179
Total	\$ 143,467
Total Pension	\$ 93,349
Total Medical, Net of Part D Subsidy	\$ 50,118
Total Medical, Gross of Part D Subsidy	\$ 56,670

By Tier	
Tier 1	
- Pension	\$ 6,826
- Medical, Net of Part D Subsidy	5,336
Tier 2	
- Pension	21,435
- Medical, Net of Part D Subsidy	11,903
Tier 3	
- Pension	65,088
- Medical, Net of Part D Subsidy	32,879
Total	\$ 143,467

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

All Members

As of June 30, 2022	Present Value of Projected Benefits	Actuarial Accrued (Past Service) Liability
Active Members		
Retirement Benefits	\$ 4,202,827	\$ 3,815,556
Termination Benefits	205,586	113,080
Disability Benefits	17,154	4,002
Death Benefits	29,994	21,802
Return of Contributions	10,891	(31,401)
Medical and Prescription Drug Benefits	2,041,560	1,698,995
Medicare Part D Subsidy	(270,919)	(230,367)
Indebtedness	<u>(38,999)</u>	<u>(38,999)</u>
Subtotal	\$ 6,198,094	\$ 5,352,668
Inactive Members		
Not Vested	\$ 77,417	\$ 77,417
Vested Terminations		
- Retirement Benefits	720,218	720,218
- Medical and Prescription Drug Benefits	995,523	995,523
- Medicare Part D Subsidy	(123,076)	(123,076)
- Indebtedness	(14,885)	(14,885)
Retirees & Beneficiaries		
- Retirement Benefits	11,426,889	11,426,889
- Medical and Prescription Drug Benefits	5,269,956	5,269,956
- Medicare Part D Subsidy	<u>(953,962)</u>	<u>(953,962)</u>
Subtotal	\$ 17,398,080	\$ 17,398,080
Total	\$ 23,596,174	\$ 22,750,748
Total Pension	\$ 16,637,092	\$ 16,093,679
Total Medical, Net of Part D Subsidy	\$ 6,959,082	\$ 6,657,069
Total Medical, Gross of Part D Subsidy	\$ 8,307,039	\$ 7,964,474

All Members

As of June 30, 2022	Present Value of Projected Benefits	Actuarial Accrued (Past Service) Liability
By Tier		
Tier 1		
- Pension	\$ 6,992,329	\$ 6,974,242
- Medical, Net of Part D Subsidy	2,420,339	2,404,168
Tier 2		
- Pension	4,721,005	4,632,909
- Medical, Net of Part D Subsidy	2,070,070	2,016,087
Tier 3		
- Pension	4,923,758	4,486,528
- Medical, Net of Part D Subsidy	2,468,673	2,236,814
Total	\$ 23,596,174	\$ 22,750,748

As of June 30, 2022	Normal Cost
Active Members	
Retirement Benefits	\$ 74,209
Termination Benefits	15,277
Disability Benefits	2,332
Death Benefits	1,558
Return of Contributions	7,350
Medical and Prescription Drug Benefits	62,581
Medicare Part D Subsidy	(7,526)
Rehire Assumption (Pension)	15,411
Rehire Assumption (Medical)	1,321
Administrative Expenses (Pension)	8,635
Administrative Expenses (Medical)	3,818
Total	\$ 184,966
Total Pension	\$ 124,772
Total Medical, Net of Part D Subsidy	\$ 60,194
Total Medical, Gross of Part D Subsidy	\$ 67,720

By Tier	
Tier 1	
- Pension	\$ 7,111
- Medical, Net of Part D Subsidy	5,510
Tier 2	
- Pension	25,210
- Medical, Net of Part D Subsidy	13,092
Tier 3	
- Pension	92,451
- Medical, Net of Part D Subsidy	41,592
Total	\$ 184,966

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

Peace Officer / Firefighter

Normal Cost Rate	Pension	Healthcare
1. Total Normal Cost	\$ 31,423	\$ 10,076
2. DB Rate Payroll Projected for FY23	142,154	142,154
3. DCR Rate Payroll Projected for FY23	249,857	249,857
4. Total Rate Payroll Projected for FY23	392,011	392,011
5. Normal Cost Rate		
a. Based on DB Rate Payroll, (1) ÷ (2)	22.10%	7.09%
b. Based on Total Rate Payroll, (1) ÷ (4)	8.02%	2.57%
6. Average Member Contribution Rate	2.72%	0.00%
7. Employer Normal Cost, (5)(b) - (6)	5.30%	2.57%

Past Service Rate	Pension	Healthcare
1. Actuarial Accrued Liability	\$ 2,706,643	\$ 873,556
2. Valuation Assets ¹	1,843,510	1,178,369
3. Unfunded Actuarial Accrued Liability, (1) - (2)	\$ 863,133	\$ (304,813)
4. Funded Ratio, (2) ÷ (1)	68.1%	134.9%
5. Past Service Cost Amortization Payment	68,268	(20,436)
6. Total Rate Payroll Projected for FY23	392,011	392,011
7. Past Service Rate, (5) ÷ (6)	17.41%	(5.21%)
Total Employer / State Contribution Rate, not less than Normal Cost Rate	22.71%	2.57%

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

Tier 1	23.97%	14.63%
Tier 2	21.86%	6.88%
Tier 3	22.12%	7.04%

¹ Allocated between Peace Officer / Firefighter and Others in proportion to Actuarial Accrued Liability.

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

Peace Officer / Firefighter

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	\$ 731,232	\$ 711,892	\$ 57,724
Change in Assumptions	6/30/2018	21	88,162	88,842	6,281
FY19 Loss	6/30/2019	22	61,980	62,507	4,296
FY20 Loss	6/30/2020	23	31,158	31,387	2,101
FY21 Gain	6/30/2021	24	(83,489)	(83,862)	(5,476)
Change in Assumptions	6/30/2022	25	42,593	42,593	2,718
FY22 Loss	6/30/2022	25	9,774	9,774	624
Total				\$ 863,133	\$ 68,268

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	(30,991)	(30,172)	(2,447)
Change in Assumptions/Methods/EGWP	6/30/2018	21	27,556	27,768	1,963
FY19 Gain	6/30/2019	22	(77,575)	(78,234)	(5,376)
FY20 Gain	6/30/2020	23	(38,036)	(38,315)	(2,564)
Medical/Prescription Drug Plan Changes	6/30/2021	24	(7,361)	(7,394)	(483)
FY21 Gain	6/30/2021	24	(94,266)	(94,687)	(6,183)
Change in Assumptions	6/30/2022	25	4,475	4,475	286
FY22 Gain	6/30/2022	25	(88,254)	(88,254)	(5,632)
Total				\$ (304,813)	\$ (20,436)

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

Others

Normal Cost Rate	Pension	Healthcare
1. Total Normal Cost	\$ 93,349	\$ 50,118
2. DB Rate Payroll Projected for FY23	654,512	654,512
3. DCR Rate Payroll Projected for FY23	1,395,484	1,395,484
4. Total Rate Payroll Projected for FY23	2,049,996	2,049,996
5. Normal Cost Rate		
a. Based on DB Rate Payroll, (1) ÷ (2)	14.26%	7.66%
b. Based on Total Rate Payroll, (1) ÷ (4)	4.55%	2.44%
6. Average Member Contribution Rate	2.17%	0.00%
7. Employer Normal Cost, (5)(b) - (6)	2.38%	2.44%

Past Service Rate	Pension	Healthcare
1. Actuarial Accrued Liability	\$ 13,387,036	\$ 5,783,513
2. Valuation Assets ¹	9,117,988	7,801,574
3. Unfunded Actuarial Accrued Liability, (1) - (2)	\$ 4,269,048	\$ (2,018,061)
4. Funded Ratio, (2) ÷ (1)	68.1%	134.9%
5. Past Service Cost Amortization Payment	341,778	(133,951)
6. Total Rate Payroll Projected for FY23	2,049,996	2,049,996
7. Past Service Rate, (5) ÷ (6)	16.67%	(6.53%)
Total Employer / State Contribution Rate, not less than Normal Cost Rate	19.05%	2.44%

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

Tier 1	18.43%	14.41%
Tier 2	13.73%	7.62%
Tier 3	14.11%	7.13%

¹ Allocated between Peace Officer / Firefighter and Others in proportion to Actuarial Accrued Liability.

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

Others

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	\$ 3,889,167	\$ 3,786,305	\$ 307,013
Change in Assumptions	6/30/2018	21	467,280	470,875	33,290
FY19 Loss	6/30/2019	22	235,559	237,556	16,325
FY20 Loss	6/30/2020	23	93,343	94,030	6,293
FY21 Gain	6/30/2021	24	(495,211)	(497,420)	(32,482)
Change in Assumptions	6/30/2022	25	163,298	163,298	10,420
FY22 Loss	6/30/2022	25	14,404	14,404	919
Total				\$ 4,269,048	\$ 341,778

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	(47,263)	(46,013)	(3,730)
Change in Assumptions/Methods/EGWP	6/30/2018	21	22,293	22,464	1,588
FY19 Gain	6/30/2019	22	(553,265)	(557,960)	(38,345)
FY20 Gain	6/30/2020	23	(253,711)	(255,575)	(17,106)
Medical/Prescription Drug Plan Changes	6/30/2021	24	(54,446)	(54,689)	(3,571)
FY21 Gain	6/30/2021	24	(613,647)	(616,386)	(40,250)
Change in Assumptions	6/30/2022	25	(92,867)	(92,867)	(5,926)
FY22 Gain	6/30/2022	25	(417,035)	(417,035)	(26,611)
Total				\$ (2,018,061)	\$ (133,951)

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

All Members

Normal Cost Rate	Pension	Healthcare
1. Total Normal Cost	\$ 124,772	\$ 60,194
2. DB Rate Payroll Projected for FY23	796,666	796,666
3. DCR Rate Payroll Projected for FY23	1,645,341	1,645,341
4. Total Rate Payroll Projected for FY23	2,442,007	2,442,007
5. Normal Cost Rate		
a. Based on DB Rate Payroll, (1) ÷ (2)	15.66%	7.56%
b. Based on Total Rate Payroll, (1) ÷ (4)	5.11%	2.46%
6. Average Member Contribution Rate ¹	2.26%	0.00%
7. Employer Normal Cost, (5)(b) - (6)	2.85%	2.46%

Past Service Rate	Pension	Healthcare
1. Actuarial Accrued Liability	\$ 16,093,679	\$ 6,657,069
2. Valuation Assets	10,961,498	8,979,943
3. Unfunded Actuarial Accrued Liability, (1) - (2)	\$ 5,132,181	\$ (2,322,874)
4. Funded Ratio, (2) ÷ (1)	68.1%	134.9%
5. Past Service Cost Amortization Payment	410,046	(154,387)
6. Total Rate Payroll Projected for FY23	2,442,007	2,442,007
7. Past Service Rate, (5) ÷ (6)	16.79%	(6.32%)
Total Employer / State Contribution Rate, not less than Normal Cost Rate	19.64%	2.46%

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

Tier 1	18.60%	14.41%
Tier 2	14.54%	7.55%
Tier 3	15.80%	7.11%

¹ 7.5% for Peace Officer / Firefighter and 6.82% weighted average for Others

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

All Members

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	\$ 4,620,399	\$ 4,498,197	\$ 364,737
Change in Assumptions	6/30/2018	21	555,442	559,717	39,571
FY19 Loss	6/30/2019	22	297,539	300,063	20,621
FY20 Loss	6/30/2020	23	124,501	125,417	8,394
FY21 Gain	6/30/2021	24	(578,700)	(581,282)	(37,958)
Change in Assumptions	6/30/2022	25	205,891	205,891	13,138
FY22 Loss	6/30/2022	25	24,178	24,178	1,543
Total				\$ 5,132,181	\$ 410,046

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	(78,254)	(76,185)	(6,177)
Change in Assumptions/Methods/EGWP	6/30/2018	21	49,849	50,232	3,551
FY19 Gain	6/30/2019	22	(630,840)	(636,194)	(43,721)
FY20 Gain	6/30/2020	23	(291,747)	(293,890)	(19,670)
Medical/Prescription Drug Plan Changes	6/30/2021	24	(61,807)	(62,083)	(4,054)
FY21 Gain	6/30/2021	24	(707,913)	(711,073)	(46,433)
Change in Assumptions	6/30/2022	25	(88,392)	(88,392)	(5,640)
FY22 Gain	6/30/2022	25	(505,289)	(505,289)	(32,243)
Total				\$ (2,322,874)	\$ (154,387)

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	\$ 16,093,679	\$ 6,657,069
b. Normal Cost	116,137	56,376
c. Interest on (a) and (b) at 7.25%	1,175,212	486,725
d. Estimated Benefit Payments	(1,037,270)	(410,266)
e. Interest on (d) at 7.25%, adjusted for timing	(40,081)	(14,612)
f. Expected Actuarial Accrued Liability as of June 30, 2023	\$ 16,307,677	\$ 6,775,292
g. Projected Normal Cost	103,083	50,293
h. Interest on (f) and (g) at 7.25%	1,189,780	494,855
i. Estimated Benefit Payments	(1,087,579)	(431,186)
j. Interest on (i) at 7.25%, adjusted for timing	(42,024)	(15,357)
k. Expected Actuarial Accrued Liability as of June 30, 2024	\$ 16,470,937	\$ 6,873,897
2. Asset Roll Forward		
a. Actuarial Value of Assets as of June 30, 2022	\$ 10,961,498	\$ 8,979,943
b. Interest on (a) at 7.25%	794,709	651,046
c. Employee Contributions	60,769	0
d. Employer Contributions	414,488	0
e. State Assistance Contributions	33,933	0
f. Interest on (c) thru (e) at 7.25%, adjusted for timing*	19,387	0
g. Estimated Benefit Payments	(1,037,270)	(410,266)
h. Administrative Expenses	(8,635)	(3,818)
i. Interest on (g) and (h) at 7.25%, adjusted for timing	(40,388)	(14,748)
j. AVA Adjustments	5,705	11,127
k. Expected Actuarial Value of Assets as of June 30, 2023	\$ 11,204,196	\$ 9,213,284
l. Interest on (k) at 7.25%	812,304	667,963
m. Employee Contributions	55,952	0
n. Employer Contributions	414,172	0
o. State Assistance Contributions**	37,942	0
p. Interest on (m) thru (o) at 7.25%, adjusted for timing*	19,495	0
q. Estimated Benefit Payments	(1,087,579)	(431,186)
r. Administrative Expenses	(7,716)	(3,410)
s. Interest on (q) and (r) at 7.25%, adjusted for timing	(42,299)	(15,478)
t. AVA Adjustments	34,003	29,654
u. Expected Actuarial Value of Assets as of June 30, 2024	\$ 11,440,470	\$ 9,460,827
3. Expected Unfunded Actuarial Accrued Liability as of June 30, 2024, 1(k) - 2(u)	\$ 5,030,467	\$ (2,586,930)

* Employee and Employer Contributions are paid throughout the year. State Assistance Contributions are 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	\$ 649,344	\$ 649,344
b. Defined Contribution Retirement Members	<u>1,815,216</u>	<u>1,815,216</u>
c. Total Rate Payroll	\$ 2,464,560	\$ 2,464,560
5. Expected FY25 Contribution Rate Calculation		
a. Projected Normal Cost for FY25	\$ 98,092	\$ 47,841
b. Projected Normal Cost Rate for FY25	3.98%	1.94%
c. Expected Member Contribution Rate for FY25	(1.83%)	0.00%
d. Expected Employer Normal Cost Rate for FY25	2.15%	1.94%
e. Expected Unfunded Liability as of June 30, 2024	\$ 5,030,467	\$ (2,586,930)
f. FY25 Layered Amortization of Expected Unfunded Liability	436,202	(179,931)
g. Expected Past Service Cost Contribution Rate for FY25	17.70%	(7.30%)
h. Expected Total Contribution Rate for FY25, not less than Normal Cost Rate	19.85%	1.94%

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	\$ 4,620,399	\$ 4,352,600	\$ 385,074
Change in Assumptions	6/30/2018	19	555,442	554,694	41,777
FY19 Loss	6/30/2019	20	297,539	298,706	21,771
FY20 Loss	6/30/2020	21	124,501	125,356	8,862
FY21 Gain	6/30/2021	22	(578,700)	(583,132)	(40,074)
FY22 Loss	6/30/2022	23	24,970	24,335	1,629
Change in Assumptions	6/30/2022	23	205,891	207,237	13,871
Expected FY23 Loss	6/30/2023	24	38,992	39,150	2,557
Expected FY24 Loss	6/30/2024	25	11,521	<u>11,521</u>	<u>735</u>
Total				\$ 5,030,467	\$ 436,202

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	\$ (78,254)	\$ (73,720)	\$ (6,522)
Change in Assumptions/Methods/EGWP	6/30/2018	19	49,849	49,781	3,749
FY19 Gain	6/30/2019	20	(630,840)	(633,316)	(46,159)
FY20 Gain	6/30/2020	21	(291,747)	(293,747)	(20,767)
Medical/Prescription Drug Plan Changes	6/30/2021	22	(61,807)	(62,280)	(4,280)
FY21 Gain	6/30/2021	22	(707,913)	(713,337)	(49,022)
FY22 Gain	6/30/2022	23	(505,289)	(508,591)	(34,041)
Change in Assumptions/Methods/EGWP	6/30/2022	23	(88,392)	(88,969)	(5,955)
Expected FY23 Gain	6/30/2023	24	(112,291)	(112,748)	(7,362)
Expected FY24 Gain	6/30/2024	25	(150,003)	<u>(150,003)</u>	<u>(9,572)</u>
Total				\$ (2,586,930)	\$ (179,931)

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

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	\$ 15,419,975	\$ 6,856,170
b. Normal Cost	119,376	70,467
c. Interest on (a) and (b) at 7.38%	1,146,804	511,186
d. Employer Group Waiver Plan	0	54,646
e. Benefit Payments	(953,055)	(453,308)
f. Refund of Contributions	(9,302)	0
g. Interest on (d) thru (f) at 7.38%, adjusted for timing	(37,842)	(14,449)
h. Assumptions/Methods Changes	205,891	(88,392)
i. Expected Actuarial Accrued Liability as of June 30, 2022 (a) + (b) + (c) + (d) + (e) + (f) + (g) + (h)	\$ 15,891,847	\$ 6,936,320
2. Actual Actuarial Accrued Liability as of June 30, 2022	16,093,679	6,657,069
3. Liability Gain/(Loss), (1)(i) - (2)	\$ (201,832)	\$ 279,251
4. Expected Actuarial Asset Value		
a. Actuarial Value of Assets as of June 30, 2021	\$ 10,466,709	\$ 8,581,155
b. Interest on (a) at 7.38%	772,443	633,289
c. Employee Contributions	66,412	0
d. Employer Contributions	415,538	64,990
e. State Assistance Contributions	97,700	0
f. Employer Group Waiver Plan	0	54,646
g. Interest on (c) thru (f) at 7.38%, adjusted for timing	24,678	4,336
h. Benefit Payments	(953,055)	(453,308)
i. Refund of Contributions	(9,302)	0
j. Administrative Expenses	(9,038)	(2,776)
k. Interest on (h) thru (j) at 7.38%, adjusted for timing	(38,169)	(16,530)
l. Expected Actuarial Asset Value as of June 30, 2022 (a) + (b) + (c) + (d) + (e) + (f) + (g) + (h) + (i) + (j) + (k)	\$ 10,833,916	\$ 8,865,802
5. Actual Actuarial Asset Value as of June 30, 2022	10,961,498	8,979,943
6. Actuarial Asset Value Gain/(Loss), (5) - (4)(l)	\$ 127,582	\$ 114,141
7. Total Actuarial Gain/(Loss), (3) + (6)	\$ (74,250)	\$ 393,392
8. Contribution Gain/(Loss)	\$ 51,250	\$ 108,834
9. Administrative Expense Gain/(Loss)	\$ (1,178)	\$ 3,063
10. FY22 Gain/(Loss), (7) + (8) + (9)	\$ (24,178)	\$ 505,289

Section 1.5: Development of Change in Unfunded Liability During FY22 (\$'s in 0

	Pension	Healthcare
1. 2021 Unfunded Liability	\$ 4,953,266	\$ (1,724,985)
a. Interest on Unfunded Liability at 7.38%	\$ 365,551	\$ (127,304)
b. Normal Cost	119,376	70,467
c. Employee Contributions	(66,412)	0
d. Employer Contributions	(415,538)	(64,990)
e. State Assistance Contributions	(97,700)	0
f. Administrative Expenses	9,038	2,776
g. Interest on (b) thru (f) at 7.38%, adjusted for timing	(15,541)	2,946
h. Assumptions/Methods Changes	<u>205,891</u>	<u>(88,392)</u>
i. Expected Change in Unfunded Liability During FY22 (a) + (b) + (c) + (d) + (e) + (f) + (g) + (h)	\$ 104,665	\$ (204,497)
2. Expected 2022 Unfunded Liability, (1) + (1)(i)	\$ 5,057,931	\$ (1,929,482)
a. Liability (Gain)/Loss During FY22	\$ 201,832	\$ (279,251)
b. Actuarial Assets (Gain)/Loss During FY22	<u>(127,582)</u>	<u>(114,141)</u>
c. Total Actuarial (Gain)/Loss During FY22	\$ 74,250	\$ (393,392)
3. Actual 2022 Unfunded Liability, (2) + (2)(c)	\$ 5,132,181	\$ (2,322,874)

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	(0.30%)	0.16%	(0.03%)	0.05%	0.13%
3. Investment Experience	0.52%	0.50%	0.44%	(1.06%)	(0.34%)
4. Demographic Experience and Miscellaneous	0.26%	(0.45%)	(0.19%)	(0.54%)	0.52%
5. Actual vs Expected Contributions	<u>0.14%</u>	<u>0.11%</u>	<u>0.15%</u>	<u>(0.06%)</u>	<u>(0.14%)</u>
6. (Gain) or Loss During Year From Experience, (1) + (2) + (3) + (4) + (5)	0.62%	0.32%	0.37%	(1.61%)	0.17%
7. Assumptions / Method Changes	1.65%	0.00%	0.00%	0.00%	0.54%
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)	2.27%	0.32%	0.37%	(1.61%)	0.71%
10. Beginning Total Employer / State Contribution Rate	<u>17.58%</u>	<u>19.85%</u>	<u>20.17%</u>	<u>20.54%</u>	<u>18.93%</u>
11. Ending Valuation Year Employer / State Contribution Rate, (9) + (10)	19.85%	20.17%	20.54%	18.93%	19.64%
12. Fiscal Year Rates Adopted by ARMB					
a. Fiscal Year Employer / State Contribution Rate	20.66%	20.89%	18.38%	18.47%	19.85% *
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	(1.51%)	(2.39%)	(0.87%)	(0.12%)	(0.11%)
2. Salary Experience	N/A	N/A	N/A	N/A	N/A
3. Investment Experience	0.40%	0.38%	0.31%	0.00%	0.00%
4. Demographic Experience and Miscellaneous	(1.08%)	1.16%	0.38%	(0.26%)	(0.37%)
5. Actual vs Expected Contributions	<u>0.06%</u>	<u>0.02%</u>	<u>(0.16%)</u>	<u>0.00%</u>	<u>0.00%</u>
6. (Gain) or Loss During Year From Experience, (1) + (2) + (3) + (4) + (5)	(2.13%)	(0.83%)	(0.34%)	(0.38%)	(0.48%)
7. Assumptions / Method Changes	2.20%	0.00%	0.00%	0.00%	(0.22%)
8. Plan Changes	<u>0.00%</u>	<u>0.00%</u>	<u>0.00%</u>	<u>(0.03%)</u>	<u>0.00%</u>
9. Composite (Gain) or Loss During Year, (6) + (7) + (8)	0.07%	(0.83%)	(0.34%)	(0.41%)	(0.70%)
10. Beginning Total Employer / State Contribution Rate	<u>4.67%</u>	<u>4.74%</u>	<u>3.91%</u>	<u>3.57%</u>	<u>3.16%</u>
11. Ending Valuation Year Employer / State Contribution Rate, (9) + (10)	4.74%	3.91%	3.57%	3.16%	2.46%
12. Fiscal Year Rates Adopted by ARMB					
a. Fiscal Year Employer / State Contribution Rate	4.27%	3.12%	0.00%	0.00%	1.94% *
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	\$ 8,094,043	\$ 6,331,065	78.2%	\$ 1,762,978
June 30, 2007	8,662,324	6,739,004	77.8%	1,923,320
June 30, 2008	9,154,282	7,210,772	78.8%	1,943,510
June 30, 2009	9,702,086	6,108,528	63.0%	3,593,558
June 30, 2010	10,371,672	6,469,832	62.4%	3,901,840
June 30, 2011	10,919,047	6,762,149	61.9%	4,156,898
June 30, 2012	11,428,944	6,530,421	57.1%	4,898,523
June 30, 2013	11,945,881	6,510,749	54.5%	5,435,132
June 30, 2014	12,947,759	7,731,438	59.7%	5,216,321
June 30, 2015	13,337,929	8,931,160	67.0%	4,406,769
June 30, 2016	13,633,033	9,056,662	66.4%	4,576,371
June 30, 2017	13,832,130	9,229,703	66.7%	4,602,427
June 30, 2018	14,606,033	9,430,192	64.6%	5,175,841
June 30, 2019	15,039,180	9,576,693	63.7%	5,462,487
June 30, 2020	15,279,525	9,713,710	63.6%	5,565,815
June 30, 2021	15,419,975	10,466,709	67.9%	4,953,266
June 30, 2022	16,093,679	10,961,498	68.1%	5,132,181

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	\$ 6,294,370	\$ 2,709,843	43.1%	\$ 3,584,527
June 30, 2007	5,908,609	3,161,956	53.5%	2,746,653
June 30, 2008	6,733,859	3,829,334	56.9%	2,904,525
June 30, 2009	6,877,285	4,134,450	60.1%	2,742,835
June 30, 2010	7,760,820	4,687,632	60.4%	3,073,188
June 30, 2011	7,821,503	5,051,625	64.6%	2,769,878
June 30, 2012	7,863,417	5,301,609	67.4%	2,561,808
June 30, 2013	8,046,878	5,651,877	70.2%	2,395,001
June 30, 2014	7,949,613	6,913,160	87.0%	1,036,453
June 30, 2015	7,310,734	7,242,299	99.1%	68,435
June 30, 2016	7,736,457	7,411,330	95.8%	325,127
June 30, 2017	8,049,265	7,557,068	93.9%	492,197
June 30, 2018	7,658,104	7,686,509	100.4%	(28,405)
June 30, 2019	7,151,694	7,810,491	109.2%	(658,797)
June 30, 2020	7,036,550	7,989,358	113.5%	(952,808)
June 30, 2021	6,856,170	8,581,155	125.2%	(1,724,985)
June 30, 2022	6,657,069	8,979,943	134.9%	(2,322,874)

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	\$ 155,842	\$ 112,908	1.5%
- Subtotal	\$ 155,842	\$ 112,908	1.5%
Fixed Income Investments			
- Domestic Fixed Income Pool	\$ 2,300,390	\$ 1,899,694	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	\$ 2,300,390	\$ 1,899,694	21.3%
Equity Investments			
- Domestic Equity Pool	\$ 2,618,110	\$ 2,162,072	24.2%
- International Equity Pool	1,421,227	1,173,607	13.1%
- Private Equity Pool	1,779,516	1,469,549	16.5%
- Emerging Markets Equity Pool	318,049	262,649	2.9%
- Alternative Equity Strategies	629,789	520,088	5.8%
- Subtotal	\$ 6,766,691	\$ 5,587,965	62.5%
Other Investments			
- Real Estate Pool	\$ 813,282	\$ 672,726	7.5%
- Other Investments Pool	778,899	643,225	7.2%
- Absolute Return Pool	0	0	0.0%
- Other Assets	15	967	0.0%
- Subtotal	\$ 1,592,196	\$ 1,316,918	14.7%
Total Cash and Investments	\$ 10,815,119	\$ 8,917,485	100.0%
Net Accrued Receivables	1,021	(48,351)	
Net Assets	\$ 10,816,140	\$ 8,869,134	

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	\$ 11,912,309	\$ 9,784,141
2. Additions:		
a. Employee Contributions	\$ 66,412	\$ 0
b. Employer Contributions	415,538	64,990
c. State Assistance Contributions	97,700	0
d. Interest and Dividend Income	153,569	127,317
e. Net Appreciation / Depreciation in Fair Value of Investments	(829,657)	(682,785)
f. Employer Group Waiver Plan	0	54,646
g. Other	<u>187</u>	<u>125</u>
h. Total Additions	\$ (96,251)	\$ (435,707)
3. Deductions:		
a. Medical Benefits	\$ 0	\$ 453,308
b. Retirement Benefits	953,055	0
c. Refund of Contributions	9,302	0
d. Investment Expenses	28,523	23,216
e. Administrative Expenses	<u>9,038</u>	<u>2,776</u>
f. Total Deductions	\$ 999,918	\$ 479,300
4. Fair Value of Assets as of June 30, 2022	\$ 10,816,140	\$ 8,869,134
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 w 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	\$ 11,912,309	\$ 9,784,141
b. Contributions	579,650	64,990
c. Employer Group Waiver Plan	0	54,646
d. Benefit Payments	962,357	453,308
e. Administrative Expenses	9,038	2,776
f. Actual Investment Return (net of investment expenses)	(704,424)	(578,559)
g. Expected Return Rate (net of investment expenses)	7.38%	7.38%
h. Expected Return, Weighted for Timing	865,637	709,876
i. Investment Gain / (Loss) for the Year, (f) - (h)	(1,570,061)	(1,288,435)
2. Actuarial Value as of June 30, 2022		
a. Fair Value as of June 30, 2022	\$ 10,816,140	\$ 8,869,134
b. Deferred Investment Gain / (Loss)	(145,358)	(110,809)
c. Actuarial Value as of June 30, 2022, (a) - (b)	10,961,498	8,979,943
3. Ratio of Actuarial Value of Assets to Fair Value of Assets	101.3%	101.2%
4. Approximate Actuarial Value Investment Return Rate during FY22 Net of Investment Expenses	8.6%	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	\$ 17,834	\$ 14,268	\$ 3,566	\$ 0
June 30, 2019	(136,242)	(81,744)	(27,248)	(27,250)
June 30, 2020	(310,824)	(124,330)	(62,165)	(124,329)
June 30, 2021	2,103,782	420,756	420,756	1,262,270
June 30, 2022	<u>(1,570,061)</u>	<u>0</u>	<u>(314,012)</u>	<u>(1,256,049)</u>
Total	\$ 104,489	\$ 228,950	\$ 20,897	\$ (145,358)

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	\$ 30,997	\$ 24,796	\$ 6,201	\$ 0
June 30, 2019	(101,128)	(60,678)	(20,225)	(20,225)
June 30, 2020	(244,753)	(97,903)	(48,950)	(97,900)
June 30, 2021	1,730,106	346,021	346,021	1,038,064
June 30, 2022	<u>(1,288,435)</u>	<u>0</u>	<u>(257,687)</u>	<u>(1,030,748)</u>
Total	\$ 126,787	\$ 212,236	\$ 25,360	\$ (110,809)

Section 2.4: Historical Asset Rates of Return

Year Ending	Actuarial Value		Fair Value	
	Annual	Cumulative	Annual	Cumulative
June 30, 2005	8.7%	8.7%	8.5%	8.5%
June 30, 2006	9.3%	9.0%	11.4%	9.9%
June 30, 2007	11.6%	9.9%	18.5%	12.7%
June 30, 2008	10.0%	9.9%	(3.1%)	8.5%
June 30, 2009	(7.3%)	6.2%	(20.5%)	2.0%
June 30, 2010	7.2%	6.4%	10.2%	3.3%
June 30, 2011	7.2%	6.5%	20.4%	5.6%
June 30, 2012	1.2%	5.8%	0.2%	4.9%
June 30, 2013	4.0%	5.6%	12.1%	5.7%
June 30, 2014	21.9%	7.1%	18.1%	6.9%
June 30, 2015	7.0%	7.1%	2.9%	6.5%
June 30, 2016	5.0%	6.9%	(0.7%)	5.9%
June 30, 2017	5.4%	6.8%	12.8%	6.4%
June 30, 2018	6.1%	6.8%	8.2%	6.5%
June 30, 2019	5.5%	6.7%	6.0%	6.5%
June 30, 2020	5.8%	6.6%	4.1%	6.3%
June 30, 2021	11.6%	6.9%	30.0%	7.6%
June 30, 2022	8.7%	7.0%	(6.0%)	6.8%

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

Cumulative since fiscal year ending June 30, 2005.

Section 3: Projections

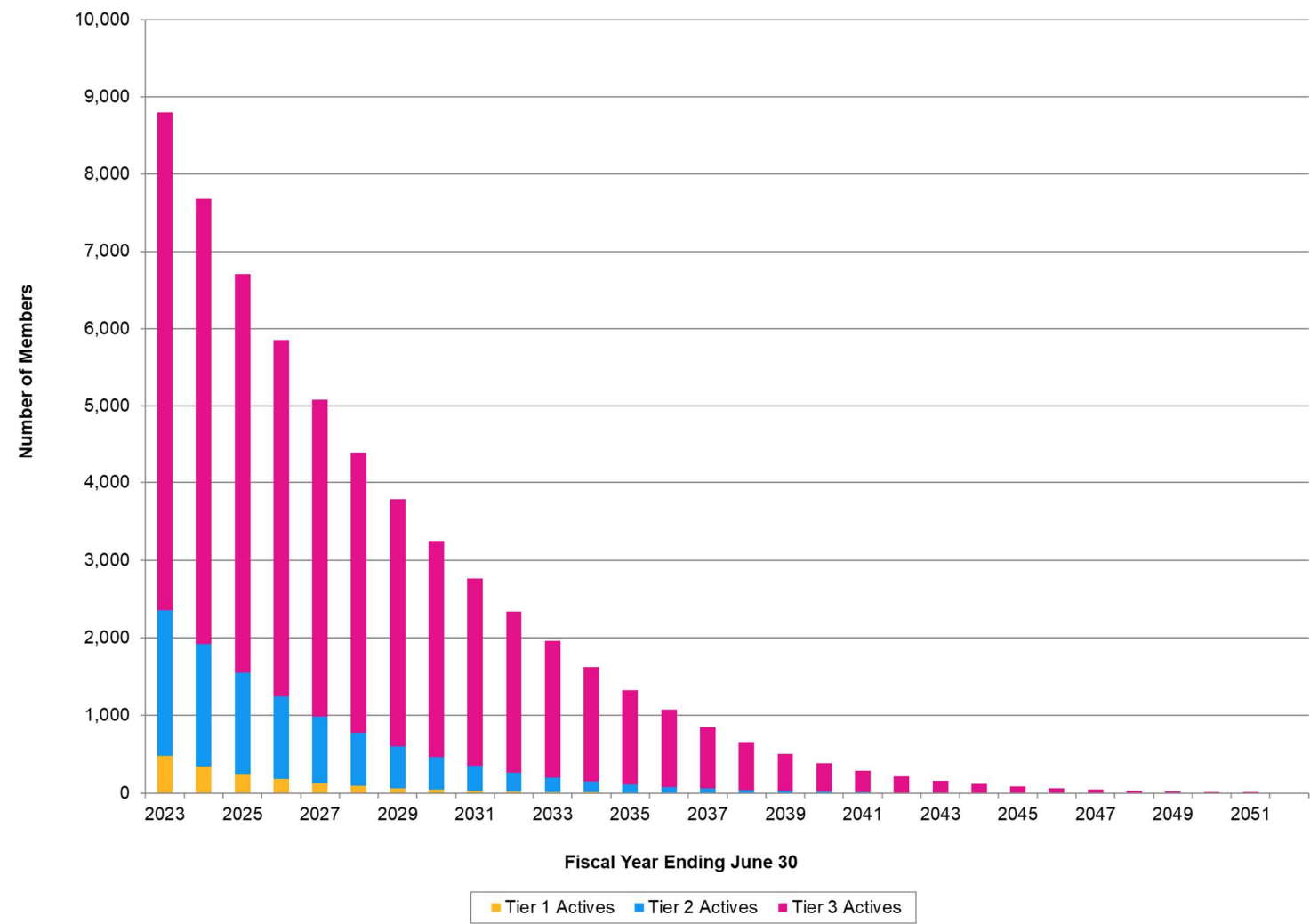
Section 3.1: Projection Assumptions and Methods

Key Assumptions

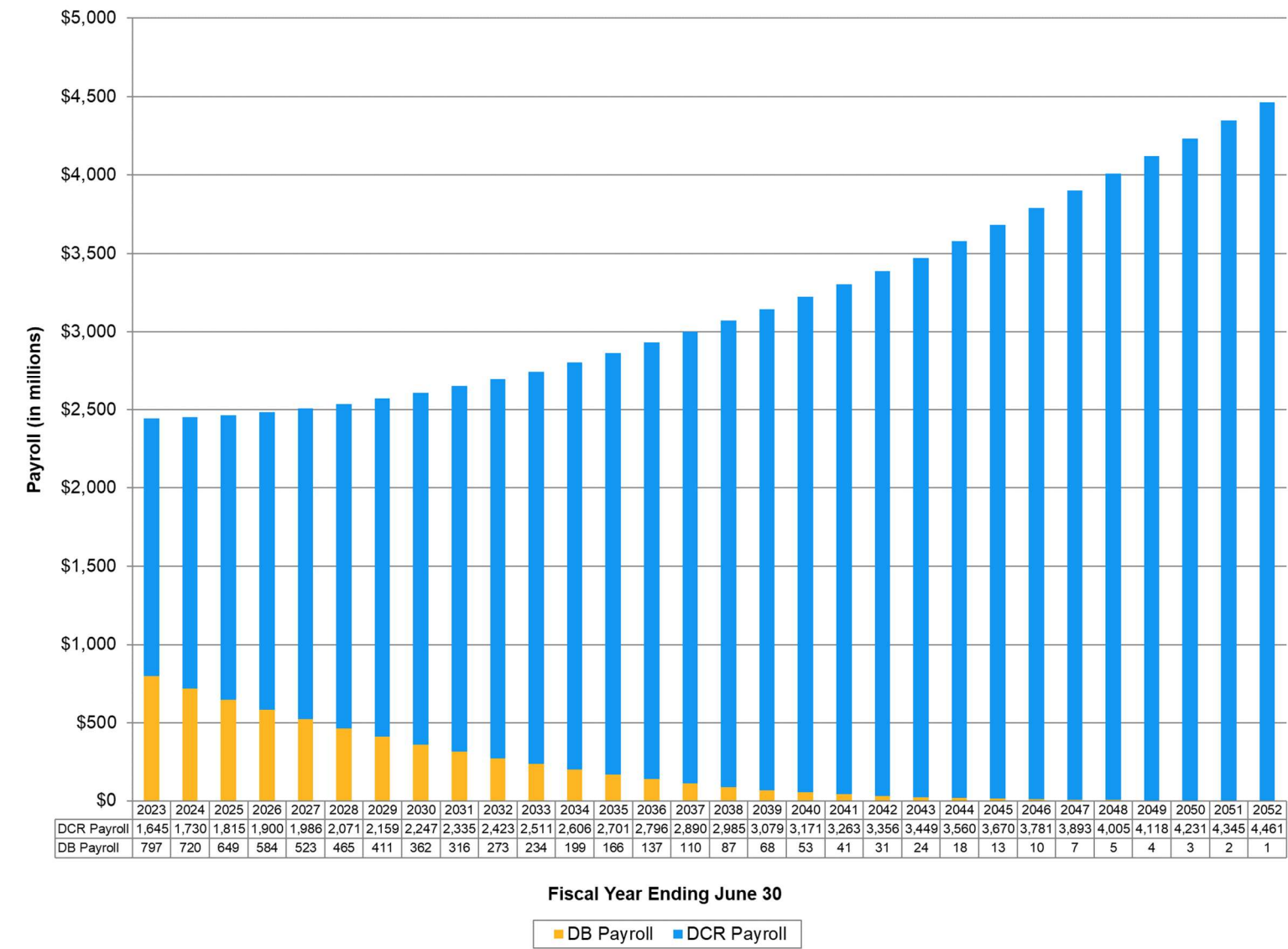
- 7.25% investment return (net of investment expenses) on the Fair Value of Assets in all future years.
- The Actuarial Value of Assets was re-initialized to Fair Value as of June 30, 2014. The Actuarial Value of Assets after June 30, 2014 reflects the deferred gains and losses generated by the smoothing 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.
- The % of total DB/DCR payroll represented by the State's employees based on the June 30, 2022 data was assumed to remain constant in all future years.
- 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

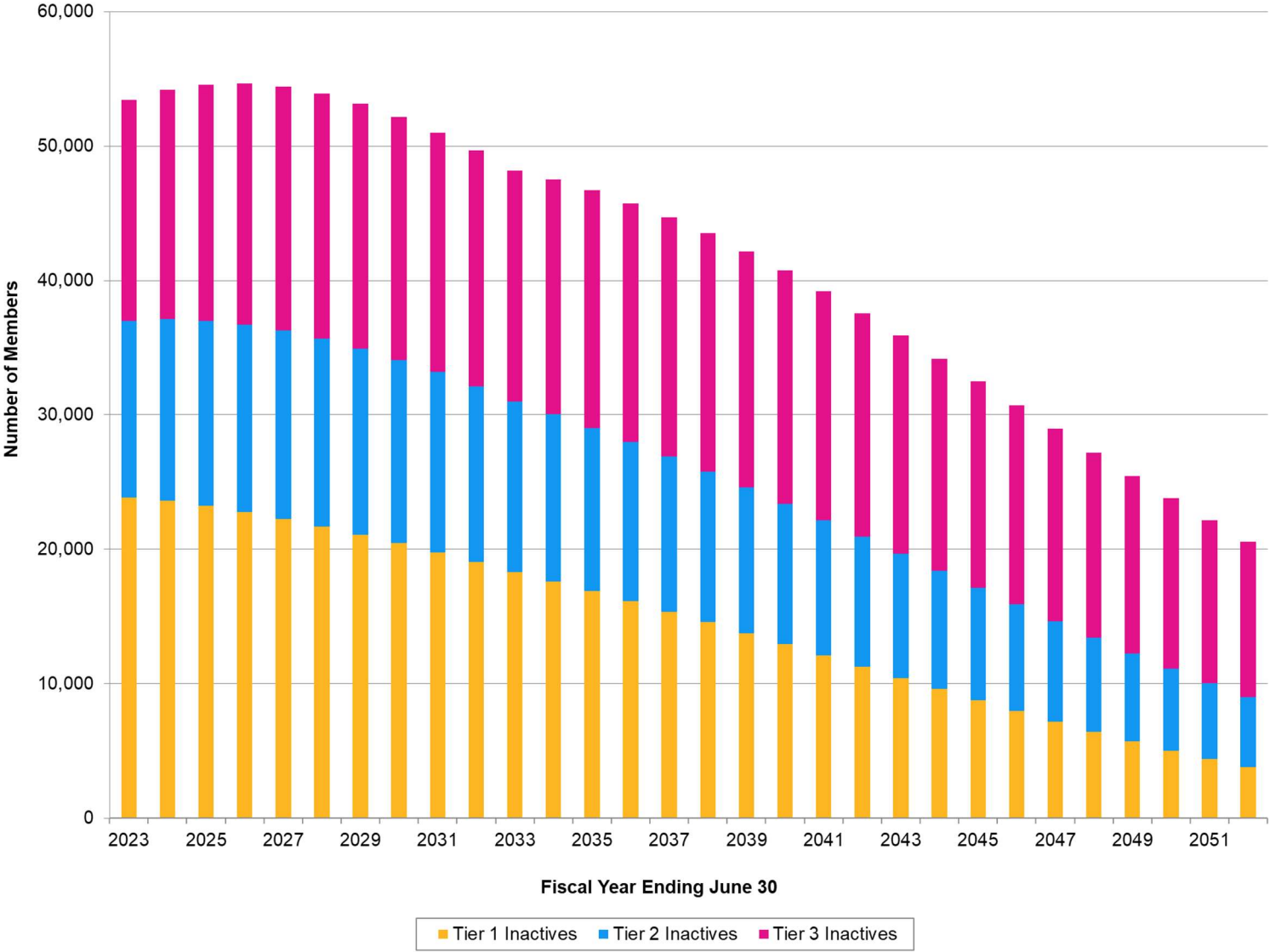
Projected Active Member Count



Projected DB and DCR Payroll

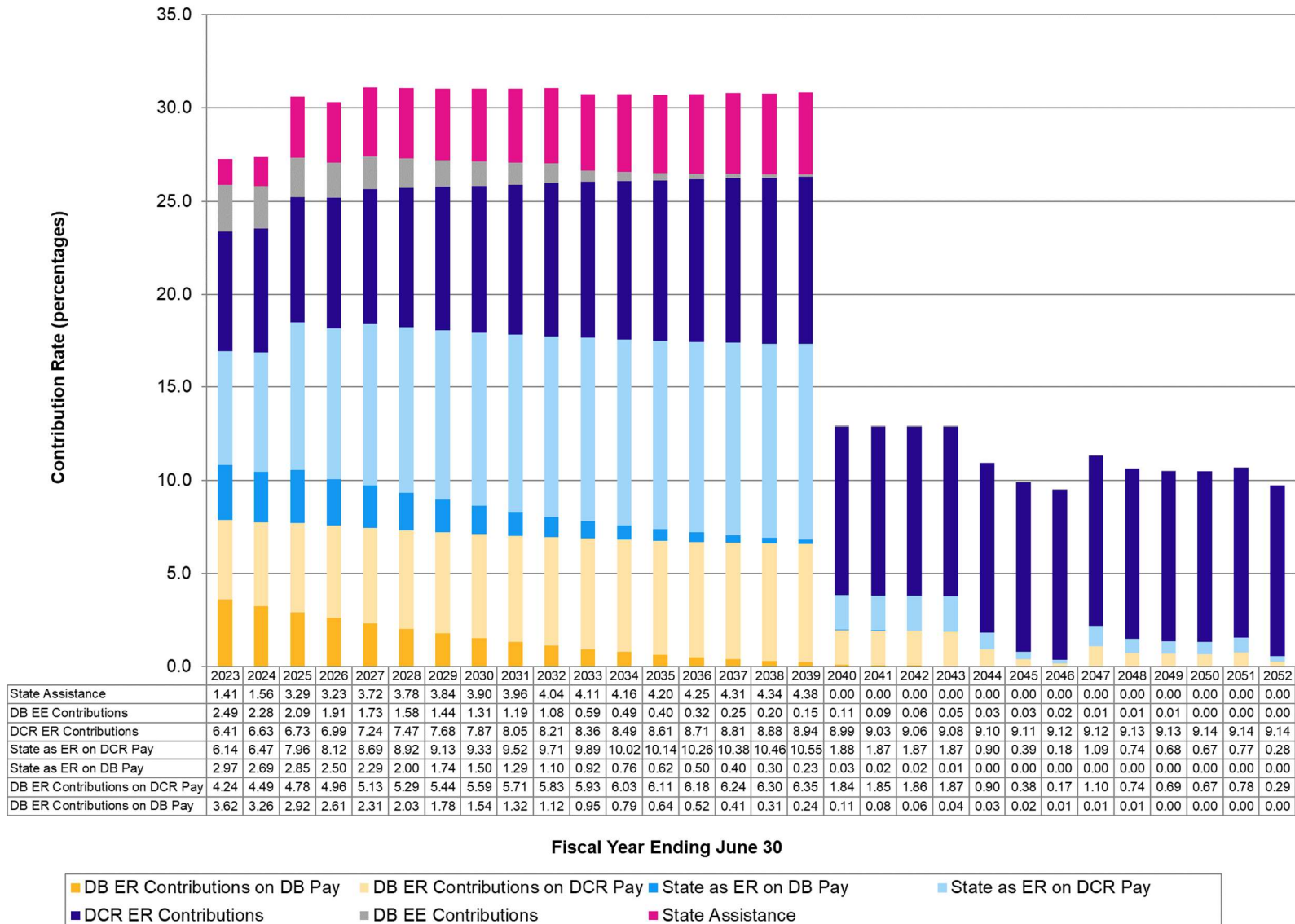


Projected Inactive Member Count



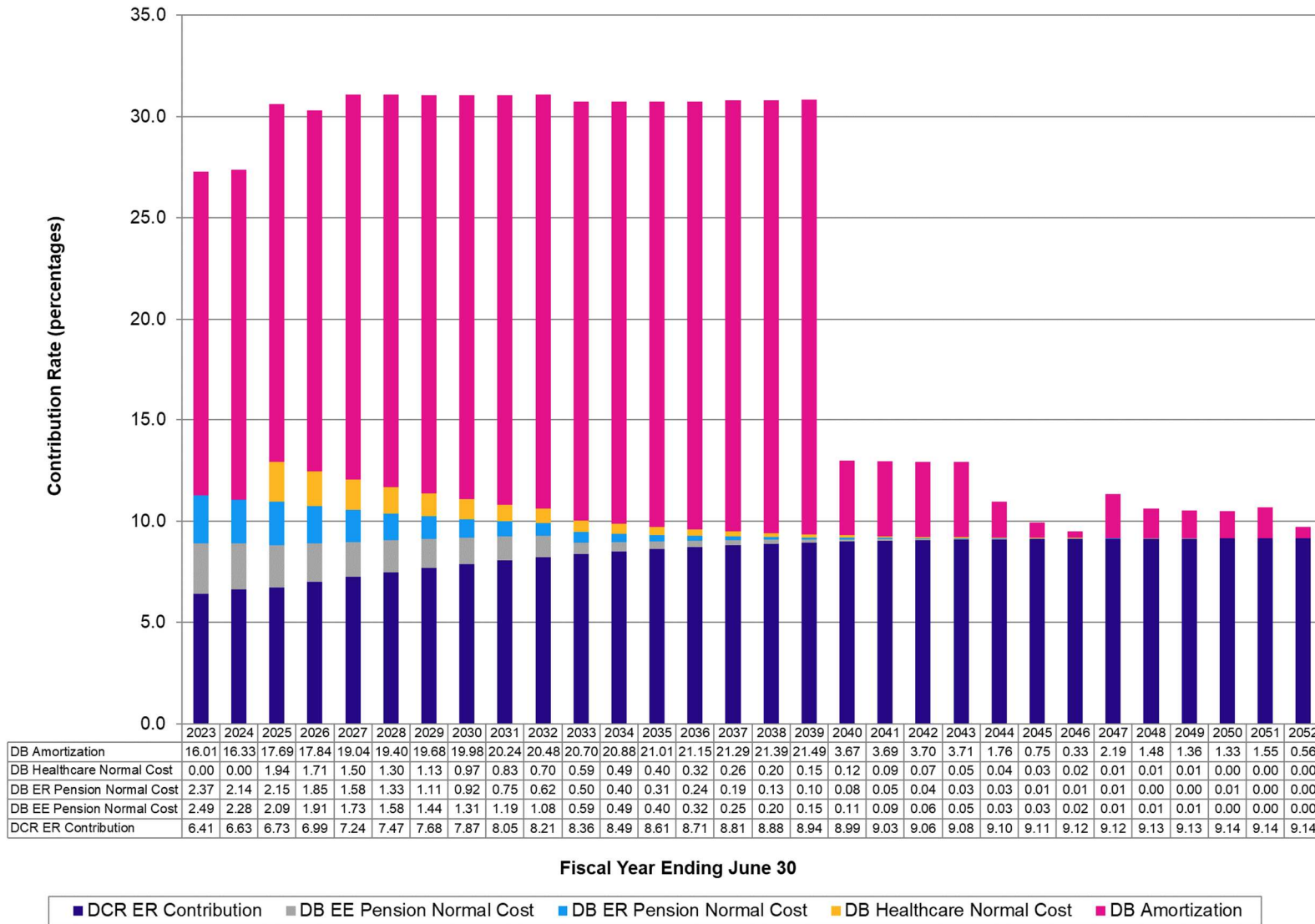
Section 3.3A: Projected Employer/State Contribution Rates

Based on Total DB and DCR Payroll



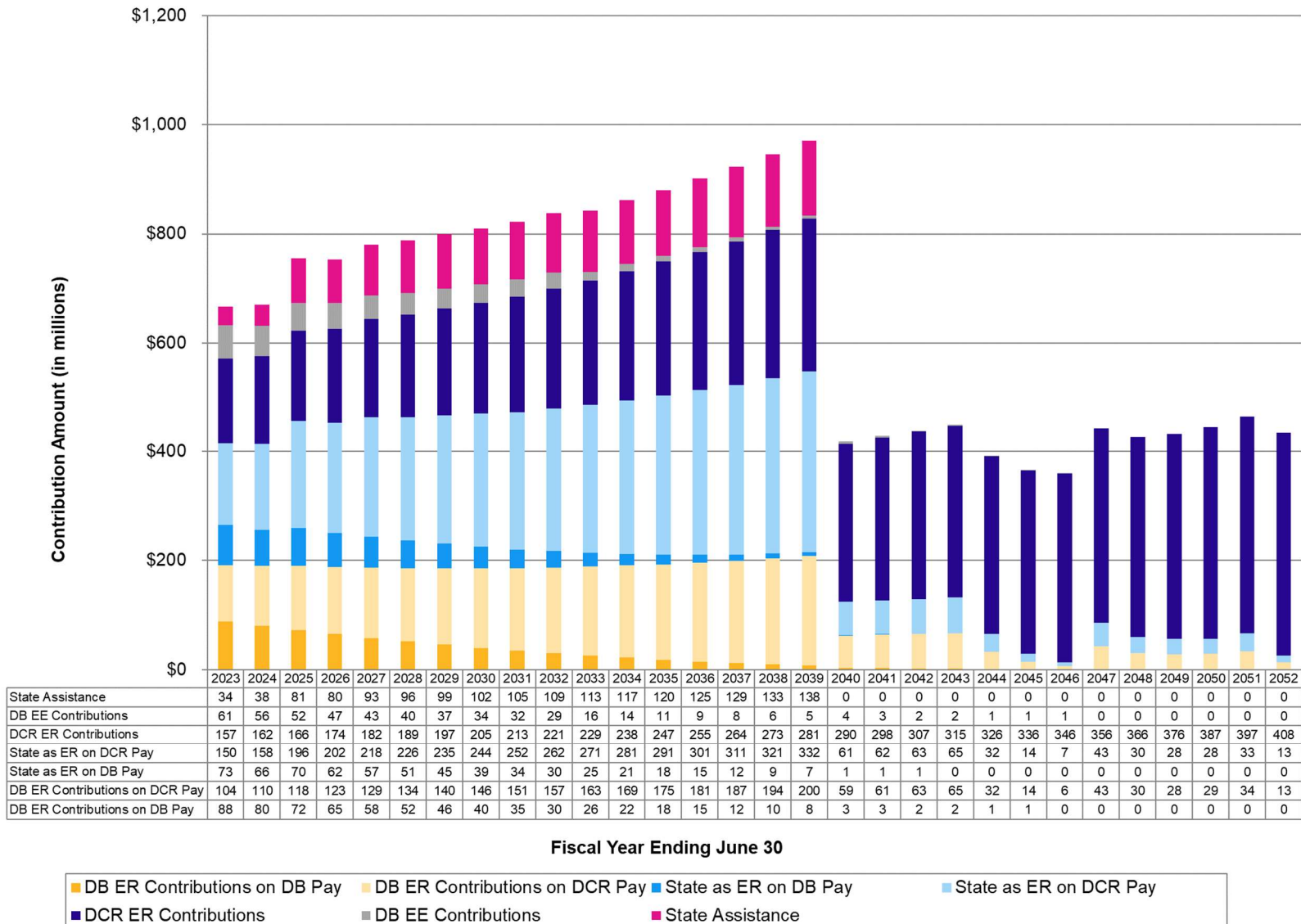
Section 3.3B: Components of Projected Total Contribution Rates

Based on Total DB and DCR Payroll

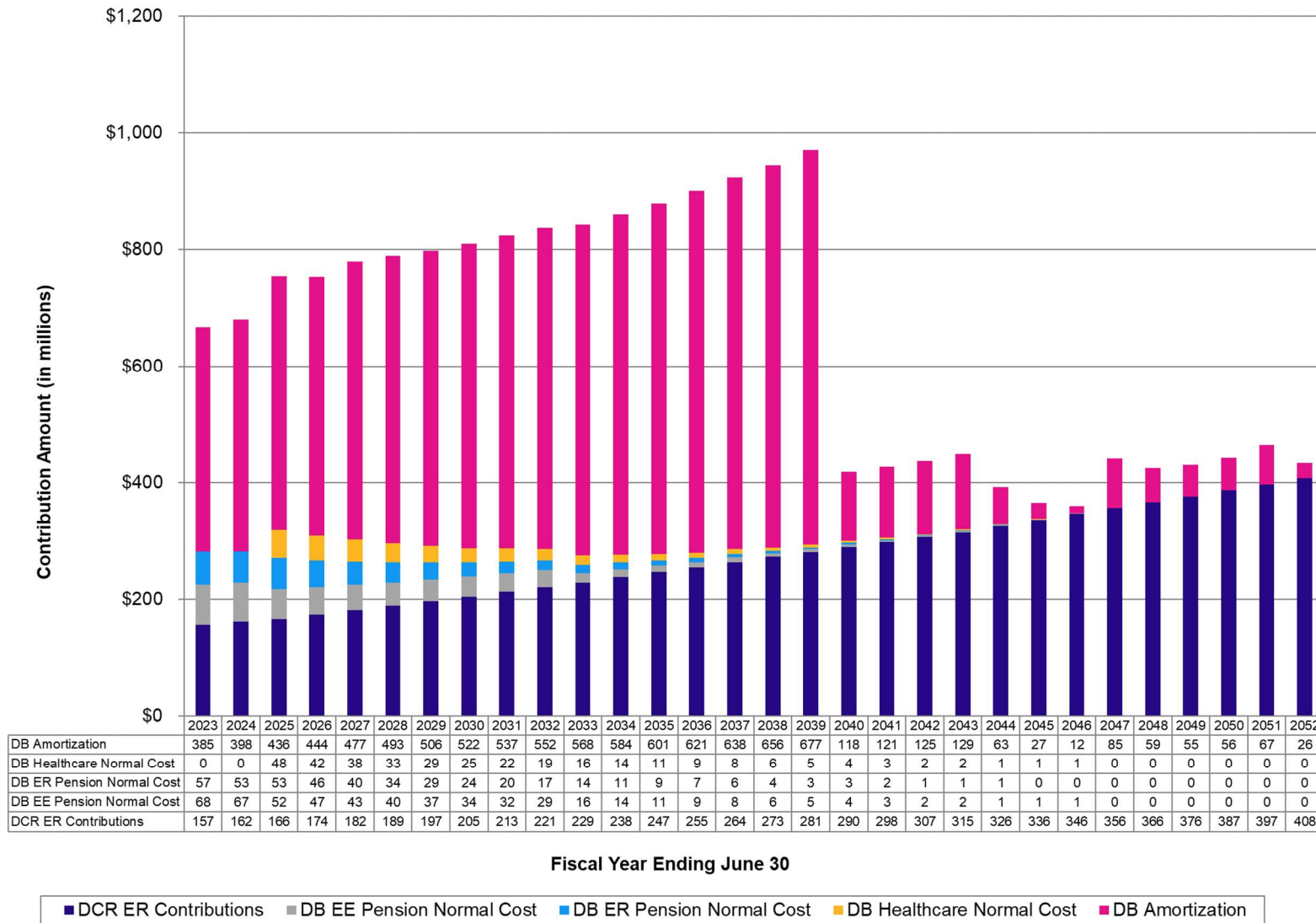


These projections reflect 25-year amortization in all years, as summarized in Section 3.6A.

Section 3.4A: Projected Employer/State Contribution Amounts

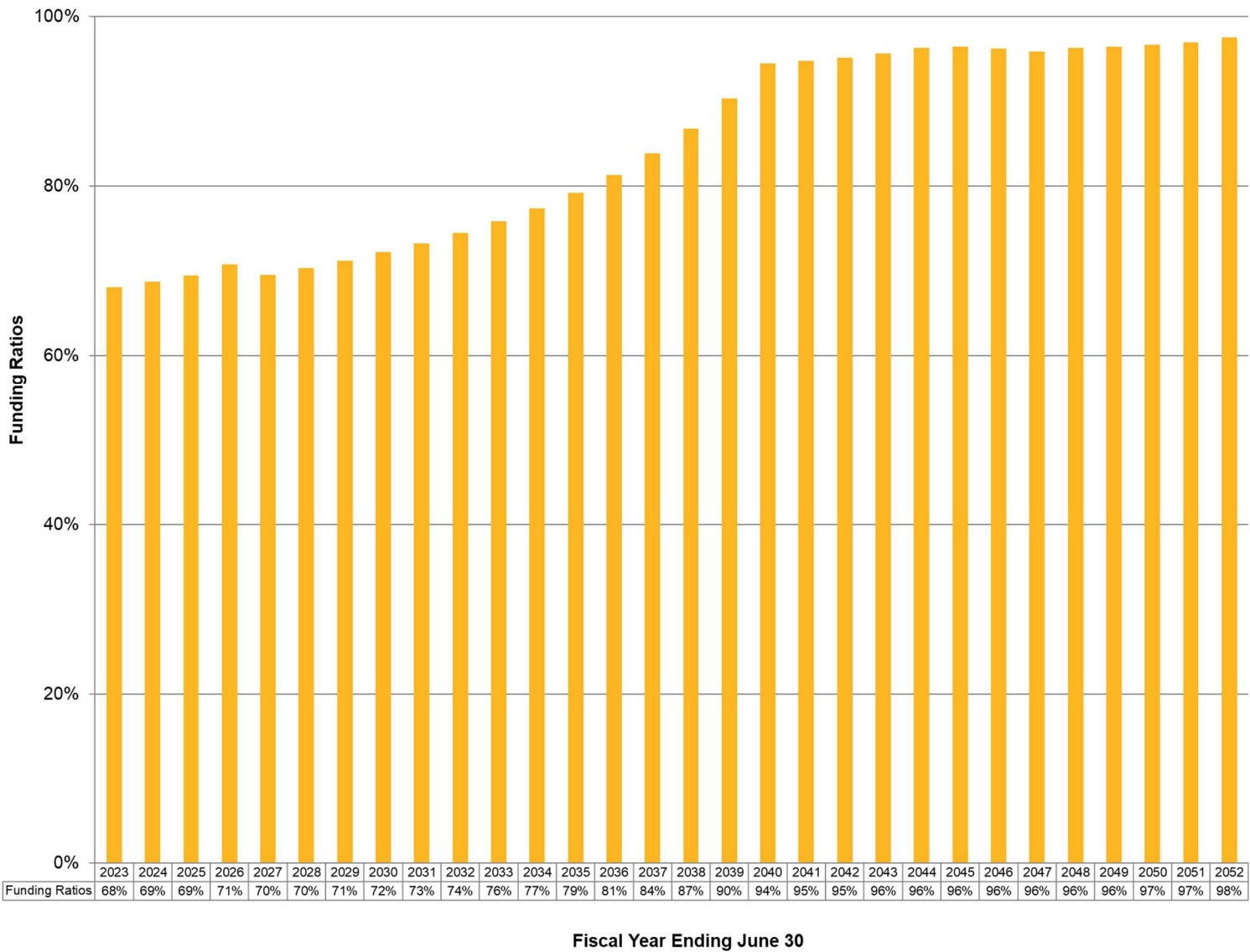


Section 3.4B: Components of Projected Total Contribution Amounts



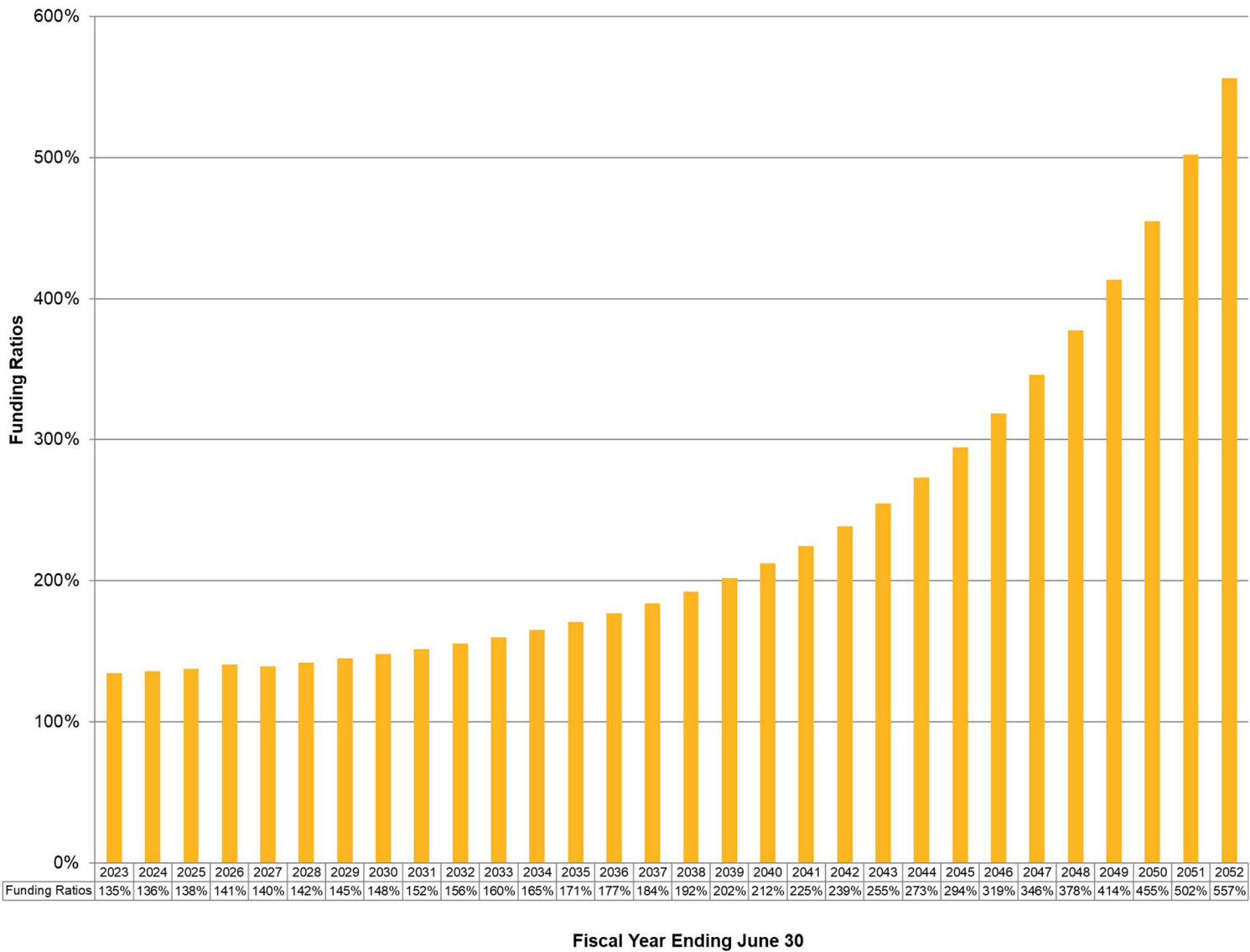
Section 3.5A: Projection of Funded Ratios

Pension



Section 3.5B: Projection of Funded Ratios

Healthcare



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 Assed Gain / (Loss)	
	Pension		Healthcare		Total Salaries	Actuarial Contrib. Rates			DB Contributions					Benefit Payments		
	Actuarial Assets	Accrued Liability	Actuarial Assets	Accrued Liability		DB	DCR	Total	Non-State Employers	State as an Employer	State Assistance	Employee	Total			
2023	\$10,961,498	\$16,093,679	\$8,979,943	\$6,657,069	\$2,442,007	18.38%	6.41%	24.79%	\$191,953	\$222,535	\$33,933	\$60,769	\$509,190	\$1,447,536	\$(162,689)	\$(129,969)
2024	11,204,196	16,307,677	9,213,284	6,775,292	2,449,710	18.47%	6.63%	25.10%	189,842	224,330	37,942	55,952	508,066	1,518,765	(207,268)	(169,353)
2025	11,440,470	16,470,937	9,460,827	6,873,897	2,464,560	21.79%	6.73%	28.52%	189,750	266,258	81,020	51,505	588,533	1,585,941	(314,012)	(257,687)
2026	11,739,769	16,591,903	9,801,448	6,952,261	2,484,549	21.41%	6.99%	28.40%	188,031	263,737	80,173	47,358	579,299	1,647,739	0	0
2027	11,583,862	16,661,148	9,789,796	7,011,917	2,508,463	22.13%	7.24%	29.37%	186,680	275,229	93,213	43,470	598,592	1,703,581	0	0
2028	11,736,344	16,682,326	10,033,904	7,055,888	2,535,575	22.03%	7.47%	29.50%	185,757	276,947	95,883	40,074	598,661	1,756,237	0	0
2029	11,865,340	16,656,016	10,276,437	7,083,767	2,570,663	21.93%	7.68%	29.61%	185,605	279,505	98,635	36,966	600,711	1,805,207	0	0
2030	11,973,611	16,583,144	10,518,572	7,095,369	2,608,993	21.86%	7.87%	29.73%	185,874	282,768	101,685	34,079	604,406	1,853,251	0	0
2031	12,063,250	16,463,462	10,759,308	7,088,776	2,650,982	21.81%	8.05%	29.86%	186,459	286,661	105,059	31,679	609,858	1,898,933	0	0
2032	12,137,127	16,297,405	10,998,512	7,062,562	2,696,089	21.80%	8.21%	30.01%	187,457	291,405	108,885	29,238	616,985	1,940,533	0	0
2033	12,198,922	16,085,754	11,237,113	7,016,482	2,745,032	21.80%	8.36%	30.16%	188,784	296,696	112,938	16,196	614,614	1,966,249	0	0
2034	12,254,340	15,831,019	11,475,288	6,949,171	2,804,506	21.76%	8.49%	30.25%	191,036	302,567	116,658	13,742	624,003	1,996,724	0	0
2035	12,307,459	15,533,701	11,715,671	6,861,801	2,867,406	21.72%	8.61%	30.33%	193,585	308,785	120,431	11,470	634,271	2,022,132	0	0
2036	12,363,080	15,195,633	11,959,591	6,754,179	2,932,888	21.71%	8.71%	30.42%	196,527	315,690	124,512	9,385	646,114	2,042,489	0	0
2037	12,426,499	14,818,132	12,209,027	6,626,624	3,000,710	21.73%	8.81%	30.54%	199,559	323,288	129,207	7,502	659,556	2,057,842	0	0
2038	12,504,198	14,403,584	12,465,222	6,478,204	3,072,106	21.72%	8.88%	30.60%	203,223	330,828	133,210	6,144	673,405	2,063,937	0	0
2039	12,603,499	13,955,651	12,732,458	6,311,525	3,146,912	21.75%	8.94%	30.69%	207,219	339,352	137,882	4,720	689,173	2,064,049	0	0
2040	12,733,315	13,478,096	13,012,532	6,126,320	3,223,871	3.86%	8.99%	12.85%	62,744	61,698	0	3,546	127,988	2,053,597	0	0
2041	12,299,161	12,975,948	13,311,254	5,925,801	3,304,029	3.82%	9.03%	12.85%	63,637	62,577	0	2,974	129,188	2,034,475	0	0
2042	11,852,528	12,452,669	13,634,087	5,713,230	3,386,930	3.81%	9.06%	12.87%	65,063	63,979	0	2,032	131,074	2,007,017	0	0
2043	11,398,473	11,912,616	13,986,143	5,490,969	3,472,665	3.79%	9.08%	12.87%	66,359	65,254	0	1,736	133,349	1,972,329	0	0
2044	10,942,280	11,360,231	14,371,622	5,260,580	3,577,503	1.83%	9.10%	10.93%	33,010	32,459	0	1,073	66,542	1,926,661	0	0
2045	10,416,384	10,799,325	14,800,105	5,028,412	3,683,645	0.78%	9.11%	9.89%	14,487	14,246	0	1,105	29,838	1,875,282	0	0
2046	9,851,934	10,234,452	15,275,540	4,795,288	3,791,021	0.36%	9.12%	9.48%	6,881	6,767	0	758	14,406	1,817,201	0	0
2047	9,271,832	9,669,103	15,804,566	4,564,473	3,900,021	2.21%	9.12%	11.33%	43,458	42,733	0	390	86,581	1,752,797	0	0
2048	8,769,181	9,106,834	16,394,063	4,339,220	4,010,390	1.49%	9.13%	10.62%	30,128	29,627	0	401	60,156	1,686,487	0	0
2049	8,249,864	8,550,721	17,047,986	4,119,161	4,121,778	1.37%	9.13%	10.50%	28,472	27,997	0	412	56,881	1,617,028	0	0
2050	7,739,052	8,003,675	17,771,859	3,905,562	4,233,861	1.34%	9.14%	10.48%	28,704	28,227	0	0	56,931	1,547,964	0	0
2051	7,243,004	7,468,364	18,568,157	3,696,559	4,347,409	1.55%	9.14%	10.69%	34,045	33,478	0	0	67,523	1,477,089	0	0
2052	6,774,875	6,947,005	19,442,852	3,493,068	4,462,598	0.57%	9.14%	9.71%	12,874	12,660	0	0	25,534	1,406,744	0	0
Total									\$3,747,203	\$5,368,283	\$1,711,266	\$514,676	\$11,341,428			

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	68%	135%	\$ 5,132,181	\$ (2,322,874)
2024	69%	136%	5,103,481	(2,437,992)
2025	70%	138%	5,030,467	(2,586,930)
2026	71%	141%	4,852,134	(2,849,187)
2027	70%	140%	5,077,286	(2,777,879)
2028	70%	142%	4,945,982	(2,978,016)
2029	71%	145%	4,790,676	(3,192,670)
2030	72%	148%	4,609,533	(3,423,203)
2031	73%	152%	4,400,212	(3,670,532)
2032	75%	156%	4,160,278	(3,935,950)
2033	76%	160%	3,886,832	(4,220,631)
2034	77%	165%	3,576,679	(4,526,117)
2035	79%	171%	3,226,242	(4,853,870)
2036	81%	177%	2,832,553	(5,205,412)
2037	84%	184%	2,391,633	(5,582,403)
2038	87%	192%	1,899,386	(5,987,018)
2039	90%	202%	1,352,152	(6,420,933)
2040	95%	212%	744,781	(6,886,212)
2041	95%	225%	676,787	(7,385,453)
2042	95%	239%	600,141	(7,920,857)
2043	96%	255%	514,143	(8,495,174)
2044	96%	273%	417,951	(9,111,042)
2045	97%	294%	382,941	(9,771,693)
2046	96%	319%	382,518	(10,480,252)
2047	96%	346%	397,271	(11,240,093)
2048	96%	378%	337,653	(12,054,843)
2049	97%	414%	300,857	(12,928,825)
2050	97%	455%	264,623	(13,866,297)
2051	97%	502%	225,360	(14,871,598)
2052	98%	557%	172,130	(15,949,784)

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 Assed Gain / (Loss)	
	Pension		Healthcare		Total Salaries	Actuarial Contrib. Rates			DB Contributions					Benefit Payments		
	Actuarial Assets	Accrued Liability	Actuarial Assets	Accrued Liability		DB	DCR	Total	Non-State Employers	State as an Employer	State Assistance	Employee	Total			
2023	\$10,961,498	\$ 16,093,679	\$ 8,979,943	\$ 6,657,069	\$2,442,007	18.38%	6.41%	24.79%	\$ 191,953	\$ 222,535	\$ 33,933	\$ 60,769	\$ 509,190	\$ 1,447,536	\$ (162,689)	\$ (129,969)
2024	11,204,196	16,307,677	9,213,284	6,775,292	2,449,710	18.47%	6.63%	25.10%	189,842	224,330	37,942	55,952	508,066	1,518,765	(207,268)	(169,353)
2025	11,440,470	16,470,937	9,460,827	6,873,897	2,464,560	21.79%	6.73%	28.52%	189,750	266,258	81,020	51,505	588,533	1,585,941	(314,012)	(257,687)
2026	11,739,769	16,591,903	9,801,448	6,952,261	2,484,549	21.41%	6.99%	28.40%	188,031	263,737	80,173	47,358	579,299	1,647,739	0	0
2027	11,583,862	16,661,148	9,789,796	7,011,917	2,508,463	22.13%	7.24%	29.37%	186,680	275,229	93,213	43,470	598,592	1,703,581	0	0
2028	11,736,344	16,682,326	10,033,904	7,055,888	2,535,575	22.03%	7.47%	29.50%	185,757	276,947	95,883	40,074	598,661	1,756,237	0	0
2029	11,865,340	16,656,016	10,276,437	7,083,767	2,570,663	21.93%	7.68%	29.61%	185,605	279,505	98,635	36,966	600,711	1,805,207	0	0
2030	11,973,611	16,583,144	10,518,572	7,095,369	2,608,993	21.86%	7.87%	29.73%	185,874	282,768	101,685	34,079	604,406	1,853,251	0	0
2031	12,063,250	16,463,462	10,759,308	7,088,776	2,650,982	21.81%	8.05%	29.86%	186,459	286,661	105,059	31,679	609,858	1,898,933	0	0
2032	12,137,127	16,297,405	10,998,512	7,062,562	2,696,089	21.80%	8.21%	30.01%	187,457	291,405	108,885	29,238	616,985	1,940,533	0	0
2033	12,198,922	16,085,754	11,237,113	7,016,482	2,745,032	21.80%	8.36%	30.16%	188,784	296,696	112,938	16,196	614,614	1,966,249	0	0
2034	12,254,340	15,831,019	11,475,288	6,949,171	2,804,506	21.76%	8.49%	30.25%	191,036	302,567	116,658	13,742	624,003	1,996,724	0	0
2035	12,307,459	15,533,701	11,715,671	6,861,801	2,867,406	21.72%	8.61%	30.33%	193,585	308,785	120,431	11,470	634,271	2,022,132	0	0
2036	12,363,080	15,195,633	11,959,591	6,754,179	2,932,888	21.71%	8.71%	30.42%	196,527	315,690	124,512	9,385	646,114	2,042,489	0	0
2037	12,426,499	14,818,132	12,209,027	6,626,624	3,000,710	21.73%	8.81%	30.54%	199,559	323,288	129,207	7,502	659,556	2,057,842	0	0
2038	12,504,198	14,403,584	12,465,222	6,478,204	3,072,106	21.72%	8.88%	30.60%	203,223	330,828	133,210	6,144	673,405	2,063,937	0	0
2039	12,603,499	13,955,651	12,732,458	6,311,525	3,146,912	21.75%	8.94%	30.69%	207,219	339,352	137,882	4,720	689,173	2,064,049	0	0
2040	12,733,315	13,478,096	13,012,532	6,126,320	3,223,871	3.88%	8.99%	12.87%	63,069	62,018	0	3,546	128,633	2,053,597	0	0
2041	12,299,829	12,975,948	13,311,254	5,925,801	3,304,029	3.84%	9.03%	12.87%	63,970	62,904	0	2,974	129,848	2,034,475	0	0
2042	11,853,928	12,452,669	13,634,087	5,713,230	3,386,930	3.83%	9.06%	12.89%	65,404	64,314	0	2,032	131,750	2,007,017	0	0
2043	11,400,675	11,912,616	13,986,143	5,490,969	3,472,665	3.82%	9.08%	12.90%	66,885	65,771	0	1,736	134,392	1,972,329	0	0
2044	10,945,722	11,360,231	14,371,622	5,260,580	3,577,503	1.85%	9.10%	10.95%	33,370	32,813	0	1,073	67,256	1,926,661	0	0
2045	10,420,815	10,799,325	14,800,105	5,028,412	3,683,645	0.81%	9.11%	9.92%	15,044	14,794	0	1,105	30,943	1,875,282	0	0
2046	9,857,830	10,234,452	15,275,540	4,795,288	3,791,021	0.39%	9.12%	9.51%	7,454	7,330	0	758	15,542	1,817,201	0	0
2047	9,279,332	9,669,103	15,804,566	4,564,473	3,900,021	2.25%	9.12%	11.37%	44,244	43,506	0	390	88,140	1,752,797	0	0
2048	8,778,839	9,106,834	16,394,063	4,339,220	4,010,390	1.52%	9.13%	10.65%	30,735	30,223	0	401	61,359	1,686,487	0	0
2049	8,261,468	8,550,721	17,047,986	4,119,161	4,121,778	1.40%	9.13%	10.53%	29,095	28,610	0	412	58,117	1,617,028	0	0
2050	7,752,778	8,003,675	17,771,859	3,905,562	4,233,861	1.38%	9.14%	10.52%	29,558	29,066	0	0	58,624	1,547,964	0	0
2051	7,259,478	7,468,364	18,568,157	3,696,559	4,347,409	1.59%	9.14%	10.73%	34,922	34,341	0	0	69,263	1,477,089	0	0
2052	6,794,345	6,947,005	19,442,852	3,493,068	4,462,598	0.61%	9.14%	9.75%	13,774	13,545	0	0	27,319	1,406,744	0	0
Total									\$3,754,865	\$5,375,816	\$1,711,266	\$ 514,676	\$11,356,623			

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	68%	135%	\$ 5,132,181	\$ (2,322,874)
2024	69%	136%	5,103,481	(2,437,992)
2025	70%	138%	5,030,467	(2,586,930)
2026	71%	141%	4,852,134	(2,849,187)
2027	70%	140%	5,077,286	(2,777,879)
2028	70%	142%	4,945,982	(2,978,016)
2029	71%	145%	4,790,676	(3,192,670)
2030	72%	148%	4,609,533	(3,423,203)
2031	73%	152%	4,400,212	(3,670,532)
2032	75%	156%	4,160,278	(3,935,950)
2033	76%	160%	3,886,832	(4,220,631)
2034	77%	165%	3,576,679	(4,526,117)
2035	79%	171%	3,226,242	(4,853,870)
2036	81%	177%	2,832,553	(5,205,412)
2037	84%	184%	2,391,633	(5,582,403)
2038	87%	192%	1,899,386	(5,987,018)
2039	90%	202%	1,352,152	(6,420,933)
2040	95%	212%	744,781	(6,886,212)
2041	95%	225%	676,119	(7,385,453)
2042	95%	239%	598,741	(7,920,857)
2043	96%	255%	511,941	(8,495,174)
2044	96%	273%	414,509	(9,111,042)
2045	97%	294%	378,510	(9,771,693)
2046	96%	319%	376,622	(10,480,252)
2047	96%	346%	389,771	(11,240,093)
2048	96%	378%	327,995	(12,054,843)
2049	97%	414%	289,253	(12,928,825)
2050	97%	455%	250,897	(13,866,297)
2051	97%	502%	208,886	(14,871,598)
2052	98%	557%	152,660	(15,949,784)

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	38,243	\$ 1,037,270	2065	3,783	\$ 364,079
2024	39,646	1,087,579	2066	3,310	328,379
2025	40,749	1,134,873	2067	2,883	294,582
2026	41,554	1,178,211	2068	2,500	262,715
2027	42,129	1,219,750	2069	2,157	232,806
2028	42,464	1,258,422	2070	1,850	204,880
2029	42,564	1,293,897	2071	1,578	178,961
2030	42,495	1,327,351	2072	1,336	155,063
2031	42,278	1,358,009	2073	1,124	133,194
2032	41,893	1,385,456	2074	937	113,347
2033	41,363	1,396,648	2075	775	95,501
2034	40,701	1,414,917	2076	635	79,617
2035	39,914	1,429,026	2077	516	65,632
2036	38,996	1,439,583	2078	415	53,463
2037	37,995	1,445,486	2079	329	43,007
2038	36,878	1,445,727	2080	259	34,143
2039	35,636	1,440,578	2081	201	26,732
2040	34,286	1,429,011	2082	154	20,629
2041	32,850	1,412,789	2083	118	15,680
2042	31,347	1,391,205	2084	88	11,733
2043	29,803	1,364,438	2085	64	8,641
2044	28,200	1,333,359	2086	48	6,262
2045	26,596	1,297,461	2087	34	4,468
2046	24,972	1,258,064	2088	25	3,140
2047	23,362	1,215,316	2089	18	2,176
2048	21,759	1,169,908	2090	13	1,492
2049	20,193	1,122,196	2091	9	1,014
2050	18,674	1,072,604	2092	7	687
2051	17,206	1,021,741	2093	5	467
2052	15,793	970,083	2094	4	321
2053	14,442	918,022	2095	2	225
2054	13,157	865,935	2096	2	160
2055	11,944	814,178	2097	2	117
2056	10,805	763,073	2098	1	88
2057	9,740	712,885	2099	1	67
2058	8,752	663,839	2100	1	52
2059	7,838	616,122	2101	1	41
2060	6,998	569,883	2102	0	0
2061	6,228	525,239	2103	0	0
2062	5,526	482,277	2104	0	0
2063	4,887	441,064	2105	0	0
2064	4,308	401,652	2106	0	0

Section 4: Member Data

Section 4.1: Summary of Members Included

As of June 30	2018	2019	2020	2021	2022
Active Members					
1. Number	13,434	12,152	11,033	9,888	8,795 ¹
2. Average Age	52.52	52.84	53.21	53.51	53.78
3. Average Credited Service	17.21	17.80	18.38	18.96	19.52
4. Average Entry Age	35.30	35.04	34.83	34.55	34.26
5. Average Annual Earnings	\$ 77,813	\$ 82,192	\$ 83,757	\$ 86,316	\$ 89,603
6. Number Vested	13,103	11,868	10,791	9,675	8,604
7. Percent Who Are Vested	97.5%	97.7%	97.8%	97.8%	97.8%
Retirees, Disabilitants, and Beneficiaries					
1. Number	35,454	36,310	37,106	37,717	38,243
2. Average Age	69.85	70.29	70.77	71.17	71.61
3. Average Years Since Retirement	11.87	12.14	12.45	12.66	12.94
4. Average Monthly Pension Benefit					
a. Base	\$ 1,616	\$ 1,660	\$ 1,704	\$ 1,752	\$ 1,802
b. COLA ²	94	92	93	94	95
c. PRPA ²	222	241	244	230	282
d. Adjustment	1	1	0	0	1
e. Total	\$ 1,933	\$ 1,994	\$ 2,041	\$ 2,076	\$ 2,180
Vested Terminations (vested at termination, not refunded contributions, or commenced benefit)					
1. Number	5,660	5,499	5,327	5,135	4,955
2. Average Age	52.56	53.06	53.52	53.92	54.37
3. Average Monthly Pension Benefit	\$ 1,087	\$ 1,123	\$ 1,158	\$ 1,205	\$ 1,258
Non-Vested Terminations (not vested at termination, not refunded contributions)					
1. Number	11,192	10,921	10,642	10,432	10,223
2. Average Account Balance	\$ 6,558	\$ 6,923	\$ 7,060	\$ 7,325	\$ 7,573
Total Number of Members	65,740	64,882	64,108	63,172	62,216

¹ Includes 4,130 male active members and 4,665 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 4	Grand Total
	Tier 1	Tier 2	Tier 3	Total		
Active Members						
1. Number	483	1,875	6,437	8,795	24,702	33,497
2. Average Age	63.99	57.27	52.00	53.78	41.35	44.61
3. Average Credited Service	24.28	23.67	17.96	19.52	5.11	8.89
4. Average Entry Age	39.71	33.60	34.04	34.26	36.24	35.72
5. Annual Earnings						
a. Total (000's)	\$ 38,284	\$ 171,786	\$ 577,988	\$ 788,058	\$ 1,622,742	\$ 2,410,800
b. Average	\$ 79,263	\$ 91,619	\$ 89,792	\$ 89,603	\$ 65,693	\$ 71,971

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	Tier 3	Total
Retirees, Disabilitants, and Beneficiaries				
1. Number	22,664	9,710	5,869	38,243
2. Average Age	73.52	69.54	67.68	71.61
3. Average Years Since Retirement	16.45	9.01	5.88	12.94
4. Average Monthly Pension Benefit				
a. Base	\$ 1,790	\$ 2,001	\$ 1,521	\$ 1,802
b. COLA	121	64	48	95
c. PRPA	391	152	78	282
d. Adjustment	1	1	1	1
e. Total	\$ 2,303	\$ 2,218	\$ 1,648	\$ 2,180

Summary of Members Included

As of June 30, 2022	Active Members	Inactive Members				Total Inactive Members
		Retirees	Covered Spouses	Covered Children / Dependents	Deferred	
Retiree Medical Participants						
1. Retiree Coverage Only	8,730	19,879	0	0	2,413	22,292
2. Retiree + Spouse	0	12,795	12,795	0	2,785	28,375
3. Retiree + Children / Dependents	0	393	0	296	0	689
4. Family	0	691	691	1,112	0	2,494
5. Total	8,730	33,758	13,486	1,408	5,198	53,850

As of June 30, 2022	Retirees	Covered Spouses	Covered Children / Dependents	Deferred	Total Inactive Members
Retiree Medical Participants					
1. Pre-Medicare	6,647	4,390	1,408	4,999	17,444
2. Medicare Part A & B	26,858	9,044	0	199	36,101
3. Medicare Part B Only	253	52	0	0	305
4. Total	33,758	13,486	1,408	5,198	53,850

As of June 30, 2022	Retirees
Summary of Retiree Medical Data Received	
1. Retiree records on pension data	38,243
2. Remove duplicates on pension data	(1,193)
3. Valued in a different retiree healthcare plan ¹	(1,173)
4. Records without medical coverage	(2,255)
5. Medical only retirees	136
6. Total	33,758

As of June 30	2018	2019	2020	2021	2022
Retiree Medical Retirees					
1. Number	31,396	32,290	32,857	33,254	33,758
2. Average Age	70.06	70.41	70.87	71.31	71.72

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

Summary of Members Included

Active Members – DB Only

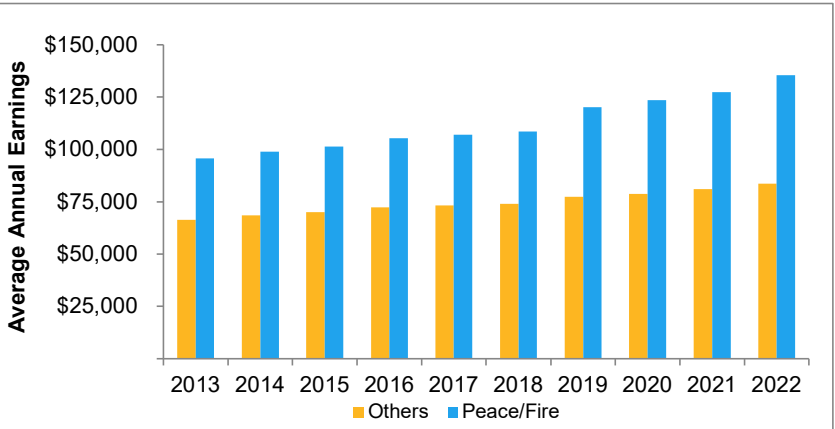
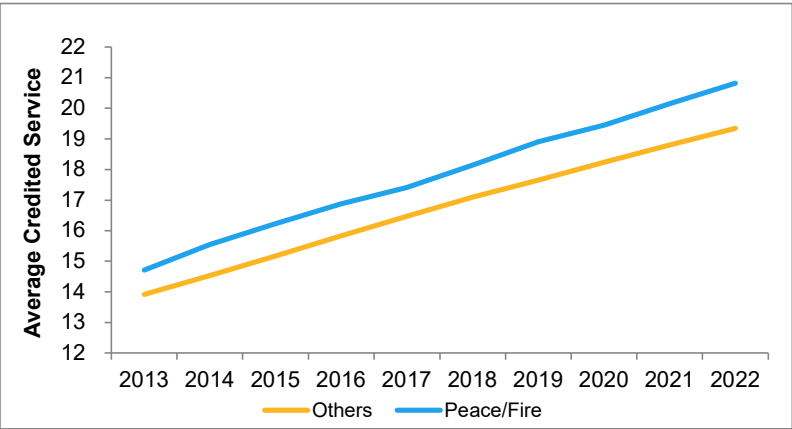
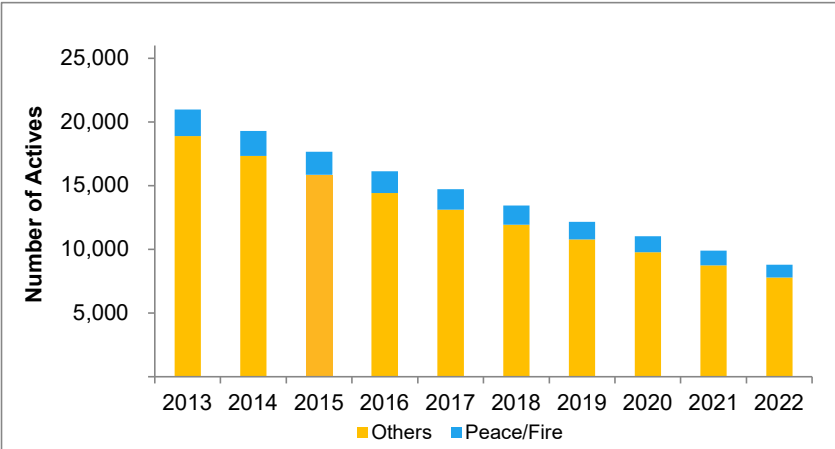
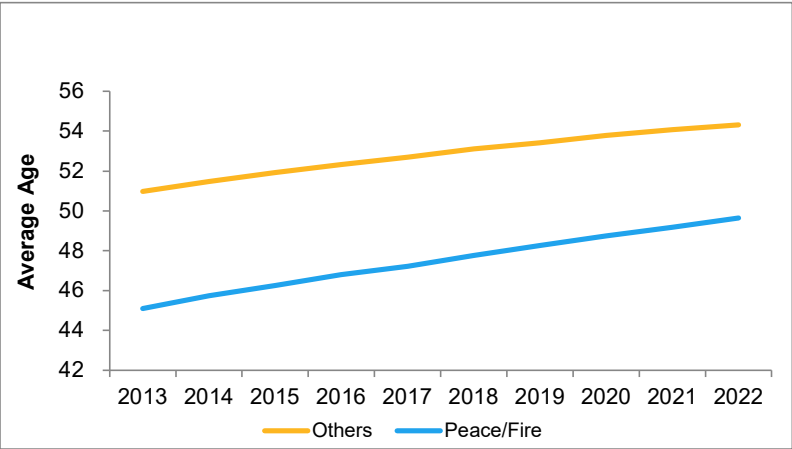
As of June 30	2018	2019	2020	2021	2022
Peace Officer / Firefighter					
1. Number	1,507	1,382	1,266	1,137	1,014 ¹
2. Average Age	47.75	48.25	48.74	49.18	49.64
3. Average Credited Service	18.15	18.90	19.45	20.15	20.82
4. Average Entry Age	29.60	29.35	29.29	29.03	28.82
5. Average Annual Earnings	\$ 108,580	\$ 120,089	\$ 123,436	\$ 127,327	\$ 135,357
6. Number Vested	1,500	1,374	1,260	1,134	1,011
7. Percent Who Are Vested	99.5%	99.4%	99.5%	99.7%	99.7%
Others					
1. Number	11,927	10,770	9,767	8,751	7,781 ²
2. Average Age	53.12	53.43	53.79	54.07	54.32
3. Average Credited Service	17.09	17.66	18.24	18.80	19.35
4. Average Entry Age	36.03	35.77	35.55	35.27	34.97
5. Average Annual Earnings	\$ 73,926	\$ 77,329	\$ 78,613	\$ 80,987	\$ 83,641
6. Number Vested	11,603	10,494	9,531	8,541	7,593
7. Percent Who Are Vested	97.3%	97.4%	97.6%	97.6%	97.6%
Total					
1. Number	13,434	12,152	11,033	9,888	8,795
2. Average Age	52.52	52.84	53.21	53.51	53.78
3. Average Credited Service	17.21	17.80	18.38	18.96	19.52
4. Average Entry Age	35.30	35.04	34.83	34.55	34.26
5. Average Annual Earnings	\$ 77,813	\$ 82,192	\$ 83,757	\$ 86,316	\$ 89,603
6. Number Vested	13,103	11,868	10,791	9,675	8,604
7. Percent Who Are Vested	97.5%	97.7%	97.8%	97.8%	97.8%

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

¹ Includes 880 male active members and 134 female active members.

² Includes 3,250 male active members and 4,531 female active members.

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

Peace Officer / Firefighter

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	59	7,570,890	128,320
40 - 44	177	24,348,602	137,563
45 - 49	308	42,867,708	139,181
50 - 54	276	38,211,684	138,448
55 - 59	149	18,847,477	126,493
60 - 64	33	4,092,911	124,028
65 - 69	10	1,072,476	107,248
70 - 74	2	239,762	119,881
75+	0	0	0

Total 1,014 \$ 137,251,510 \$ 135,357

Annual Earnings by Credited Service

Years of Service	Number	Total Annual Earnings	Average Annual Earnings
0	0	\$ 0	\$ 0
1	1	100,959	100,959
2	0	0	0
3	2	154,382	77,191
4	0	0	0
0 - 4	3	\$ 255,341	\$ 85,114
5 - 9	7	666,577	95,225
10 - 14	51	5,107,462	100,146
15 - 19	392	51,435,257	131,212
20 - 24	405	56,507,206	139,524
25 - 29	132	19,788,474	149,913
30 - 34	22	3,139,103	142,687
35 - 39	1	222,150	222,150
40+	1	129,940	129,940

Total 1,014 \$ 137,251,510 \$ 135,357

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	3	8	47	1	0	0	0	0	59
40 - 44	1	2	10	115	48	1	0	0	0	177
45 - 49	1	0	9	104	163	31	0	0	0	308
50 - 54	0	2	8	72	120	69	5	0	0	276
55 - 59	1	0	11	42	62	25	8	0	0	149
60 - 64	0	0	3	12	7	5	5	0	1	33
65 - 69	0	0	2	0	3	1	3	1	0	10
70 - 74	0	0	0	0	1	0	1	0	0	2
75+	0	0	0	0	0	0	0	0	0	0
Total	3	7	51	392	405	132	22	1	1	1,014

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

Age and Service Distribution of Active Members

Others

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	6	582,629	97,105
35 - 39	258	20,520,116	79,535
40 - 44	833	71,590,584	85,943
45 - 49	1,259	110,184,532	87,517
50 - 54	1,654	145,167,129	87,767
55 - 59	1,953	161,507,573	82,697
60 - 64	1,169	91,568,637	78,331
65 - 69	488	37,063,462	75,950
70 - 74	118	9,289,294	78,723
75+	43	3,332,777	77,506

Total 7,781 \$ 650,806,733 \$ 83,641

Annual Earnings by Credited Service

Years of Service	Number	Total Annual Earnings	Average Annual Earnings
0	19	\$ 737,323	\$ 38,806
1	22	1,047,416	47,610
2	33	1,756,606	53,230
3	49	2,724,274	55,597
4	54	2,762,993	51,167
0 - 4	177	\$ 9,028,612	\$ 51,009
5 - 9	420	26,220,561	62,430
10 - 14	926	62,577,595	67,578
15 - 19	2,821	232,377,282	82,374
20 - 24	2,104	191,524,272	91,029
25 - 29	948	92,019,222	97,067
30 - 34	305	29,130,100	95,509
35 - 39	59	5,816,222	98,580
40+	21	2,112,867	100,613

Total 7,781 \$ 650,806,733 \$ 83,641

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	1	0	2	3	0	0	0	0	0	6
35 - 39	17	33	76	129	3	0	0	0	0	258
40 - 44	30	68	125	484	126	0	0	0	0	833
45 - 49	28	77	148	511	410	84	1	0	0	1,259
50 - 54	36	82	158	569	538	229	41	1	0	1,654
55 - 59	26	79	215	592	555	365	113	8	0	1,953
60 - 64	24	50	145	367	306	177	78	19	3	1,169
65 - 69	10	20	43	135	131	73	57	13	6	488
70 - 74	5	8	13	22	23	17	11	11	8	118
75+	0	3	1	9	12	3	4	7	4	43
Total	177	420	926	2,821	2,104	948	305	59	21	7,781

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

	Active Members	Inactive Members					Total
		Due a Refund	Deferred Benefits	Retired Members	Disabled Members	Bene- ficiaries	
As of June 30, 2021	9,888	10,432	5,135	33,015 *	139	4,578	63,187
Vested Terminations	(386)	(2)	388	0	0	0	0
Non-Vested Terminations	(44)	44	0	0	0	0	0
Refund of Contributions	(10)	(151)	(30)	0	0	0	(191)
Disability Retirements	(6)	0	(1)	0	7	0	0
Age Retirements	(838)	0	(399)	1,260	(23)	0	0
Deaths With Beneficiary	(16)	(5)	(2)	(289)	(3)	315	0
Deaths Without Beneficiary	(11)	(26)	(20)	(556)	(2)	(210)	(825)
Expired Benefits	0	0	0	0	0	0	0
Data Corrections	0	1	(2)	0	0	(8)	(9)
Converted To DCR Plan	11	0	0	0	0	0	11
Transfers In/Out	1	(2)	(4)	0	0	0	(5)
Rehires	203	(76)	(111)	(13)	0	0	3
Pick Ups***	3	8	1	0	0	47	59
Net Change	(1,093)	(209)	(180)	402	(21)	144	(957)
As of June 30, 2022	8,795	10,223	4,955	33,417 **	118	4,722	62,230

* Includes 15 medical only retirees

** Includes 14 medical only retirees

*** Pickup beneficiaries are primarily new DROs.

Member Data Reconciliation

Healthcare

	Active Members	Inactive Members				Total Inactive Members
		Retirees	Covered Spouses	Covered Children / Dependents	Deferred	
As of June 30, 2021	9,817	33,254	13,420	1,524	5,434	53,632
Vested Terminations	(362)	0	0	0	362	362
Non-Vested Terminations	(41)	0	0	0	0	0
Refund of Contributions	(9)	0	0	0	(30)	(30)
Disability Retirements	(7)	7	3	5	0	15
Age Retirements	(790)	790	430	135	0	1,355
Deferred Retirements	0	298	169	39	(298)	208
Retired without Medical Coverage	(60)	0	0	0	60	60
Deceased	(27)	(930)	(104)	(11)	(25)	(1,070)
New Beneficiaries	0	167	(167)	0	0	0
Added Retiree Medical Coverage	0	209	65	19	(184)	109
Added Dependent Coverage	0	0	104	72	0	176
Dropped Retiree Medical Coverage	0	(11)	(5)	(1)	1	(16)
Dropped Dependent Coverage	0	0	(419)	(375)	0	(794)
Rehires	202	(16)	(9)	0	(111)	(136)
Transfers In/Out	7	(10)	(1)	1	(11)	(21)
Net Change	(1,087)	504	66	(116)	(236)	218
As of June 30, 2022	8,730	33,758	13,486	1,408	5,198	53,850

Section 4.4: Schedule of Active Member Data

Peace Officer / Firefighter

Valuation Date	Number	Annual Earnings (000's)	Annual Average Earnings	Percent Increase in Average Earnings	Number of Participating Employers
June 30, 2022	1,014	\$ 137,252	\$ 135,357	6.3%	150
June 30, 2021	1,137	144,771	127,327	3.2%	151
June 30, 2020	1,266	156,271	123,436	2.8%	153
June 30, 2019	1,382	165,963	120,089	10.6%	155
June 30, 2018	1,507	163,630	108,580	1.5%	155
June 30, 2017	1,606	171,821	106,987	1.6%	155
June 30, 2016	1,704	179,461	105,317	3.8%	155
June 30, 2015	1,827	185,350	101,450	2.5%	159
June 30, 2014	1,958	193,737	98,946	3.4%	159
June 30, 2013	2,065	197,534	95,658	4.8%	159

Others

Valuation Date	Number	Annual Earnings (000's)	Annual Average Earnings	Percent Increase in Average Earnings	Number of Participating Employers
June 30, 2022	7,781	\$ 650,807	\$ 83,641	3.3%	150
June 30, 2021	8,751	708,718	80,987	3.0%	151
June 30, 2020	9,767	767,817	78,613	1.7%	153
June 30, 2019	10,770	832,832	77,329	4.6%	155
June 30, 2018	11,927	881,716	73,926	1.0%	155
June 30, 2017	13,113	960,106	73,218	1.4%	155
June 30, 2016	14,401	1,039,960	72,214	3.2%	155
June 30, 2015	15,833	1,108,218	69,994	2.1%	159
June 30, 2014	17,339	1,188,918	68,569	3.4%	159
June 30, 2013	18,890	1,252,786	66,320	4.5%	159

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	\$ 2,271,607
b) DRB actual reported salaries FY22 in valuation data	2,210,209
c) Annualized valuation data	2,410,800
d) Valuation payroll as of June 30, 2022	2,517,996
e) Rate payroll for FY23	2,442,007
f) Rate payroll for FY25	2,464,560

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

Peace Officer / Firefighter

During the Year Ending June 30	2018	2019	2020	2021	2022
Service					
1. Number	105	109	118	129	117
2. Average Age at Commencement	55.70	55.61	55.52	55.30	55.39
3. Average Monthly Pension Benefit	\$ 4,519	\$ 4,412	\$ 5,199	\$ 5,248	\$ 5,647
Survivor (including surviving spouse and DROs)					
1. Number	44	36	43	58	39
2. Average Age at Commencement	63.76	68.19	67.92	64.58	70.91
3. Average Monthly Pension Benefit	\$ 2,187	\$ 1,842	\$ 1,785	\$ 1,971	\$ 1,996
Disability					
1. Number	4	4	3	4	1
2. Average Age at Commencement	46.56	50.44	51.72	52.10	54.74
3. Average Monthly Pension Benefit	\$ 3,230	\$ 3,071	\$ 5,276	\$ 2,890	\$ 5,427
Total					
1. Number	153	149	164	191	157
2. Average Age at Commencement	57.78	58.51	58.70	58.05	59.24
3. Average Monthly Pension Benefit	\$ 3,814	\$ 3,755	\$ 4,305	\$ 4,204	\$ 4,739

Summary of New Pension Benefit Recipients

Peace Officer / Firefighter

	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	\$ 0	\$ 860	\$ 2,227	\$ 4,341	\$ 5,743	\$ 7,831	\$ 7,566
Average Final Avg Salary	\$ 0	\$ 60,646	\$ 97,870	\$ 122,607	\$ 137,018	\$ 144,961	\$ 119,732
Number of Recipients	0	2	7	33	42	27	7
Period 7/1/2020 – 6/30/2021:							
Average Monthly Pension	\$ 2,612	\$ 767	\$ 1,619	\$ 3,711	\$ 5,196	\$ 6,960	\$ 7,970
Average Final Avg Salary	\$ 68,013	\$ 63,962	\$ 79,481	\$ 116,789	\$ 129,218	\$ 141,383	\$ 135,765
Number of Recipients	2	5	9	26	42	40	9
Period 7/1/2019 – 6/30/2020:							
Average Monthly Pension	\$ 0	\$ 694	\$ 2,212	\$ 3,626	\$ 5,531	\$ 6,829	\$ 8,636
Average Final Avg Salary	\$ 0	\$ 60,557	\$ 107,689	\$ 111,341	\$ 131,016	\$ 140,297	\$ 127,620
Number of Recipients	0	6	11	23	40	32	9
Period 7/1/2018 – 6/30/2019:							
Average Monthly Pension	\$ 3,792	\$ 651	\$ 1,933	\$ 3,362	\$ 4,786	\$ 6,196	\$ 5,688
Average Final Avg Salary	\$ 94,797	\$ 56,617	\$ 89,247	\$ 99,086	\$ 114,079	\$ 125,509	\$ 110,542
Number of Recipients	2	5	11	25	38	26	6
Period 7/1/2017 – 6/30/2018:							
Average Monthly Pension	\$ 0	\$ 1,063	\$ 2,133	\$ 3,747	\$ 4,847	\$ 6,024	\$ 7,717
Average Final Avg Salary	\$ 0	\$ 86,908	\$ 91,941	\$ 107,039	\$ 115,635	\$ 121,972	\$ 132,459
Number of Recipients	0	4	18	19	35	30	3
Period 7/1/2016 – 6/30/2017:							
Average Monthly Pension	\$ 0	\$ 686	\$ 2,075	\$ 3,234	\$ 4,462	\$ 5,151	\$ 6,376
Average Final Avg Salary	\$ 0	\$ 74,166	\$ 83,315	\$ 99,520	\$ 109,258	\$ 104,716	\$ 108,035
Number of Recipients	0	8	9	28	41	23	14
Period 7/1/2015 – 6/30/2016:							
Average Monthly Pension	\$ 0	\$ 958	\$ 1,742	\$ 3,347	\$ 4,622	\$ 5,778	\$ 7,221
Average Final Avg Salary	\$ 0	\$ 76,190	\$ 87,241	\$ 97,297	\$ 109,236	\$ 118,513	\$ 115,323
Number of Recipients	0	6	11	19	30	28	16
Period 7/1/2014 – 6/30/2015:							
Average Monthly Pension	\$ 0	\$ 1,173	\$ 1,621	\$ 3,632	\$ 4,436	\$ 5,457	\$ 6,863
Average Final Avg Salary	\$ 0	\$ 85,992	\$ 76,254	\$ 104,320	\$ 105,430	\$ 108,874	\$ 102,705
Number of Recipients	0	8	9	26	24	25	7
Period 7/1/2013 – 6/30/2014:							
Average Monthly Pension	\$ 290	\$ 1,423	\$ 2,002	\$ 2,902	\$ 4,014	\$ 5,464	\$ 6,299
Average Final Avg Salary	Unavailable	Unavailable	Unavailable	Unavailable	Unavailable	Unavailable	Unavailable
Number of Recipients	1	9	10	14	22	16	7
Period 7/1/2012 – 6/30/2013:							
Average Monthly Pension	\$ 0	\$ 865	\$ 1,779	\$ 2,762	\$ 3,793	\$ 4,983	\$ 4,911
Average Final Avg Salary	\$ 0	Unavailable	Unavailable	Unavailable	Unavailable	Unavailable	Unavailable
Number of Recipients	0	9	8	19	31	18	4

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

Beneficiaries are not included in the table above.

State of Alaska Public Employees' Retirement System

Summary of New Pension Benefit Recipients

Others

During the Year Ending June 30	2018	2019	2020	2021	2022
Service					
1. Number	1,419	1,288	1,166	1,171	1,121
2. Average Age at Commencement	62.19	61.38	61.70	62.03	62.03
3. Average Monthly Pension Benefit	\$ 2,477	\$ 2,540	\$ 2,701	\$ 2,693	\$ 2,915
Survivor (including surviving spouse and DROs)					
1. Number	261	238	297	391	326
2. Average Age at Commencement	70.38	69.25	72.09	72.34	70.13
3. Average Monthly Pension Benefit	\$ 1,120	\$ 1,249	\$ 1,204	\$ 1,265	\$ 1,380
Disability					
1. Number	28	17	9	14	6
2. Average Age at Commencement	53.80	52.95	54.21	53.39	47.91
3. Average Monthly Pension Benefit	\$ 1,896	\$ 2,313	\$ 2,422	\$ 2,587	\$ 2,533
Total					
1. Number	1,708	1,543	1,472	1,576	1,453
2. Average Age at Commencement	63.31	62.50	63.75	64.51	63.79
3. Average Monthly Pension Benefit	\$ 2,260	\$ 2,339	\$ 2,397	\$ 2,338	\$ 2,569

Summary of New Pension Benefit Recipients

Others

	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	\$ 1,453	\$ 623	\$ 1,340	\$ 2,181	\$ 3,373	\$ 4,644	\$ 6,822
Average Final Avg Salary	\$ 61,752	\$ 48,643	\$ 63,167	\$ 73,283	\$ 84,361	\$ 91,984	\$ 105,569
Number of Recipients	6	147	181	286	227	165	115
Period 7/1/2020 – 6/30/2021:							
Average Monthly Pension	\$ 553	\$ 628	\$ 1,317	\$ 2,213	\$ 3,091	\$ 4,607	\$ 6,054
Average Final Avg Salary	\$ 37,456	\$ 50,287	\$ 62,986	\$ 73,819	\$ 78,565	\$ 91,034	\$ 98,834
Number of Recipients	17	163	228	281	194	188	114
Period 7/1/2019 – 6/30/2020:							
Average Monthly Pension	\$ 492	\$ 601	\$ 1,311	\$ 2,065	\$ 3,040	\$ 4,686	\$ 6,213
Average Final Avg Salary	\$ 42,520	\$ 47,573	\$ 61,357	\$ 69,829	\$ 78,632	\$ 93,182	\$ 100,366
Number of Recipients	32	165	218	258	183	197	122
Period 7/1/2018 – 6/30/2019:							
Average Monthly Pension	\$ 652	\$ 646	\$ 1,301	\$ 2,071	\$ 3,058	\$ 4,596	\$ 5,685
Average Final Avg Salary	\$ 49,840	\$ 52,459	\$ 60,651	\$ 69,110	\$ 76,946	\$ 92,620	\$ 94,857
Number of Recipients	21	190	266	289	222	205	105
Period 7/1/2017 – 6/30/2018:							
Average Monthly Pension	\$ 414	\$ 607	\$ 1,299	\$ 1,982	\$ 3,034	\$ 4,475	\$ 6,085
Average Final Avg Salary	\$ 34,603	\$ 48,524	\$ 61,668	\$ 67,811	\$ 78,675	\$ 88,707	\$ 97,703
Number of Recipients	26	221	351	280	223	214	127
Period 7/1/2016 – 6/30/2017:							
Average Monthly Pension	\$ 381	\$ 640	\$ 1,271	\$ 2,067	\$ 3,119	\$ 4,579	\$ 6,224
Average Final Avg Salary	\$ 39,320	\$ 50,209	\$ 61,150	\$ 70,810	\$ 79,613	\$ 91,169	\$ 98,661
Number of Recipients	27	254	375	233	212	191	115
Period 7/1/2015 – 6/30/2016:							
Average Monthly Pension	\$ 434	\$ 660	\$ 1,240	\$ 2,017	\$ 3,059	\$ 4,158	\$ 6,583
Average Final Avg Salary	\$ 44,649	\$ 48,729	\$ 60,599	\$ 66,996	\$ 78,592	\$ 83,505	\$ 103,143
Number of Recipients	30	323	387	266	192	161	135
Period 7/1/2014 – 6/30/2015:							
Average Monthly Pension	\$ 430	\$ 685	\$ 1,260	\$ 2,008	\$ 3,086	\$ 4,544	\$ 6,195
Average Final Avg Salary	\$ 41,184	\$ 52,565	\$ 61,224	\$ 67,225	\$ 77,440	\$ 86,942	\$ 96,468
Number of Recipients	42	284	304	213	198	169	98
Period 7/1/2013 – 6/30/2014:							
Average Monthly Pension	\$ 503	\$ 700	\$ 1,189	\$ 2,065	\$ 3,021	\$ 4,439	\$ 5,490
Average Final Avg Salary	Unavailable	Unavailable	Unavailable	Unavailable	Unavailable	Unavailable	Unavailable
Number of Recipients	48	347	319	241	214	224	121
Period 7/1/2012 – 6/30/2013:							
Average Monthly Pension	\$ 414	\$ 650	\$ 1,179	\$ 1,925	\$ 2,879	\$ 4,356	\$ 5,208
Average Final Avg Salary	Unavailable	Unavailable	Unavailable	Unavailable	Unavailable	Unavailable	Unavailable
Number of Recipients	59	349	365	257	206	209	132

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

Beneficiaries are not included in the table above.

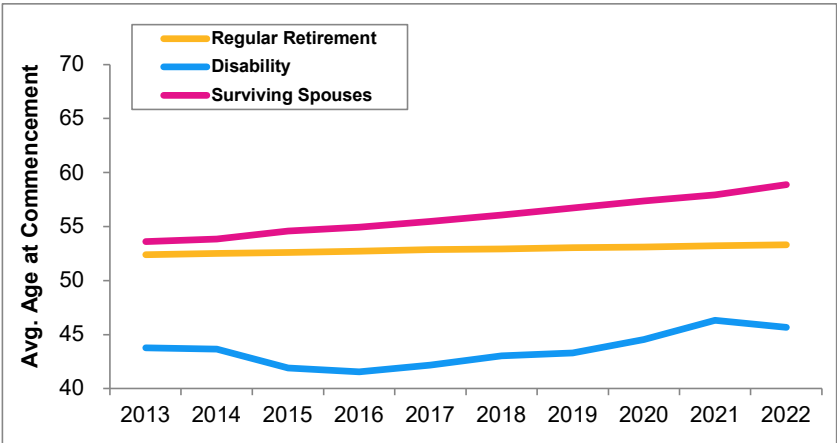
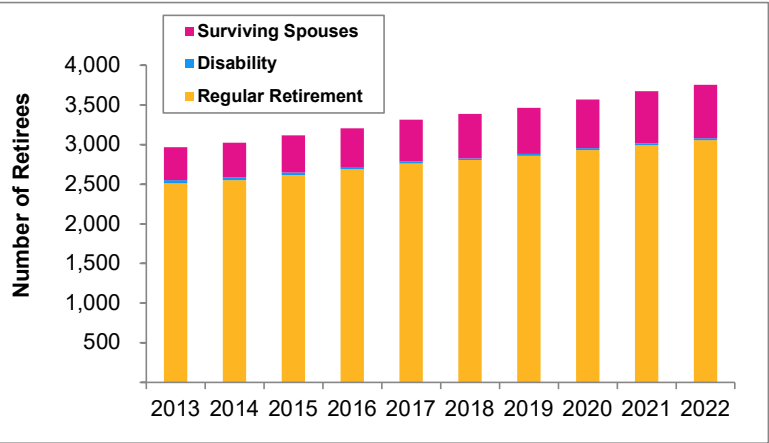
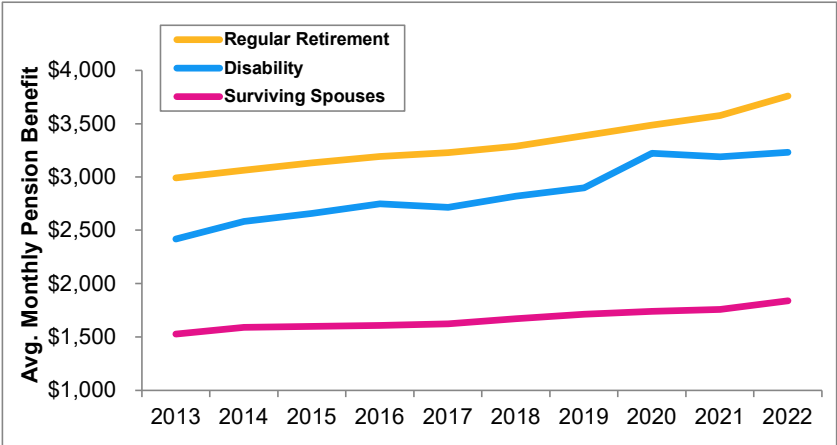
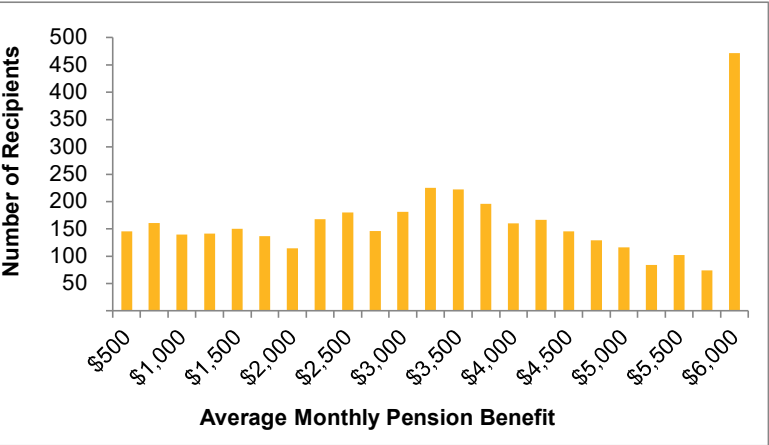
State of Alaska Public Employees' Retirement System

Section 4.7: Summary of All Pension Benefit Recipients

	Peace Officer / Firefighter	Others
Service		
1. Number as of June 30, 2021	2,991	30,009
2. Net Change During FY22	65	338
3. Number as of June 30, 2022	3,056	30,347
4. Average Age at Commencement	53.31	58.58
5. Average Current Age	68.76	71.69
6. Average Monthly Pension Benefit	\$ 3,760	\$ 2,161
Survivors (including surviving spouses and DROs)		
1. Number as of June 30, 2021	656	3,922
2. Net Change During FY22	19	125
3. Number as of June 30, 2022	675	4,047
4. Average Age at Commencement	58.87	63.78
5. Average Current Age	70.26	73.93
6. Average Monthly Pension Benefit	\$ 1,840	\$ 1,185
Disability		
1. Number as of June 30, 2021	26	113
2. Net Change During FY22	(2)	(19)
3. Number as of June 30, 2022	24	94
4. Average Age at Commencement	45.65	45.67
5. Average Current Age	51.45	54.80
6. Average Monthly Pension Benefit	\$ 3,232	\$ 2,055
Total		
1. Number as of June 30, 2021	3,673	34,044
2. Net Change During FY22	82	444
3. Number as of June 30, 2022	3,755	34,488
4. Average Age at Commencement	54.26	59.16
5. Average Current Age	68.92	71.91
6. Average Monthly Pension Benefit	\$ 3,411	\$ 2,046

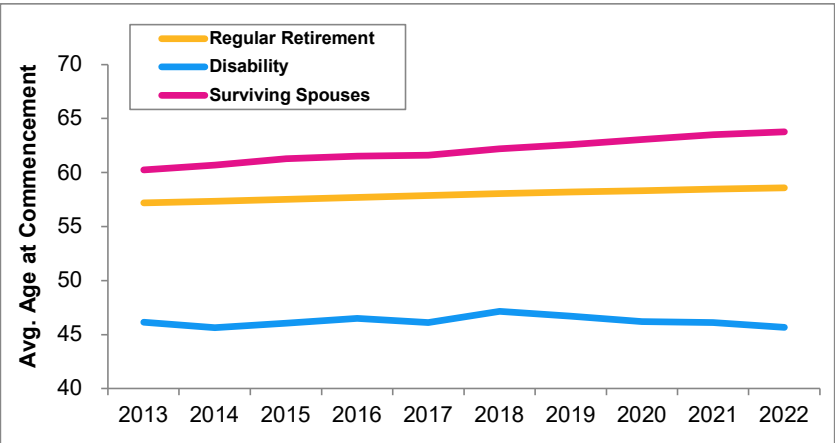
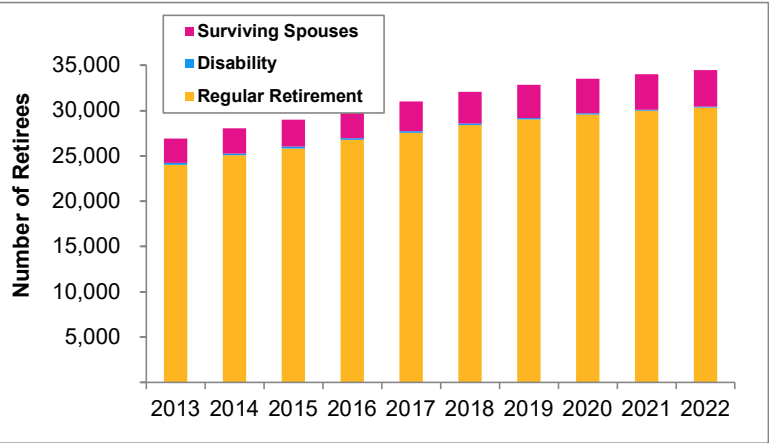
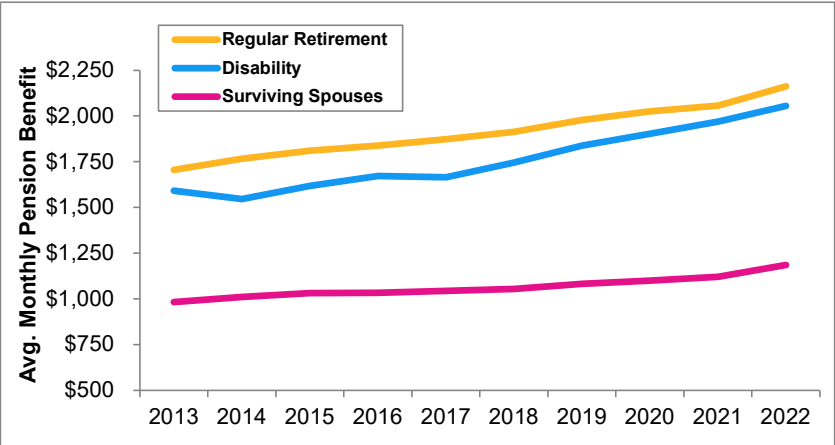
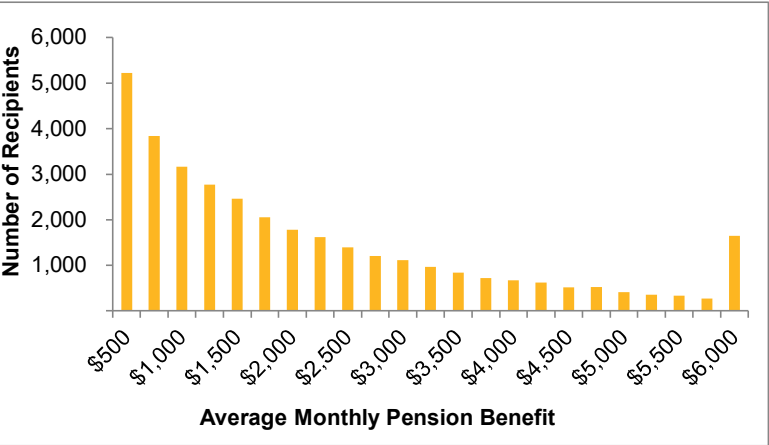
Summary of All Pension Benefit Recipients

Peace Officer / Firefighter



Summary of All Pension Benefit Recipients

Others



Summary of All Pension Benefit Recipients

Peace Officer / Firefighter

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	1	58,921	58,921
40 - 44	15	707,476	47,165
45 - 49	78	4,763,503	61,071
50 - 54	229	13,826,806	60,379
55 - 59	312	17,320,370	55,514
60 - 64	557	23,367,302	41,952
65 - 69	784	29,395,298	37,494
70 - 74	784	28,356,090	36,168
75+	995	35,942,501	36,123
Total	3,755	\$ 153,738,267	\$ 40,942

Annual Pension Benefit by Years Since Commenced

Years Since Comm.	Number	Total Annual Pension Benefit	Average Annual Pension Benefit
0	179	\$ 10,055,170	\$ 56,174
1	189	9,674,708	51,189
2	153	8,018,026	52,405
3	152	6,890,326	45,331
4	133	6,194,174	46,573
0 - 4	806	\$ 40,832,404	\$ 50,661
5 - 9	635	28,145,526	44,324
10 - 14	527	17,241,596	32,717
15 - 19	592	20,091,585	33,938
20 - 24	630	22,935,992	36,406
25 - 29	288	11,736,592	40,752
30 - 34	156	6,755,468	43,304
35 - 39	94	5,033,308	53,546
40+	27	965,796	35,770
Total	3,755	\$ 153,738,267	\$ 40,942

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	1	0	0	0	0	0	0	0	1
40 - 44	11	2	1	1	0	0	0	0	0	15
45 - 49	69	8	1	0	0	0	0	0	0	78
50 - 54	158	58	10	1	2	0	0	0	0	229
55 - 59	162	105	31	11	0	1	2	0	0	312
60 - 64	191	149	93	89	34	1	0	0	0	557
65 - 69	88	188	155	180	146	21	3	1	2	784
70 - 74	50	72	158	195	212	69	23	3	2	784
75+	77	52	78	115	236	196	128	90	23	995
Total	806	635	527	592	630	288	156	94	27	3,755

Summary of All Pension Benefit Recipients

Others

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	1	65,490	65,490
35 - 39	5	79,474	15,895
40 - 44	9	162,022	18,002
45 - 49	27	403,958	14,961
50 - 54	138	4,800,323	34,785
55 - 59	968	34,073,365	35,200
60 - 64	5,440	160,722,800	29,545
65 - 69	8,566	225,814,957	26,362
70 - 74	8,432	198,058,173	23,489
75+	10,902	222,282,181	20,389
Total	34,488	\$846,462,743	\$ 24,544

Annual Pension Benefit by Years Since Commenced

Years Since Comm.	Number	Total Annual Pension Benefit	Average Annual Pension Benefit
0	1,614	\$ 48,933,655	\$ 30,318
1	1,441	42,135,803	29,241
2	1,393	42,014,809	30,161
3	1,495	43,079,473	28,816
4	1,452	41,662,487	28,693
0 - 4	7,395	\$217,826,227	\$ 29,456
5 - 9	7,882	212,283,875	26,933
10 - 14	6,593	155,510,227	23,587
15 - 19	5,549	121,408,562	21,879
20 - 24	3,894	80,784,151	20,746
25 - 29	1,702	32,424,911	19,051
30 - 34	1,044	18,241,176	17,472
35 - 39	360	6,919,696	19,221
40+	69	1,063,918	15,419
Total	34,488	\$846,462,743	\$ 24,544

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	1	0	0	0	0	0	0	0	0	1
35 - 39	1	4	0	0	0	0	0	0	0	5
40 - 44	5	2	2	0	0	0	0	0	0	9
45 - 49	10	10	5	3	0	0	0	0	0	28
50 - 54	89	25	16	5	1	0	1	0	0	137
55 - 59	702	204	34	18	9	3	0	0	0	970
60 - 64	3,335	1,529	499	45	12	12	6	0	0	5,438
65 - 69	1,784	3,460	2,456	803	40	13	8	1	1	8,566
70 - 74	749	1,780	2,310	2,583	949	41	12	5	3	8,432
75+	719	868	1,271	2,092	2,883	1,633	1,017	354	65	10,902
Total	7,395	7,882	6,593	5,549	3,894	1,702	1,044	360	69	34,488

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

Peace Officer / Firefighter

Amount of Monthly Pension Benefit	Number of Recipients	Type of Pension Benefit			Option Selected				
		1	2	3	1	2	3	4	5
\$ 1 – 300	47	13	34	0	37	2	0	1	7
301 – 600	168	102	66	0	96	35	18	8	11
601 – 900	186	103	82	1	110	42	14	11	9
901 – 1,200	160	84	76	0	106	30	12	7	5
1,201 – 1,500	176	106	69	1	107	36	21	5	7
1,501 – 1,800	164	109	55	0	95	34	24	6	5
1,801 – 2,100	147	99	47	1	69	40	27	5	6
2,101 – 2,400	218	168	49	1	98	69	34	9	8
2,401 – 2,700	190	146	41	3	85	54	35	8	8
2,701 – 3,000	209	180	26	3	79	81	30	12	7
3,001 – 3,300	268	231	33	4	98	102	51	11	6
3,301 – 3,600	257	227	28	2	89	96	44	17	11
3,601 – 3,900	208	180	26	2	83	84	28	8	5
3,901 – 4,200	208	197	10	1	58	98	36	13	3
4,200+	1,149	1,113	31	5	322	524	222	70	11
Total	3,755	3,058	673	24	1,532	1,327	596	191	109

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
5. Level Income Option

Pension Benefit Recipients by Type of Benefit and Option Elected

Others

Amount of Monthly Pension Benefit	Number of Recipients	Type of Pension Benefit			Option Selected				
		1	2	3	1	2	3	4	5
\$ 1 – 300	1,924	1,400	524	0	939	350	251	58	326
301 – 600	4,908	4,087	817	4	2,632	1,100	804	236	136
601 – 900	4,198	3,481	707	10	2,253	1,015	655	174	101
901 – 1,200	3,394	2,889	500	5	1,716	794	637	166	81
1,201 – 1,500	3,042	2,646	383	13	1,538	741	590	105	68
1,501 – 1,800	2,411	2,127	272	12	1,129	655	493	83	51
1,801 – 2,100	2,075	1,843	221	11	994	550	384	89	58
2,101 – 2,400	1,834	1,660	165	9	818	530	370	70	46
2,401 – 2,700	1,482	1,363	108	11	662	395	314	66	45
2,701 – 3,000	1,352	1,235	114	3	607	405	265	43	32
3,001 – 3,300	1,166	1,104	59	3	479	359	256	48	24
3,301 – 3,600	931	879	47	5	363	307	204	30	27
3,601 – 3,900	857	827	29	1	353	275	168	47	14
3,901 – 4,200	759	732	27	0	305	254	157	31	12
4,200+	4,155	4,089	60	6	1,467	1,417	990	228	53
Total	34,488	30,362	4,033	93	16,255	9,147	6,538	1,474	1,074

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
5. Level Income Option

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

Peace Officer / Firefighter

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	157	\$ 8,928,276	75	\$ (1,692,346)	3,755	\$ 153,738,267	7.4%	\$ 40,942
June 30, 2021	191	9,635,568	86	2,931,719	3,673	143,117,645	4.9%	38,965
June 30, 2020	164	8,472,240	61	1,078,932	3,568	136,413,796	5.7%	38,233
June 30, 2019	149	6,713,940	71	233,335	3,465	129,020,488	5.3%	37,235
June 30, 2018	153	7,002,504	81	2,573,694	3,387	122,539,883	3.7%	36,179
June 30, 2017	165	6,971,580	54	2,132,027	3,315	118,111,073	4.3%	35,629
June 30, 2016	137	6,618,744	49	1,594,394	3,204	113,271,520	4.6%	35,353
June 30, 2015	136	5,617,344	46	633,046	3,116	108,247,168	4.8%	34,739
June 30, 2014	109	4,270,620	50	(145,771)	3,026	103,262,870	4.5%	34,125
June 30, 2013	113	4,162,920	42	240,775	2,967	98,846,479	4.1%	33,315

¹ Numbers are estimated, and include other internal transfers.

Pension Benefit Recipients Added to and Removed from Rolls

Others

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	1,453	\$ 44,793,084	1,009	\$ (5,580,072)	34,488	\$ 846,462,743	6.3%	\$ 24,544
June 30, 2021	1,576	44,216,256	1,070	20,522,550	34,044	796,089,587	3.1%	23,384
June 30, 2020	1,472	42,340,608	779	9,911,423	33,538	772,395,881	4.4%	23,030
June 30, 2019	1,543	43,301,707	765	3,096,594	32,845	739,966,696	5.7%	22,529
June 30, 2018	1,708	46,316,673	673	10,533,376	32,067	699,761,583	5.4%	21,823
June 30, 2017	1,699	44,619,382	816	14,610,212	31,032	663,978,286	4.7%	21,397
June 30, 2016	1,780	44,409,702	660	12,099,362	30,149	633,969,116	5.4%	21,028
June 30, 2015	1,583	39,939,292	627	7,232,812	29,029	601,658,776	5.7%	20,726
June 30, 2014	1,778	44,823,611	603	3,011,383	28,073	568,952,296	7.9%	20,267
June 30, 2013	1,808	43,247,667	554	4,861,626	26,898	527,140,068	7.9%	19,598

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

January 1, 1961, with amendments through June 30, 2022. Chapter 82, 1986 Session Laws of Alaska, created a two-tier retirement system. Members who were first hired under PERS before July 1, 1986 (Tier 1) are eligible for different benefits than members hired after June 30, 1986 (Tier 2). Chapter 4, 1996 Session Laws of Alaska created a third tier for members who were first hired after June 30, 1996 (Tier 3). 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 Public Employees' 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 PERS funds.

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

Employers Included

Currently there are 150 employers participating in PERS, including the State of Alaska and 149 political subdivisions and public organizations. Two additional political subdivisions participate in PERS for healthcare benefits only.

Membership

PERS membership is mandatory for all permanent full-time and part-time employees of the State of Alaska and participating political subdivisions and public organizations, unless they are specifically excluded by Alaska Statute or employer participation agreements. Employees participating in the University of Alaska's Optional Retirement Plan or other retirement plans funded by the State are not covered by PERS. Elected officials may waive PERS membership.

Certain members of the Alaska Teachers' Retirement System (TRS) are eligible for PERS retirement benefits for their concurrent elected public official service with municipalities. In addition, employees who work half-time in PERS and TRS simultaneously are eligible for half-time PERS and TRS 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

Permanent employees who work at least 30 hours a week earn full-time credit; part-time employees working between 15 and 30 hours a week earn partial credit based on the number of hours worked. Members receiving PERS occupational disability benefits continue to earn PERS credit while disabled. Survivors who are receiving occupational death benefits continue to earn PERS service credit while occupational survivor benefits are being paid.

Members may claim other types of service, including:

- part-time State of Alaska service rendered after December 31, 1960, and before January 1, 1976;
- service with the State, former Territory of Alaska, or U.S. Government in Alaska before January 1, 1961;
- past Peace Officer, correctional officer, fire fighter, and special officer service after January 1, 1961;
- military service (not more than five years may be claimed);
- temporary service after December 31, 1960;
- elected official service before January 1, 1981;
- Alaska Bureau of Indian Affairs service;
- past service rendered by employees who worked half-time in PERS and TRS simultaneously;
- leave without pay service after June 13, 1987, while receiving Workers' Compensation;
- Village Public Safety Officer service; and
- service as a temporary employee of the legislature before July 1, 1979, but this service must have been claimed no later than July 1, 2003, or by the date of retirement, if sooner (not more than ten years may be claimed).

Except for service before January 1, 1961, with the State, former Territory of Alaska, or U.S. Government in Alaska, contributions are required for all past service.

Past employment with participating political subdivisions that occurred before the employers joined PERS is creditable if the employers agree to pay the required contributions.

At the election of certain PERS members, certain service may be credited in the same fashion as members in TRS.

Members employed as dispatchers or within a state correctional facility may, at retirement, elect to convert their dispatcher or correctional facility service from "all other" service to Peace Officer/Firefighter service and retire under the 20-year retirement option. Members pay the full actuarial cost of conversion.

Employer Contributions

PERS 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 AS 39.35.255 effective July 1, 2008 and subsequently amended on July 1, 2021, each non-state PERS employer will pay a simple uniform contribution rate of 22% of non-state member payroll and

the State as an employer will pay the total contribution rate, adopted by the Board, of State member payroll.

Additional State Contributions

Pursuant to AS 39.35.280 effective July 1, 2008, the State shall contribute an amount (in addition to the State contribution as an employer) that, when combined with the total employer contributions, will be sufficient to pay the total contribution rate adopted by the Board.

Member Contributions

Mandatory Contributions: Peace Officer/Firefighter members are required to contribute 7.5% of their compensation; all Others contribute 6.75%. Those all Others who have elected to have their service calculated under TRS rules contribute 9.76% of their compensation. Members' contributions are deducted from gross wages before federal income taxes are withheld.

Contributions for Claimed Service: Member contributions are also required for most of the claimed service described above.

Voluntary Contributions: Members may voluntarily contribute up to 5% of their salary on an after-tax basis. Voluntary contributions are recorded in a separate account and are payable to the:

- a. member in lump sum payment upon termination of employment;
- b. member's beneficiary if the member dies; or
- c. member in a lump sum, life annuity, or payments over a designated period of time when the member retires.

Interest: Members' contributions earn 4.5% interest, compounded semiannually on June 30 and December 31.

Refund of Contributions: Terminated members may receive refunds of their member contribution accounts which includes their mandatory and voluntary 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 PERS service may be reinstated upon reemployment in PERS 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, 1986 (Tier 1), and age 60 or early retirement at age 55 if they were hired on or after July 1, 1986 (Tiers 2 & 3). Additionally, they must have at least:
 - (i) five years of paid-up PERS service;
 - (ii) 60 days of paid-up PERS service as employees of the legislature during each of five legislative sessions and they were first hired by the legislature before May 30, 1987;
 - (iii) 80 days of paid-up PERS service as employees of the legislature during each of five legislative sessions and they were first hired by the legislature after May 29, 1987;
 - (iv) two years of paid-up PERS service and they are vested in TRS; or
 - (v) two years of paid-up PERS service and a minimum three years of TRS service to qualify for a public service benefit.

- b. Members may retire at any age when they have:
 - (i) 20 paid-up years of PERS Peace Officer/Firefighter service; or
 - (ii) 30 paid-up years of PERS "all other" or "elected official" 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 under the "20 and out" or "30 and out" provisions. Members may receive early, reduced benefits when they reach early retirement age and complete the service required. Benefits are reduced by 6% per year prior to a member's normal retirement date.

Members may select a joint and survivor option. Members who entered PERS prior to July 1, 1996 may also select a 66-2/3 last survivor option or a level income 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 monthly compensation (AMC) times credited PERS service times the percentage multiplier. The AMC is determined by averaging the salaries earned during the five highest (three highest for Peace Officer/Firefighter members or members hired prior to July 1, 1996) consecutive payroll years. Members must earn at least 115 days of credit in the last year worked to include it in the AMC calculation. PERS pays a minimum benefit of \$25.00 per month for each year of service when the calculated benefit is less.

The percentage multipliers for Peace Officer/Firefighter members are 2% for the first ten years of service and 2.5% for all service over ten years.

The percentage multipliers for all Others are 2% for the first ten years, 2.25% for the next ten years, and 2.5% for all remaining service earned on or after July 1, 1986. All service before that date 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 PERS contributions are not eligible to retire unless they return to PERS employment and pay back their refunds plus interest or accrue additional service which qualifies them for retirement. PERS refunds must be paid in full if the corresponding service is to count toward the minimum service requirements for retirement. Refunded PERS 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

Retirement and retiree healthcare benefits are suspended while retired members are reemployed under PERS. During reemployment, members earn additional PERS service and contributions are withheld from their wages. A member who retired with a normal retirement benefit can elect to waive payment of PERS contributions. The waiver allows the member to continue receiving the retirement benefit during the period of reemployment. Members who elect the waiver option do not earn additional PERS service. The Waiver Option first became effective July 1, 2005 and applies to reemployment periods after that date. The Waiver Option is not available to members who retired early or under the Retirement Incentive Programs (RIPs). The Waiver Option is no longer available after June 30, 2009.

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 PERS 150% of the benefits that they received for state and political subdivision members, and 110% for school district employees, under the 1996-2000 RIP, which may include costs for health insurance, excluding amounts that they paid to participate for the 1986 and 1989 RIPs. Under prior RIPs, the penalty is 110% of the benefits received; 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

Major medical benefits are provided to retirees and their surviving spouses by PERS for all employees hired before July 1, 1986 (Tier 1) and disabled retirees. Employees hired after June 30, 1986 (Tier 2) and their surviving spouses with five years of credited service (or ten years of credited service for those first hired after June 30, 1996 (Tier 3)) must pay the full monthly premium if they are under age sixty and will receive benefits paid by PERS if they are over age sixty. Tier 3 Members with between five and ten years of credited service must pay the full monthly premium regardless of their age. Tier 2 and Tier 3 Members with less than five years of credited service are not eligible for postemployment healthcare benefits. Tier 2 Members who are receiving a conditional benefit and are age eligible are eligible for postemployment healthcare benefits. In addition, Peace Officers and their surviving spouses with twenty-five years of Peace Officer membership service, Other employees and their surviving spouses with thirty years of membership service, and any disabled member receive benefits paid by PERS, regardless of their age or date of hire.

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

Occupational Disability

Members are not required to satisfy age or service requirements to be eligible for occupational disability. Monthly benefits are equal to 40% of their gross monthly compensation on the date of their disability. Members on occupational disability continue to earn PERS service until they become eligible for normal retirement. Peace Officer/Firefighter members may elect to retain the disability benefit formula for the calculation of their normal retirement benefits.

At the time a disabled Peace Officer/Firefighter member retires, the retirement benefit will be increased by a percentage equal to the total cumulative percentage that has been applied to the disability benefit.

Non-occupational Disability

Members must be vested (five paid up years of PERS service) to be eligible for non-occupational disability benefits. Monthly benefits are calculated based on the member's average monthly compensation and PERS service on the date of termination from employment because of disability. Members do not earn PERS service while on non-occupational disability.

Death Benefits

Monthly death benefits may be paid to a spouse or dependent children upon the death of a member. If monthly benefits are not payable under the occupational and non-occupational death provisions, the designated beneficiary receives the lump sum benefit described below.

Occupational Death

When an active member (vested or non-vested) dies from occupational causes, a monthly survivor's pension may be paid to the spouse. The pension equals 40% of the member's gross monthly compensation on the date of death or disability, if earlier. If there is no spouse, the pension may be paid to the member's dependent children. On the member's normal retirement date, the benefit converts to a normal retirement benefit. The normal benefit is based on the member's salary on the date of death and service, including service accumulated from the date of the member's death to the normal retirement date. Survivors of Peace Officer/Firefighter members receive the greater of 50% of the member's gross monthly compensation on the date of death or disability, or 75% of the member's monthly normal retirement benefit (including service projected to Normal Retirement). If the member is unmarried with no children, a refund of contributions is payable to the estate.

Death after Occupational Disability

When a member dies while occupationally disabled, benefits are paid as described above in Occupational Death.

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. The monthly benefit is calculated on the member's average monthly compensation and PERS service at the time of termination or death.

Lump Sum Non-Occupational Death Benefit

Upon the death of a member who has less than one year of service, the designated beneficiary receives the member's contribution account, which includes mandatory and voluntary contributions, indebtedness payments, and interest earned. If the member has more than one year of PERS service or is vested, the beneficiary also receives \$1,000 and \$100 for each year of PERS service.

Death After Retirement

When a retired member dies, the designated beneficiary receives the member's contribution account, less any benefits already paid and the member's last benefit check. If the member selected a survivor option at retirement, the eligible spouse receives continuing, lifetime monthly benefits.

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 PERS 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 five years.

Ad hoc PRPAs, up to a maximum of 4%, may be granted to eligible recipients who were first hired before July 1, 1986 (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 or \$50, whichever is more. The following benefit recipients are eligible:

- a. members who first entered PERS before July 1, 1986 (Tier 1) and their survivors;
- b. members who first entered PERS after June 30, 1986 (Tiers 2 & 3) 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 PERS 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.

A. Fiscal 2021

	Medical		Prescription Drugs (Rx)	
	Pre-Medicare	Medicare	Pre-Medicare	Medicare
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

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>	<u>\$ 1,661</u>	<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.

Employee mortality for Peace Officer/Firefighters in accordance with the following tables:

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

Employee mortality for Others in accordance with the following tables:

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

Deaths are assumed to result from occupational causes 70% of the time for Peace Officer/Firefighters, and 35% of the time for Others.

Mortality (Post-Commencement)

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

Retiree mortality for Peace Officer/Firefighters in accordance with the following tables:

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

Retiree mortality for Others in accordance with the following tables:

- Pension: 98% of male and 106% of female rates of the Pub-2010 General Retiree table, amount-weighted, and projected with MP-2021 generational improvement.
- Healthcare: 101% of male and 110% of female rates of the Pub-2010 General Retiree table, headcount-weighted, and projected with MP-2021 generational improvement.

Beneficiary mortality for Peace Officer/Firefighters in accordance with the following tables. These tables are applied only after the death of the original member.

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

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

- Pension: 102% of male and 108% of female rates of the Pub-2010 Contingent Survivor table, amount-weighted, and projected with MP-2021 generational improvement.
- Healthcare: 101% of male and 108% 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 Tables 2a and 2b).

Disability

No changes to the incidence rates from the prior valuation due to insufficient 2017-2021 actual experience (see Tables 3a and 3b). Disability rates cease once a member is eligible for retirement.

Disabilities are assumed to be occupational 70% of the time for Peace Officer/Firefighters, and 35% of the time for Others.

Post-disability mortality for Peace Officer/Firefighters in accordance with the following tables:

- Pension: Pub-2010 Safety Disabled Retiree table, amount-weighted, and projected with MP-2021 generational improvement.
- Healthcare: Pub-2010 Safety Disabled Retiree table, headcount-weighted, and projected with MP-2021 generational improvement.

Post-disability mortality for Others 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 Tables 4a and 4b).

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

For Peace Officer/Firefighters, 85% of male members and 60% of female members are assumed to be married at termination from active service. For Others, 75% of male members and 70% of female members are assumed to be married at termination from active service.

Dependent Spouse Medical Coverage Election

Applies to members who do not have double medical coverage. For Peace Officer/Firefighters, 75% of male members and 50% of female members are assumed to be married and cover a dependent spouse. For Others, 60% of male members and 50% of female members are assumed to be married and cover a dependent spouse.

Dependent Children

- Pension: None
- Healthcare: Benefits for dependent children have been valued only for members currently covering their dependent children. These benefits are only valued through the dependent children's age 23 (unless the child is disabled).

Imputed Data

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

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: \$8,635,000
- Healthcare: \$3,818,000

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: 15.30%
- Healthcare: 2.40%

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

Peace Officer/Firefighter members are assumed to be full-time employees. For Other members, part-time employees are assumed to earn 0.75 years of service per year.

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

5% 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% of Peace Officers/Firefighters and 65% of Others 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. For Peace Officer/Firefighters, 20% of non-system paid members and their spouses are assumed to elect healthcare benefits as soon as they are eligible. For Others, 25% 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 PERS members who are under age 60 and have less than 30 years of service (25 for Peace Officer/Firefighter). 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 or 3 who are assumed to retire prior to age 60 with less than 30 years of service and who are not disabled. For dependent children, 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 \$7,625,000 to \$8,635,000 for pension, and from \$5,531,000 to \$3,818,000 for healthcare (based on the most recent two years of actual administrative expenses paid from plan assets).

Table 1: Salary Scales

Peace Officer / Firefighter		Others	
Years of Service	Percent Increase	Years of Service	Percent Increase
< 1	8.50%	< 1	6.75%
1	7.75%	1	6.00%
2	7.25%	2	5.50%
3	7.00%	3	5.00%
4	6.75%	4	4.75%
5	6.25%	5	4.25%
6	5.75%	6	4.05%
7	5.50%	7	3.95%
8	5.25%	8	3.75%
9	5.05%	9	3.55%
10	4.95%	10	3.45%
11	4.85%	11	3.25%
12	4.75%	12	3.10%
13	4.65%	13	3.05%
14	4.55%	14	3.00%
15	4.45%	15	2.95%
16	4.35%	16	2.90%
17	4.25%	17+	2.85%
18	4.05%		
19	4.05%		
20+	3.85%		

Table 2a: Turnover Rates for Peace Officer / Firefighter

Select Rates during the First 5 Years of Employment

Years of Service	Male	Female
< 1	15.00%	15.00%
1	12.00%	8.00%
2	7.20%	6.40%
3	5.67%	5.60%
4	6.48%	7.20%

Ultimate Rates after the First 5 Years of Employment

Age	Male	Female
< 30	2.40%	5.80%
30 - 34	2.00%	5.10%
35 - 39	1.60%	3.00%
40 - 44	1.30%	3.00%
45 - 49	1.50%	2.90%
50 - 54	3.00%	5.00%
55+	2.25%	1.80%

Table 2b: Turnover Rates for Others

Select Rates during the First 5 Years of Employment

Hire Age Under 35			Hire Age Over 35		
Years of Service	Male	Female	Years of Service	Male	Female
< 1	29.00%	29.00%	< 1	20.00%	20.00%
1	16.25%	20.00%	1	12.00%	15.00%
2	13.00%	16.00%	2	10.00%	12.50%
3	10.40%	12.80%	3	8.50%	10.00%
4	8.45%	10.40%	4	8.50%	9.00%

Ultimate Rates after the First 5 Years of Employment

Age	Male	Female
< 30	7.80%	8.20%
30 - 34	7.00%	7.10%
35 - 39	5.70%	5.50%
40 - 44	4.50%	5.20%
45 - 49	4.20%	4.40%
50 - 54	3.60%	4.70%
55+	2.90%	4.90%

Table 3a: Disability Rates for Peace Officer / Firefighter

Age	Male	Female	Age	Male	Female
< 23	0.0179%	0.0112%	46	0.1247%	0.0780%
23	0.0244%	0.0153%	47	0.1337%	0.0836%
24	0.0310%	0.0194%	48	0.1462%	0.0914%
25	0.0374%	0.0234%	49	0.1588%	0.0993%
26	0.0440%	0.0275%	50	0.1714%	0.1071%
27	0.0505%	0.0316%	51	0.1839%	0.1150%
28	0.0526%	0.0329%	52	0.1965%	0.1228%
29	0.0548%	0.0343%	53	0.2294%	0.1434%
30	0.0570%	0.0356%	54	0.2624%	0.1640%
31	0.0591%	0.0370%	55	0.2954%	0.1846%
32	0.0612%	0.0383%	56	0.3283%	0.2052%
33	0.0634%	0.0397%	57	0.3613%	0.2258%
34	0.0657%	0.0411%	58	0.4112%	0.2570%
35	0.0679%	0.0425%	59	0.4611%	0.2882%
36	0.0702%	0.0439%	60	0.5110%	0.3194%
37	0.0724%	0.0453%	61	0.5610%	0.3506%
38	0.0757%	0.0473%	62	0.6109%	0.3818%
39	0.0789%	0.0493%	63	0.6109%	0.3818%
40	0.0822%	0.0514%	64	0.6109%	0.3818%
41	0.0854%	0.0534%	65	0.6109%	0.3818%
42	0.0886%	0.0554%	66	0.6109%	0.3818%
43	0.0977%	0.0611%	67	0.6109%	0.3818%
44	0.1066%	0.0667%	68	0.4073%	0.2546%
45	0.1157%	0.0723%	69	0.2036%	0.1273%
			70+	0.2036%	0.1273%

Table 3b: Disability Rates for Others

Age	Male	Female	Age	Male	Female
< 23	0.0327%	0.0376%	46	0.1125%	0.1154%
23	0.0360%	0.0400%	47	0.1208%	0.1236%
24	0.0392%	0.0424%	48	0.1329%	0.1360%
25	0.0425%	0.0448%	49	0.1451%	0.1484%
26	0.0456%	0.0472%	50	0.1572%	0.1608%
27	0.0489%	0.0496%	51	0.1694%	0.1734%
28	0.0501%	0.0510%	52	0.1815%	0.1858%
29	0.0513%	0.0524%	53	0.2132%	0.2168%
30	0.0524%	0.0538%	54	0.2450%	0.2478%
31	0.0536%	0.0554%	55	0.2766%	0.2788%
32	0.0548%	0.0568%	56	0.3084%	0.3098%
33	0.0566%	0.0586%	57	0.3401%	0.3408%
34	0.0584%	0.0606%	58	0.4068%	0.4096%
35	0.0602%	0.0624%	59	0.4736%	0.4784%
36	0.0620%	0.0644%	60	0.5405%	0.5470%
37	0.0638%	0.0662%	61	0.6072%	0.6158%
38	0.0669%	0.0696%	62	0.6740%	0.6844%
39	0.0701%	0.0728%	63	0.8526%	0.8450%
40	0.0734%	0.0762%	64	1.0314%	1.0054%
41	0.0765%	0.0794%	65	1.2101%	1.1660%
42	0.0797%	0.0826%	66	1.3889%	1.3264%
43	0.0879%	0.0908%	67	1.5675%	1.4870%
44	0.0962%	0.0990%	68	1.0451%	0.9914%
45	0.1043%	0.1072%	69	0.5225%	0.4956%
			70+	0.5225%	0.4956%

Table 4a: Retirement Rates for Peace Officer / Firefighter

Age	Reduced		Unreduced	
	Male	Female	Male	Female
< 47	N/A	N/A	9.00%	7.50%
47	N/A	N/A	13.00%	18.50%
48	N/A	N/A	13.00%	18.50%
49	N/A	N/A	13.00%	18.50%
50	5.00%	5.00%	20.00%	21.00%
51	5.00%	5.00%	20.00%	21.00%
52	7.00%	7.00%	20.00%	21.00%
53	7.00%	7.00%	20.00%	21.00%
54	7.00%	7.00%	20.00%	21.00%
55	7.50%	7.50%	29.00%	20.00%
56	7.50%	7.50%	29.00%	20.00%
57	7.50%	7.50%	29.00%	20.00%
58	7.50%	7.50%	29.00%	20.00%
59	20.00%	20.00%	29.00%	20.00%
60 - 64	N/A	N/A	29.00%	31.50%
65 - 69	N/A	N/A	45.00%	45.00%
70+	N/A	N/A	100.00%	100.00%

Table 4b: Retirement Rates for Others

Age	Reduced		Unreduced	
	Male	Female	Male	Female
< 50	N/A	N/A	11.50%	11.50%
50	7.00%	8.50%	37.50%	40.50%
51	7.00%	8.50%	37.50%	40.50%
52	11.00%	8.50%	37.50%	40.50%
53	11.00%	8.50%	37.50%	40.50%
54	24.00%	16.50%	37.50%	40.50%
55	7.00%	6.50%	25.50%	24.00%
56	7.00%	6.50%	25.50%	24.00%
57	7.00%	6.50%	25.50%	24.00%
58	7.00%	6.50%	25.50%	24.00%
59	18.00%	22.00%	25.50%	24.00%
60 - 64	N/A	N/A	26.50%	24.50%
65 - 69	N/A	N/A	30.50%	28.50%
70 - 74	N/A	N/A	27.50%	27.50%
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	\$ 9,591,758	\$ 10,076,528	\$ 10,472,466	\$ 10,774,140	\$ 11,426,889
2. Total Accrued Liability	\$ 14,606,033	\$ 15,039,180	\$ 15,279,525	\$ 15,419,975	\$ 16,093,679
3. Ratio, (1) ÷ (2)	65.7%	67.0%	68.5%	69.9%	71.0%

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	\$ 457,339	\$ 498,067	\$ 504,029	\$ 586,737	\$ 579,650
2. Benefit Payments	<u>812,877</u>	<u>848,019</u>	<u>895,523</u>	<u>930,006</u>	<u>962,357</u>
3. Cash Flow, (1) - (2)	\$ (355,538)	\$ (349,952)	\$ (391,494)	\$ (343,269)	\$ (382,707)
4. Fair Value of Assets	\$ 9,306,675	\$ 9,489,405	\$ 9,469,161	\$ 11,912,309	\$ 10,816,140
5. Ratio, (3) ÷ (4)	(3.8%)	(3.7%)	(4.1%)	(2.9%)	(3.5%)

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	\$ 9,306,675	\$ 9,489,405	\$ 9,469,161	\$ 11,912,309	\$ 10,816,140
2. DB/DCR Payroll	\$ 2,267,338	\$ 2,347,306	\$ 2,373,078	\$ 2,406,757	\$ 2,442,007
3. Asset to Payroll Ratio, (1) ÷ (2)	410.5%	404.3%	399.0%	495.0%	442.9%
4. Accrued Liability	\$ 14,606,033	\$ 15,039,180	\$ 15,279,525	\$ 15,419,975	\$ 16,093,679
5. Liability to Payroll Ratio, (4) ÷ (2)	644.2%	640.7%	643.9%	640.7%	659.0%

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

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 Accrued Liability	Unfunded Actuarial Accrued Liability (UAAL)	Active Member Payroll	UAAL as Pct. of Active Member Payroll
June 30, 2022	\$ 16,093,679	\$ 10,961,498	68.1%	\$ 5,132,181	\$ 796,666	644.2%
June 30, 2021	15,419,975	10,466,709	67.9%	4,953,266	858,641	576.9%
June 30, 2020	15,279,525	9,713,710	63.6%	5,565,815	930,061	598.4%
June 30, 2019	15,039,180	9,576,693	63.7%	5,462,487	1,004,467	543.8%
June 30, 2018	14,606,033	9,430,192	64.6%	5,175,841	1,049,152	493.3%
June 30, 2017	13,832,130	9,229,703	66.7%	4,602,427	1,159,599	396.9%
June 30, 2016	13,633,033	9,056,662	66.4%	4,576,371	1,247,884	366.7%
June 30, 2015	13,337,929	8,931,160	67.0%	4,406,769	1,322,925	333.1%
June 30, 2014	12,947,759	7,731,438	59.7%	5,216,321	1,412,237	369.4%
June 30, 2013	11,945,881	6,510,749	54.5%	5,435,132	1,514,034	359.0%
June 30, 2012	11,428,944	6,530,421	57.1%	4,898,523	1,569,710	312.1%
June 30, 2011	10,919,047	6,762,149	61.9%	4,156,898	1,611,744	257.9%
June 30, 2010	10,371,672	6,469,832	62.4%	3,901,840	1,661,170	234.9%
June 30, 2009	9,702,086	6,108,528	63.0%	3,593,558	1,662,781	216.1%
June 30, 2008	9,154,282	7,210,772	78.8%	1,943,510	1,657,186	117.3%
June 30, 2007	8,662,324	6,739,004	77.8%	1,923,320	1,689,969	113.8%
June 30, 2006	8,094,043	6,331,065	78.2%	1,762,978	1,676,318	105.2%

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	\$ 6,657,069	\$ 8,979,943	134.9%	\$ (2,322,874)	\$ 796,666	(291.6%)
June 30, 2021	6,856,170	8,581,155	125.2%	(1,724,985)	858,641	(200.9%)
June 30, 2020	7,036,550	7,989,358	113.5%	(952,808)	930,061	(102.4%)
June 30, 2019	7,151,694	7,810,491	109.2%	(658,797)	1,004,467	(65.6%)
June 30, 2018	7,658,104	7,686,509	100.4%	(28,405)	1,049,152	(2.7%)
June 30, 2017	8,049,265	7,557,068	93.9%	492,197	1,159,599	42.4%
June 30, 2016	7,736,457	7,411,330	95.8%	325,127	1,247,884	26.1%
June 30, 2015	7,310,734	7,242,299	99.1%	68,435	1,322,925	5.2%
June 30, 2014	7,949,613	6,913,160	87.0%	1,036,453	1,412,237	73.4%
June 30, 2013	8,046,878	5,651,877	70.2%	2,395,001	1,514,034	158.2%
June 30, 2012	7,863,417	5,301,609	67.4%	2,561,808	1,569,710	163.2%
June 30, 2011	7,821,503	5,051,625	64.6%	2,769,878	1,611,744	171.9%
June 30, 2010	7,760,820	4,687,632	60.4%	3,073,188	1,661,170	185.0%
June 30, 2009	6,877,285	4,134,450	60.1%	2,742,835	1,662,781	165.0%
June 30, 2008	6,733,859	3,829,334	56.9%	2,904,525	1,657,186	175.3%
June 30, 2007	5,908,609	3,161,956	53.5%	2,746,653	1,689,969	162.5%
June 30, 2006	6,294,370	2,709,843	43.1%	3,584,527	1,676,318	213.8%

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	\$ 1,220,552	\$ 12,209,639	\$ 2,663,488	\$ 10,961,498	100.0%	79.8%	0.0%
June 30, 2021	1,291,313	11,524,330	2,604,332	10,466,709	100.0%	79.6%	0.0%
June 30, 2020	1,336,269	11,210,836	2,732,420	9,713,710	100.0%	74.7%	0.0%
June 30, 2019	1,375,913	10,801,729	2,861,538	9,576,693	100.0%	75.9%	0.0%
June 30, 2018	1,411,881	10,300,818	2,893,334	9,430,192	100.0%	77.8%	0.0%
June 30, 2017	1,435,091	9,505,267	2,891,772	9,229,703	100.0%	82.0%	0.0%
June 30, 2016	1,458,830	9,147,818	3,026,385	9,056,662	100.0%	83.1%	0.0%
June 30, 2015	1,475,852	8,762,863	3,099,214	8,931,160	100.0%	85.1%	0.0%
June 30, 2014	1,486,335	8,264,683	3,196,741	7,731,438	100.0%	75.6%	0.0%
June 30, 2013	1,479,538	7,514,255	2,952,088	6,510,749	100.0%	67.0%	0.0%
June 30, 2012	1,459,943	7,057,967	2,911,034	6,530,421	100.0%	71.8%	0.0%
June 30, 2011	1,421,967	6,657,517	2,839,563	6,762,149	100.0%	80.2%	0.0%
June 30, 2010	1,388,029	6,268,461	2,715,182	6,469,832	100.0%	81.1%	0.0%
June 30, 2009	1,315,924	5,914,959	2,471,203	6,108,528	100.0%	81.0%	0.0%
June 30, 2008	1,242,288	5,606,402	2,305,592	7,210,772	100.0%	100.0%	15.7%
June 30, 2007	1,203,007	5,282,132	2,177,185	6,739,004	100.0%	100.0%	11.7%
June 30, 2006	1,157,755	4,933,609	2,002,679	6,331,065	100.0%	100.0%	12.0%

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)			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	\$ 0	\$ 5,188,441	\$ 1,468,628	\$ 8,979,943	100.0%	100.0%	100.0%
June 30, 2021	0	5,260,804	1,595,366	8,581,155	100.0%	100.0%	100.0%
June 30, 2020	0	5,306,689	1,729,861	7,989,358	100.0%	100.0%	100.0%
June 30, 2019	0	5,304,790	1,846,904	7,810,491	100.0%	100.0%	100.0%
June 30, 2018	0	5,546,497	2,111,607	7,686,509	100.0%	100.0%	100.0%
June 30, 2017	0	5,671,509	2,377,756	7,557,068	100.0%	100.0%	79.3%
June 30, 2016	0	5,393,537	2,342,920	7,411,330	100.0%	100.0%	86.1%
June 30, 2015	0	5,159,283	2,151,451	7,242,299	100.0%	100.0%	96.8%
June 30, 2014	0	5,455,114	2,494,499	6,913,160	100.0%	100.0%	58.5%
June 30, 2013	0	5,298,380	2,748,498	5,651,877	100.0%	100.0%	12.9%
June 30, 2012	0	5,026,080	2,837,337	5,301,609	100.0%	100.0%	9.7%
June 30, 2011	0	4,812,845	3,008,658	5,051,625	100.0%	100.0%	7.9%
June 30, 2010	0	4,581,806	3,179,014	4,687,632	100.0%	100.0%	3.3%
June 30, 2009	0	4,232,394	2,644,891	4,134,450	100.0%	97.7%	0.0%
June 30, 2008	0	4,166,270	2,567,589	3,829,334	100.0%	91.9%	0.0%
June 30, 2007	0	3,684,906	2,223,703	3,161,956	100.0%	85.8%	0.0%
June 30, 2006	0	3,990,202	2,304,168	2,709,843	100.0%	67.9%	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	20,955	19,297	17,660	16,105	14,719	13,434	12,152	11,033	9,888	8,795
2. Average Age	50.39	50.90	51.34	51.74	52.10	52.52	52.84	53.21	53.51	53.78
3. Average Credited Service	14.00	14.64	15.29	15.95	16.57	17.21	17.80	18.38	18.96	19.52
4. Average Entry Age	36.39	36.26	36.05	35.79	35.53	35.30	35.04	34.83	34.55	34.26
5. Average Annual Earnings	\$ 69,211	\$ 71,651	\$ 73,248	\$ 75,717	\$ 76,902	\$ 77,813	\$ 82,192	\$ 83,757	\$ 86,316	\$ 89,603
6. Number Vested	19,670	18,381	16,996	15,607	14,314	13,103	11,868	10,791	9,675	8,604
7. Percent Who Are Vested	93.9%	95.3%	96.2%	96.9%	97.2%	97.5%	97.7%	97.8%	97.8%	97.8%
Retirees, Disabilitants, and Beneficiaries										
1. Number	29,865	31,099	32,145	33,353	34,347	35,454	36,310	37,106	37,717	38,243
2. Average Age	67.76	68.15	68.60	69.02	69.42	69.85	70.29	70.77	71.17	71.61
3. Average Years Since Retirement	N/A	N/A	11.27	11.48	11.71	11.87	12.14	12.45	12.66	12.94
4. Average Monthly Pension Benefit	\$ 1,747	\$ 1,800	\$ 1,841	\$ 1,868	\$ 1,898	\$ 1,933	\$ 1,994	\$ 2,041	\$ 2,076	\$ 2,180
Vested Terminations (vested at termination, not refunded contributions, and not commenced benefit)										
1. Number	6,230	6,167	6,304	6,160	5,962	5,660	5,499	5,327	5,135	4,955
2. Average Age	50.84	51.15	51.80	52.08	52.45	52.56	53.06	53.52	53.92	54.37
3. Average Monthly Pension Benefit	\$ 863	\$ 897	\$ 991	\$ 1,042	\$ 1,080	\$ 1,087	\$ 1,123	\$ 1,158	\$ 1,205	\$ 1,258
Non-Vested Terminations (not vested at termination and not refunded contributions)										
1. Number	13,162	12,713	12,339	11,880	11,506	11,192	10,921	10,642	10,432	10,223
2. Average Account Balance	\$ 5,578	\$ 5,765	\$ 5,981	\$ 6,212	\$ 6,462	\$ 6,558	\$ 6,923	\$ 7,060	\$ 7,325	\$ 7,573
Total Number of Members	70,212	69,276	68,448	67,498	66,534	65,740	64,882	64,108	63,172	62,216

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.



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.

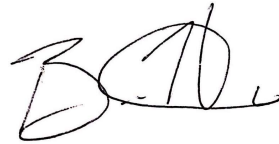
This report was prepared under the overall direction of David Kershner, who meets the Qualification Standards of the American Academy of Actuaries to render the actuarial opinions contained herein. He is a Fellow of the Society of Actuaries, an Enrolled Actuary, a Member of the American Academy of Actuaries,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

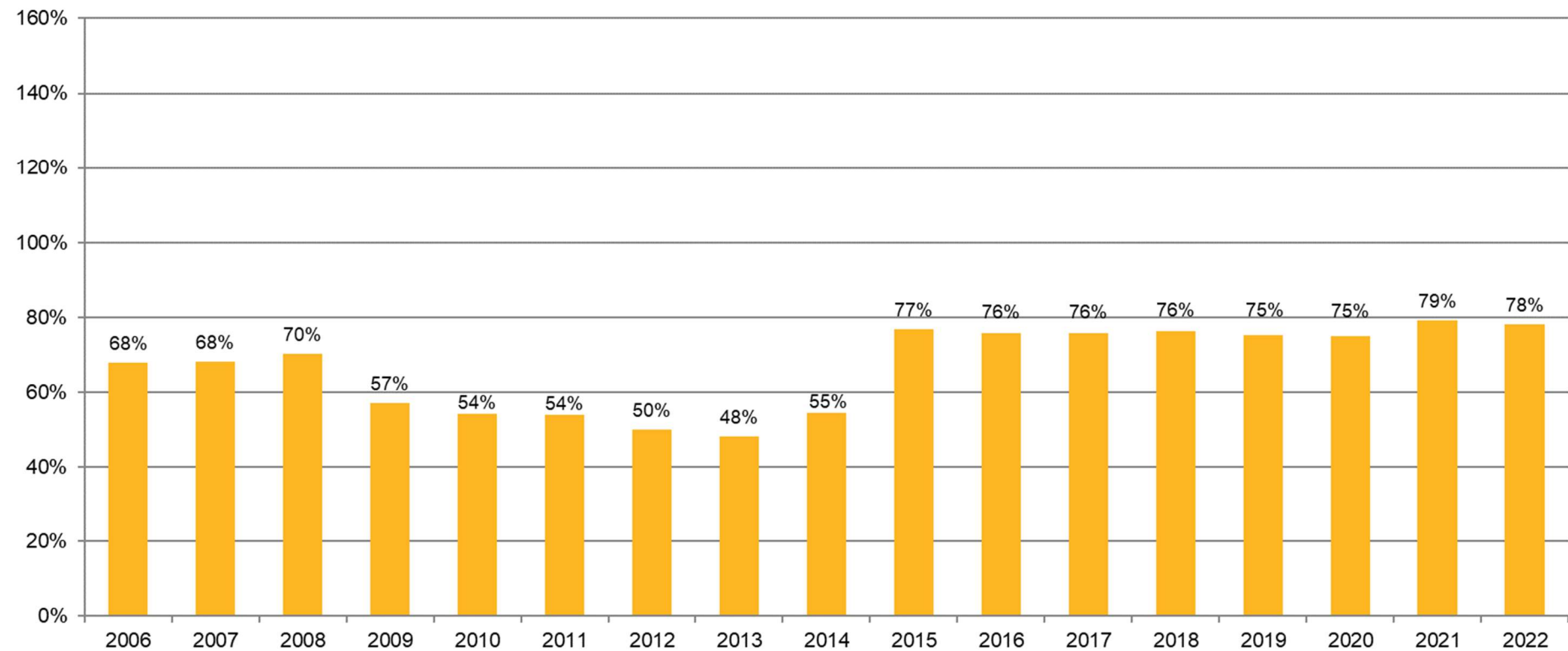
Funded Status

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
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%

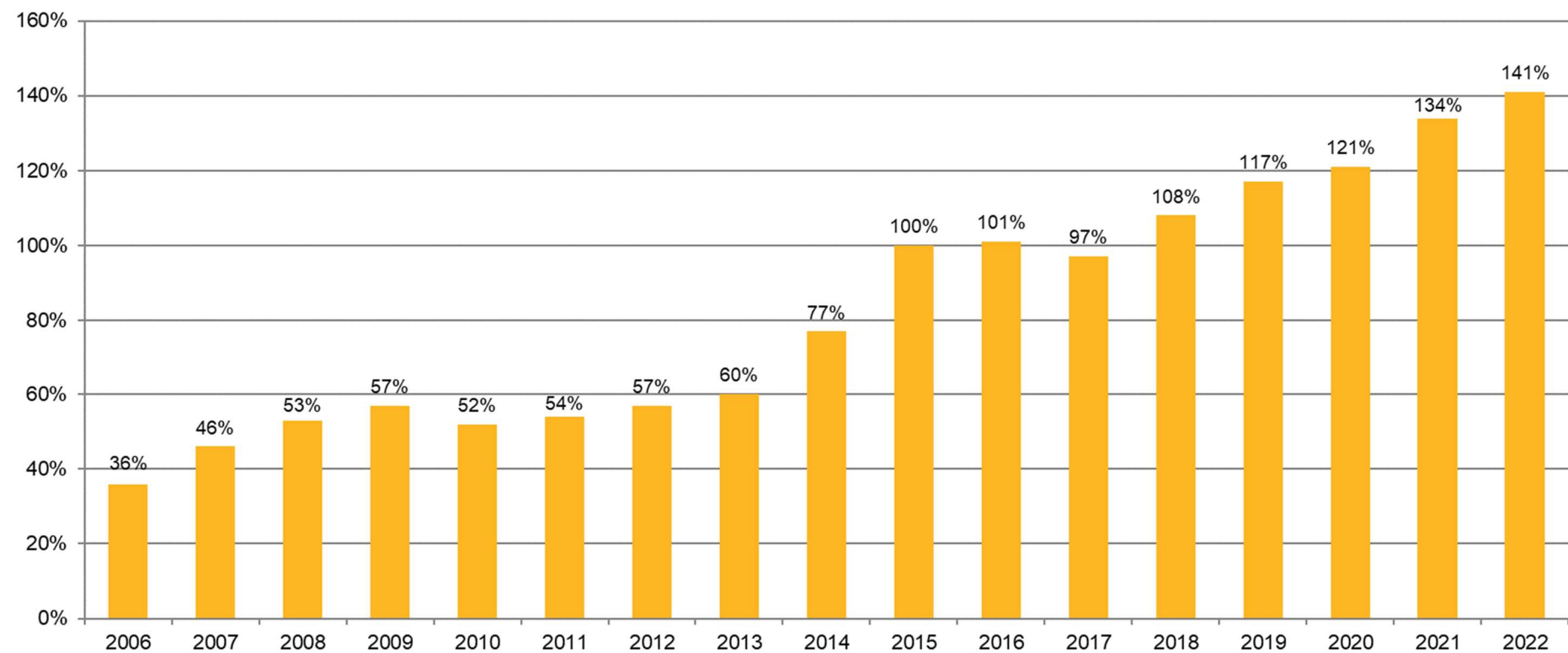
Funded Ratio History (Based on Valuation Assets)

Pension (2006 and later)



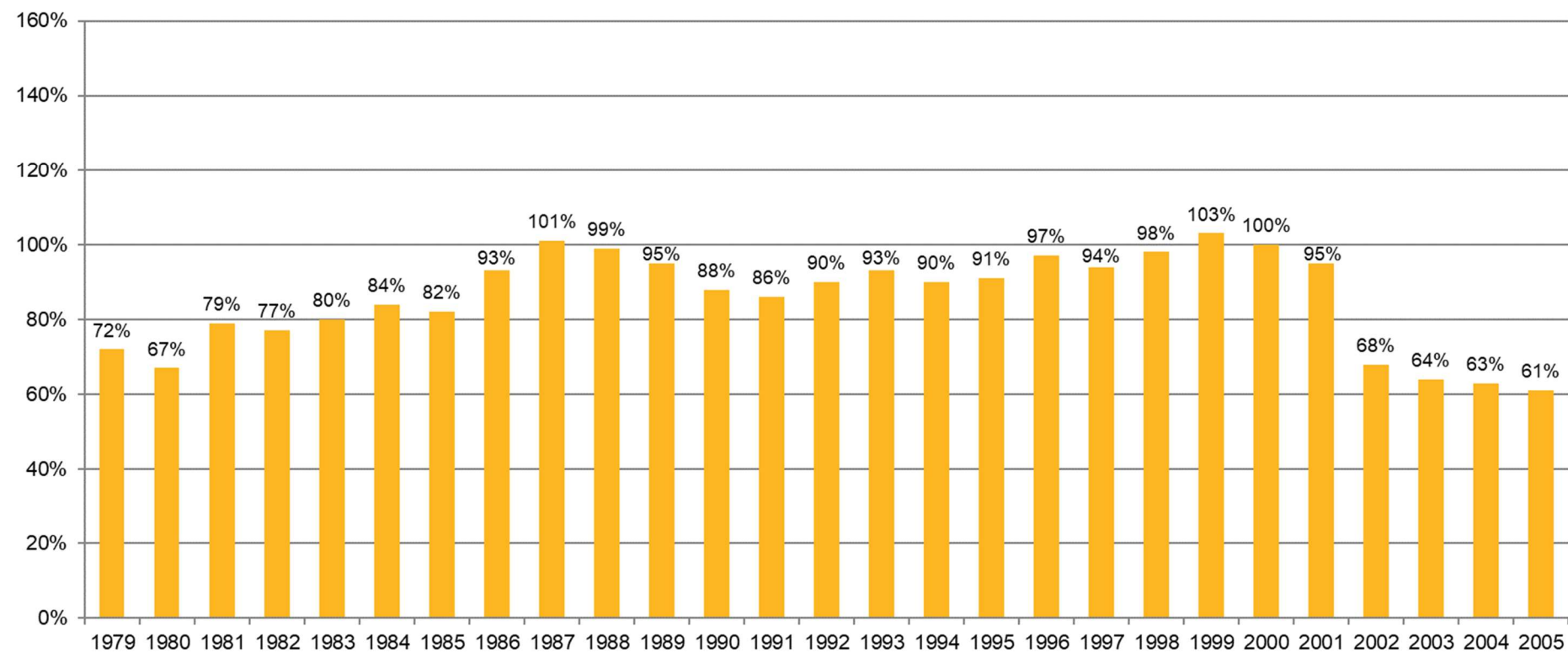
Funded Ratio History (Based on Valuation Assets)

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	(21,262)	(4,900)
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	(21,962)	(5,159)
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	4,653	3,207
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	21,469	10,123
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	<u>521,222</u>	<u>521,222</u>
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	144,033	20,542
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	7,804,046	2,442,577
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	(20,261)	(5,450)
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	6,100,204	3,437,216
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

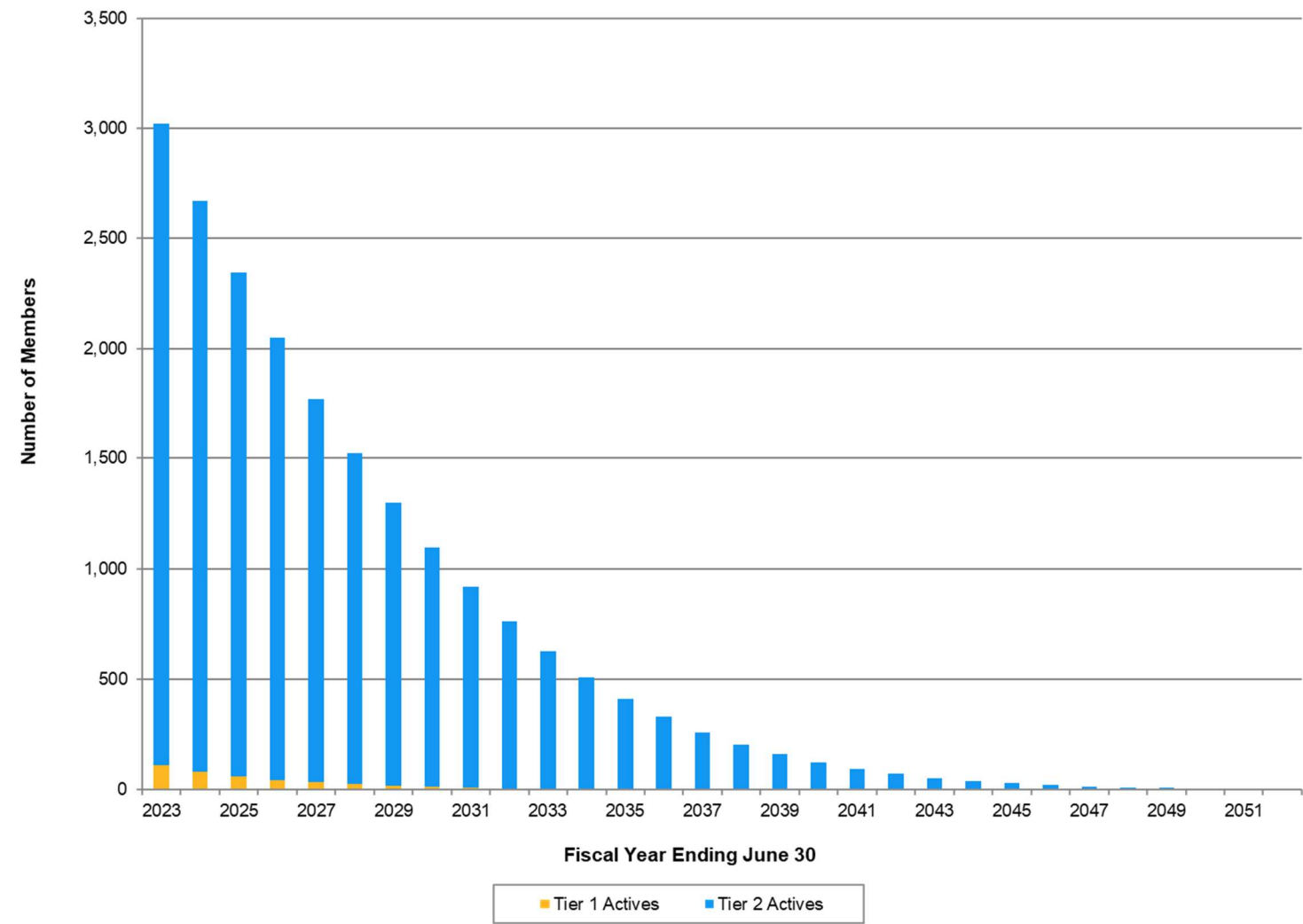
Section 3.1: Projection Assumptions and Methods

Key Assumptions

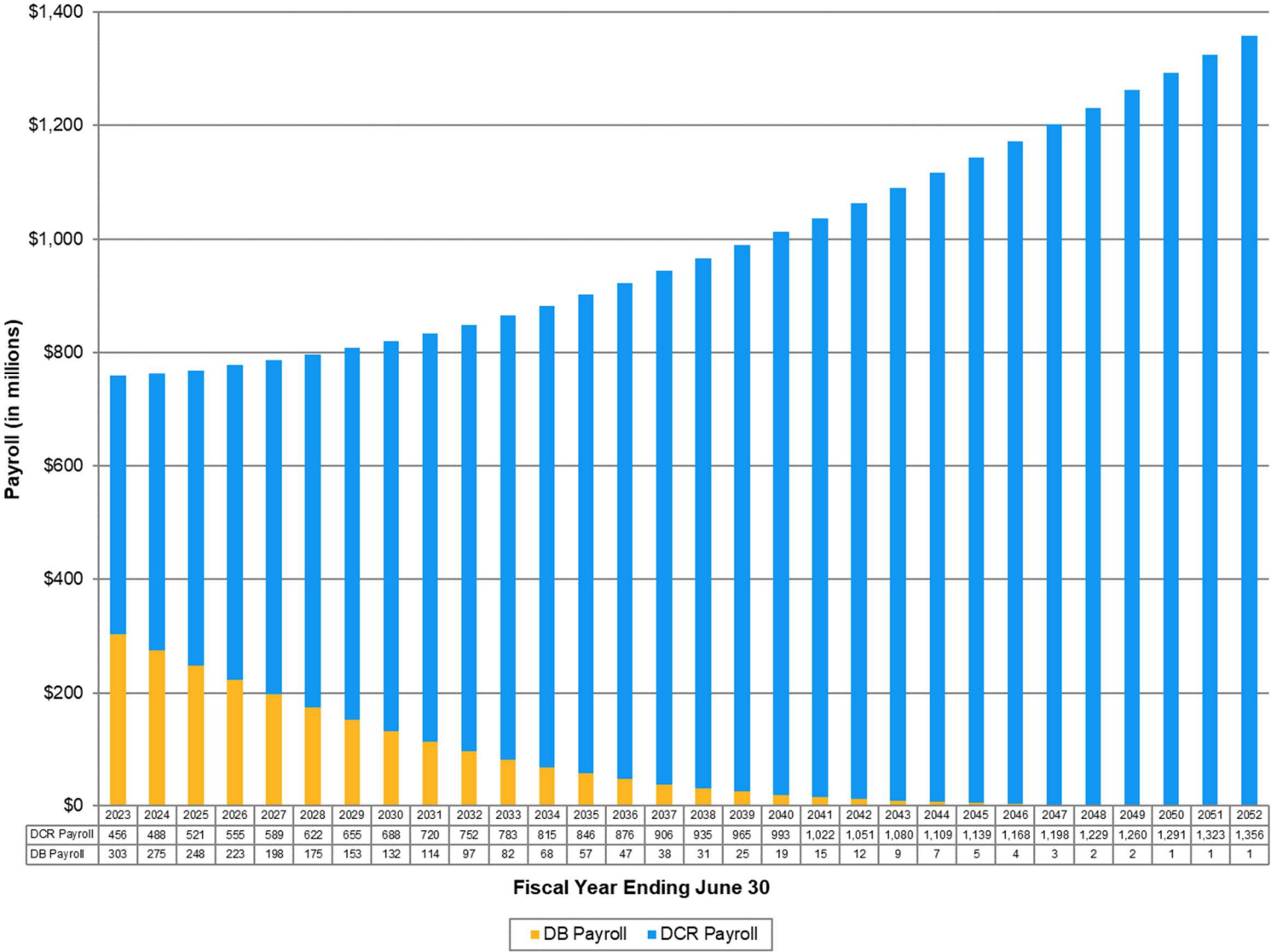
- 7.25% investment return (net of investment expenses) on the Fair Value of Assets in all future years.
- The Actuarial Value of Assets was re-initialized to Fair Value as of June 30, 2014. The Actuarial Value of Assets after June 30, 2014 reflects the deferred gains and losses generated by the smoothing 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

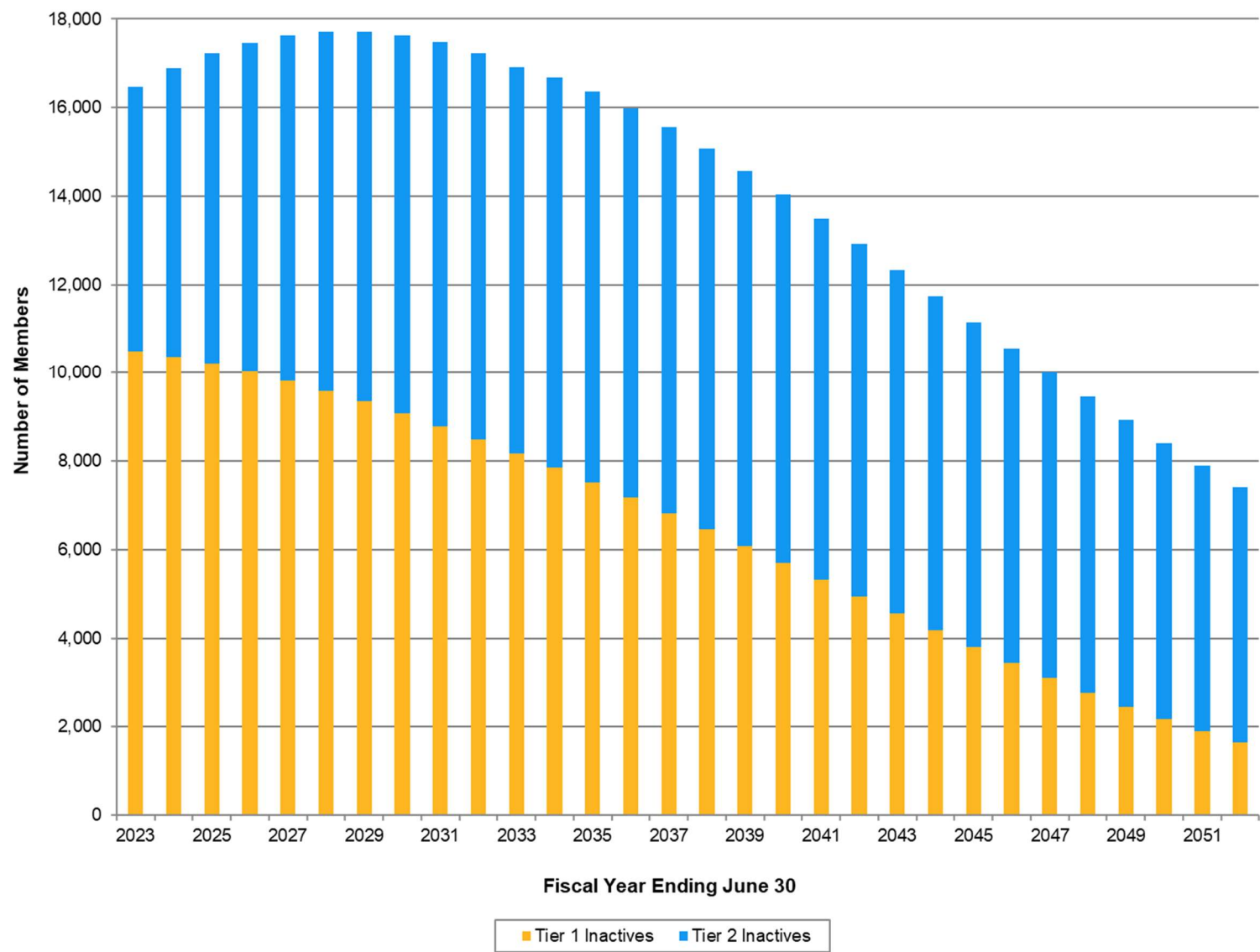
Projected Active Member Count



Projected DB and DCR Payroll

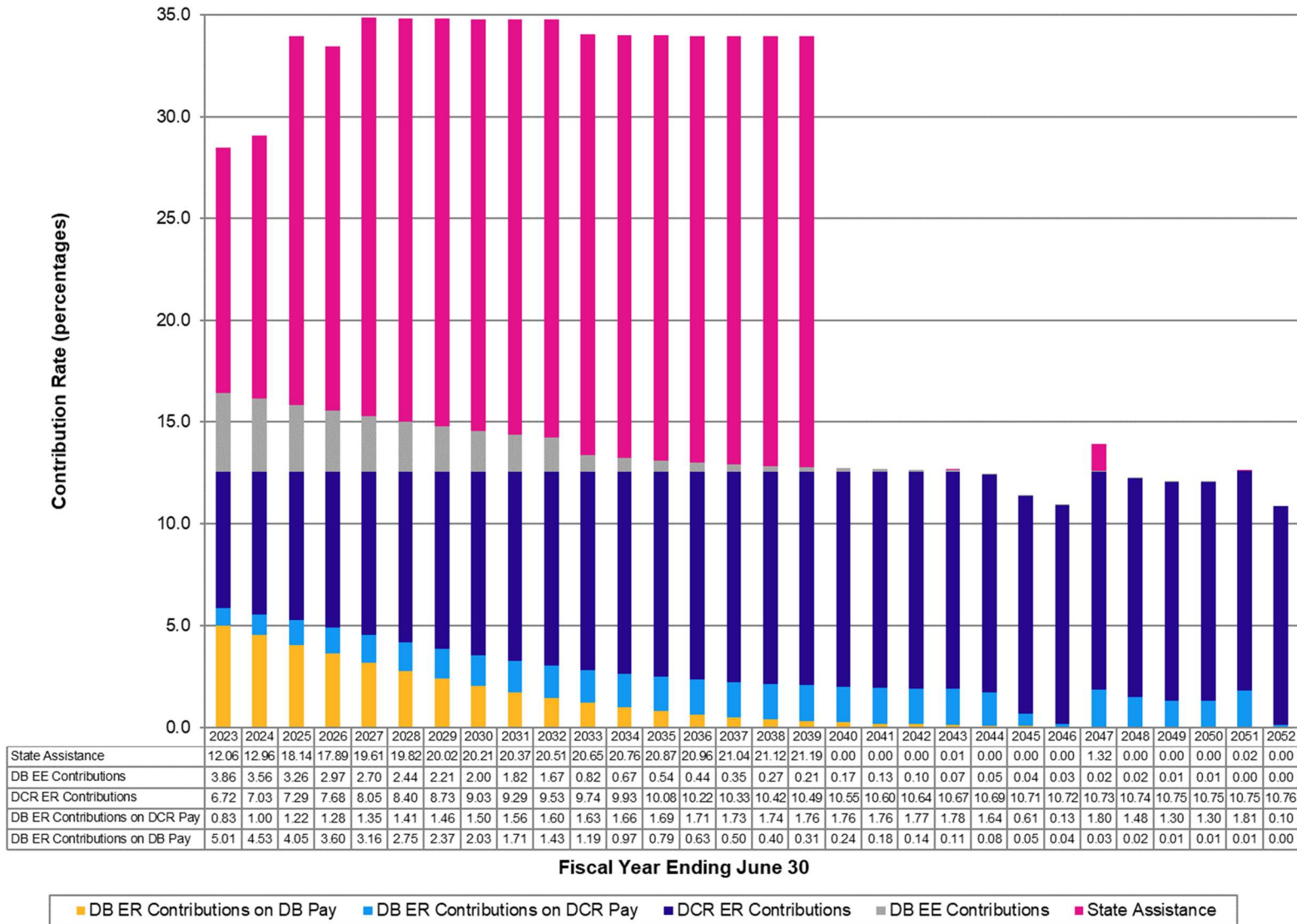


Projected Inactive Member Count



Section 3.3A: Projected Employer/State Contribution Rates

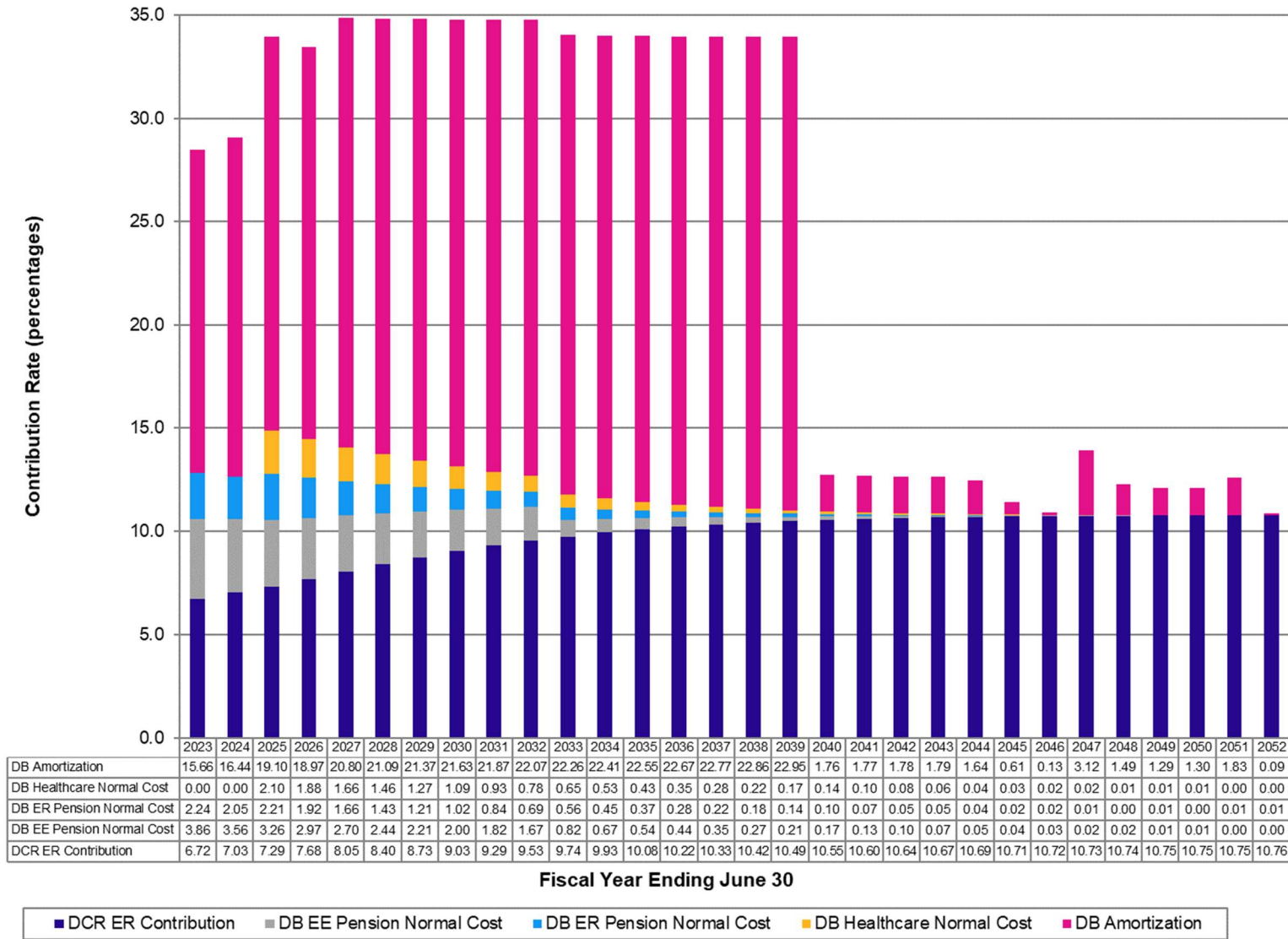
Based on Total DB and DCR Payroll



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

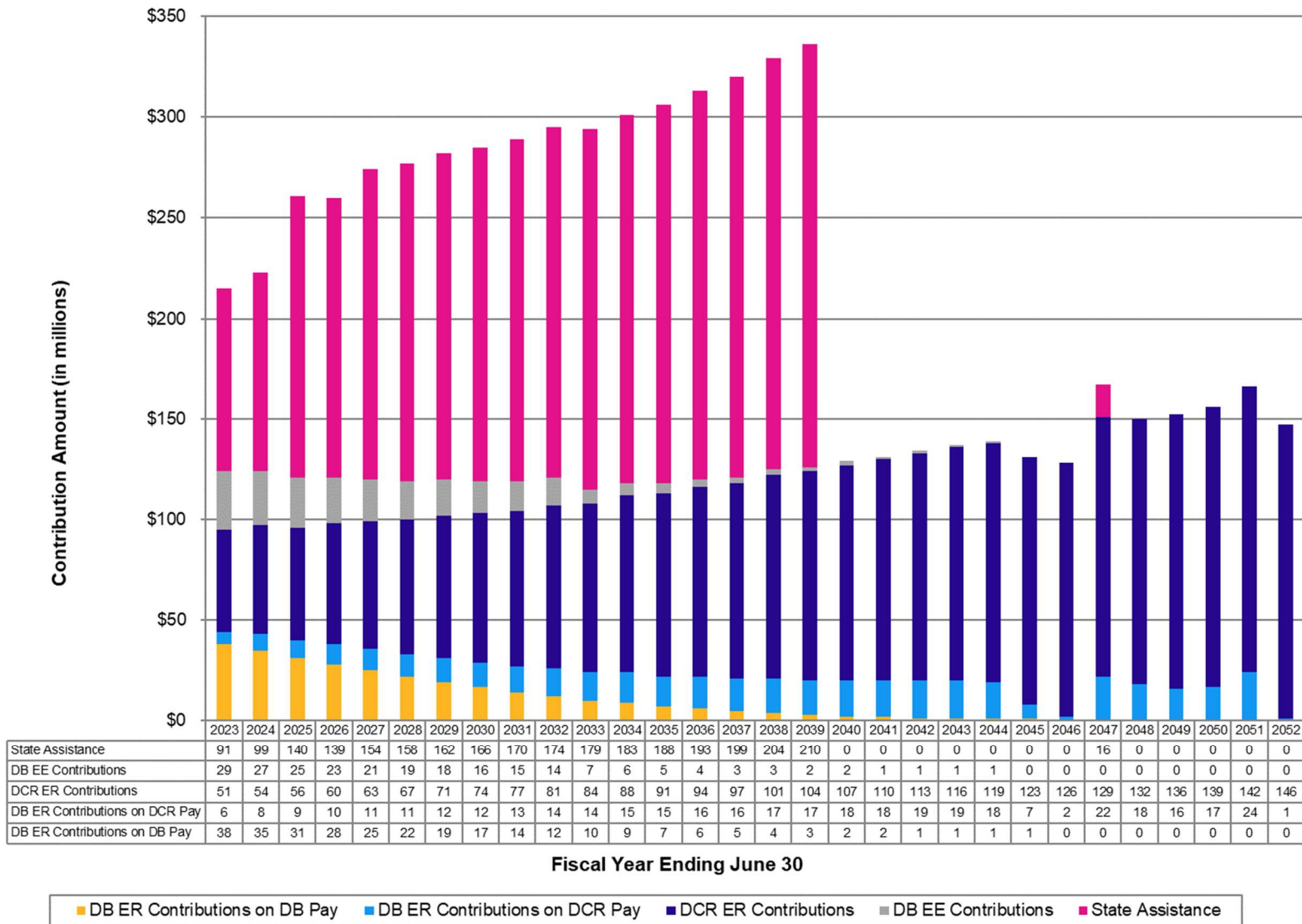
Section 3.3B: Components of Projected Total Contribution Rates

Based on Total DB and DCR Payroll



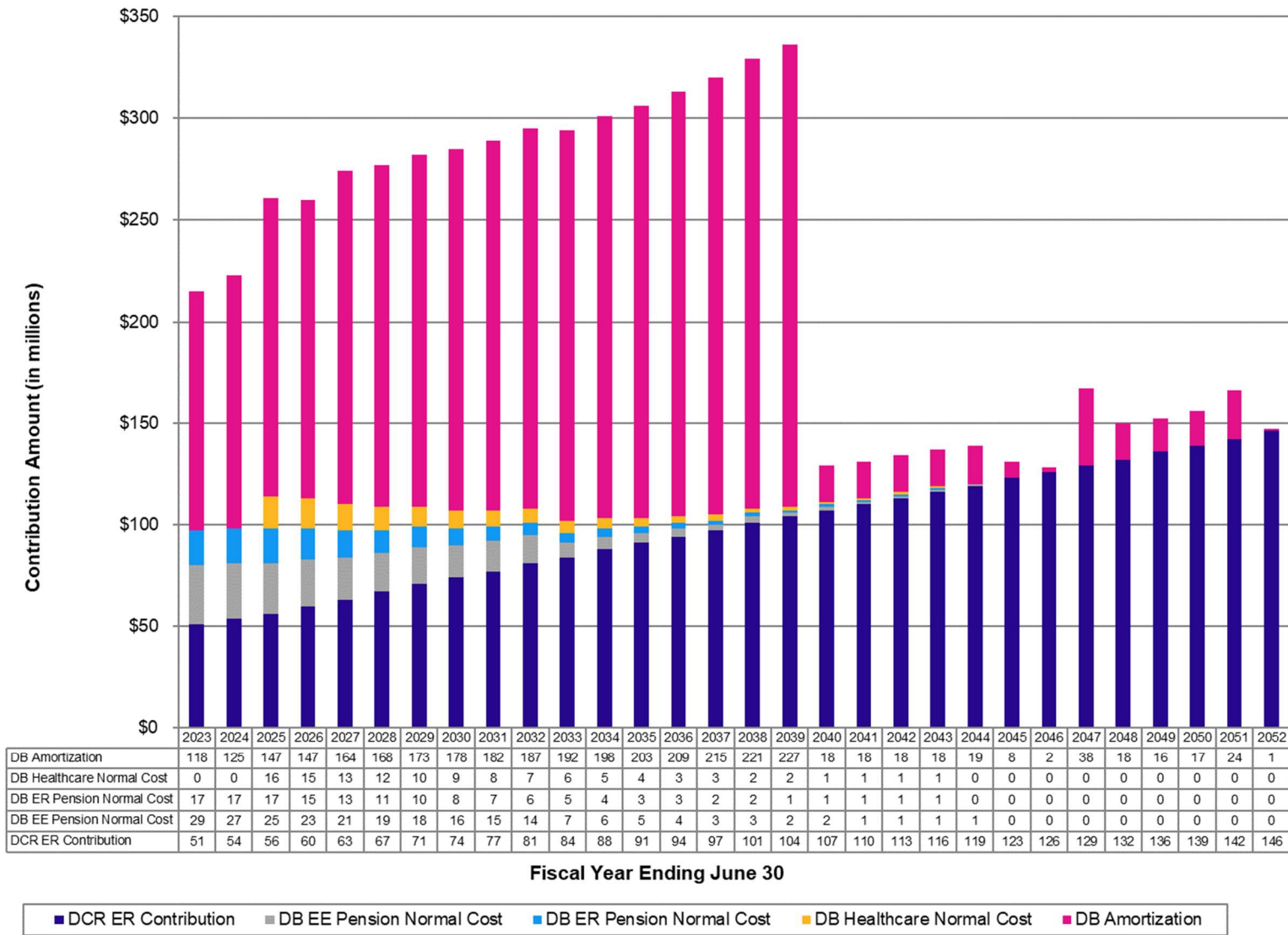
These projections reflect 25-year amortization in all years, as summarized in Section 3.6A.

Section 3.4A: Projected Employer/State Contribution Amounts



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

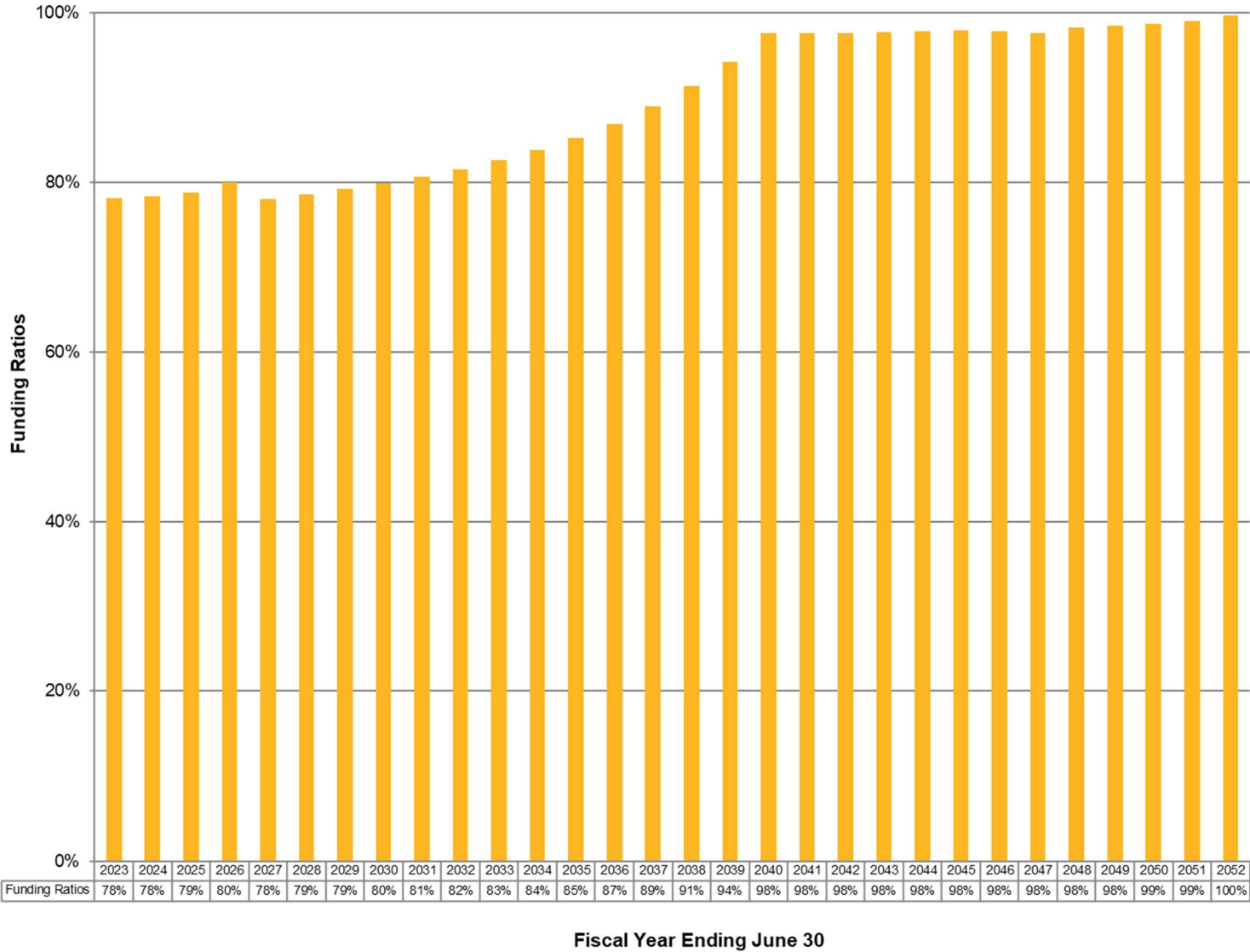
Section 3.4B: Components of Projected Total Contribution Amounts



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

Section 3.5A: Projection of Funded Ratios

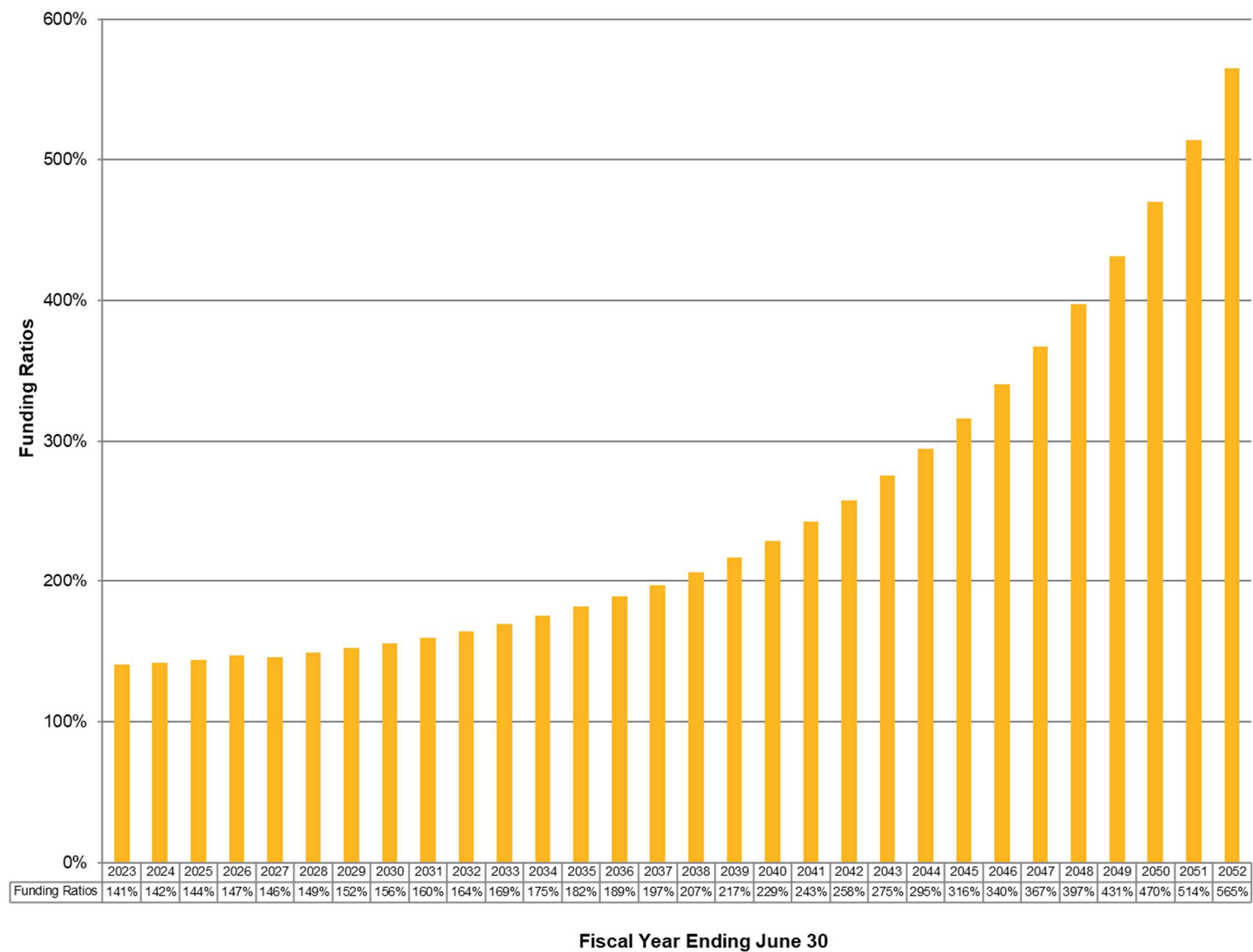
Pension



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		
	Actuarial Assets	Accrued Liability	Actuarial Assets	Accrued Liability		DB	DCR	Total	Employer	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		
	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	Active Members	Inactive Members				Total Inactive 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

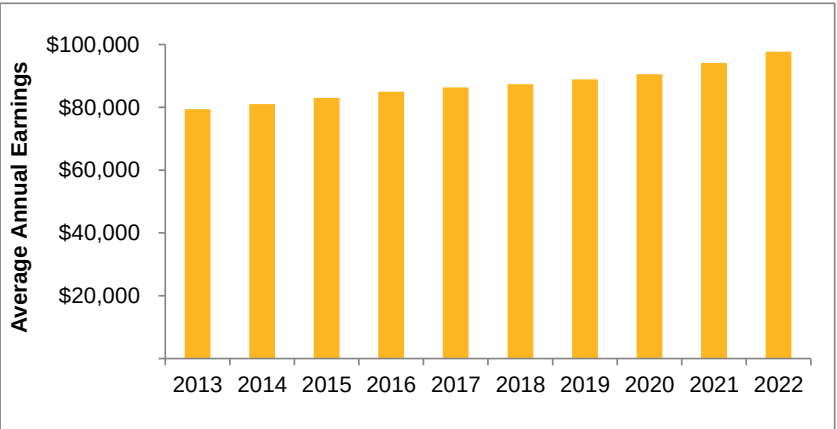
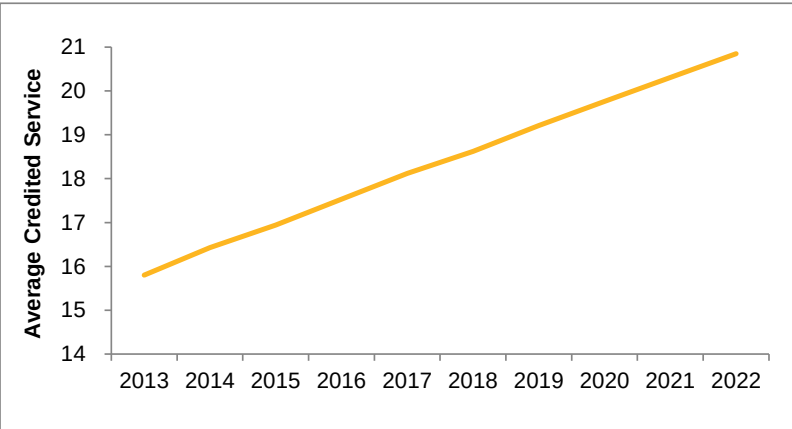
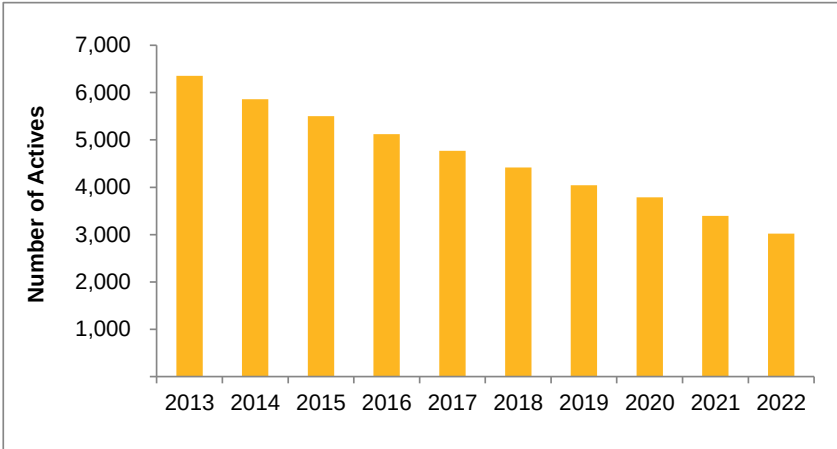
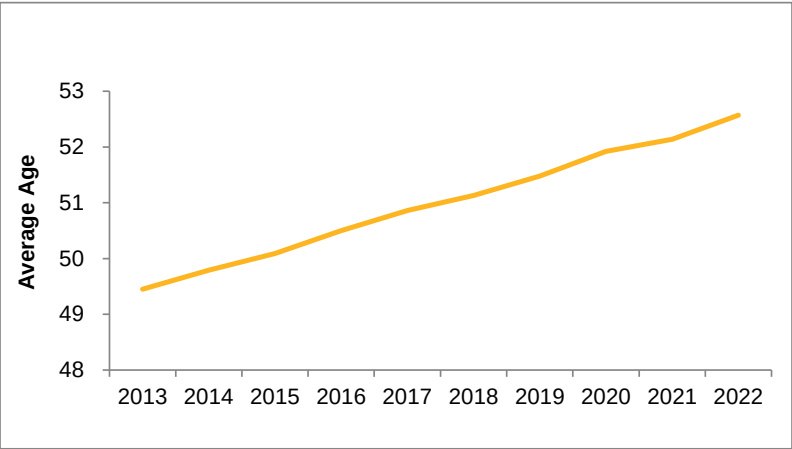
As of June 30, 2022	Retirees	Covered Spouses	Covered Children / Dependents	Deferred	Total Inactive Members
Retiree Medical Participants					
1. Pre-Medicare	2,200	1,260	636	947	5,043
2. Medicare Part A & B	9,907	3,020	0	19	12,946
3. Medicare Part B Only	218	34	0	0	252
4. Total	12,325	4,314	636	966	18,241

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

	Active Members	Inactive Members					Total
		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

	Active Members	Inactive Members				Total Inactive 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

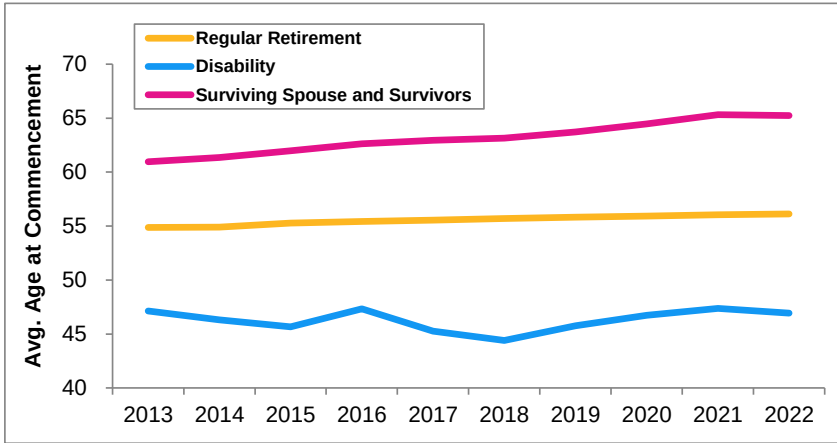
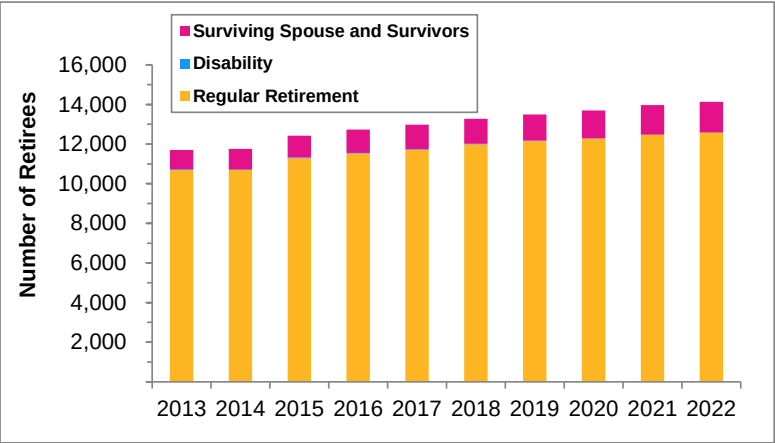
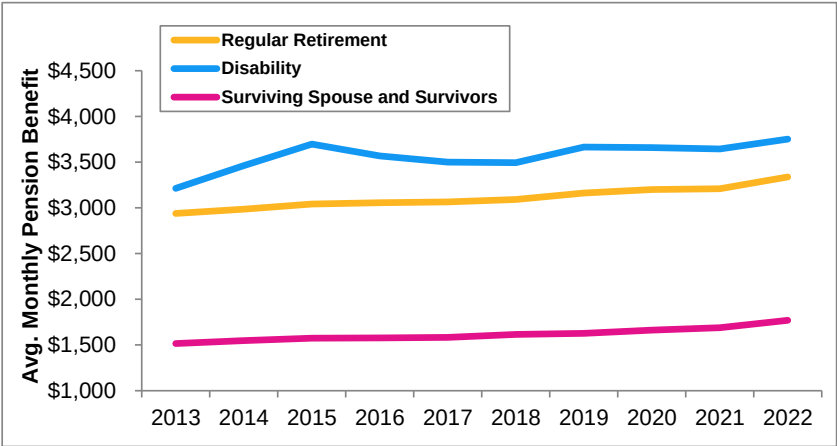
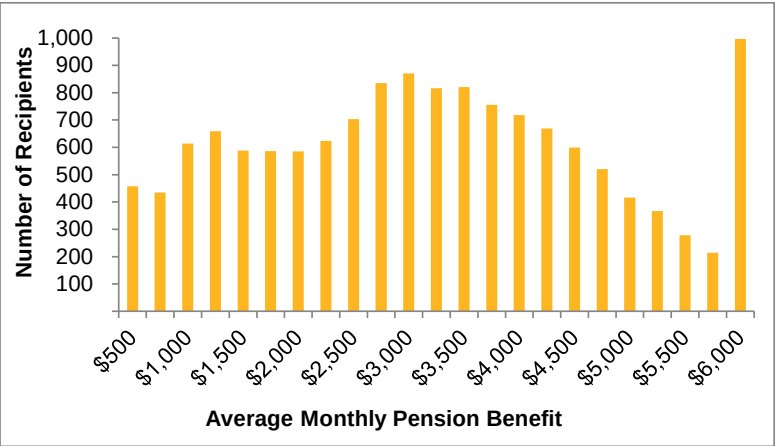
“Average Monthly Pension” includes postretirement pension adjustments and cost-of-living increases.

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.

A. Fiscal 2021

	Medical		Prescription Drugs (Rx)	
	Pre-Medicare	Medicare	Pre-Medicare	Medicare
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

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>	<u>\$ 1,661</u>	<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 Accrued 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)				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	\$ 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.



State of Alaska

Public Employees' Retirement System Defined Contribution Retirement Plan

For Occupational Death & Disability
and Retiree Medical Benefits

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
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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 Public Employees' Retirement System Defined Contribution Retirement (PERS DCR) Plan 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 PERS DCR were determined in accordance with generally accepted actuarial principles and procedures. An actuarial cost method is used to measure the actuarial liabilities which we believe is reasonable. Buck is solely responsible for the actuarial data and actuarial results presented in this report. This report fully and fairly discloses the actuarial position of PERS DCR as of June 30, 2022.

PERS DCR is funded by Employer Contributions in accordance with the funding policy adopted by the Alaska Retirement Management Board (Board). The funding objective for PERS DCR is to pay required contributions that remain level as a percent of PERS DCR compensation. The Board has also established a funding policy objective that the required contributions be sufficient to pay the Normal Costs of active plan members, plan expenses, and amortize the Unfunded Actuarial Accrued Liability as a level percent of PERS DCR compensation over closed layered 25-year periods. This objective is currently being met and is projected to continue to be met as required by the Alaska State statutes. Absent future gains/losses, actuarially determined contributions are expected to remain level as a percent of pay and the funded status of the occupational death & disability trust and the retiree medical trust are 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 PERS DCR. Use of this report for any other purpose or by anyone other than the Board or staff of the State of Alaska may not be appropriate and may result in mistaken conclusions 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 4.2 and 4.3. We certify that the assumptions and methods described in Sections 4.2 and 4.3 of this report meet the requirements of all applicable Actuarial Standards of Practice.

Actuarial Standards of Practice No. 27 (ASOP 27) and No. 35 (ASOP 35) require the actuary to disclose the information and analysis used to support the actuary's determination that the assumptions selected by the plan sponsor do not significantly conflict with what, in the actuary's professional judgment, are reasonable for the purpose of the measurement. Buck provides advice on reasonable assumptions when performing periodic experience studies. The Board selects the assumptions used and 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 3; (ii) summary of actuarial assumptions in Section 4.3; and (iii) historical information in Section 5.

Governmental Accounting Standards Board (GASB) Statement No. 74 (GASB 74) was effective for PERS DCR beginning with fiscal year ending June 30, 2017. Please see our separate GASB 74 report 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 retiree medical portion of PERS DCR. We also believe ASOP 51 does not apply to the occupational death & disability portion of PERS DCR. Therefore, information related to ASOP 51 is not included in this report. However, it may be beneficial to review the ASOP 51 information provided in the PERS valuation report for information on risks that may also relate to the occupational death & disability benefits provided by this plan.

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 an internally developed model that applies 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 model 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 model, extra checking and review are completed. Significant changes to the internal model 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.

Buck used manual rate models to determine relative plan values for the defined benefit (DB) retiree medical plan and the DCR retiree medical plan, and to reflect the different Medicare coordination methods between the two plans. The manual rate models are intended to provide benchmark data and pricing capabilities, calculate per capita costs, and calculate actuarial values of different commercial health plans. Buck relied on the models, which were developed using industry data by actuaries and consultants at OptumInsight.

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 Sections 4.2 and 4.3 and in the valuation report for the DB plan.

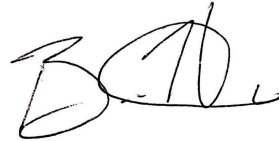
This report was prepared under the overall direction of David Kershner, who meets the Qualification Standards of the American Academy of Actuaries to render the actuarial opinions contained herein. He is a Fellow of the Society of Actuaries, an Enrolled Actuary, a Member of the American Academy of Actuaries, 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 Public Employees' Retirement System Defined Contribution Retirement (PERS DCR) Plan provides occupational death & disability and retiree medical benefits to eligible members hired after June 30, 2006 or who have elected participation in this plan. The Commissioner of the Department of Administration is responsible for administering the plan. The Alaska Retirement Management Board has fiduciary responsibility over the assets of the plan. This report presents the results of the actuarial valuation of PERS DCR 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 contribution necessary to meet the Board's funding policy for the plan;
2. To disclose the funding assets and liability measures as of the valuation date;
3. To review the current funded status of the plan and assess the funded status as an appropriate measure for determining actuarially determined contributions;
4. To compare actual and expected experience under the plan during the last fiscal year; and
5. To report trends in contributions, assets, liabilities, and funded status over the last several years.

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

Funded Status

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

Funded Status as of June 30 (\$'s in 000's)	2021	2022
Occupational Death & Disability		
a. Actuarial Accrued Liability	\$ 11,740	\$ 14,952
b. Valuation Assets	<u>53,075</u>	<u>62,938</u>
c. Unfunded Actuarial Accrued Liability, (a) - (b)	\$ (41,335)	\$ (47,986)
d. Funded Ratio based on Valuation Assets, (b) ÷ (a)	452.1%	420.9%
e. Fair Value of Assets	\$ 60,145	\$ 61,458
f. Funded Ratio based on Fair Value of Assets, (e) ÷ (a)	512.3%	411.0%

Funded Status as of June 30 (\$'s in 000's)		2021	2022
Retiree Medical			
a. Actuarial Accrued Liability		\$ 168,472	\$ 169,396
b. Valuation Assets		<u>180,536</u>	<u>212,638</u>
c. Unfunded Actuarial Accrued Liability, (a) - (b)		\$ (12,064)	\$ (43,242)
d. Funded Ratio based on Valuation Assets, (b) ÷ (a)		107.2%	125.5%
e. Fair Value of Assets		\$ 204,555	\$ 207,686
f. Funded Ratio based on Fair Value of Assets, (e) ÷ (a)		121.4%	122.6%

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 (6.3)% compared to the expected investment return of 7.38% (net of investment expenses). This resulted in a market asset loss of approximately \$8,596,000 (occupational death & disability) and \$29,106,000 (retiree medical). 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 8.2%, which resulted in an actuarial asset gain of approximately \$476,000 (occupational death & disability) and \$1,638,000 (retiree medical).

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 \$160,000.

3. Demographic Experience

The number of active members increased 3.2% from 23,933 at June 30, 2021 to 24,702 at June 30, 2022. The average age of active members increased from 41.26 to 41.35 and average credited service increased from 4.93 to 5.11 years.

The demographic experience gains/losses are shown on page 5.

4. Retiree Medical Claims Experience

Please refer to the State of Alaska Public Employees' Retirement System (PERS) Defined Benefit Plan Actuarial Valuation Report as of June 30, 2022 for a full description of the assumptions and costs of the retiree medical plan. Adjustments to these costs and assumptions are described in this report.

The recent claims experience described in Section 4.2 of this report (Section 5.2 of the PERS report) created an actuarial gain of approximately \$3,679,000. The EGWP subsidy received by the plan during FY22 was approximately \$139,000; the expected EGWP subsidy for FY22 was approximately \$129,000.

5. Changes in Methods Since the Prior Valuation

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

6. Changes in Assumptions Since the Prior Valuation

Effective for the June 30, 2022 valuation, the Board adopted the changes to the demographic and economic assumptions recommended by the actuary, based on the results of an experience study performed on the plan experience from July 1, 2017 to June 30, 2021. The changes in assumptions were adopted at the June 2022 Board meeting. The effect of the new assumptions was to increase the Actuarial Accrued Liability as of June 30, 2022 by approximately \$1,222,000 for occupational death & disability, and decrease the Actuarial Accrued Liability as of June 30, 2022 by approximately \$22,348,000 for retiree medical.

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

7. Changes in Benefit Provisions Since the Prior Valuation

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

Comparative Summary of Contribution Rates

Occupational Death & Disability	FY 2024	FY 2025
<u>Peace Officer/Firefighter</u>		
a. Employer Normal Cost Rate	0.68%	0.69%
b. Past Service Cost Rate	<u>(0.24)%</u>	<u>(0.20)%</u>
c. Total Employer Contribution Rate, (a) + (b), not less than (a)	0.68%	0.69%
<u>Others</u>		
a. Employer Normal Cost Rate	0.30%	0.24%
b. Past Service Cost Rate	<u>(0.19)%</u>	<u>(0.22)%</u>
c. Total Employer Contribution Rate, (a) + (b), not less than (a)	0.30%	0.24%

Retiree Medical	FY 2024	FY 2025
a. Employer Normal Cost Rate	1.01%	0.83%
b. Past Service Cost Rate	<u>(0.02)%</u>	<u>(0.14)%</u>
c. Total Employer Contribution Rate, (a) + (b), not less than (a)	1.01%	0.83%

Total	FY 2024	FY 2025
<u>Peace Officer/Firefighter</u>		
a. Employer Normal Cost Rate	1.69%	1.52%
b. Past Service Cost Rate	<u>(0.26)%</u>	<u>(0.34)%</u>
c. Total Employer Contribution Rate, (a) + (b), not less than (a)	1.69%	1.52%
<u>Others</u>		
a. Employer Normal Cost Rate	1.31%	1.07%
b. Past Service Cost Rate	<u>(0.21)%</u>	<u>(0.36)%</u>
c. Total Employer Contribution Rate, (a) + (b), not less than (a)	1.31%	1.07%

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

Total Employer Contribution Rate				
Valuation Date	Fiscal Year	Occupational Death & Disability (PF / Others)	Retiree Medical	Total (PF / Others)
June 30, 2008	FY11	1.18% / 0.31%	0.55%	1.73% / 0.86%
June 30, 2009	FY12	0.97% / 0.11%	0.51%	1.48% / 0.62%
June 30, 2010	FY13	0.99% / 0.14%	0.48%	1.47% / 0.62%
June 30, 2011	FY14	1.14% / 0.20%	0.48%	1.62% / 0.68%
June 30, 2012	FY15	1.06% / 0.22%	1.66%	2.72% / 1.88%
June 30, 2013	FY16	1.05% / 0.22%	1.68%	2.73% / 1.90%
June 30, 2014	FY17	0.49% / 0.17%	1.18%	1.67% / 1.35%
June 30, 2015	FY18	0.43% / 0.16%	1.03%	1.46% / 1.19%
June 30, 2016	FY19	0.76% / 0.26%	0.94%	1.70% / 1.20%
June 30, 2017	FY20	0.72% / 0.26%	1.32%	2.04% / 1.58%
June 30, 2018	FY21	0.70% / 0.31%	1.27%	1.97% / 1.58%
June 30, 2019	FY22	0.68% / 0.31%	1.07%	1.75% / 1.38%
June 30, 2020	FY23	0.68% / 0.30%	1.10%	1.78% / 1.40%
June 30, 2021	FY24	0.68% / 0.30%	1.01%	1.69% / 1.31%
June 30, 2022	FY25	TBD	TBD	TBD

Summary of Actuarial Accrued Liability Gain/(Loss)

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

	Occupational Death & Disability	Retiree Medical
Retirement Experience	\$ 0	\$ (185)
Termination Experience	31	4,563
Disability Experience	2,109	355
Active Mortality Experience	1,966	(39)
Inactive Mortality Experience	(26)	(11)
Salary Increases	(160)	N/A
New Entrants	(76)	(1,887)
Rehires	(62)	(3,029)
Transfers Between P/F and Others	(45)	(11)
Benefit Payments Different than Expected	177	(316)
Per Capita Claims Cost	N/A	3,679
Miscellaneous ¹	<u>347</u>	<u>2,445</u>
Total	\$ 4,261	\$ 5,564

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

	Occupational Death & Disability	Retiree Medical
Experience Study Assumption Changes	\$ 1,222	\$ (22,348)

¹ 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.

Section 1: Actuarial Funding Results

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

Peace Officer / Firefighter

As of June 30, 2022	Present Value of Projected Benefits	Actuarial Accrued (Past Service) Liability
Active Members		
Occupational Death Benefits	\$ 3,743	\$ (49)
Occupational Disability Benefits	16,268	5,296
Medical and Prescription Drug Benefits	46,106	24,278
Medicare Part D Subsidy	(9,818)	(5,212)
Subtotal	\$ 56,299	\$ 24,313
Benefit Recipients		
Survivor Benefits	\$ 311	\$ 311
Disability Benefits	6,768	6,768
Medical and Prescription Drug Benefits	1,355	1,355
Medicare Part D Subsidy	(278)	(278)
Subtotal	\$ 8,156	\$ 8,156
Total	\$ 64,455	\$ 32,469
Total Occupational Death & Disability	\$ 27,090	\$ 12,326
Total Retiree Medical, Net of Part D Subsidy	\$ 37,365	\$ 20,143
Total Retiree Medical, Gross of Part D Subsidy	\$ 47,461	\$ 25,633

As of June 30, 2022	Normal Cost
Active Members	
Occupational Death Benefits	\$ 467
Occupational Disability Benefits	1,246
Medical and Prescription Drug Benefits	2,339
Medicare Part D Subsidy	(496)
Subtotal	\$ 3,556
Administrative Expense Load	
Occupational Death & Disability	\$ 11
Retiree Medical	13
Subtotal	\$ 24
Total	\$ 3,580
Total Occupational Death & Disability	\$ 1,724
Total Retiree Medical, Net of Part D Subsidy	\$ 1,856
Total Retiree Medical, Gross of Part D Subsidy	\$ 2,352

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

Others

As of June 30, 2022	Present Value of Projected Benefits	Actuarial Accrued (Past Service) Liability
Active Members		
Occupational Death Benefits	\$ 6,912	\$ 589
Occupational Disability Benefits	14,492	1,523
Medical and Prescription Drug Benefits	271,491	183,466
Medicare Part D Subsidy	(62,156)	(42,205)
Subtotal	\$ 230,739	\$ 143,373
Benefit Recipients		
Survivor Benefits	\$ 0	\$ 0
Disability Benefits	514	514
Medical and Prescription Drug Benefits	10,441	10,441
Medicare Part D Subsidy	(2,449)	(2,449)
Subtotal	\$ 8,506	\$ 8,506
Total	\$ 239,245	\$ 151,879
Total Occupational Death & Disability	\$ 21,918	\$ 2,626
Total Retiree Medical, Net of Part D Subsidy	\$ 217,327	\$ 149,253
Total Retiree Medical, Gross of Part D Subsidy	\$ 281,932	\$ 193,907

As of June 30, 2022	Normal Cost
Active Members	
Occupational Death Benefits	\$ 1,073
Occupational Disability Benefits	2,282
Medical and Prescription Drug Benefits	15,311
Medicare Part D Subsidy	(3,485)
Subtotal	\$ 15,181
Administrative Expense Load	
Occupational Death & Disability	\$ 22
Retiree Medical	26
Subtotal	\$ 48
Total	\$ 15,229
Total Occupational Death & Disability	\$ 3,377
Total Retiree Medical, Net of Part D Subsidy	\$ 11,852
Total Retiree Medical, Gross of Part D Subsidy	\$ 15,337

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

All Members

As of June 30, 2022	Present Value of Projected Benefits	Actuarial Accrued (Past Service) Liability
Active Members		
Occupational Death Benefits	\$ 10,655	\$ 540
Occupational Disability Benefits	30,760	6,819
Medical and Prescription Drug Benefits	317,597	207,744
Medicare Part D Subsidy	(71,974)	(47,417)
Subtotal	\$ 287,038	\$ 167,686
Benefit Recipients		
Survivor Benefits	\$ 311	\$ 311
Disability Benefits	7,282	7,282
Medical and Prescription Drug Benefits	11,796	11,796
Medicare Part D Subsidy	(2,727)	(2,727)
Subtotal	\$ 16,662	\$ 16,662
Total	\$ 303,700	\$ 184,348
Total Occupational Death & Disability	\$ 49,008	\$ 14,952
Total Retiree Medical, Net of Part D Subsidy	\$ 254,692	\$ 169,396
Total Retiree Medical, Gross of Part D Subsidy	\$ 329,393	\$ 219,540

As of June 30, 2022	Normal Cost
Active Members	
Occupational Death Benefits	\$ 1,540
Occupational Disability Benefits	3,528
Medical and Prescription Drug Benefits	17,650
Medicare Part D Subsidy	(3,981)
Subtotal	\$ 18,737
Administrative Expense Load	
Occupational Death & Disability	\$ 33
Retiree Medical	39
Subtotal	\$ 72
Total	\$ 18,809
Total Occupational Death & Disability	\$ 5,101
Total Retiree Medical, Net of Part D Subsidy	\$ 13,708
Total Retiree Medical, Gross of Part D Subsidy	\$ 17,689

Section 1.2: Actuarial Contributions as of June 30, 2022 for FY25 (\$'s in 000's)

Peace Officer / Firefighter

Normal Cost Rate	Occupational Death & Disability	Retiree Medical
1. Total Normal Cost	\$ 1,724	\$ 1,856
2. DCR Plan Rate Payroll Projected for FY23	249,857	249,857
3. Employer Normal Cost Rate, (1) ÷ (2)	0.69%	0.74%
Past Service Rate		
1. Actuarial Accrued Liability	\$ 12,326	\$ 20,143
2. Valuation Assets	18,616	25,285
3. Unfunded Actuarial Accrued Liability, (1) - (2)	\$ (6,290)	\$ (5,142)
4. Funded Ratio based on Valuation Assets	151.0%	125.5%
5. Past Service Cost Amortization Payment	(490)	(287)
6. DCR Plan Rate Payroll Projected for FY23	249,857	249,857
7. Past Service Cost Rate, (5) ÷ (6)	(0.20%)	(0.11%)
Total Employer Contribution Rate, not less than Normal Cost Rate	0.69%	0.74%

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

Total Employer Contribution Rate as Percent of Total Payroll	Occupational Death & Disability	Retiree Medical
1. Total Normal Cost	\$ 1,724	\$ 1,856
2. Total DB and DCR Plan Rate Payroll Projected for FY23	392,011	392,011
3. Employer Normal Cost Rate, (1) ÷ (2)	0.44%	0.47%
4. Past Service Cost Amortization Payment	(490)	(287)
5. Past Service Cost Rate, (4) ÷ (2)	(0.12%)	(0.08%)
Total Employer Contribution Rate, not less than Normal Cost Rate	0.44%	0.47%

Peace Officer / Firefighter

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

Layer	Amortization Period		Balances		Beginning-of-Year Payment
	Date Created	Years Remaining	Initial	Outstanding	
Initial Unfunded Liability	06/30/2007	10	\$ (100)	\$ (89)	\$ (11)
FY08 Gain	06/30/2008	11	(586)	(534)	(60)
Change in Assumptions	06/30/2009	12	(104)	(98)	(10)
FY09 Loss	06/30/2009	12	446	419	44
Change in Assumptions	06/30/2010	13	79	75	7
FY10 Gain	06/30/2010	13	(282)	(273)	(27)
FY11 Loss	06/30/2011	14	73	69	6
FY12 Gain	06/30/2012	15	(349)	(348)	(31)
FY13 Gain	06/30/2013	16	(204)	(204)	(17)
Change in Assumptions	06/30/2014	17	(1,274)	(1,289)	(105)
PRPA Modification	06/30/2014	17	(91)	(91)	(7)
FY14 Gain	06/30/2014	17	(95)	(97)	(8)
FY15 Gain	06/30/2015	18	(664)	(673)	(53)
FY16 Loss	06/30/2016	19	4	4	0
FY17 Gain	06/30/2017	20	(525)	(533)	(39)
FY18 Gain	06/30/2018	21	(262)	(264)	(19)
Change in Assumptions	06/30/2018	21	(633)	(639)	(45)
FY19 Loss	06/30/2019	22	219	220	15
FY20 Gain	06/30/2020	23	(792)	(798)	(53)
FY21 Gain	06/30/2021	24	(1,842)	(1,850)	(121)
Change in Assumptions	06/30/2022	25	1,590	1,590	101
FY22 Gain	06/30/2022	25	(887)	(887)	(57)
Total				\$ (6,290)	\$ (490)

Peace Officer / Firefighter

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

Layer	Amortization Period		Balances		Beginning-of-Year Payment
	Date Created	Years Remaining	Initial	Outstanding	
Initial Unfunded Liability	06/30/2007	10	\$ (21)	\$ (21)	\$ (3)
Change in Assumptions	06/30/2008	11	17	14	2
FY08 Gain	06/30/2008	11	(62)	(57)	(6)
Change in Assumptions	06/30/2009	12	(8)	(8)	(1)
FY09 Gain	06/30/2009	12	(38)	(37)	(4)
Change in Assumptions	06/30/2010	13	41	39	4
FY10 Gain	06/30/2010	13	(46)	(41)	(4)
FY11 Loss	06/30/2011	14	70	67	6
Change in Assumptions	06/30/2012	15	3,085	3,067	271
FY12 Gain	06/30/2012	15	(273)	(271)	(24)
FY13 Loss	06/30/2013	16	880	885	75
Change in Assumptions	06/30/2014	17	(3,034)	(3,067)	(249)
FY14 Loss	06/30/2014	17	1,213	1,226	99
FY15 Gain	06/30/2015	18	(712)	(722)	(56)
EGWP Gain	06/30/2016	19	(1,675)	(1,702)	(128)
FY16 Loss	06/30/2016	19	1,116	1,134	85
Change in Assumptions	06/30/2017	20	2,244	2,273	166
FY17 Gain	06/30/2017	20	(50)	(52)	(4)
FY18 Gain	06/30/2018	21	(231)	(233)	(16)
Change in Assumptions/Methods	06/30/2018	21	(649)	(654)	(46)
FY19 Gain	06/30/2019	22	(1,291)	(1,301)	(89)
Change in Assumptions	06/30/2020	23	1,116	1,124	75
FY20 Gain	06/30/2020	23	(1,082)	(1,090)	(73)
Prescription Drug Plan Changes	06/30/2021	24	(235)	(236)	(15)
FY21 Gain	06/30/2021	24	(1,726)	(1,734)	(113)
Change in Assumptions	06/30/2022	25	(1,769)	(1,769)	(113)
FY22 Gain	06/30/2022	25	(1,976)	(1,976)	(126)
Total				\$ (5,142)	\$ (287)

Section 1.2: Actuarial Contributions as of June 30, 2022 for FY25 (\$'s in 000's)

Others

Normal Cost Rate	Occupational Death & Disability	Retiree Medical
1. Total Normal Cost	\$ 3,377	\$ 11,852
2. DCR Plan Rate Payroll Projected for FY23	1,395,484	1,395,484
3. Employer Normal Cost Rate, (1) ÷ (2)	0.24%	0.85%

Past Service Rate		
1. Actuarial Accrued Liability	\$ 2,626	\$ 149,253
2. Valuation Assets	<u>44,322</u>	<u>187,353</u>
3. Unfunded Actuarial Accrued Liability, (1) - (2)	\$ (41,696)	\$ (38,100)
4. Funded Ratio based on Valuation Assets	1,687.8%	125.5%
5. Past Service Cost Amortization Payment	(3,041)	(2,041)
6. DCR Plan Rate Payroll Projected for FY23	1,395,484	1,395,484
7. Past Service Cost Rate, (5) ÷ (6)	(0.22%)	(0.15%)
Total Employer Contribution Rate, not less than Normal Cost Rate	0.24%	0.85%

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

Total Employer Contribution Rate as Percent of Total Payroll	Occupational Death & Disability	Retiree Medical
1. Total Normal Cost	\$ 3,377	\$ 11,852
2. Total DB and DCR Plan Rate Payroll Projected for FY23	2,049,996	2,049,996
3. Employer Normal Cost Rate, (1) ÷ (2)	0.16%	0.58%
4. Past Service Cost Amortization Payment	(3,041)	(2,041)
5. Past Service Cost Rate, (4) ÷ (2)	(0.15%)	(0.10%)
Total Employer Contribution Rate, not less than Normal Cost Rate	0.16%	0.58%

Others

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

Layer	Amortization Period		Balances		Beginning-of-Year Payment
	Date Created	Years Remaining	Initial	Outstanding	
Initial Unfunded Liability	06/30/2007	10	\$ (40)	\$ (36)	\$ (4)
FY08 Gain	06/30/2008	11	(318)	(291)	(32)
Change in Assumptions	06/30/2009	12	(92)	(86)	(9)
FY09 Gain	06/30/2009	12	(1,924)	(1,804)	(189)
Change in Assumptions	06/30/2010	13	24	24	3
FY10 Gain	06/30/2010	13	(994)	(955)	(94)
FY11 Gain	06/30/2011	14	(1,184)	(1,157)	(107)
FY12 Gain	06/30/2012	15	(1,233)	(1,224)	(108)
FY13 Gain	06/30/2013	16	(779)	(783)	(66)
Change in Assumptions	06/30/2014	17	(51)	(50)	(4)
PRPA Modification	06/30/2014	17	(27)	(28)	(3)
FY14 Gain	06/30/2014	17	(2,003)	(2,022)	(164)
FY15 Gain	06/30/2015	18	(1,850)	(1,876)	(146)
FY16 Gain	06/30/2016	19	(2,361)	(2,396)	(180)
FY17 Gain	06/30/2017	20	(2,377)	(2,406)	(175)
FY18 Gain	06/30/2018	21	(2,590)	(2,611)	(184)
Change in Assumptions	06/30/2018	21	(272)	(275)	(20)
FY19 Gain	06/30/2019	22	(3,984)	(4,017)	(276)
FY20 Gain	06/30/2020	23	(4,803)	(4,838)	(324)
FY21 Gain	06/30/2021	24	(7,268)	(7,301)	(477)
Change in Assumptions	06/30/2022	25	(368)	(368)	(23)
FY22 Gain	06/30/2022	25	(7,196)	(7,196)	(459)
Total				\$ (41,696)	\$ (3,041)

Others

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

Layer	Amortization Period		Balances		Beginning-of-Year Payment
	Date Created	Years Remaining	Initial	Outstanding	
Initial Unfunded Liability	06/30/2007	10	\$ (335)	\$ (295)	\$ (35)
Change in Assumptions	06/30/2008	11	165	151	16
FY08 Gain	06/30/2008	11	(702)	(638)	(72)
Change in Assumptions	06/30/2009	12	(122)	(114)	(12)
FY09 Gain	06/30/2009	12	(438)	(411)	(43)
Change in Assumptions	06/30/2010	13	(572)	(549)	(54)
FY10 Loss	06/30/2010	13	579	552	54
FY11 Loss	06/30/2011	14	820	805	75
Change in Assumptions	06/30/2012	15	25,180	25,024	2,214
FY12 Loss	06/30/2012	15	1,451	1,441	128
FY13 Loss	06/30/2013	16	9,974	10,016	847
Change in Assumptions	06/30/2014	17	(21,822)	(22,063)	(1,789)
FY14 Loss	06/30/2014	17	7,002	7,081	575
FY15 Gain	06/30/2015	18	(8,726)	(8,852)	(691)
EGWP Gain	06/30/2016	19	(17,884)	(18,144)	(1,367)
FY16 Loss	06/30/2016	19	10,367	10,518	793
Change in Assumptions	06/30/2017	20	21,288	21,550	1,570
FY17 Gain	06/30/2017	20	(1,658)	(1,677)	(122)
FY18 Loss	06/30/2018	21	118	119	8
Change in Assumptions/Methods	06/30/2018	21	(8,993)	(9,063)	(641)
FY19 Gain	06/30/2019	22	(10,841)	(10,935)	(752)
Change in Assumptions	06/30/2020	23	6,369	6,416	430
FY20 Gain	06/30/2020	23	(6,288)	(6,334)	(424)
Prescription Drug Plan Changes	06/30/2021	24	(1,794)	(1,802)	(118)
FY21 Gain	06/30/2021	24	(13,896)	(13,957)	(912)
Change in Assumptions	06/30/2022	25	(20,579)	(20,579)	(1,313)
FY22 Gain	06/30/2022	25	(6,360)	(6,360)	(406)
Total				\$ (38,100)	\$ (2,041)

Section 1.2: Actuarial Contributions as of June 30, 2022 for FY25 (\$'s in 000's)

All Members

Normal Cost Rate	Occupational Death & Disability	Retiree Medical
1. Total Normal Cost	\$ 5,101	\$ 13,708
2. DCR Plan Rate Payroll Projected for FY23	1,645,341	1,645,341
3. Employer Normal Cost Rate, (1) ÷ (2)	0.31%	0.83%
Past Service Rate		
1. Actuarial Accrued Liability	\$ 14,952	\$ 169,396
2. Valuation Assets	<u>62,938</u>	<u>212,638</u>
3. Unfunded Actuarial Accrued Liability, (1) - (2)	\$ (47,986)	\$ (43,242)
4. Funded Ratio based on Valuation Assets	420.9%	125.5%
5. Past Service Cost Amortization Payment	(3,531)	(2,328)
6. DCR Plan Rate Payroll Projected for FY23	1,645,341	1,645,341
7. Past Service Cost Rate, (5) ÷ (6)	(0.21%)	(0.14%)
Total Employer Contribution Rate, not less than Normal Cost Rate	0.31%	0.83%

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

Total Employer Contribution Rate as Percent of Total Payroll	Occupational Death & Disability	Retiree Medical
1. Total Normal Cost	\$ 5,101	\$ 13,708
2. Total DB and DCR Plan Rate Payroll Projected for FY23	2,442,007	2,442,007
3. Employer Normal Cost Rate, (1) ÷ (2)	0.21%	0.56%
4. Past Service Cost Amortization Payment	(3,531)	(2,328)
5. Past Service Cost Rate, (4) ÷ (2)	(0.14%)	(0.10%)
Total Employer Contribution Rate, not less than Normal Cost Rate	0.21%	0.56%

All Members

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

Layer	Amortization Period		Balances		Beginning-of-Year Payment
	Date Created	Years Remaining	Initial	Outstanding	
Initial Unfunded Liability	06/30/2007	10	\$ (140)	\$ (125)	\$ (15)
FY08 Gain	06/30/2008	11	(904)	(825)	(92)
Change in Assumptions	06/30/2009	12	(196)	(184)	(19)
FY09 Gain	06/30/2009	12	(1,478)	(1,385)	(145)
Change in Assumptions	06/30/2010	13	103	99	10
FY10 Gain	06/30/2010	13	(1,276)	(1,228)	(121)
FY11 Gain	06/30/2011	14	(1,111)	(1,088)	(101)
FY12 Gain	06/30/2012	15	(1,582)	(1,572)	(139)
FY13 Gain	06/30/2013	16	(983)	(987)	(83)
Change in Assumptions	06/30/2014	17	(1,325)	(1,339)	(109)
PRPA Modification	06/30/2014	17	(118)	(119)	(10)
FY14 Gain	06/30/2014	17	(2,098)	(2,119)	(172)
FY15 Gain	06/30/2015	18	(2,514)	(2,549)	(199)
FY16 Gain	06/30/2016	19	(2,357)	(2,392)	(180)
FY17 Gain	06/30/2017	20	(2,902)	(2,939)	(214)
FY18 Gain	06/30/2018	21	(2,852)	(2,875)	(203)
Change in Assumptions	06/30/2018	21	(905)	(914)	(65)
FY19 Gain	06/30/2019	22	(3,765)	(3,797)	(261)
FY20 Gain	06/30/2020	23	(5,595)	(5,636)	(377)
FY21 Gain	06/30/2021	24	(9,110)	(9,151)	(598)
Change in Assumptions	06/30/2022	25	1,222	1,222	78
FY22 Gain	06/30/2022	25	(8,083)	(8,083)	(516)
Total				\$ (47,986)	\$ (3,531)

All Members

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

Layer	Amortization Period		Balances		Beginning-of-Year Payment
	Date Created	Years Remaining	Initial	Outstanding	
Initial Unfunded Liability	06/30/2007	10	\$ (356)	\$ (316)	\$ (38)
Change in Assumptions	06/30/2008	11	182	165	18
FY08 Gain	06/30/2008	11	(764)	(695)	(78)
Change in Assumptions	06/30/2009	12	(130)	(122)	(13)
FY09 Gain	06/30/2009	12	(476)	(448)	(47)
Change in Assumptions	06/30/2010	13	(531)	(510)	(50)
FY10 Loss	06/30/2010	13	533	511	50
FY11 Loss	06/30/2011	14	890	872	81
Change in Assumptions	06/30/2012	15	28,265	28,091	2,485
FY12 Loss	06/30/2012	15	1,178	1,170	104
FY13 Loss	06/30/2013	16	10,854	10,901	922
Change in Assumptions	06/30/2014	17	(24,856)	(25,130)	(2,038)
FY14 Loss	06/30/2014	17	8,215	8,307	674
FY15 Gain	06/30/2015	18	(9,438)	(9,574)	(747)
EGWP Gain	06/30/2016	19	(19,559)	(19,846)	(1,495)
FY16 Loss	06/30/2016	19	11,483	11,652	878
Change in Assumptions	06/30/2017	20	23,532	23,823	1,736
FY17 Gain	06/30/2017	20	(1,708)	(1,729)	(126)
FY18 Gain	06/30/2018	21	(113)	(114)	(8)
Change in Assumptions/Methods	06/30/2018	21	(9,642)	(9,717)	(687)
FY19 Gain	06/30/2019	22	(12,132)	(12,236)	(841)
Change in Assumptions	06/30/2020	23	7,485	7,540	505
FY20 Gain	06/30/2020	23	(7,370)	(7,424)	(497)
Prescription Drug Plan Changes	06/30/2021	24	(2,029)	(2,038)	(133)
FY21 Gain	06/30/2021	24	(15,622)	(15,691)	(1,025)
Change in Assumptions	06/30/2022	25	(22,348)	(22,348)	(1,426)
FY22 Gain	06/30/2022	25	(8,336)	(8,336)	(532)
Total				\$ (43,242)	\$ (2,328)

Section 1.3: Actuarial Gain/(Loss) for FY22 (\$'s in 000's)

	Occupational Death & Disability	Retiree Medical
1. Expected Actuarial Accrued Liability		
a. Actuarial Accrued Liability as of June 30, 2021	\$ 11,740	\$ 168,472
b. Normal Cost	5,456	15,587
c. Interest on (a) and (b) at 7.38%	1,269	13,584
d. Employer Group Waiver Plan	0	140
e. Benefit Payments	(456)	(463)
f. Interest on (d) and (e) at 7.38%, adjusted for timing	(18)	(12)
g. Experience Study Assumptions/Methods	<u>1,222</u>	<u>(22,348)</u>
h. Expected Actuarial Accrued Liability as of June 30, 2022 (a) + (b) + (c) + (d) + (e) + (f) + (g)	\$ 19,213	\$ 174,960
2. Actual Actuarial Accrued Liability as of June 30, 2022	<u>14,952</u>	<u>169,396</u>
3. Liability Gain/(Loss), (1)(h) - (2)	\$ 4,261	\$ 5,564
4. Expected Actuarial Asset Value		
a. Actuarial Asset Value as of June 30, 2021	\$ 53,075	\$ 180,536
b. Interest on (a) at 7.38%	3,917	13,324
c. Employer Contributions	5,769	16,920
d. Employer Group Waiver Plan	0	140
e. Interest on (c) and (d) at 7.38%, adjusted for timing	209	618
f. Benefit Payments	(456)	(463)
g. Administrative Expenses	(33)	(56)
h. Interest on (f) and (g) at 7.38%, adjusted for timing	<u>(19)</u>	<u>(19)</u>
i. Expected Actuarial Asset Value as of June 30, 2022 (a) + (b) + (c) + (d) + (e) + (f) + (g) + (h)	\$ 62,462	\$ 211,000
5. Actuarial Asset Value as of June 30, 2022	<u>62,938</u>	<u>212,638</u>
6. Actuarial Asset Gain/(Loss), (5) - (4)(i)	\$ 476	\$ 1,638
7. Total Actuarial Gain/(Loss), (3) + (6)	\$ 4,737	\$ 7,202
8. Contribution Gain/(Loss)	\$ 3,363	\$ 1,166
9. Administrative Expense Gain/(Loss)	\$ (17)	\$ (32)
10. FY22 Gain/(Loss), (7) + (8) + (9)	\$ 8,083	\$ 8,336

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

Occupational Death & Disability

Valuation Date	Total Actuarial Accrued Liability	Valuation Assets	Assets as a Percent of Actuarial Accrued Liability	Unfunded Actuarial Accrued Liability (UAAL)
June 30, 2007	\$ 48	\$ 188	391.7%	\$ (140)
June 30, 2008	242	1,288	532.2%	(1,046)
June 30, 2009	403	3,138	778.7%	(2,735)
June 30, 2010	853	4,801	562.8%	(3,948)
June 30, 2011	1,949	7,049	361.7%	(5,100)
June 30, 2012	2,412	9,142	379.0%	(6,730)
June 30, 2013	3,603	11,373	315.7%	(7,770)
June 30, 2014	3,627	14,995	413.4%	(11,368)
June 30, 2015	5,049	19,014	376.6%	(13,965)
June 30, 2016	6,763	23,176	342.7%	(16,413)
June 30, 2017	7,540	26,944	357.3%	(19,404)
June 30, 2018	7,713	30,961	401.4%	(23,248)
June 30, 2019	9,774	36,701	375.5%	(26,927)
June 30, 2020	10,634	43,029	404.6%	(32,395)
June 30, 2021	11,740	53,075	452.1%	(41,335)
June 30, 2022	14,952	62,938	420.9%	(47,986)

Retiree Medical

Valuation Date	Total Actuarial Accrued Liability	Valuation Assets	Assets as a Percent of Actuarial Accrued Liability	Unfunded Actuarial Accrued Liability (UAAL)
June 30, 2007	\$ 711	\$ 1,067	150.1%	\$ (356)
June 30, 2008	1,776	2,719	153.1%	(943)
June 30, 2009	3,913	5,475	139.9%	(1,562)
June 30, 2010	7,185	8,767	122.0%	(1,582)
June 30, 2011	11,302	12,009	106.3%	(707)
June 30, 2012	44,509	15,773	35.4%	28,736
June 30, 2013	60,282	20,336	33.7%	39,946
June 30, 2014	50,217	26,466	52.7%	23,751
June 30, 2015	58,683	44,188	75.3%	14,495
June 30, 2016	70,289	63,851	90.8%	6,438
June 30, 2017	109,703	81,559	74.3%	28,144
June 30, 2018	118,598	100,097	84.4%	18,501
June 30, 2019	124,946	118,783	95.1%	6,163
June 30, 2020	150,701	144,747	96.0%	5,954
June 30, 2021	168,472	180,536	107.2%	(12,064)
June 30, 2022	169,396	212,638	125.5%	(43,242)

Section 2: Plan Assets

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

As of June 30, 2022	Occupational Death & Disability	Retiree Medical	Allocation Percent
Cash and Short-Term Investments			
- Cash and Cash Equivalents	\$ 950	\$ 3,135	1.5%
- Subtotal	\$ 950	\$ 3,135	1.5%
Fixed Income Investments			
- Domestic Fixed Income Pool	\$ 13,018	\$ 44,033	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	\$ 13,018	\$ 44,033	21.3%
Equity Investments			
- Domestic Equity Pool	\$ 14,818	\$ 50,116	24.2%
- International Equity Pool	8,041	27,199	13.1%
- Private Equity Pool	10,070	34,063	16.4%
- Emerging Markets Equity Pool	1,800	6,088	3.0%
- Alternative Equity Strategies	3,564	12,056	5.8%
- Subtotal	\$ 38,293	\$ 129,522	62.5%
Other Investments			
- Real Estate Pool	\$ 4,610	\$ 15,594	7.5%
- Other Investments Pool	4,408	14,909	7.2%
- Absolute Return Pool	0	0	0.0%
- Other Assets	0	0	0.0%
- Subtotal	\$ 9,018	\$ 30,503	14.7%
Total Cash and Investments	\$ 61,279	\$ 207,193	100.0%
Net Accrued Receivables	179	493	
Net Assets	\$ 61,458	\$ 207,686	
Peace Officer / Firefighter	\$ 18,178	N/A	
Others	43,280	N/A	
All Members	\$ 61,458	\$ 207,686	

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

Fiscal Year 2022	Occupational Death & Disability	Retiree Medical
1. Fair Value of Assets as of June 30, 2021	\$ 60,145	\$ 204,555
2. Additions:		
a. Member Contributions	\$ 0	\$ 0
b. Employer Contributions	5,769	16,920
c. Interest and Dividend Income	825	2,794
d. Net Appreciation/(Depreciation) in Fair Value of Investments	(4,641)	(15,687)
e. Employer Group Waiver Plan	0	140
f. Other	<u>1</u>	<u>0</u>
g. Total Additions	\$ 1,954	\$ 4,167
3. Deductions:		
a. Medical Benefits	\$ 0	\$ 463
b. Death & Disability Benefits	456	0
c. Investment Expenses	152	517
d. Administrative Expenses	<u>33</u>	<u>56</u>
e. Total Deductions	\$ 641	\$ 1,036
4. Fair Value of Assets as of June 30, 2022	\$ 61,458	\$ 207,686
5. Approximate Fair Value Investment Return Rate during FY22 Net of Investment Expenses	-6.3%	-6.3%

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

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

	Occupational Death & Disability	Retiree Medical
1. Investment Gain/(Loss) for FY22		
a. Fair Value as of June 30, 2021	\$ 60,145	\$ 204,555
b. Contributions	5,769	16,920
c. Employer Group Waiver Plan	0	140
d. Benefit Payments	456	463
e. Administrative Expenses	33	56
f. Actual Investment Return (net of investment expenses)	(3,967)	(13,410)
g. Expected Return Rate (net of investment expenses)	7.38%	7.38%
h. Expected Return	4,629	15,696
i. Investment Gain/(Loss) for the Year (f) - (h)	(8,596)	(29,106)
2. Actuarial Value as of June 30, 2022		
a. Fair Value as of June 30, 2022	\$ 61,458	\$ 207,686
b. Deferred Investment Gain/(Loss)	(1,480)	(4,952)
c. Preliminary Actuarial Value as of June 30, 2022, (a) - (b)	62,938	212,638
d. Upper Limit: 120% of Fair Value as of June 30, 2022	73,749	249,223
e. Lower Limit: 80% of Fair Value as of June 30, 2022	49,167	166,149
f. Actuarial Value at June 30, 2022, (c) limited by (d) and (e)	62,938	212,638
3. Ratio of Actuarial Value of Assets to Fair Value of Assets	102.4%	102.4%
4. Approximate Actuarial Value Investment Return Rate during FY22 Net of Investment Expenses	8.2%	8.2%
5. Actuarial Value Allocation ¹		
a. Peace Officer / Firefighter	\$ 18,616	\$ 25,285
b. Others	44,322	187,353
c. All Members	\$ 62,938	\$ 212,638

¹ Occupational death & disability allocated using fair value of assets. Retiree medical allocated based on retiree medical actuarial accrued liability.

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

Occupational Death & Disability				
Fiscal Year Ending	Asset Gain / (Loss)	Gain / (Loss) Recognized in Prior Years	Gain / (Loss) Recognized This Year	Gain / (Loss) Deferred to Future Years
June 30, 2018	\$ 23	\$ 20	\$ 3	\$ 0
June 30, 2019	(370)	(222)	(74)	(74)
June 30, 2020	(1,178)	(472)	(236)	(470)
June 30, 2021	9,901	1,980	1,980	5,941
June 30, 2022	<u>(8,596)</u>	<u>0</u>	<u>(1,719)</u>	<u>(6,877)</u>
Total	\$ (220)	\$ 1,306	\$ (46)	\$ (1,480)

Retiree Medical				
Fiscal Year Ending	Asset Gain / (Loss)	Gain / (Loss) Recognized in Prior Years	Gain / (Loss) Recognized This Year	Gain / (Loss) Deferred to Future Years
June 30, 2018	\$ (58)	\$ (48)	\$ (10)	\$ 0
June 30, 2019	(1,212)	(726)	(242)	(244)
June 30, 2020	(3,825)	(1,530)	(765)	(1,530)
June 30, 2021	33,513	6,703	6,703	20,107
June 30, 2022	<u>(29,106)</u>	<u>0</u>	<u>(5,821)</u>	<u>(23,285)</u>
Total	\$ (688)	\$ 4,399	\$ (135)	\$ (4,952)

Section 2.4: Historical Asset Rates of Return

Year Ending	Actuarial Value		Fair Value	
	Annual	Cumulative	Annual	Cumulative
June 30, 2008	5.0%	5.0%	(7.1%)	(7.1%)
June 30, 2009	2.4%	3.7%	(13.0%)	(10.1%)
June 30, 2010	3.9%	3.8%	6.6%	(4.8%)
June 30, 2011	7.3%	4.6%	19.2%	0.7%
June 30, 2012	6.9%	5.1%	2.0%	0.9%
June 30, 2013	7.9%	5.5%	11.8%	2.7%
June 30, 2014	10.9%	6.3%	18.0%	4.7%
June 30, 2015	9.5%	6.7%	3.3%	4.6%
June 30, 2016	6.7%	6.7%	0.2%	4.1%
June 30, 2017	7.8%	6.8%	12.6%	4.9%
June 30, 2018	7.9%	6.9%	7.9%	5.2%
June 30, 2019	6.6%	6.9%	6.2%	5.2%
June 30, 2020	6.4%	6.8%	4.3%	5.2%
June 30, 2021	11.3%	7.2%	29.6%	6.7%
June 30, 2022	8.2%	7.2%	(6.3%)	5.8%

Rates of return are shown based on combined assets for OD&D and Retiree Medical.

Cumulative returns are since fiscal year ending June 30, 2008.

Section 3: Member Data

Section 3.1: Summary of Members Included

As of June 30	2018	2019	2020	2021	2022
Active Members - Peace Officer / Firefighter					
1. Number	1,905	2,038	2,228	2,350	2,482 ¹
2. Average Age	35.63	35.76	35.92	36.40	36.65
3. Average Credited Service	4.83	5.09	5.36	5.71	5.91
4. Average Entry Age	30.80	30.67	30.56	30.69	30.74
5. Average Annual Earnings	\$ 78,603	\$ 84,593	\$ 87,365	\$ 90,022	\$ 95,429
Active Members - Others					
1. Number	18,473	19,864	20,695	21,583	22,220 ²
2. Average Age	41.34	41.49	41.78	41.79	41.87
3. Average Credited Service	4.08	4.25	4.59	4.84	5.02
4. Average Entry Age	37.26	37.24	37.19	36.95	36.85
5. Average Annual Earnings	\$ 57,349	\$ 58,223	\$ 59,603	\$ 61,129	\$ 62,371
Active Members - Total					
1. Number	20,378	21,902	22,923	23,933	24,702 ³
2. Average Age	40.80	40.96	41.21	41.26	41.35
3. Average Credited Service	4.15	4.33	4.66	4.93	5.11
4. Average Entry Age	36.65	36.63	36.55	36.33	36.24
5. Average Annual Earnings	\$ 59,336	\$ 60,676	\$ 62,302	\$ 63,966	\$ 65,693
Disabilitants and Beneficiaries (Occupational Death & Disability)					
1. Number	15	16	15	14	16
2. Average Age	43.66	42.28	44.66	47.27	46.22
3. Average Monthly Death & Disability Benefit	\$ 2,285	\$ 2,404	\$ 2,698	\$ 2,601	\$ 2,791
Retirees, Surviving Spouses, and Dependent Spouses (Retiree Medical)					
1. Number	23	43	66	93	166
2. Average Age	69.97	69.72	68.85	69.75	69.46
Total Number of Members	20,416	21,961	23,004	24,040	24,884

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

¹ Includes 2,072 male active members and 410 female active members.

² Includes 9,673 male active members and 12,547 female active members.

³ Includes 11,745 male active members and 12,957 female active members.

Section 3.2: Age and Service Distribution of Active Members

Annual Earnings by Age

Age	Number	Total Annual Earnings	Average Annual Earnings
0 - 19	120	\$ 4,370,840	\$ 36,424
20 - 24	1,456	67,382,569	46,279
25 - 29	3,041	175,979,490	57,869
30 - 34	4,050	266,550,938	65,815
35 - 39	3,998	282,957,815	70,775
40 - 44	3,197	226,859,340	70,960
45 - 49	2,610	179,481,566	68,767
50 - 54	2,311	155,817,626	67,424
55 - 59	1,860	125,530,044	67,489
60 - 64	1,378	92,555,224	67,166
65 - 69	505	34,582,576	68,480
70 - 74	136	8,355,694	61,439
75+	40	2,318,179	57,954
Total	24,702	\$1,622,741,901	\$ 65,693

Annual Earnings by Credited Service

Years of Service	Number	Total Annual Earnings	Average Annual Earnings
0	4,548	\$ 220,028,910	\$ 48,379
1	3,012	169,357,375	56,228
2	2,474	147,936,480	59,796
3	2,427	153,783,513	63,364
4	1,889	124,827,090	66,081
0 - 4	14,350	\$ 815,933,368	\$ 56,859
5 - 9	6,453	474,512,127	73,534
10 - 14	3,515	296,020,583	84,216
15 - 19	384	36,275,823	94,468
20 - 24	0	0	0
25 - 29	0	0	0
30 - 34	0	0	0
35 - 39	0	0	0
40+	0	0	0
Total	24,702	\$1,622,741,901	\$ 65,693

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	120	0	0	0	0	0	0	0	0	120
20 - 24	1,452	4	0	0	0	0	0	0	0	1,456
25 - 29	2,659	379	3	0	0	0	0	0	0	3,041
30 - 34	2,647	1,181	219	3	0	0	0	0	0	4,050
35 - 39	1,985	1,226	722	65	0	0	0	0	0	3,998
40 - 44	1,582	922	618	75	0	0	0	0	0	3,197
45 - 49	1,248	760	534	68	0	0	0	0	0	2,610
50 - 54	1,058	717	482	54	0	0	0	0	0	2,311
55 - 59	777	583	451	49	0	0	0	0	0	1,860
60 - 64	562	451	326	39	0	0	0	0	0	1,378
65 - 69	186	174	121	24	0	0	0	0	0	505
70 - 74	59	39	32	6	0	0	0	0	0	136
75+	15	17	7	1	0	0	0	0	0	40
Total	14,350	6,453	3,515	384	0	0	0	0	0	24,702

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

Section 3.3: Member Data Reconciliation

	Actives	Retirees and Surviving Spouses	Dependent Spouses	OD&D Disabilitants	OD&D Beneficiaries	Total
As of June 30, 2021 ¹	23,933	67	26	13	1	24,040
New Entrants	4,253	0	0	0	0	4,253
Rehires	674	0	0	0	0	674
Vested Terminations	(706)	0	0	0	0	(706)
Non-Vested Terminations	(2,577)	0	0	0	0	(2,577)
Refund of Contributions	(774)	0	0	0	0	(774)
Disability Retirements	(2)	0	0	2	0	0
Age Retirements	(65)	65	18	0	0	18
Deaths With Beneficiary	(32)	0	0	0	0	(32)
Deaths Without Beneficiary	(2)	(1)	0	0	0	(3)
Converted To/From DB Plan	(11)	0	0	0	0	(11)
Added Dependent Coverage	0	0	1	0	0	1
Dropped Dependent Coverage	0	0	0	0	0	0
Transfers In/Out	(3)	(1)	(1)	0	0	(5)
Data Corrections	14	(6)	(2)	0	0	6
Net Change	769	57	16	2	0	844
As of June 30, 2022 ²	24,702	124	42	15	1	24,884

¹ 89 participants are expected to receive retiree medical benefits in a different plan and are included for OD&D benefits only.

² 94 participants are expected to receive retiree medical benefits in a different plan and are included for OD&D benefits only.

Section 3.4: Schedule of Active Member Data

Valuation Date	Number	Annual Earnings (000's)	Annual Average Earnings	Percent Increase in Average Earnings	Number of Participating Employers
June 30, 2022	24,702	\$ 1,622,742	\$ 65,693	2.7%	150
June 30, 2021	23,933	1,530,905	63,966	2.7%	151
June 30, 2020	22,923	1,428,140	62,302	2.7%	153
June 30, 2019	21,902	1,328,934	60,676	2.3%	155
June 30, 2018	20,378	1,209,152	59,336	2.3%	155
June 30, 2017	19,171	1,112,398	58,025	1.5%	157
June 30, 2016	18,215	1,041,437	57,175	3.4%	157
June 30, 2015	17,098	945,496	55,299	1.9%	159
June 30, 2014	15,800	857,150	54,250	3.7%	159
June 30, 2013	14,316	748,658	52,295	4.7%	159

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

Section 3.5: Active Member Payroll Reconciliation

Payroll Field	Payroll Data (000's)
a) DRB actual reported salaries FY22 in employer list	\$ 1,524,781
b) DRB actual reported salaries FY22 in valuation data	1,444,430
c) Annualized valuation data	1,622,742
d) Valuation payroll as of June 30, 2022	1,704,971
e) Rate payroll for FY23	1,645,341

- 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

Section 4: Basis of the Actuarial Valuation

Section 4.1: Summary of Plan Provisions

Effective Date

July 1, 2006, with amendments through June 30, 2022.

Administration of Plan

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

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

Employers Included

Currently there are 150 employers participating in PERS DCR, including the State of Alaska, and 149 political subdivisions and public organizations.

Membership

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

- Permanent full-time or part-time employees of the State of Alaska, participating political subdivisions or public organizations. An employee must be regularly scheduled to work 30 or more hours per week to be considered full-time by the PERS. An employee must be regularly scheduled to work 15 or more hours per week but less than 30 hours to be considered a part-time employee for PERS purposes.
- Elected state officials.
- Elected municipal officials who are compensated and receive at least \$2,001.00 per month.

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

Member Contributions

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

Retiree Medical Benefits

- Member must retire directly from the plan to be eligible for retiree medical coverage. Normal retirement eligibility is the earlier of a) 25 years of service as a peace officer or firefighter and 30 years of service for any other employee or b) Medicare eligible and 10 years of service.
- No subsidized retiree medical benefits are provided until normal retirement eligibility. The member's and any covered dependent's premium is 100% until the member is Medicare eligible. Upon the member's Medicare-eligibility, the required contribution will follow the service-based schedule shown below.
- Coverage cannot be denied except for failure to pay premium.
- Members who are receiving disability benefits or survivors who are receiving monthly survivor benefits are not eligible until the member meets, or would have met if he/she had lived, the normal retirement eligibility requirements.
- The following is a summary of the medical benefit design adopted in July 2016. The plan description below is used for valuation purposes and indicates participant cost-sharing. Please refer to the benefit handbook for more details.

Plan Design Feature	In-Network ¹	Out-of-Network ^{1 2}
Deductible (single / family)	\$300 / \$600	
Medical services (participant share)	20%	40%
Emergency Room Copay (non-emergent use)	\$100	\$100
Medical Out-of-Pocket Maximum (single / family, including deductible)	\$1,500 / \$3,000	\$3,000 / \$6,000
Medicare Coordination	Exclusion	Exclusion
Pharmacy	No Deductible	No Deductible
Retail Generic (per 30-day fill)	20% \$10 min / \$50 max	40%
Retail Non-Formulary Brand (per 30-day fill)	25% \$25 min / \$75 max	
Retail Formulary Brand (per 30-day fill)	35% \$80 min / \$150 max	
Mail-Order Generic	\$20 copay	40%
Mail-Order Non-Formulary Brand	\$50 copay	
Mail-Order Formulary Brand	\$100 copay	
Pharmacy Out-of-Pocket Max (single / family)	\$1,000 / \$2,000	
Medicare Pharmacy Arrangement	Retiree Drug Subsidy / Employer Group Waiver Plan effective 1/1/2019	
Wellness / Preventative	100% covered, not subject to deductible	20%, after deductible

¹ Section 1.1 of the AlaskaCare Defined Contribution Retiree Benefit Plan states that this health plan shall be updated from time to time to reflect changes in benefits, including annual adjustments to the premium, deductible, coinsurance, medical out-of-pocket limit, and prescription drug out-of-pocket limit.

² OON applies only to non-Medicare eligible participants.

- Buck used manual rate models to determine relative plan values for the defined benefit (DB) retiree medical plan and the DCR retiree medical plan outlined above. We applied the ratio of the DCR retiree medical plan value to the DB retiree medical plan value to the per capita costs determined for each of pre/post-Medicare medical and pharmacy benefits to estimate corresponding values for the DCR retiree medical plan design. These factors are noted in Section 4.3. We further adjusted the Medicare medical manual rate to reflect the Medicare coordination method adopted. The estimated 2023 reimbursements under EGWP were provided by Segal Consulting (who worked with the EGWP administrator, Optum, to develop those estimates). We reflect estimated discounts and pharmacy rebates in the defined benefit medical cost so no further adjustment was needed for the DCR retiree medical plan. The medical network differential is reflected in the relative plan value adjustments.
- Starting in 2022, prior authorization is required for certain specialty medications. There is no change to the medications that are covered by the plan.
- The retiree medical plan's coverage is supplemental to Medicare. Medicare coordination is described in the DCR Plan Handbook, referred to in the industry as exclusion coordination: Medicare payment is deducted from the Medicare allowable expense and plan parameters are applied to the remaining amount. Starting in 2019, the prescription drug coverage is through a Medicare Part D EGWP arrangement.
- The premium for Medicare-eligible retirees will be based on the member's years of service. The percentage of premium paid by the member is as follows:

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

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

Occupational Disability Benefits

- Benefit is 40% of salary at date of disability.
- For Peace Officer and Firefighters there is a Disability Benefit Adjustment such that:
 - The disability benefit is increased by 75% of the cost-of-living increase in the preceding calendar year or 9%, whichever is less.
 - At the time the disabled member retires, the retirement benefit will be increased by a percentage equal to the total cumulative percentage that has been applied to the disability benefit. Monthly annuity payments are made from the member's contribution balance until the fund is exhausted, at which the plan pays all remaining payments.
- For Others, there is no increase in the occupational disability benefit after commencement.
- Member earns service while on occupational disability.
- Benefits cease when the member becomes eligible for normal retirement at Medicare-eligible age and 10 years of service, or at any age with 30 years of service for Others members or 25 years of service for Peace Officer/Firefighter members.
- Peace Officer/Firefighter members may select the defined contribution account or the monthly benefit payable as if they were retiring under Tier 3 (service continues during disability, final average salary is as of date of disability), but with payments first made from the member's DC account until it's exhausted.
- No subsidized retiree medical benefits are provided until normal retirement eligibility. The member's premium is 100% of the estimated cost until they are Medicare eligible. Medicare-eligible premiums follow the service-based schedule above.

Occupational Death Benefits

- Benefit is 40% of salary for Others members and 50% of salary for Peace Officer/Firefighter members.
- Survivor's Pension Adjustment: A survivor's pension is increased by 50% of the cost-of-living increase in the preceding calendar year or 6%, whichever is less, if the recipient is at least age 60 on July 1, or under age 60 if the recipient has been receiving PERS benefits for at least 5 years as of July 1.
- Benefits cease when the member would have become eligible for normal retirement.
- The period during which the survivor is receiving benefits is counted as service credit toward retiree medical benefits.
- No subsidized retiree medical benefits are provided until the member would have been eligible for normal retirement. The surviving spouse's premium is 100% of the estimated cost until the member would have been Medicare eligible. Medicare-eligible premiums follow the service-based schedule above.

Changes in Benefit Provisions Valued Since the Prior Valuation

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

Section 4.2: Description of Actuarial Methods and Valuation Procedures

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

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

Actuarial Cost Method

Liabilities and contributions shown in the report are computed using the Entry Age Normal Actuarial Cost Method, level percent of pay. Each year's difference between actual and expected unfunded actuarial accrued liability is amortized over 25 years as a level percentage of expected payroll.

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

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

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

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

Valuation of Assets

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

Changes in Methods Since the Prior Valuation

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

Valuation of Retiree Medical and Prescription Drug Benefits

The methodology used for the valuation of the retiree medical benefits is described in Section 5.2 of the State of Alaska Public Employees' Retirement System Defined Benefit Plan Actuarial Valuation Report as of June 30, 2022.

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. Those base claims costs were used for the DCR valuation with further adjustments as noted below. Additionally, starting in 2022, certain common preventive benefits are covered for the DB plan. The resulting adjustment factor for pre-Medicare medical costs was applied to claims experience incurred before January 1, 2022. However, preventive benefits were already covered under the DCR plan so the pre-65 DCR medical adjustment factor referenced below was increased from 3.1% to 4.4%.

Due to the lack of experience for the DCR retiree medical plan, base claims costs are based on those described in the actuarial valuation as of June 30, 2022 for the Defined Benefit (DB) retiree medical plan covering TRS and PERS. The DB rates were used with some adjustments. The claims costs were adjusted to reflect the differences between the DCR medical plan and the DB medical plan. These differences include network steerage, different coverage levels, different Medicare coordination for medical benefits, and an indexing of the retiree out-of-pocket dollar amounts. To account for higher initial copays, deductibles, and out-of-pocket limits, projected FY23 claims costs were reduced 4.4% for pre-Medicare medical claims, 3.1% for Medicare medical claims, and 8.9% for prescription drugs. In addition, to account for the difference in Medicare coordination, projected FY23 medical claims costs for Medicare eligible retirees were further reduced 29.5%.

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.

No implicit subsidies are assumed. Employees projected to retire with 30 years of service (25 years of service for Peace/Fire) prior to Medicare are valued with commencement deferred to Medicare eligibility, because those members will be required to pay the full plan premium prior to Medicare. Explicit subsidies for disabled and normal retirement are determined using the plan-defined percentages of age-related total projected plan costs, again with no implicit subsidy assumed.

The State transitioned to an Employer Group Waiver Program (EGWP) for DCR participants effective January 1, 2019. The estimated 2023 reimbursements under EGWP were provided by Segal Consulting (who worked with the EGWP administrator, Optum, to develop those estimates).

Healthcare Reform

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

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

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

The 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.

Section 4.3: Summary of Actuarial Assumptions

The demographic and economic assumptions used in the June 30, 2022 valuation are described below. Unless noted otherwise, these assumptions were adopted by the Board at the June 2022 meeting based on the experience study for the period July 1, 2017 to June 30, 2021.

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.

Employee mortality for Peace Officer/Firefighters in accordance with the following tables:

- Occ D&D: Pub-2010 Safety Employee table, amount-weighted, and projected with MP-2021 generational improvement.
- Healthcare: Pub-2010 Safety Employee table, headcount-weighted, and projected with MP-2021 generational improvement.

Employee mortality for Others in accordance with the following tables:

- Occ D&D: Pub-2010 General Employee table, amount-weighted, and projected with MP-2021 generational improvement.
- Healthcare: Pub-2010 General Employee table, headcount-weighted, and projected with MP-2021 generational improvement.

Deaths are assumed to result from occupational causes 70% of the time for Peace Officer/Firefighters, and 35% of the time for Others.

Mortality (Post-Commencement)

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

Retiree mortality for Peace Officer/Firefighters in accordance with the following tables:

- Occ D&D: Pub-2010 Safety Retiree table, amount-weighted, and projected with MP-2021 generational improvement.
- Healthcare: Pub-2010 Safety Retiree table, headcount-weighted, and projected with MP-2021 generational improvement.

Retiree mortality for Others in accordance with the following tables:

- Occ D&D: 98% of male and 106% of female rates of the Pub-2010 General Retiree table, amount-weighted, and projected with MP-2021 generational improvement.
- Healthcare: 101% of male and 110% of female rates of the Pub-2010 General Retiree table, headcount-weighted, and projected with MP-2021 generational improvement.

Beneficiary mortality for Peace Officer/Firefighters in accordance with the following tables. These tables are applied only after the death of the original member.

- Occ D&D: Pub-2010 Contingent Survivor table, amount-weighted, and projected with MP-2021 generational improvement.
- Healthcare: Pub-2010 Contingent Survivor table, headcount-weighted, and projected with MP-2021 generational improvement.

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

- Occ D&D: 102% of male and 108% of female rates of the Pub-2010 Contingent Survivor table, amount-weighted, and projected with MP-2021 generational improvement.
- Healthcare: 101% of male and 108% 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 Tables 2a and 2b).

Disability

No changes to the incidence rates from the prior valuation due to insufficient 2017-2021 actual experience (see Tables 3a and 3b). For retiree medical benefits, the disability rates cease once a member is eligible for retirement. However, the disability rates continue after retirement eligibility for occupational death & disability benefits.

Disabilities are assumed to be occupational 70% of the time for Peace Officer/Firefighters, and 35% of the time for Others.

For Peace Officer/Firefighters, members are assumed to take the monthly annuity 100% of the time.

Post-disability mortality for Peace Officer/Firefighters in accordance with the following tables:

- Occ D&D: Pub-2010 Safety Disabled Retiree table, amount-weighted, and projected with MP-2021 generational improvement.
- Healthcare: Pub-2010 Safety Disabled Retiree table, headcount-weighted, and projected with MP-2021 generational improvement.

Post-disability mortality for Others in accordance with the following tables:

- Occ D&D: 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).

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 Occupational Death & Disability

For Others, 75% of male members and 70% of female members are assumed to be married at termination from active service. For Peace Officer/Firefighters, 85% of male members and 60% 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. For Peace Officer/Firefighters, 75% of male members and 50% of female members are assumed to be married and cover a dependent spouse. For Others, 60% of male members and 50% of female members are assumed to be married and cover a dependent spouse.

Part-Time Service

Peace Officer/Firefighter members are assumed to be full-time employees. For Other members, part-time employees are assumed to earn 0.75 years of service per year.

Peace Officer / Firefighter Occupational Disability Retirement Benefit Commencement

The occupational disability retirement benefit is assumed to be first payable from the member's DC account and the retirement benefit payable from the occupational death & disability trust will commence five years later.

Imputed Data

Data changes from the prior year which are deemed to have immaterial impact on liabilities and contribution rates are assumed to be correct in the current year's client data.

Non-vested terminations with appropriate refund dates are assumed to have received a full refund of contributions. Active members with missing salary and service are assumed to be terminated with status based on their vesting percentage.

Administrative Expenses

The Normal Cost as of June 30, 2022 was increased by \$33,000 for occupational death & disability and \$39,000 for retiree medical. These amounts are based on the average of actual administrative expenses during the last two fiscal years.

Retiree Medical Participation

Death / Disability Decrement		Retirement Decrement	
Age	Percent Participation	Age	Percent Participation*
< 56	75.0%	55	50.0%
56	77.5%	56	55.0%
57	80.0%	57	60.0%
58	82.5%	58	65.0%
59	85.0%	59	70.0%
60	87.5%	60	75.0%
61	90.0%	61	80.0%
62	92.5%	62	85.0%
63	95.0%	63	90.0%
64	97.5%	64	95.0%
65+	100.0%	65+	Years of Service
		< 15	75.0%
		15 – 19	80.0%
		20 – 24	85.0%
		25 – 29	90.0%
		30+	95.0%

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

Healthcare Per Capita Claims Cost

Sample claims cost rates (before base claims cost adjustments described below) 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.

	Medical	Prescription Drugs
Pre-Medicare	\$ 15,706	\$ 3,712
Medicare Parts A & B	\$ 1,625	\$ 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 at the next measurement date.

Base Claims Cost Adjustments

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

- 0.956 for the pre-Medicare plan.
- 0.674 for both the Medicare medical plan and Medicare coordination method (3.1% reduction for the medical plan and 29.5% reduction for the coordination method).
- 0.911 for the prescription drug plan.

Healthcare Morbidity

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

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

Healthcare Third Party Administrator Fees

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

Healthcare Cost Trend

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

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

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

Changes in Assumptions Since the Prior Valuation

Effective for the June 30, 2022 valuation, the Board adopted the changes to the demographic and economic assumptions recommended by the actuary, based on the results of an experience study performed on the plan experience from July 1, 2017 to June 30, 2021. The changes in assumptions were adopted at the June 2022 Board meeting.

The healthcare per capita claims cost assumption is updated annually as described in Section 4.2. The amounts included in the Normal Cost for administrative expenses were changed from \$16,000 to \$33,000 for occupational death & disability, and from \$24,000 to \$39,000 for retiree medical (based on the most recent two years of actual administrative expenses paid from plan assets).

Table 1: Salary Scales

Peace Officer / Firefighter		Others	
Years of Service	Percent Increase	Years of Service	Percent Increase
< 1	8.50%	< 1	6.75%
1	7.75%	1	6.00%
2	7.25%	2	5.50%
3	7.00%	3	5.00%
4	6.75%	4	4.75%
5	6.25%	5	4.25%
6	5.75%	6	4.05%
7	5.50%	7	3.95%
8	5.25%	8	3.75%
9	5.05%	9	3.55%
10	4.95%	10	3.45%
11	4.85%	11	3.25%
12	4.75%	12	3.10%
13	4.65%	13	3.05%
14	4.55%	14	3.00%
15	4.45%	15	2.95%
16	4.35%	16	2.90%
17	4.25%	17+	2.85%
18	4.05%		
19	4.05%		
20+	3.85%		

Table 2a: Turnover Rates for Peace Officer / Firefighter

Select Rates during the First 5 Years of Employment

Years of Service	Male	Female
< 1	17.00%	27.00%
1	12.00%	21.00%
2	11.00%	15.00%
3	11.00%	13.00%
4	10.00%	9.00%

Ultimate Rates after the First 5 Years of Employment

Age	Male	Female
< 30	6.60%	10.20%
30 - 34	6.80%	10.00%
35 - 39	6.70%	9.90%
40 - 44	6.50%	9.50%
45 - 49	6.50%	9.30%
50 - 54	8.50%	9.10%
55 - 59	9.80%	9.60%
60 - 64	12.50%	10.30%
65+	19.20%	10.70%

Table 2b: Turnover Rates for Others

Select Rates during the First 5 Years of Employment

Years of Service	Male	Female
< 1	28.00%	29.00%
1	20.00%	24.00%
2	16.00%	19.00%
3	14.00%	16.00%
4	12.00%	14.00%

Ultimate Rates after the First 5 Years of Employment

Age	Male	Female
< 30	13.70%	15.80%
30 - 34	12.20%	11.20%
35 - 39	9.70%	10.20%
40 - 44	8.50%	10.60%
45 - 49	8.90%	8.90%
50 - 54	8.40%	8.70%
55 - 59	8.70%	9.50%
60 - 64	10.10%	11.80%
65+	11.20%	15.70%

Table 3a: Disability Rates for Peace Officer / Firefighter

Age	Male	Female	Age	Male	Female
< 23	0.0179%	0.0112%	46	0.1247%	0.0780%
23	0.0244%	0.0153%	47	0.1337%	0.0836%
24	0.0310%	0.0194%	48	0.1462%	0.0914%
25	0.0374%	0.0234%	49	0.1588%	0.0993%
26	0.0440%	0.0275%	50	0.1714%	0.1071%
27	0.0505%	0.0316%	51	0.1839%	0.1150%
28	0.0526%	0.0329%	52	0.1965%	0.1228%
29	0.0548%	0.0343%	53	0.2294%	0.1434%
30	0.0570%	0.0356%	54	0.2624%	0.1640%
31	0.0591%	0.0370%	55	0.2954%	0.1846%
32	0.0612%	0.0383%	56	0.3283%	0.2052%
33	0.0634%	0.0397%	57	0.3613%	0.2258%
34	0.0657%	0.0411%	58	0.4112%	0.2570%
35	0.0679%	0.0425%	59	0.4611%	0.2882%
36	0.0702%	0.0439%	60	0.5110%	0.3194%
37	0.0724%	0.0453%	61	0.5610%	0.3506%
38	0.0757%	0.0473%	62	0.6109%	0.3818%
39	0.0789%	0.0493%	63	0.6109%	0.3818%
40	0.0822%	0.0514%	64	0.6109%	0.3818%
41	0.0854%	0.0534%	65	0.6109%	0.3818%
42	0.0886%	0.0554%	66	0.6109%	0.3818%
43	0.0977%	0.0611%	67	0.6109%	0.3818%
44	0.1066%	0.0667%	68	0.4073%	0.2546%
45	0.1157%	0.0723%	69	0.2036%	0.1273%
			70+	0.2036%	0.1273%

Table 3b: Disability Rates for Others

Age	Male	Female	Age	Male	Female
< 23	0.0327%	0.0376%	46	0.1125%	0.1154%
23	0.0360%	0.0400%	47	0.1208%	0.1236%
24	0.0392%	0.0424%	48	0.1329%	0.1360%
25	0.0425%	0.0448%	49	0.1451%	0.1484%
26	0.0456%	0.0472%	50	0.1572%	0.1608%
27	0.0489%	0.0496%	51	0.1694%	0.1734%
28	0.0501%	0.0510%	52	0.1815%	0.1858%
29	0.0513%	0.0524%	53	0.2132%	0.2168%
30	0.0524%	0.0538%	54	0.2450%	0.2478%
31	0.0536%	0.0554%	55	0.2766%	0.2788%
32	0.0548%	0.0568%	56	0.3084%	0.3098%
33	0.0566%	0.0586%	57	0.3401%	0.3408%
34	0.0584%	0.0606%	58	0.4068%	0.4096%
35	0.0602%	0.0624%	59	0.4736%	0.4784%
36	0.0620%	0.0644%	60	0.5405%	0.5470%
37	0.0638%	0.0662%	61	0.6072%	0.6158%
38	0.0669%	0.0696%	62	0.6740%	0.6844%
39	0.0701%	0.0728%	63	0.8526%	0.8450%
40	0.0734%	0.0762%	64	1.0314%	1.0054%
41	0.0765%	0.0794%	65	1.2101%	1.1660%
42	0.0797%	0.0826%	66	1.3889%	1.3264%
43	0.0879%	0.0908%	67	1.5675%	1.4870%
44	0.0962%	0.0990%	68	1.0451%	0.9914%
45	0.1043%	0.1072%	69	0.5225%	0.4956%
			70+	0.5225%	0.4956%

Table 4: Retirement Rates

Age	Rate
< 55	2.00%
55	3.00%
56	3.00%
57	3.00%
58	3.00%
59	3.00%
60	5.00%
61	5.00%
62	10.00%
63	5.00%
64	5.00%
65	25.00%
66	25.00%
67	25.00%
68	20.00%
69	20.00%
70+	100.00%

Section 5: Historical Information¹

Section 5.1: Funding Progress

Funding Progress - Occupational Death & Disability (\$'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	\$ 14,952	\$ 62,938	420.9%	\$ (47,986)	\$ 1,645,341	(2.9%)
June 30, 2021	11,740	53,075	452.1%	(41,335)	1,548,116	(2.7%)
June 30, 2020	10,634	43,029	404.6%	(32,395)	1,443,017	(2.2%)
June 30, 2019	9,774	36,701	375.5%	(26,927)	1,342,839	(2.0%)
June 30, 2018	7,713	30,961	401.4%	(23,248)	1,218,186	(1.9%)
June 30, 2017	7,540	26,944	357.3%	(19,404)	1,131,441	(1.7%)
June 30, 2016	6,763	23,176	342.7%	(16,413)	1,059,791	(1.5%)
June 30, 2015	5,049	19,014	376.6%	(13,965)	958,135	(1.5%)
June 30, 2014	3,627	14,995	413.4%	(11,368)	865,146	(1.3%)
June 30, 2013	3,603	11,373	315.7%	(7,770)	802,645	(1.0%)
June 30, 2012	2,412	9,142	379.0%	(6,730)	675,976	(1.0%)
June 30, 2011	1,949	7,049	361.7%	(5,100)	564,434	(0.9%)
June 30, 2010	853	4,801	562.8%	(3,948)	455,113	(0.9%)
June 30, 2009	403	3,138	778.7%	(2,735)	340,360	(0.8%)
June 30, 2008	242	1,288	532.2%	(1,046)	221,931	(0.5%)
June 30, 2007	48	188	391.7%	(140)	115,329	(0.1%)

Change in assumptions reflected in 2022, 2018, 2014, 2010, and 2009 valuations.

¹ 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 43 were still effective.

Funding Progress - Retiree Medical (\$'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	\$ 169,396	\$ 212,638	125.5%	\$ (43,242)	\$ 1,645,341	(2.6%)
June 30, 2021	168,472	180,536	107.2%	(12,064)	1,548,116	(0.8%)
June 30, 2020	150,701	144,747	96.0%	5,954	1,443,017	0.4%
June 30, 2019	124,946	118,783	95.1%	6,163	1,342,839	0.5%
June 30, 2018	118,598	100,097	84.4%	18,501	1,218,186	1.5%
June 30, 2017	109,703	81,559	74.3%	28,144	1,131,441	2.5%
June 30, 2016	70,289	63,851	90.8%	6,438	1,059,791	0.6%
June 30, 2015	58,683	44,188	75.3%	14,495	958,135	1.5%
June 30, 2014	50,217	26,466	52.7%	23,751	865,146	2.7%
June 30, 2013	60,282	20,336	33.7%	39,946	802,645	5.0%
June 30, 2012	44,509	15,773	35.4%	28,736	675,976	4.3%
June 30, 2011	11,302	12,009	106.3%	(707)	564,434	(0.1%)
June 30, 2010	7,185	8,767	122.0%	(1,582)	455,113	(0.3%)
June 30, 2009	3,913	5,475	139.9%	(1,562)	340,360	(0.5%)
June 30, 2008	1,776	2,719	153.1%	(943)	221,931	(0.4%)
June 30, 2007	711	1,067	150.1%	(356)	115,329	(0.3%)

Change in assumptions reflected in 2022, 2020, 2018, 2017, 2014, 2012, 2011, 2010, 2009, and 2008 valuations.

Change in methods reflected in 2018 valuation.

Change in plan provisions reflected in 2021 and 2016 valuations.

Section 5.2: Solvency Test

Solvency Test - Occupational Death & Disability (\$'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	\$ 0	\$ 7,593	\$ 7,359	\$ 62,938	100.0%	100.0%	100.0%
June 30, 2021	0	5,743	5,997	53,075	100.0%	100.0%	100.0%
June 30, 2020	0	5,432	5,202	43,029	100.0%	100.0%	100.0%
June 30, 2019	0	5,350	4,424	36,701	100.0%	100.0%	100.0%
June 30, 2018	0	3,978	3,735	30,961	100.0%	100.0%	100.0%
June 30, 2017	0	3,437	4,103	26,944	100.0%	100.0%	100.0%
June 30, 2016	0	3,147	3,616	23,176	100.0%	100.0%	100.0%
June 30, 2015	0	2,502	2,547	19,014	100.0%	100.0%	100.0%
June 30, 2014	0	1,367	2,260	14,995	100.0%	100.0%	100.0%
June 30, 2013	0	666	2,937	11,373	100.0%	100.0%	100.0%
June 30, 2012	0	197	2,215	9,142	100.0%	100.0%	100.0%
June 30, 2011	0	228	1,721	7,049	100.0%	100.0%	100.0%
June 30, 2010	0	0	853	4,801	100.0%	100.0%	100.0%
June 30, 2009	0	0	403	3,138	100.0%	100.0%	100.0%
June 30, 2008	0	0	242	1,288	100.0%	100.0%	100.0%
June 30, 2007	0	0	48	188	100.0%	100.0%	100.0%

Change in assumptions reflected in 2022, 2018, 2014, 2010, and 2009 valuations.

Solvency Test - Retiree Medical (\$'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	\$ 0	\$ 9,069	\$ 160,327	\$ 212,638	100.0%	100.0%	100.0%
June 30, 2021	0	5,191	163,281	180,536	100.0%	100.0%	100.0%
June 30, 2020	0	3,885	146,816	144,747	100.0%	100.0%	95.9%
June 30, 2019	0	2,647	122,299	118,783	100.0%	100.0%	95.0%
June 30, 2018	0	1,915	116,683	100,097	100.0%	100.0%	84.1%
June 30, 2017	0	982	108,721	81,559	100.0%	100.0%	74.1%
June 30, 2016	0	528	69,761	63,851	100.0%	100.0%	90.8%
June 30, 2015	0	339	58,344	44,188	100.0%	100.0%	75.2%
June 30, 2014	0	124	50,093	26,466	100.0%	100.0%	52.6%
June 30, 2013	0	101	60,181	20,336	100.0%	100.0%	33.6%
June 30, 2012	0	0	44,509	15,773	100.0%	100.0%	35.4%
June 30, 2011	0	0	11,302	12,009	100.0%	100.0%	100.0%
June 30, 2010	0	0	7,185	8,767	100.0%	100.0%	100.0%
June 30, 2009	0	0	3,913	5,475	100.0%	100.0%	100.0%
June 30, 2008	0	0	1,776	2,719	100.0%	100.0%	100.0%
June 30, 2007	0	0	711	1,067	100.0%	100.0%	100.0%

Change in assumptions reflected in 2022, 2020, 2018, 2017, 2014, 2012, 2011, 2010, 2009, and 2008 valuations.

Change in methods reflected in 2018 valuation.

Change in plan provisions reflected in 2021 and 2016 valuations.

Section 5.3: Member Data

As of June 30	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Active Members - Peace Officer / Firefighter										
1. Number	1,108	1,313	1,438	1,605	1,701	1,905	2,038	2,228	2,350	2,482
2. Average Age	34.35	34.80	34.93	35.17	35.59	35.63	35.76	35.92	36.40	36.65
3. Average Credited Service	3.07	3.28	3.71	4.12	4.65	4.83	5.09	5.36	5.71	5.91
4. Average Entry Age	31.28	31.52	31.22	31.05	30.94	30.80	30.67	30.56	30.69	30.74
5. Average Annual Earnings	\$ 68,197	\$ 69,904	\$ 71,839	\$ 76,213	\$ 77,800	\$ 78,603	\$ 84,593	\$ 87,365	\$ 90,022	\$ 95,429
Active Members - Others										
1. Number	13,208	14,487	15,660	16,610	17,470	18,473	19,864	20,695	21,583	22,220
2. Average Age	39.96	40.19	40.54	40.90	41.22	41.34	41.49	41.78	41.79	41.87
3. Average Credited Service	2.55	2.94	3.24	3.51	3.83	4.08	4.25	4.59	4.84	5.02
4. Average Entry Age	37.41	37.25	37.30	37.39	37.39	37.26	37.24	37.19	36.95	36.85
5. Average Annual Earnings	\$ 50,961	\$ 52,831	\$ 53,780	\$ 55,335	\$ 56,100	\$ 57,349	\$ 58,223	\$ 59,603	\$ 61,129	\$ 62,371
Active Members - Total										
1. Number	14,316	15,800	17,098	18,215	19,171	20,378	21,902	22,923	23,933	24,702
2. Average Age	39.53	39.74	40.07	40.39	40.72	40.80	40.96	41.21	41.26	41.35
3. Average Credited Service	2.59	2.97	3.28	3.56	3.90	4.15	4.33	4.66	4.93	5.11
4. Average Entry Age	36.94	36.77	36.79	36.83	36.82	36.65	36.63	36.55	36.33	36.24
5. Average Annual Earnings	\$ 52,295	\$ 54,250	\$ 55,299	\$ 57,175	\$ 58,025	\$ 59,336	\$ 60,676	\$ 62,302	\$ 63,966	\$ 65,693
Disabiltants and Beneficiaries (Occupational Death & Disability)										
1. Number	4	6	12	12	14	15	16	15	14	16
2. Average Age	39	34	43	44	42	44	42.28	44.66	47.27	46.22
3. Average Monthly Death & Disability Benefit	2,320	2,554	2,399	2,442	2,199	2,285	\$ 2,404	\$ 2,698	\$ 2,601	\$ 2,791
Retirees, Surviving Spouses, and Dependent Spouses (Retiree Medical)										
1. Number	0	0	0	0	9	23	43	66	93	166
2. Average Age	N/A	N/A	N/A	N/A	70.76	69.97	69.72	68.85	69.75	69.46
Total Number of Members	14,320	15,806	17,110	18,227	19,194	20,416	21,961	23,004	24,040	24,884

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 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.



State of Alaska

Teachers' Retirement System Defined Contribution Retirement Plan

For Occupational Death & Disability
and Retiree Medical Benefits

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

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

The Board and staff of the State of Alaska may use this report for the review of the operations of TRS DCR. Use of this report for any other purpose or by anyone other than the Board or staff of the State of Alaska may not be appropriate and may result in mistaken conclusions 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 4.2 and 4.3. We certify that the assumptions and methods described in Sections 4.2 and 4.3 of this report meet the requirements of all applicable Actuarial Standards of Practice.

Actuarial Standards of Practice No. 27 (ASOP 27) and No. 35 (ASOP 35) require the actuary to disclose the information and analysis used to support the actuary's determination that the assumptions selected by the plan sponsor do not significantly conflict with what, in the actuary's professional judgment, are reasonable for the purpose of the measurement. Buck provides advice on reasonable assumptions when performing periodic experience studies. The Board selects the assumptions used and 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 3; (ii) summary of actuarial assumptions in Section 4.3; and (iii) historical information in Section 5.

Governmental Accounting Standards Board (GASB) Statement No. 74 (GASB 74) was effective for TRS DCR beginning with fiscal year ending June 30, 2017. Please see our separate GASB 74 report 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 retiree medical portion of TRS DCR. We also believe ASOP 51 does not apply to the occupational death & disability portion of TRS DCR. Therefore, information related to ASOP 51 is not included in this report. However, it may be beneficial to review the ASOP 51 information provided in the TRS valuation report for information on risks that may also relate to the occupational death & disability benefits provided by this plan.

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 an internally developed model that applies 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 model 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 model, extra checking and review are completed. Significant changes to the internal model 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.

Buck used manual rate models to determine relative plan values for the defined benefit (DB) retiree medical plan and the DCR retiree medical plan, and to reflect the different Medicare coordination methods between the two plans. The manual rate models are intended to provide benchmark data and pricing capabilities, calculate per capita costs, and calculate actuarial values of different commercial health plans. Buck relied on the models, which were developed using industry data by actuaries and consultants at OptumInsight.

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 Sections 4.2 and 4.3 and in the valuation report for the DB plan.

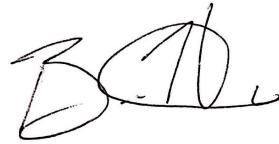
This report was prepared under the overall direction of David Kershner, who meets the Qualification Standards of the American Academy of Actuaries to render the actuarial opinions contained herein. He is a Fellow of the Society of Actuaries, an Enrolled Actuary, a Member of the American Academy of Actuaries, 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 Defined Contribution Retirement (TRS DCR) Plan provides occupational death & disability and retiree medical benefits to teachers and other eligible members hired after June 30, 2006 or who have elected participation in this plan. The Commissioner of the Department of Administration is responsible for administering the plan. The Alaska Retirement Management Board has fiduciary responsibility over the assets of the plan. This report presents the results of the actuarial valuation of TRS DCR as of the valuation date of June 30, 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 contribution necessary to meet the Board's funding policy for the plan;
2. To disclose the funding assets and liability measures as of the valuation date;
3. To review the current funded status of the plan and assess the funded status as an appropriate measure for determining actuarially determined contributions;
4. To compare actual and expected experience under the plan during the last fiscal year; and
5. To report trends in contributions, assets, liabilities, and funded status over the last several years.

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

Funded Status

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

Funded Status as of June 30 (\$'s in 000's)		2021	2022
Occupational Death & Disability			
a. Actuarial Accrued Liability	\$	205	\$ 199
b. Valuation Assets		<u>5,843</u>	<u>6,700</u>
c. Unfunded Actuarial Accrued Liability, (a) - (b)	\$	(5,638)	\$ (6,501)
d. Funded Ratio based on Valuation Assets, (b) ÷ (a)		2,850.2%	3,366.8%
e. Fair Value of Assets	\$	6,623	\$ 6,557
f. Funded Ratio based on Fair Value of Assets, (e) ÷ (a)		3,230.7%	3,295.0%

Funded Status as of June 30 (\$'s in 000's)		2021	2022
Retiree Medical			
a. Actuarial Accrued Liability	\$	44,396	\$ 47,797
b. Valuation Assets		<u>59,380</u>	<u>68,403</u>
c. Unfunded Actuarial Accrued Liability, (a) - (b)	\$	(14,984)	\$ (20,606)
d. Funded Ratio based on Valuation Assets, (b) ÷ (a)		133.8%	143.1%
e. Fair Value of Assets	\$	67,278	\$ 66,909
f. Funded Ratio based on Fair Value of Assets, (e) ÷ (a)		151.5%	140.0%

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 (6.2)% compared to the expected investment return of 7.38% (net of investment expenses). This resulted in a market asset loss of approximately \$925,000 (occupational death & disability) and \$9,418,000 (retiree medical). 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 8.3%, which resulted in an actuarial asset gain of approximately \$56,000 (occupational death & disability) and \$557,000 (retiree medical).

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 \$1,000.

3. Demographic Experience

The number of active members increased 3.0% from 5,521 at June 30, 2021 to 5,688 at June 30, 2022. The average age of active members increased from 41.90 to 42.26 and average credited service increased from 6.34 to 6.60 years.

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

4. Retiree Medical Claims Experience

Please refer to the State of Alaska Teachers' Retirement System (TRS) Defined Benefit Plan Actuarial Valuation Report as of June 30, 2022 for a full description of the assumptions and costs of the retiree medical plan. Adjustments to these costs and assumptions are described in this report.

The recent claims experience described in Section 4.2 of this report (Section 5.2 of the TRS report) created an actuarial gain of approximately \$1,006,000. The EGWP subsidy received by the plan during FY22 was approximately \$18,000; the expected EGWP subsidy for FY22 was approximately \$25,000.

5. Changes in Methods Since the Prior Valuation

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

6. Changes in Assumptions Since the Prior Valuation

Effective for the June 30, 2022 valuation, the Board adopted the changes to the demographic and economic assumptions recommended by the actuary, based on the results of an experience study performed on the plan experience from July 1, 2017 to June 30, 2021. The changes in assumptions were adopted at the June 2022 Board meeting. The effect of the new assumptions was to decrease the Actuarial Accrued Liability as of June 30, 2022 by less than \$1,000 for occupational death & disability and by approximately \$3,374,000 for retiree medical.

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

7. Changes in Benefit Provisions Since the Prior Valuation

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

Comparative Summary of Contribution Rates

	FY 2024	FY 2025
Occupational Death & Disability		
a. Employer Normal Cost Rate	0.08%	0.08%
b. Past Service Cost Rate	<u>(0.11)%</u>	<u>(0.11)%</u>
c. Total Employer Contribution Rate, (a) + (b), not less than (a)	0.08%	0.08%
Retiree Medical		
a. Employer Normal Cost Rate	0.82%	0.68%
b. Past Service Cost Rate	<u>(0.22)%</u>	<u>(0.29)%</u>
c. Total Employer Contribution Rate, (a) + (b), not less than (a)	0.82%	0.68%
Total		
a. Employer Normal Cost Rate	0.90%	0.76%
b. Past Service Cost Rate	<u>(0.33)%</u>	<u>(0.40)%</u>
c. Total Employer Contribution Rate, (a) + (b), not less than (a)	0.90%	0.76%

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

Valuation Date	Fiscal Year	Total Employer Contribution Rate		
		Occupational Death & Disability	Retiree Medical	Total
June 30, 2011	FY14	0.00%	0.47%	0.47%
June 30, 2012	FY15	0.00%	2.04%	2.04%
June 30, 2013	FY16	0.00%	2.04%	2.04%
June 30, 2014	FY17	0.00%	1.05%	1.05%
June 30, 2015	FY18	0.00%	0.91%	0.91%
June 30, 2016	FY19	0.08%	0.79%	0.87%
June 30, 2017	FY20	0.08%	1.09%	1.17%
June 30, 2018	FY21	0.08%	0.93%	1.01%
June 30, 2019	FY22	0.08%	0.83%	0.91%
June 30, 2020	FY23	0.08%	0.87%	0.95%
June 30, 2021	FY24	0.08%	0.82%	0.90%
June 30, 2022	FY25	TBD	TBD	TBD

Summary of Actuarial Accrued Liability Gain/(Loss)

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

	Occupational Death & Disability	Retiree Medical
Retirement Experience	\$ 0	\$ 89
Termination Experience	(3)	2,157
Disability Experience	235	(35)
Active Mortality Experience	122	(60)
Inactive Mortality Experience	(1)	(13)
Salary Increases	(1)	N/A
New Entrants	0	(630)
Rehires	0	(2,402)
Benefit Payments Different than Expected	9	(17)
Per Capita Claims Cost	N/A	1,006
Miscellaneous ¹	<u>(8)</u>	<u>(5)</u>
Total	\$ 353	\$ 90

¹ 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.

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

	Occupational Death & Disability		Retiree Medical	
Experience Study Assumption Changes	\$	0*	\$	(3,374)

* Impact was less than \$1,000.

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		
Occupational Death Benefits	\$ 746	\$ 106
Occupational Disability Benefits	1,481	(81)
Medical and Prescription Drug Benefits	85,800	59,854
Medicare Part D Subsidy	<u>(20,034)</u>	<u>(13,970)</u>
Subtotal	\$ 67,993	\$ 45,909
Benefit Recipients		
Survivor Benefits	\$ 0	\$ 0
Disability Benefits	174	174
Medical and Prescription Drug Benefits	2,495	2,495
Medicare Part D Subsidy	<u>(582)</u>	<u>(582)</u>
Subtotal	\$ 2,087	\$ 2,087
Total	\$ 70,080	\$ 47,996
Total Occupational Death & Disability	\$ 2,401	\$ 199
Total Retiree Medical, Net of Part D Subsidy	\$ 67,679	\$ 47,797
Total Retiree Medical, Gross of Part D Subsidy	\$ 88,295	\$ 62,349

As of June 30, 2022	Normal Cost
Active Members	
Occupational Death Benefits	\$ 103
Occupational Disability Benefits	236
Medical and Prescription Drug Benefits	4,008
Medicare Part D Subsidy	<u>(936)</u>
Subtotal	\$ 3,411
Administrative Expense Load	
Occupational Death & Disability	\$ 9
Retiree Medical	<u>35</u>
Subtotal	\$ 44
Total	\$ 3,455
Total Occupational Death & Disability	\$ 348
Total Retiree Medical, Net of Part D Subsidy	\$ 3,107
Total Retiree Medical, Gross of Part D Subsidy	\$ 4,043

Section 1.2: Actuarial Contributions as of June 30, 2022 for FY25 (\$'s in 000's)

Normal Cost Rate	Occupational Death & Disability	Retiree Medical
1. Total Normal Cost	\$ 348	\$ 3,107
2. DCR Plan Rate Payroll Projected for FY23	455,927	455,927
3. Employer Normal Cost Rate, (1) ÷ (2)	0.08%	0.68%
Past Service Cost Rate		
1. Actuarial Accrued Liability	\$ 199	\$ 47,797
2. Valuation Assets	6,700	68,403
3. Unfunded Actuarial Accrued Liability, (1) - (2)	\$ (6,501)	\$ (20,606)
4. Funded Ratio based on Valuation Assets	3,366.8%	143.1%
5. Past Service Cost Amortization Payment	(515)	(1,300)
6. DCR Plan Rate Payroll Projected for FY23	455,927	455,927
7. Past Service Cost Rate, (5) ÷ (6)	(0.11%)	(0.29%)
Total Employer Contribution Rate, not less than Normal Cost Rate	0.08%	0.68%

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

Total Employer Contribution Rate as Percent of Total Payroll	Occupational Death & Disability	Retiree Medical
1. Total Normal Cost	\$ 348	\$ 3,107
2. Total DB and DCR Plan Rate Payroll Projected for FY23	758,938	758,938
3. Employer Normal Cost Rate, (1) ÷ (2)	0.05%	0.41%
4. Past Service Cost Amortization Payment	(515)	(1,300)
5. Past Service Cost Rate, (4) ÷ (2)	(0.07%)	(0.17%)
Total Employer Contribution Rate, not less than Normal Cost Rate	0.05%	0.41%

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

Layer	Amortization Period		Balances		Beginning-of-Year Payment
	Date Created	Years Remaining	Initial	Outstanding	
Initial Unfunded Liability	06/30/2007	10	\$ 16	\$ 13	\$ 2
FY08 Gain	06/30/2008	11	(392)	(352)	(39)
Change in Assumptions	06/30/2009	12	(82)	(75)	(8)
FY09 Gain	06/30/2009	12	(594)	(558)	(58)
Change in Assumptions	06/30/2010	13	(7)	(8)	(1)
FY10 Gain	06/30/2010	13	(479)	(460)	(45)
FY11 Gain	06/30/2011	14	(560)	(547)	(51)
FY12 Gain	06/30/2012	15	(129)	(129)	(11)
FY13 Gain	06/30/2013	16	(149)	(148)	(13)
Change in Assumptions	06/30/2014	17	(50)	(53)	(4)
PRPA Modification	06/30/2014	17	(25)	(25)	(2)
FY14 Gain	06/30/2014	17	(255)	(258)	(21)
FY15 Gain	06/30/2015	18	(275)	(278)	(22)
FY16 Gain	06/30/2016	19	(209)	(214)	(16)
FY17 Gain	06/30/2017	20	(251)	(252)	(18)
Change in Assumptions ¹	06/30/2018	21	0	0	0
FY18 Gain	06/30/2018	21	(257)	(259)	(18)
FY19 Gain	06/30/2019	22	(338)	(340)	(23)
FY20 Gain	06/30/2020	23	(637)	(642)	(43)
FY21 Gain	06/30/2021	24	(985)	(989)	(65)
Change in Assumptions ¹	06/30/2022	25	0	0	0
FY22 Gain	06/30/2022	25	(927)	(927)	(59)
Total				\$ (6,501)	\$ (515)

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

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

Layer	Amortization Period		Balances		Beginning-of-Year Payment
	Date Created	Years Remaining	Initial	Outstanding	
Initial Unfunded Liability	06/30/2007	10	\$ (239)	\$ (210)	\$ (25)
Change in Assumptions	06/30/2008	11	84	79	9
FY08 Gain	06/30/2008	11	(393)	(352)	(39)
Change in Assumptions	06/30/2009	12	(69)	(63)	(7)
FY09 Gain	06/30/2009	12	(281)	(265)	(28)
Change in Assumptions ¹	06/30/2010	13	0	0	0
FY10 Gain	06/30/2010	13	(545)	(523)	(51)
FY11 Gain	06/30/2011	14	(94)	(90)	(8)
Change in Assumptions	06/30/2012	15	11,518	11,448	1,013
FY12 Gain	06/30/2012	15	(60)	(56)	(5)
FY13 Loss	06/30/2013	16	3,439	3,457	292
Change in Assumptions	06/30/2014	17	(9,736)	(9,845)	(798)
FY14 Loss	06/30/2014	17	1,616	1,632	132
FY15 Gain	06/30/2015	18	(3,485)	(3,534)	(276)
EGWP Impact	06/30/2016	19	(6,400)	(6,494)	(489)
FY16 Loss	06/30/2016	19	958	975	73
Change in Assumptions	06/30/2017	20	7,645	7,739	564
FY17 Gain	06/30/2017	20	(1,451)	(1,469)	(107)
Change in Assumptions/Methods	06/30/2018	21	(9,505)	(9,577)	(677)
FY18 Loss	06/30/2018	21	2,491	2,511	178
FY19 Gain	06/30/2019	22	(4,904)	(4,947)	(340)
Change in Assumptions	06/30/2020	23	2,153	2,169	145
FY20 Gain	06/30/2020	23	(1,655)	(1,667)	(112)
Prescription Drug Plan Changes	06/30/2021	24	(528)	(530)	(35)
FY21 Gain	06/30/2021	24	(5,449)	(5,473)	(357)
Change in Assumptions	06/30/2022	25	(3,374)	(3,374)	(215)
FY22 Gain	06/30/2022	25	(2,147)	(2,147)	(137)
Total				\$ (20,606)	\$ (1,300)

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

Section 1.3: Actuarial Gain/(Loss) for FY22 (\$'s in 000's)

	Occupational Death & Disability	Retiree Medical
1. Expected Actuarial Accrued Liability		
a. Actuarial Accrued Liability as of June 30, 2021	\$ 205	\$ 44,396
b. Normal Cost	335	3,448
c. Interest on (a) and (b) at 7.38%	40	3,531
d. Employer Group Waiver Plan	0	18
e. Benefit Payments	(27)	(128)
f. Interest on (d) and (e) at 7.38%, adjusted for timing	(1)	(4)
g. Assumptions/Methods Changes	0	(3,374)
h. Expected Actuarial Accrued Liability as of June 30, 2022 (a) + (b) + (c) + (d) + (e) + (f) + (g)	\$ 552	\$ 47,887
2. Actual Actuarial Accrued Liability as of June 30, 2022	199	47,797
3. Liability Gain/(Loss), (1)(h) - (2)	\$ 353	\$ 90
4. Expected Actuarial Asset Value		
a. Actuarial Asset Value as of June 30, 2021	\$ 5,843	\$ 59,380
b. Interest on (a) at 7.38%	431	4,382
c. Employer Contributions	393	4,086
d. Employer Group Waiver Plan	0	18
e. Interest on (c) and (d) at 7.38%, adjusted for timing	14	149
f. Benefit Payments	(27)	(128)
g. Administrative Expenses	(9)	(35)
h. Interest on (f) and (g) at 7.38%, adjusted for timing	(1)	(6)
i. Expected Actuarial Asset Value as of June 30, 2022 (a) + (b) + (c) + (d) + (e) + (f) + (g) + (h)	\$ 6,644	\$ 67,846
5. Actuarial Asset Value as of June 30, 2022	6,700	68,403
6. Actuarial Asset Gain/(Loss), (5) - (4)(i)	\$ 56	\$ 557
7. Total Actuarial Gain/(Loss), (3) + (6)	\$ 409	\$ 647
8. Contribution Gain/(Loss)	\$ 522	\$ 1,513
9. Administrative Expense Gain/(Loss)	\$ (4)	\$ (13)
10. FY22 Gain/(Loss), (7) + (8) + (9)	\$ 927	\$ 2,147

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

Occupational Death & Disability

Valuation Date	Total Actuarial Accrued Liability	Valuation Assets	Assets as a Percent of Actuarial Accrued Liability	Unfunded Actuarial Accrued Liability (UAAL)
June 30, 2007	\$ 16	\$ 0	0.0%	\$ 16
June 30, 2008	44	420	954.5%	(376)
June 30, 2009	14	1,071	7650.0%	(1,057)
June 30, 2010	18	1,577	8761.1%	(1,559)
June 30, 2011	57	2,193	3847.4%	(2,136)
June 30, 2012	63	2,348	3727.0%	(2,285)
June 30, 2013	80	2,532	3165.0%	(2,452)
June 30, 2014	23	2,820	12260.9%	(2,797)
June 30, 2015	29	3,114	10737.9%	(3,085)
June 30, 2016	19	3,323	17489.5%	(3,304)
June 30, 2017	26	3,588	13800.0%	(3,562)
June 30, 2018	30	3,845	12816.7%	(3,815)
June 30, 2019	240	4,359	1816.3%	(4,119)
June 30, 2020	223	4,933	2212.1%	(4,710)
June 30, 2021	205	5,843	2850.2%	(5,638)
June 30, 2022	199	6,700	3366.8%	(6,501)

Retiree Medical

Valuation Date	Total Actuarial Accrued Liability	Valuation Assets	Assets as a Percent of Actuarial Accrued Liability	Unfunded Actuarial Accrued Liability (UAAL)
June 30, 2007	\$ 358	\$ 597	166.8%	\$ (239)
June 30, 2008	757	1,308	172.8%	(551)
June 30, 2009	1,446	2,353	162.7%	(907)
June 30, 2010	2,430	3,895	160.3%	(1,465)
June 30, 2011	3,801	5,373	141.4%	(1,572)
June 30, 2012	16,811	6,937	41.3%	9,874
June 30, 2013	22,058	8,614	39.1%	13,444
June 30, 2014	16,273	10,791	66.3%	5,482
June 30, 2015	19,768	17,733	89.7%	2,035
June 30, 2016	21,988	25,410	115.6%	(3,422)
June 30, 2017	33,681	30,998	92.0%	2,683
June 30, 2018	32,429	36,776	113.4%	(4,347)
June 30, 2019	32,981	42,307	128.3%	(9,326)
June 30, 2020	40,634	49,554	122.0%	(8,920)
June 30, 2021	44,396	59,380	133.8%	(14,984)
June 30, 2022	47,797	68,403	143.1%	(20,606)

Section 2: Plan Assets

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

As of June 30, 2022	Occupational Death & Disability	Retiree Medical	Allocation Percent
Cash and Short-Term Investments			
- Cash and Cash Equivalents	\$ 87	\$ 894	1.3%
- Subtotal	\$ 87	\$ 894	1.3%
Fixed Income Investments			
- Domestic Fixed Income Pool	\$ 1,389	\$ 14,176	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	\$ 1,389	\$ 14,176	21.3%
Equity Investments			
- Domestic Equity Pool	\$ 1,582	\$ 16,134	24.2%
- International Equity Pool	858	8,756	13.1%
- Private Equity Pool	1,075	10,966	16.5%
- Emerging Markets Equity Pool	192	1,960	3.0%
- Alternative Equity Strategies	380	3,880	5.8%
- Subtotal	\$ 4,087	\$ 41,696	62.6%
Other Investments			
- Real Estate Pool	\$ 493	\$ 5,020	7.6%
- Other Investments Pool	471	4,800	7.2%
- Absolute Return Pool	0	0	0.0%
- Other Assets	0	0	0.0%
- Subtotal	\$ 964	\$ 9,820	14.8%
Total Cash and Investments	\$ 6,527	\$ 66,586	100.0%
Net Accrued Receivables	30	323	
Net Assets	\$ 6,557	\$ 66,909	

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

Fiscal Year 2022	Occupational Death & Disability	Retiree Medical
1. Fair Value of Assets as of June 30, 2021	\$ 6,623	\$ 67,278
2. Additions:		
a. Member Contributions	\$ 0	\$ 0
b. Employer Contributions	393	4,086
c. Interest and Dividend Income	89	905
d. Net Appreciation/(Depreciation) in Fair Value of Investments	(494)	(5,037)
e. Employer Group Waiver Plan	0	18
f. Other	<u>0</u>	<u>0</u>
g. Total Additions	\$ (12)	\$ (28)
3. Deductions:		
a. Medical Benefits	\$ 0	\$ 128
b. Death & Disability Benefits	27	0
c. Investment Expenses	18	178
d. Administrative Expenses	<u>9</u>	<u>35</u>
e. Total Deductions	\$ 54	\$ 341
4. Fair Value of Assets as of June 30, 2022	\$ 6,557	\$ 66,909
5. Approximate Fair Value Investment Return Rate during FY22 Net of Investment Expenses	(6.2%)	(6.2%)

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

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

	Occupational Death & Disability	Retiree Medical
1. Investment Gain/(Loss) for FY22		
a. Fair Value as of June 30, 2021	\$ 6,623	\$ 67,278
b. Contributions	393	4,086
c. Employer Group Waiver Plan	0	18
d. Benefit Payments	27	128
e. Administrative Expenses	9	35
f. Actual Investment Return (net of investment expenses)	(423)	(4,310)
g. Expected Return Rate (net of investment expenses)	7.38%	7.38%
h. Expected Return	502	5,108
i. Investment Gain/(Loss) for the Year (f) - (h)	(925)	(9,418)
2. Actuarial Value as of June 30, 2022		
a. Fair Value as of June 30, 2022	\$ 6,557	\$ 66,909
b. Deferred Investment Gain/(Loss)	(143)	(1,494)
c. Preliminary Actuarial Value as of June 30, 2022, (a) - (b)	6,700	68,403
d. Upper Limit: 120% of Fair Value as of June 30, 2022	7,868	80,290
e. Lower Limit: 80% of Fair Value as of June 30, 2022	5,246	53,528
f. Actuarial Value at June 30, 2022, (c) limited by (d) and (e)	6,700	68,403
3. Ratio of Actuarial Value of Assets to Fair Value of Assets	102.2%	102.2%
4. Approximate Actuarial Value Investment Return Rate during FY22 Net of Investment Expenses	8.3%	8.3%

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

Occupational Death & Disability				
Fiscal Year Ending	Asset Gain / (Loss)	Gain / (Loss) Recognized in Prior Years	Gain / (Loss) Recognized This Year	Gain / (Loss) Deferred to Future Years
June 30, 2018	\$ 8	\$ 8	\$ 0	\$ 0
June 30, 2019	(48)	(30)	(10)	(8)
June 30, 2020	(140)	(56)	(28)	(56)
June 30, 2021	1,103	221	221	661
June 30, 2022	<u>(925)</u>	<u>0</u>	<u>(185)</u>	<u>(740)</u>
Total	\$ (2)	\$ 143	\$ (2)	\$ (143)

Retiree Medical				
Fiscal Year Ending	Asset Gain / (Loss)	Gain / (Loss) Recognized in Prior Years	Gain / (Loss) Recognized This Year	Gain / (Loss) Deferred to Future Years
June 30, 2018	\$ (19)	\$ (16)	\$ (3)	\$ 0
June 30, 2019	(460)	(276)	(92)	(92)
June 30, 2020	(1,367)	(546)	(273)	(548)
June 30, 2021	11,132	2,226	2,226	6,680
June 30, 2022	<u>(9,418)</u>	<u>0</u>	<u>(1,884)</u>	<u>(7,534)</u>
Total	\$ (132)	\$ 1,388	\$ (26)	\$ (1,494)

Section 2.4: Historical Asset Rates of Return

Year Ending	Actuarial Value		Fair Value	
	Annual	Cumulative	Annual	Cumulative
June 30, 2008	6.4%	6.4%	(0.3%)	(0.3%)
June 30, 2009	3.2%	4.8%	(12.0%)	(6.3%)
June 30, 2010	4.2%	4.6%	6.4%	(2.3%)
June 30, 2011	7.4%	5.3%	18.9%	2.6%
June 30, 2012	6.9%	5.6%	1.6%	2.4%
June 30, 2013	7.7%	6.0%	11.9%	3.9%
June 30, 2014	10.9%	6.6%	18.0%	5.8%
June 30, 2015	9.5%	7.0%	3.1%	5.5%
June 30, 2016	6.5%	6.9%	(0.1%)	4.9%
June 30, 2017	7.6%	7.0%	12.6%	5.6%
June 30, 2018	7.8%	7.1%	8.0%	5.8%
June 30, 2019	6.4%	7.0%	6.2%	5.9%
June 30, 2020	6.3%	7.0%	4.3%	5.7%
June 30, 2021	11.3%	7.3%	29.5%	7.3%
June 30, 2022	8.3%	7.3%	(6.2%)	6.3%

Rates of return are shown based on combined assets for OD&D and Retiree Medical.

Cumulative returns are since fiscal year ending June 30, 2008.

Section 3: Member Data

Section 3.1: Summary of Members Included

As of June 30	2018	2019	2020	2021	2022
Active Members					
1. Number	4,915	4,998	5,332	5,521	5,688 ¹
2. Average Age	40.64	41.06	41.63	41.90	42.26
3. Average Credited Service	5.30	5.67	6.03	6.34	6.60
4. Average Entry Age	35.34	35.39	35.60	35.56	35.66
5. Average Annual Earnings	\$ 68,119	\$ 69,619	\$ 71,118	\$ 74,045	\$ 76,956
Disabilitants and Beneficiaries (Occupational Death & Disability)					
1. Number	0	1	1	1	1
2. Average Age	N/A	53.45	54.45	55.45	56.45
3. Average Monthly Death & Disability Benefit	N/A	\$ 2,024	\$ 2,024	\$ 2,024	\$ 2,170
Retirees, Surviving Spouses, and Dependent Spouses (Retiree Medical)					
1. Number	9	12	17	24	35
2. Average Age	68.59	68.54	68.79	67.71	69.66
Total Number of Members	4,924	5,011	5,350	5,546	5,724

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

¹ Includes 1,491 male active members and 4,197 female active members.

Section 3.2: Age and Service Distribution of Active Members

Annual Earnings by Age

Age	Number	Total Annual Earnings	Average Annual Earnings
0 - 19	0	\$ 0	\$ 0
20 - 24	104	5,695,426	54,764
25 - 29	562	35,093,794	62,444
30 - 34	895	63,279,431	70,703
35 - 39	1,120	87,641,129	78,251
40 - 44	964	76,341,532	79,192
45 - 49	693	56,341,880	81,301
50 - 54	550	45,132,752	82,060
55 - 59	416	34,907,787	83,913
60 - 64	262	22,967,760	87,663
65 - 69	94	7,932,649	84,390
70 - 74	21	1,783,921	84,949
75+	7	609,453	87,065

Total 5,688 \$437,727,514 \$ 76,956

Annual Earnings by Credited Service

Years of Service	Number	Total Annual Earnings	Average Annual Earnings
0	159	\$ 9,124,198	\$ 57,385
1	697	44,530,493	63,889
2	550	37,784,490	68,699
3	492	35,110,031	71,362
4	473	35,157,436	74,329
0 - 4	2,371	\$161,706,648	\$ 68,202
5 - 9	1,800	141,742,765	78,746
10 - 14	1,215	106,234,786	87,436
15 - 19	300	27,879,926	92,933
20 - 24	2	163,389	81,695
25 - 29	0	0	0
30 - 34	0	0	0
35 - 39	0	0	0
40+	0	0	0

Total 5,688 \$437,727,514 \$ 76,956

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	103	1	0	0	0	0	0	0	0	104
25 - 29	463	99	0	0	0	0	0	0	0	562
30 - 34	442	401	52	0	0	0	0	0	0	895
35 - 39	358	364	362	36	0	0	0	0	0	1,120
40 - 44	316	288	277	82	1	0	0	0	0	964
45 - 49	243	214	172	64	0	0	0	0	0	693
50 - 54	177	180	145	48	0	0	0	0	0	550
55 - 59	140	132	111	32	1	0	0	0	0	416
60 - 64	84	79	72	27	0	0	0	0	0	262
65 - 69	32	34	18	10	0	0	0	0	0	94
70 - 74	12	5	4	0	0	0	0	0	0	21
75+	1	3	2	1	0	0	0	0	0	7
Total	2,371	1,800	1,215	300	2	0	0	0	0	5,688

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

Section 3.3: Member Data Reconciliation

	Actives	Retirees and Surviving Spouses	Dependent Spouses	OD&D Disabilitants	OD&D Beneficiaries	Total
As of June 30, 2021 ¹	5,521	20	4	1	0	5,546
New Entrants	738	0	0	0	0	738
Rehires	268	0	0	0	0	268
Vested Terminations	(356)	0	0	0	0	(356)
Non-Vested Terminations	(414)	0	0	0	0	(414)
Refund of Contributions	(50)	0	0	0	0	(50)
Disability Retirements	0	0	0	0	0	0
Age Retirements	(6)	6	3	0	0	3
Deaths With Beneficiary	0	0	0	0	0	0
Deaths Without Beneficiary	(5)	0	0	0	0	(5)
Transfers In/Out	(8)	1	1	0	0	(6)
Data Corrections	0	0	0	0	0	0
Net Change	167	7	4	0	0	178
As of June 30, 2022 ²	5,688	27	8	1	0	5,724

¹ 128 participants are expected to receive retiree medical benefits in a different plan and are included for OD&D benefits only.

² 124 participants are expected to receive retiree medical benefits in a different plan and are included for OD&D benefits only.

Section 3.4: Schedule of Active Member Data

Valuation Date	Number	Annual Earnings (000's)	Annual Average Earnings	Percent Increase in Average Earnings	Number of Participating Employers
June 30, 2022	5,688	\$ 437,728	\$ 76,956	3.9%	57
June 30, 2021	5,521	408,805	74,045	4.1%	57
June 30, 2020	5,332	379,201	71,118	2.2%	57
June 30, 2019	4,998	347,957	69,619	2.2%	57
June 30, 2018	4,915	334,803	68,119	2.4%	57
June 30, 2017	4,694	312,347	66,542	2.0%	57
June 30, 2016	4,383	285,854	65,219	2.5%	58
June 30, 2015	4,095	260,584	63,635	2.7%	58
June 30, 2014	3,547	219,701	61,940	2.4%	58
June 30, 2013	3,272	197,944	60,496	3.5%	58

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

Section 3.5: Active Member Payroll Reconciliation

Payroll Field	Payroll Data (000's)
a) DRB actual reported salaries FY22 in employer list	\$ 485,788
b) DRB actual reported salaries FY22 in valuation data	430,240
c) Annualized valuation data	437,728
d) Valuation payroll as of June 30, 2022	460,736
e) Rate payroll for FY23	455,927

- 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

Section 4: Basis of the Actuarial Valuation

Section 4.1: Summary of Plan Provisions

Effective Date

July 1, 2006, with amendments through June 30, 2022.

Administration of Plan

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

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

Employers Included

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

Membership

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

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

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

Member Contributions

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

Retiree Medical Benefits

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

Plan Design Feature	In-Network ¹	Out-of-Network ^{1 2}
Deductible (single / family)	\$300 / \$600	
Medical services (participant share)	20%	40%
Emergency Room Copay (non-emergent use)	\$100	\$100
Medical Out-of-Pocket Maximum (single / family, including deductible)	\$1,500 / \$3,000	\$3,000 / \$6,000
Medicare Coordination	Exclusion	Exclusion
Pharmacy	No Deductible	No Deductible
Retail Generic (per 30-day fill)	20% \$10 min / \$50 max	40%
Retail Non-Formulary Brand (per 30-day fill)	25% \$25 min / \$75 max	
Retail Formulary Brand (per 30-day fill)	35% \$80 min / \$150 max	
Mail-Order Generic	\$20 copay	40%
Mail-Order Non-Formulary Brand	\$50 copay	
Mail-Order Formulary Brand	\$100 copay	
Pharmacy Out-of-Pocket Max (single / family)	\$1,000 / \$2,000	
Medicare Pharmacy Arrangement	Retiree Drug Subsidy / Employer Group Waiver Plan effective 1/1/2019	
Wellness / Preventative	100% covered, not subject to deductible	20%, after deductible

¹ Section 1.1 of the AlaskaCare Defined Contribution Retiree Benefit Plan states that this health plan shall be updated from time to time to reflect changes in benefits, including annual adjustments to the premium, deductible, coinsurance, medical out-of-pocket limit, and prescription drug out-of-pocket limit.

² OON applies only to non-Medicare eligible participants.

- Buck used manual rate models to determine relative plan values for the defined benefit (DB) retiree medical plan and the DCR retiree medical plan outlined above. We applied the ratio of the DCR retiree medical plan value to the DB retiree medical plan value to the per capita costs determined for each of pre/post-Medicare medical and pharmacy benefits to estimate corresponding values for the DCR retiree medical plan design. These factors are noted in Section 4.3. We further adjusted the Medicare medical manual rate to reflect the Medicare coordination method adopted. The estimated 2023 reimbursements under EGWP were provided by Segal Consulting (who worked with the EGWP administrator, Optum, to develop those estimates). We reflect estimated discounts and pharmacy rebates in the defined benefit medical cost so no further adjustment was needed for the DCR retiree medical plan. The medical network differential is reflected in the relative plan value adjustments.
- Starting in 2022, prior authorization is required for certain specialty medications. There is no change to the medications that are covered by the plan.
- The retiree medical plan's coverage is supplemental to Medicare. Medicare coordination is described in the DCR Plan Handbook, referred to in the industry as exclusion coordination: Medicare payment is deducted from the Medicare allowable expense and plan parameters are applied to the remaining amount. Starting in 2019, the prescription drug coverage is through a Medicare Part D EGWP arrangement.
- The premium for Medicare-eligible retirees will be based on the member's years of service. The percentage of premium paid by the member is as follows:

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

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

Occupational Disability Benefits

- Benefit is 40% of salary at date of disability.
- Disability Benefit Adjustment: The disability benefit is increased by 75% of the cost-of-living increase in the preceding calendar year or 9%, whichever is less.
- Member earns service while on occupational disability.
- Benefits cease when the member becomes eligible for normal retirement at Medicare-eligible age and 10 years of service, or at any age with 30 years of service.
- No subsidized retiree medical benefits are provided until normal retirement eligibility. The member's premium is 100% of the estimated cost until they are Medicare eligible. Medicare-eligible premiums follow the service-based schedule above.

Occupational Death Benefits

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

Changes in Benefit Provisions Valued Since the Prior Valuation

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

Section 4.2: Description of Actuarial Methods and Valuation Procedures

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

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

Actuarial Cost Method

Liabilities and contributions shown in the report are computed using the Entry Age Normal Actuarial Cost Method, level percent of pay. Each year's difference between actual and expected unfunded actuarial accrued liability is amortized over 25 years as a level percentage of expected payroll.

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

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

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

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

Valuation of Assets

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

Changes in Methods Since the Prior Valuation

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

Valuation of Retiree Medical and Prescription Drug Benefits

The methodology used for the valuation of the retiree medical benefits is described in Section 5.2 of the State of Alaska Teachers' Retirement System Defined Benefit Plan Actuarial Valuation Report as of June 30, 2022.

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. Those base claims costs were used for the DCR valuation with further adjustments as noted below. Additionally, starting in 2022, certain common preventive benefits are covered for the DB plan. The resulting adjustment factor for pre-Medicare medical costs was applied to claims experience incurred before January 1, 2022. However, preventive benefits were already covered under the DCR plan so the pre-65 DCR medical adjustment factor referenced below was increased from 3.1% to 4.4%.

Due to the lack of experience for the DCR retiree medical plan, base claims costs are based on those described in the actuarial valuation as of June 30, 2022 for the Defined Benefit (DB) retiree medical plan covering TRS and PERS. The DB rates were used with some adjustments. The claims costs were adjusted to reflect the differences between the DCR medical plan and the DB medical plan. These differences include network steerage, different coverage levels, different Medicare coordination for medical benefits, and an indexing of the retiree out-of-pocket dollar amounts. To account for higher initial copays, deductibles, and out-of-pocket limits, projected FY23 claims costs were reduced 4.4% for pre-Medicare medical claims, 3.1% for Medicare medical claims, and 8.9% for prescription drugs. In addition, to account for the difference in Medicare coordination, projected FY23 medical claims costs for Medicare eligible retirees were further reduced 29.5%.

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.

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

The State transitioned to an Employer Group Waiver Program (EGWP) for DCR participants effective January 1, 2019. The estimated 2023 reimbursements under EGWP were provided by Segal Consulting (who worked with the EGWP administrator, Optum, to develop those estimates).

Healthcare Reform

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

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

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

The 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.

Section 4.3: Summary of Actuarial Assumptions

The demographic and economic assumptions used in the June 30, 2022 valuation are described below. Unless noted otherwise, these assumptions were adopted by the Board at the June 2022 meeting based on the experience study for the period July 1, 2017 to June 30, 2021.

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.

- Occ D&D: 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:

- Occ D&D: 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.

- Occ D&D: 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). For retiree medical benefits, the disability rates cease once a member is eligible for retirement. However, the disability rates continue after retirement eligibility for occupational death & disability benefits.

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

Post-disability mortality in accordance with the following tables:

- Occ D&D: 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).

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 Occupational Death & Disability

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.

Part-Time Service

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

Imputed Data

Data changes from the prior year which are deemed to have immaterial impact on liabilities and contribution rates are assumed to be correct in the current year's client data.

Non-vested terminations with appropriate refund dates are assumed to have received a full refund of contributions. Active members with missing salary and service are assumed to be terminated with status based on their vesting percentage.

Administrative Expenses

The Normal Cost as of June 30, 2022 was increased by \$9,000 for occupational death & disability and \$35,000 for retiree medical. These amounts are based on the average of actual administrative expenses during the last two fiscal years.

Retiree Medical Participation

Death / Disability Decrement		Retirement Decrement	
Age	Percent Participation	Age	Percent Participation*
< 56	75.0%	55	50.0%
56	77.5%	56	55.0%
57	80.0%	57	60.0%
58	82.5%	58	65.0%
59	85.0%	59	70.0%
60	87.5%	60	75.0%
61	90.0%	61	80.0%
62	92.5%	62	85.0%
63	95.0%	63	90.0%
64	97.5%	64	95.0%
65+	100.0%	65+	Years of Service
			< 15 75.0%
			15 – 19 80.0%
			20 – 24 85.0%
			25 – 29 90.0%
			30+ 95.0%

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

Healthcare Per Capita Claims Cost

Sample claims cost rates (before base claims cost adjustments described below) 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.

	Medical	Prescription Drugs
Pre-Medicare	\$ 15,706	\$ 3,712
Medicare Parts A & B	\$ 1,625	\$ 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 at the next measurement date.

Base Claims Cost Adjustments

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

- 0.956 for the pre-Medicare plan.
- 0.674 for both the Medicare medical plan and Medicare coordination method (3.1% reduction for the medical plan and 29.5% reduction for the coordination method).
- 0.911 for the prescription drug plan.

Healthcare Morbidity

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

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

Healthcare Third Party Administrator Fees

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

Healthcare Cost Trend

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

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

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

Changes in Assumptions Since the Prior Valuation

Effective for the June 30, 2022 valuation, the Board adopted the changes to the demographic and economic assumptions recommended by the actuary, based on the results of an experience study performed on the plan experience from July 1, 2017 to June 30, 2021. The changes in assumptions were adopted at the June 2022 Board meeting.

The healthcare per capita claims cost assumption is updated annually as described in Section 4.2. The amounts included in the Normal Cost for administrative expenses were changed from \$5,000 to \$9,000 for occupational death & disability, and from \$22,000 to \$35,000 for retiree medical (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	7.25%
1	6.75%
2	6.25%
3	5.75%
4	5.25%
5	5.00%
6	4.75%
7	4.50%
8	4.25%
9	4.00%
10	3.75%
11	3.50%
12	3.25%
13	3.05%
14	3.00%
15	2.95%
16	2.90%
17+	2.85%

Table 2: Turnover Rates

Select Rates during the First 6 Years of Employment

Years of Service	Male	Female
< 1	28.00%	31.00%
1	28.00%	21.00%
2	19.00%	18.00%
3	17.00%	13.00%
4	13.00%	13.00%
5	13.00%	10.00%

Ultimate Rates after the First 6 Years of Employment

Age	Male	Female
< 30	10.50%	8.70%
30 - 34	10.50%	8.70%
35 - 39	10.40%	8.60%
40 - 44	10.30%	8.60%
45 - 49	10.00%	8.40%
50 - 54	9.50%	8.10%
55 - 59	8.80%	7.90%
60 - 64	9.30%	8.70%
65+	10.90%	7.40%

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	Rate
< 55	2.00%
55	3.00%
56	3.00%
57	3.00%
58	3.00%
59	3.00%
60	5.00%
61	5.00%
62	10.00%
63	5.00%
64	5.00%
65	25.00%
66	25.00%
67	25.00%
68	20.00%
69	20.00%
70+	100.00%

Section 5: Historical Information¹

Section 5.1: Funding Progress

Funding Progress - Occupational Death & Disability (\$'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	\$ 199	\$ 6,700	3,366.8%	\$ (6,501)	\$ 455,927	(1.4%)
June 30, 2021	205	5,843	2,850.2%	(5,638)	423,783	(1.3%)
June 30, 2020	223	4,933	2,212.1%	(4,710)	391,854	(1.2%)
June 30, 2019	240	4,359	1,816.3%	(4,119)	359,622	(1.1%)
June 30, 2018	30	3,845	12,816.7%	(3,815)	346,044	(1.1%)
June 30, 2017	26	3,588	13,800.0%	(3,562)	327,765	(1.1%)
June 30, 2016	19	3,323	17,489.5%	(3,304)	300,750	(1.1%)
June 30, 2015	29	3,114	10,737.9%	(3,085)	274,892	(1.1%)
June 30, 2014	23	2,820	12,260.9%	(2,797)	232,051	(1.2%)
June 30, 2013	80	2,532	3,165.0%	(2,452)	210,004	(1.2%)
June 30, 2012	63	2,348	3,727.0%	(2,285)	189,680	(1.2%)
June 30, 2011	57	2,193	3,847.4%	(2,136)	160,509	(1.3%)
June 30, 2010	18	1,577	8,761.1%	(1,559)	126,520	(1.2%)
June 30, 2009	14	1,071	7,650.0%	(1,057)	95,141	(1.1%)
June 30, 2008	44	420	954.5%	(376)	59,750	(0.6%)
June 30, 2007	16	0	0.0%	16	30,113	0.1%

Change in assumptions reflected in 2022, 2018, 2014, 2010, and 2009 valuations.

¹ 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 43 were still effective.

Funding Progress - Retiree Medical (\$'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	\$ 47,797	\$ 68,403	143.1%	\$ (20,606)	\$ 455,927	(4.5%)
June 30, 2021	44,396	59,380	133.8%	(14,984)	423,783	(3.5%)
June 30, 2020	40,634	49,554	122.0%	(8,920)	391,854	(2.3%)
June 30, 2019	32,981	42,307	128.3%	(9,326)	359,622	(2.6%)
June 30, 2018	32,429	36,776	113.4%	(4,347)	346,044	(1.3%)
June 30, 2017	33,681	30,998	92.0%	2,683	327,765	0.8%
June 30, 2016	21,988	25,410	115.6%	(3,422)	300,750	(1.1%)
June 30, 2015	19,768	17,733	89.7%	2,035	274,892	0.7%
June 30, 2014	16,273	10,791	66.3%	5,482	232,051	2.4%
June 30, 2013	22,058	8,614	39.1%	13,444	210,004	6.4%
June 30, 2012	16,811	6,937	41.3%	9,874	189,680	5.2%
June 30, 2011	3,801	5,373	141.4%	(1,572)	160,509	(1.0%)
June 30, 2010	2,430	3,895	160.3%	(1,465)	126,520	(1.2%)
June 30, 2009	1,446	2,353	162.7%	(907)	95,141	(1.0%)
June 30, 2008	757	1,308	172.8%	(551)	59,750	(0.9%)
June 30, 2007	358	597	166.8%	(239)	30,113	(0.8%)

Change in assumptions reflected in 2022, 2020, 2018, 2017, 2014, 2012, 2011, 2010, 2009, and 2008 valuations.

Change in methods reflected in 2018 valuation.

Change in plan provisions reflected in 2021 and 2016 valuations.

Section 5.2: Solvency Test

Solvency Test - Occupational Death & Disability (\$'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	\$ 0	\$ 174	\$ 25	\$ 6,700	100.0%	100.0%	100.0%
June 30, 2021	0	177	28	5,843	100.0%	100.0%	100.0%
June 30, 2020	0	196	27	4,933	100.0%	100.0%	100.0%
June 30, 2019	0	209	31	4,359	100.0%	100.0%	100.0%
June 30, 2018	0	0	30	3,845	100.0%	100.0%	100.0%
June 30, 2017	0	0	26	3,588	100.0%	100.0%	100.0%
June 30, 2016	0	0	19	3,323	100.0%	100.0%	100.0%
June 30, 2015	0	0	29	3,114	100.0%	100.0%	100.0%
June 30, 2014	0	0	23	2,820	100.0%	100.0%	100.0%
June 30, 2013	0	0	80	2,532	100.0%	100.0%	100.0%
June 30, 2012	0	0	63	2,348	100.0%	100.0%	100.0%
June 30, 2011	0	0	57	2,193	100.0%	100.0%	100.0%
June 30, 2010	0	0	18	1,577	100.0%	100.0%	100.0%
June 30, 2009	0	0	14	1,071	100.0%	100.0%	100.0%
June 30, 2008	0	0	44	420	100.0%	100.0%	100.0%
June 30, 2007	0	0	16	0	100.0%	100.0%	0.0%

Change in assumptions reflected in 2022, 2018, 2014, 2010, and 2009 valuations.

Solvency Test - Retiree Medical (\$'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	\$ 0	\$ 1,913	\$ 45,884	\$ 68,403	100.0%	100.0%	100.0%
June 30, 2021	0	1,265	43,131	59,380	100.0%	100.0%	100.0%
June 30, 2020	0	925	39,709	49,554	100.0%	100.0%	100.0%
June 30, 2019	0	647	32,334	42,307	100.0%	100.0%	100.0%
June 30, 2018	0	534	31,895	36,776	100.0%	100.0%	100.0%
June 30, 2017	0	199	33,482	30,998	100.0%	100.0%	92.0%
June 30, 2016	0	0	21,988	25,410	100.0%	100.0%	100.0%
June 30, 2015	0	0	19,768	17,733	100.0%	100.0%	89.7%
June 30, 2014	0	0	16,273	10,791	100.0%	100.0%	66.3%
June 30, 2013	0	0	22,058	8,614	100.0%	100.0%	39.1%
June 30, 2012	0	0	16,811	6,937	100.0%	100.0%	41.3%
June 30, 2011	0	0	3,801	5,373	100.0%	100.0%	100.0%
June 30, 2010	0	0	2,430	3,895	100.0%	100.0%	100.0%
June 30, 2009	0	0	1,446	2,353	100.0%	100.0%	100.0%
June 30, 2008	0	0	757	1,308	100.0%	100.0%	100.0%
June 30, 2007	0	0	358	597	100.0%	100.0%	100.0%

Change in assumptions reflected in 2022, 2020, 2018, 2017, 2014, 2012, 2011, 2010, 2009, and 2008 valuations.

Change in methods reflected in 2018 valuation.

Change in plan provisions reflected in 2021 and 2016 valuations.

Section 5.3: Member Data

As of June 30	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Active Members										
1. Number	3,272	3,547	4,095	4,383	4,694	4,915	4,998	5,332	5,521	5,688
2. Average Age	38.10	38.52	39.15	39.57	40.21	40.64	41.06	41.63	41.90	42.26
3. Average Credited Service	3.52	3.90	4.19	4.50	4.88	5.30	5.67	6.03	6.34	6.60
4. Average Entry Age	34.58	34.62	34.96	35.07	35.33	35.34	35.39	35.60	35.56	35.66
5. Average Annual Earnings	\$ 60,496	\$ 61,940	\$ 63,635	\$ 65,219	\$ 66,542	\$ 68,119	\$ 69,619	\$ 71,118	\$ 74,045	\$ 76,956
Disabilitants and Beneficiaries (Occupational Death & Disability)										
1. Number	0	0	0	0	0	0	1	1	1	1
2. Average Age	N/A	N/A	N/A	N/A	N/A	N/A	53.45	54.45	55.45	56.45
3. Average Monthly Death & Disability Benefit	N/A	N/A	N/A	N/A	N/A	N/A	\$ 2,024	\$ 2,024	\$ 2,024	\$ 2,170
Retirees, Surviving Spouses, and Dependent Spouses (Retiree Medical)										
1. Number	0	0	0	0	4	9	12	17	24	35
2. Average Age	N/A	N/A	N/A	N/A	69.72	68.59	68.54	68.79	67.71	69.66
Total Number of Members	3,272	3,547	4,095	4,383	4,698	4,924	5,011	5,350	5,546	5,724

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 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.



State of Alaska Retirement Systems

Presentation to ARMB Actuarial Committee

- June 30, 2022 Valuations Results (NGNMRS)

June 14, 2023

Valuation Data

- Data provided to us was as of June 30, 2022 except for the Air Guard group.
- Data for the Air Guard group was available as of June 30, 2021 only.
 - We assumed all members as of June 30, 2021 were members as of June 30, 2022 with no status changes.
 - We increased the June 30, 2021 service of active members by one year.
 - This procedure for the Air Guard group will not materially affect the overall valuation results.

Highlights of Valuation Results

- **Assets** underperformed relative to expectations in FY22.
 - Market loss = \$7.2M (return = -7.7%)
 - Actuarial loss = \$0.1M (return = 6.7%)
- **Liabilities** are \$1.0M higher than expected primarily due to new entrants and the Air Guard data assumptions.
- **New assumptions** increased the liabilities by \$3.9M.
- **Actuarially Determined Contribution** is zero because the plan is overfunded.

Valuation Results

	6/30/20	6/30/22	FY22 Gain/(Loss)*	Increase/(Decrease) in 6/30/22 Liabilities for New Assumptions
Actuarial Accrued Liability	22,417,247	28,366,668	(1,035,728)	3,890,292
Actuarial Value of Assets	43,020,393	46,215,854	(148,626)	
Market Value of Assets	42,095,708	44,088,041	(7,160,610)	
Funded Ratio - Actuarial	191.9%	162.9%		
Funded Ratio - Market	187.8%	155.4%		
Actuarially Determined Contribution				
- Normal Cost	503,140	690,172		
- Administrative Expense Load	256,000	331,000		
- Past Service Cost	<u>(3,224,638)</u>	<u>(2,691,240)</u>		
- Total	0	0		

*The liability gain/(loss) is for FY21 and FY22.

Actuarial Certification

The purpose of this presentation is to provide the ARMB Actuarial Committee with NGNMRS June 30, 2022 valuation results for discussion at the June 14, 2023 meeting. This presentation should be considered part of the June 30, 2022 actuarial valuation report services.

The data, assumptions, methods, and plan provisions used to determine the results shown in this presentation are as shown in the June 30, 2022 actuarial valuation report. This report includes details related to potential risks associated with the plans, and information regarding our use of models.

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

Future actuarial measurements may differ significantly from current measurements due to plan experience differing from that anticipated by the economic and demographic assumptions, increases or decreases expected as part of the natural operation of the methodology used for these measurements, and changes in plan provisions or applicable law.

The results were prepared under the direction of David Kershner, who meets the Qualification Standards of the American Academy of Actuaries to render the actuarial opinions contained herein. These results have been prepared in accordance with all applicable Actuarial Standards of Practice.

David Kershner
FSA, EA, MAAA, FCA
Principal, Retirement





State of Alaska

National Guard and Naval Militia Retirement System

Actuarial Valuation Report
As of June 30, 2022

May 2023



May 31, 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 actuarial valuation results of the State of Alaska National Guard and Naval Militia Retirement System (NGNMRS) 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, and member data provided by the Division of Retirement and Benefits 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 NGNMRS 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 NGNMRS as of June 30, 2022.

The contribution requirements reflect the cost of benefits accruing in the upcoming year, administrative expenses expected to be paid from the trust, and a level dollar amortization of the initial unfunded actuarial accrued liability and subsequent gains/losses over a period of 20 years less average military service of active members. The contribution levels are recommended by the actuary and adopted by the Board each year. 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 zero and the funded status is expected to remain at or above 100%.

The Board and staff of the State of Alaska may use this report for the review of the operations of NGNMRS. 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. 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. A summary of the actuarial assumptions and methods used in this actuarial valuation is shown in Sections 4.2 and 4.3. We certify that the assumptions and methods described in Sections 4.2 and 4.3 of this report meet the requirements of all applicable Actuarial Standards of Practice.

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

ACFR Information

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

Governmental Accounting Standards Board (GASB) Statement No. 67 (GASB 67) was effective for NGNMRS beginning with fiscal year ending June 30, 2014. Please see our separate GASB 67 report 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. See Section 5 of this report for further details regarding ASOP 51.

Use of Models

Actuarial Standard of Practice No. 56 (ASOP 56) provides guidance to actuaries when performing actuarial services with respect to designing, developing, selecting, modifying, using, reviewing, or evaluating models. 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.

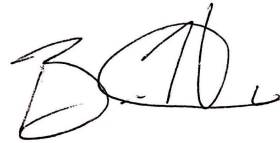
This report was prepared under the overall direction of David Kershner, who meets the Qualification Standards of the American Academy of Actuaries to render the actuarial opinions contained herein. He is a Fellow of the Society of Actuaries, an Enrolled Actuary, a Member of the American Academy of Actuaries,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

A handwritten signature in black ink, appearing to read "D. J. Kershner", with a stylized, cursive script.

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

A handwritten signature in black ink, appearing to read "Brett Hunter", with a stylized, cursive script.

Brett Hunter, ASA, EA, MAAA
Senior Consultant
Buck

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Executive Summary

Overview

The State of Alaska National Guard and Naval Militia Retirement System (NGNMRS) provides pension benefits to the National Guard, naval militia and other eligible members. The Commissioner of the Department of Administration is responsible for administering the plan. The Alaska Retirement Management Board has fiduciary responsibility over the assets of the plan. This report presents the results of the actuarial valuation of NGNMRS as of the valuation date of June 30, 2022.

Purpose

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

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

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

Funded Status

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

Funded Status as of June 30	2020	2022
a. Actuarial Accrued Liability	\$ 22,417,247	\$ 28,366,668
b. Valuation Assets	<u>43,020,393</u>	<u>46,215,854</u>
c. Unfunded Actuarial Accrued Liability, (a) – (b)	\$ (20,603,146)	\$ (17,849,186)
d. Funded Ratio based on Valuation Assets, (b) ÷ (a)	191.9%	162.9%
e. Fair Value of Assets	\$ 42,095,708	\$ 44,088,041
f. Funding Ratio based on Fair Value of Assets, (e) ÷ (a)	187.8%	155.4%

Actuarially Determined Contribution Amounts	FY23	FY25
a. Normal Cost	\$ 503,140	\$ 690,172
b. Past Service Cost	(3,224,638)	(2,691,240)
c. Expense Load	<u>256,000</u>	<u>331,000</u>
d. Total Annual Contribution, (a) + (b) + (c), not less than 0	\$ 0	\$ 0

The Actuarially Determined Contribution amount for FY24 based on a roll-forward valuation as of June 30, 2021 was \$0.

The key reasons for the change in funded status are described below:

1. Investment Experience

The approximate investment returns based on fair value of assets were 23.0% for FY21 and (7.7)% for FY22, compared to the expected investment return of 7.00% (net of investment expenses). This resulted in market asset gains of approximately \$6.6 million for FY21 and market asset losses of approximately \$7.2 million for FY22. Due to the recognition of investment gains and losses over a 5-year period, the investment returns based on actuarial value of assets were 9.5% for FY21 and 6.7% for FY22.

2. Demographic Experience¹

Section 3 provides statistics on active and inactive participants. The number of active participants decreased from 3,934 at June 30, 2020 to 3,909 at June 30, 2022. The average age of active participants increased from 34.20 to 35.15, and average credited service increased from 6.87 years to 7.99 years.

The number of retirees and QDROs decreased from 708 to 691, and their average age increased from 58.83 to 59.58.

The number of vested terminated participants increased from 649 to 702, and their average age increased from 57.00 to 57.82.

The overall effect of the demographic experience was a liability loss of approximately \$1.0 million (approximately 3.8% of the expected liability). This loss is mainly attributed to new entrants and rehires that have service accrued prior to June 30, 2022.

3. Changes in Methods Since the Prior Valuation

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

4. 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 \$3.9 million.

The amount included in the Normal Cost for administrative expenses was changed from \$256,000 at June 30, 2020 to \$331,000 at June 30, 2022.

5. Changes in Benefit Provisions Since the Prior Valuation

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

¹ The data for the Air Guard group was available as of June 30, 2021 only. We assumed the status of each Air Guard member as of June 30, 2021 was the same as of June 30, 2022, and we increased each Air Guard active member's service as of June 30, 2021 by 1 year. Approximating the June 30, 2022 Air Guard data in this way did not materially impact the overall valuation results.

Section 1: Actuarial Funding Results

Section 1.1: Actuarial Liabilities and Normal Cost

As of June 30, 2022	Present Value of Projected Benefits	Actuarial Accrued Liability
Active Members		
Retirement Benefits	\$ 17,874,565	\$ 14,074,254
Termination Benefits	0	0
Death Benefits	285,330	195,690
Disability Benefits	<u>157,632</u>	<u>125,839</u>
Subtotal	\$ 18,317,527	\$ 14,395,783
Inactive Members		
Vested Terminated	\$ 7,806,050	\$ 7,806,050
Retirees (including QDROs)	<u>6,164,835</u>	<u>6,164,835</u>
Subtotal	\$ 13,970,885	\$ 13,970,885
Total	\$ 32,288,412	\$ 28,366,668

As of June 30, 2022	Normal Cost
Active Members	
Retirement Benefits	\$ 669,283
Termination Benefits	0
Death Benefits	15,199
Disability Benefits	<u>5,690</u>
Subtotal	\$ 690,172
Expense Load	
Administrative Expense	\$ 331,000
Total	\$ 1,021,172

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

1. Actuarial Accrued Liability	\$	28,366,668
2. Valuation Assets		<u>46,215,854</u>
3. Total Unfunded Actuarial Accrued Liability, (1) – (2)	\$	(17,849,186)
4. Past Service Cost Amortization Payment ¹		(2,691,240)
5. Normal Cost, including Expense Load		<u>1,021,172</u>
6. Total Contribution, (4) + (5), not less than 0	\$	0

¹ Calculated on a level dollar basis over an 8-year period as of June 30, 2022.

Section 1.3: Actuarial Gain/(Loss) for FY22

1. Expected Actuarial Accrued Liability	
a. Actuarial Accrued Liability, June 30, 2021	\$ 22,975,269
b. Normal Cost for FY22	503,140
c. Interest on (a) and (b) at 7.00%	1,643,488
d. Benefit Payments for FY22	(1,620,749)
e. Interest on (d) at 7.00%, adjusted for timing	(60,500)
f. Change in Actuarial Assumptions	<u>3,890,292</u>
g. Expected Actuarial Accrued Liability as of June 30, 2022, (a) + (b) + (c) + (d) + (e) + (f)	\$ 27,330,940
2. Actual Actuarial Accrued Liability, June 30, 2022	<u>28,366,668</u>
3. Liability Gain/(Loss), (1)(g) – (2)	\$ (1,035,728)¹
4. Expected Actuarial Asset Value	
a. Actuarial Asset Value, June 30, 2021	\$ 45,248,391
b. Interest on (a) at 7.00%	3,167,387
c. Employer Contributions for FY22	0
d. Interest on (c) at 7.00%, adjusted for timing	0
e. Benefit Payments for FY22	(1,620,749)
f. Interest on (e) at 7.00%, adjusted for timing	(60,500)
g. Administrative Expenses for FY22	(357,740)
h. Interest on (g) at 7.00%, adjusted for timing	<u>(12,309)</u>
i. Expected Actuarial Asset Value as of June 30, 2022, (a) + (b) + (c) + (d) + (e) + (f) + (g) + (h)	\$ 46,364,480
5. Actuarial Asset Value, June 30, 2022	<u>46,215,854</u>
6. Actuarial Asset Gain/(Loss), (5) – (4)(i)	\$ (148,626)
7. Actuarial Gain/(Loss), (3) + (6)	\$ (1,184,354)

¹ Includes a liability reduction of \$26,547 due to a programming adjustment for calculation of the retiree death benefit of remaining payments. The FY22 liability experience loss excluding the \$26,547 programming effect is \$1,062,275.

Section 1.4: Development of Change in Unfunded Liability during FY22

1. June 30, 2021 Unfunded Liability	\$ (22,273,122)
a. Normal Cost	503,140
b. Interest on (1) and (1)(a)	(1,523,899)
c. Employer Contributions	0
d. Interest on (c)	0
e. Administrative Expenses	357,740
f. Interest on (e)	12,309
g. Change in Actuarial Assumptions	<u>3,890,292</u>
h. Expected Change in Unfunded Liability during FY22	\$ 3,239,582
2. Expected June 30, 2022 Unfunded Liability, (1) + (1)(h)	\$ (19,033,540)
a. Liability (gain)/ loss	1,035,728
b. Asset (gain)/ loss	<u>148,626</u>
c. Total Actuarial (gain)/ loss during FY22, (2)(a) + (2)(b)	\$ 1,184,354
3. Actual June 30, 2022 Unfunded Liability, (2) + (2)(c)	\$ (17,849,186)

Section 1.5: History of Unfunded Liability and Funded Ratio

Valuation Date	Actuarial Accrued Liability	Valuation Assets	Assets as a Percent of Actuarial Accrued Liability	Unfunded Actuarial Accrued Liability (UAAL)
June 30, 2000	\$ 17,967,471	\$ 13,734,397	76.4%	\$ 4,233,074
June 30, 2002	\$ 20,545,214	\$ 12,114,025	59.0%	\$ 8,431,189
June 30, 2004	\$ 19,749,305	\$ 13,391,055	67.8%	\$ 6,358,250
June 30, 2006	\$ 25,457,589	\$ 15,587,569	61.2%	\$ 9,870,020
June 30, 2007	\$ 26,289,978	\$ 16,882,529	64.2%	\$ 9,407,449
June 30, 2008	\$ 28,904,645	\$ 28,370,756	98.2%	\$ 533,889
June 30, 2009	\$ 30,208,411	\$ 30,123,348	99.7%	\$ 85,063
June 30, 2010	\$ 30,034,407	\$ 32,000,585	106.5%	\$ (1,966,178)
June 30, 2011	\$ 31,324,457	\$ 33,019,577	105.4%	\$ (1,695,120)
June 30, 2012	\$ 32,771,017	\$ 33,682,091	102.8%	\$ (911,074)
June 30, 2013	\$ 33,907,968	\$ 34,178,622	100.8%	\$ (270,654)
June 30, 2014	\$ 36,715,287	\$ 36,271,836	98.8%	\$ 443,451
June 30, 2015	\$ 38,313,473	\$ 37,855,133	98.8%	\$ 458,340
June 30, 2016	\$ 31,184,361	\$ 38,439,835	123.3%	\$ (7,255,474)
June 30, 2017	\$ 32,483,912	\$ 39,638,736	122.0%	\$ (7,154,824)
June 30, 2018 ¹	\$ 21,934,014	\$ 41,031,353	187.1%	\$ (19,097,339)
June 30, 2019	\$ 22,592,882	\$ 41,939,204	185.6%	\$ (19,346,322)
June 30, 2020	\$ 22,417,247	\$ 43,020,393	191.9%	\$ (20,603,146)
June 30, 2021	\$ 22,975,269	\$ 45,248,391	196.9%	\$ (22,273,122)
June 30, 2022	\$ 28,366,668	\$ 46,215,854	162.9%	\$ (17,849,186)

¹ Approximately \$10.7 million of the decrease in Actuarial Accrued Liability reflected in the June 30, 2018 valuation was due to the elimination of 798 active and vested terminated participants who had cashed out prior to June 30, 2016.

Section 2: Plan Assets

Section 2.1 Summary of Fair Value of Assets

Fair Value of Assets as of June 30	2021	2022
Assets		
1. Cash and Cash Equivalents	\$ 1,385,305	\$ 578,572
2. Receivables	319	79
3. Domestic Equity Pool	9,838,388	7,925,366
4. International Equity Pool	5,193,795	4,194,787
5. Tactical Fixed Income Pool	0	0
6. Domestic Fixed Income Pool	21,285,474	20,592,295
7. Emerging Market Equity Pool	1,103,370	938,701
8. Taxable Municipal Bonds	0	0
9. Tactical Allocation Strategies Pool	1,861,374	1,611,130
10. Alternative Equity	579,272	454,958
11. Alternative Beta	462,616	501,465
12. Other Opportunistic	30,366	6,200
13. Real Assets	3,325,265	3,253,406
14. Private Equity Pool	<u>4,979,637</u>	<u>4,155,582</u>
15. Total Assets	\$ 50,045,181	\$ 44,212,541
Liabilities		
16. Accrued expenses	\$ 29,429	\$ 25,116
17. Due to State of Alaska General Fund	88,798	18,518
18. Securities Lending Collateral Payable	<u>113,918</u>	<u>80,866</u>
19. Total Liabilities	\$ 232,145	\$ 124,500
Fair Value of Assets, (15) – (19)	\$ 49,813,036	\$ 44,088,041

Section 2.2: Changes in Fair Value of Assets

Fair Value of Assets as of June 30	2021	2022
1. Fair Value of Assets at beginning of year	42,095,708	49,813,036
2. Additions		
a. Employer Contributions	\$ 0	\$ 0
b. Investment Income	9,571,576	(3,635,461)
c. Other	<u>1,690</u>	<u>0</u>
d. Total Additions	\$ 9,573,266	\$ (3,635,461)
3. Disbursements		
a. Retirement Benefits	\$ 1,454,330	\$ 1,620,749
b. Administrative Expenses	304,439	357,740
c. Investment Expenses	<u>97,169</u>	<u>111,045</u>
d. Total Deductions	\$ 1,855,938	\$ 2,089,534
4. Fair Value of Assets at end of year, (1) + (2)(d) - (3)(d)	\$ 49,813,036	\$ 44,088,041
Approximate Fair Value Investment Return Rate Net of Investment Expenses	23.0%	(7.7)%

Section 2.3: Development of Actuarial Value of Assets

The actuarial value of assets was equal to the market value at June 30, 2006. Future investment gains and losses will be recognized 20% per year over 5 years. In no event may valuation assets be less than 80% or more than 120% of market value as of the valuation date.

1. Investment Gain/(Loss) for FY22		
a. Market Value, June 30, 2021	\$	49,813,036
b. Contributions for FY22		0
c. Benefit Payments for FY22		1,620,749
d. Administrative Expenses for FY22		357,740
e. Actual Investment Return (net of investment expenses)		(3,746,506)
f. Expected Return Rate (net of investment expenses)		7.00%
g. Expected Return - Weighted for Timing		3,414,104
h. Investment Gain/(Loss) for the Year, (e) – (g)		(7,160,610)
2. Actuarial Value, June 30, 2022		
a. Market Value, June 30, 2022	\$	44,088,041
b. Deferred Investment Gain/(Loss)		<u>(2,127,813)</u>
c. Preliminary Actuarial Value, June 30, 2022, (a) – (b)	\$	46,215,854
d. Upper Limit: 120% of Market Value, June 30, 2022	\$	52,905,649
e. Lower Limit: 80% of Market Value, June 30, 2022	\$	35,270,433
f. Actuarial Value, June 30, 2022, [(c) limited by (d) and (e)]	\$	46,215,854
g. Ratio of Actuarial Value of Assets to Market Value of Assets		104.8%
h. Approximate Actuarial Value Investment Return Rate During FY22 (net of investment expenses)		6.7%

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

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	\$ (681,054)	\$ (544,844)	\$ (136,210)	\$ 0
June 30, 2019	(407,413)	(244,449)	(81,483)	(81,481)
June 30, 2020	(685,847)	(274,338)	(137,169)	(274,340)
June 30, 2021	6,594,160	1,318,832	1,318,832	3,956,496
June 30, 2022	<u>(7,160,610)</u>	<u>0</u>	<u>(1,432,122)</u>	<u>(5,728,488)</u>
Total	\$ (2,340,764)	\$ 255,201	\$ (468,152)	\$ (2,127,813)

Section 2.4: Historical Asset Rates of Return

Year Ending	Actuarial Value		Fair Value	
	Annual	Cumulative*	Annual	Cumulative*
June 30, 2005	N/A	N/A	6.4%	6.4%
June 30, 2006	N/A	N/A	5.2%	5.8%
June 30, 2007	8.4%	8.4%	13.1%	8.2%
June 30, 2008	6.4%	7.4%	(2.3)%	5.5%
June 30, 2009	2.8%	5.8%	(9.8)%	2.2%
June 30, 2010	3.0%	5.1%	11.8%	3.8%
June 30, 2011	4.6%	5.0%	13.4%	5.1%
June 30, 2012	3.4%	4.7%	0.5%	4.5%
June 30, 2013	4.6%	4.7%	7.6%	4.8%
June 30, 2014	8.8%	5.2%	13.4%	5.7%
June 30, 2015	7.0%	5.4%	0.9%	5.2%
June 30, 2016	4.2 %	5.3%	(0.2)%	4.8%
June 30, 2017	4.8 %	5.3%	8.2%	5.0%
June 30, 2018	5.3 %	5.3%	4.6%	5.0%
June 30, 2019	4.1 %	5.2%	5.9%	5.1%
June 30, 2020	5.1 %	5.2%	5.3%	5.1%
June 30, 2021	9.5 %	5.4%	23.0 %	6.0%
June 30, 2022	6.7 %	5.5%	(7.7)%	5.2%

*Cumulative since FYE June 30, 2005.

Section 3: Member Data

Section 3.1: Summary of Members Included

Census Information as of June 30	2014	2016	2018	2020	2022 ¹
Active Air Guard Members					
1. Number	2,164	2,174	2,139	2,242	2,300
2. Number Vested	591	417	364	405	505
3. Average Age	36.52	35.16	34.98	35.20	36.33
4. Average Alaska Guard Service	8.95	7.55	7.24	7.26	8.94
5. Average Total Military Service	14.44	13.08	12.68	12.82	13.94
Active Army Guard Members					
1. Number	1,911	1,820	1,575	1,639	1,560
2. Number Vested	242	199	193	218	205
3. Average Age	31.72	32.00	32.45	32.85	33.47
4. Average Alaska Guard Service	5.37	5.72	6.00	6.41	6.68
5. Average Total Military Service	9.83	10.41	10.34	10.82	11.20
Active Naval Militia Members					
1. Number	64	60	63	53	49
2. Number Vested	7	6	8	6	7
3. Average Age	33.75	33.26	34.48	33.85	33.36
4. Average Alaska Guard Service	4.67	4.93	5.44	4.34	5.33
5. Average Total Military Service	10.48	10.72	11.86	10.28	11.02
Total Active Members					
1. Number	4,139	4,054	3,777	3,934	3,909
2. Number Vested	840	622	565	629	717
3. Average Age	34.26	33.71	33.92	34.20	35.15
4. Average Alaska Guard Service	7.23	6.69	6.69	6.87	7.99
5. Average Total Military Service	12.25	11.85	11.69	11.95	12.81
Vested Terminated Members					
1. Number	1,756	1,427	588	649	702
2. Average Age	56.58	58.37	56.10	57.00	57.82
3. Average Alaska Guard Service	15.58	14.41	13.84	13.84	13.90
4. Average Total Military Service	25.27	24.69	24.42	24.58	24.48
Retirees (including QDROs)					
1. Number	639	676	752	708	691
2. Average Age	58.29	58.28	59.18	58.83	59.58
3. Average Years Remaining	11.71	12.00	11.53	12.13	11.81

¹ The data for the Air Guard group was available as of June 30, 2021 only. We assumed the status of each Air Guard member as of June 30, 2021 was the same as of June 30, 2022, and we increased each Air Guard active member's service as of June 30, 2021 by 1 year.

Section 3.2(a): Age and Service Distributions of Active Members – All Actives

Total Alaska Guard Service										
Age Group	0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40+	Total
0-19	58	0	0	0	0	0	0	0	0	58
20-24	412	84	0	0	0	0	0	0	0	496
25-29	361	285	51	0	0	0	0	0	0	697
30-34	312	257	197	27	0	0	0	0	0	793
35-39	209	232	165	104	12	0	0	0	0	722
40-44	116	170	135	111	41	5	0	0	0	578
45-49	47	66	58	68	31	23	3	0	0	296
50-54	15	33	38	29	29	14	15	0	0	173
55-59	4	14	16	12	13	9	9	5	0	82
60-64	0	5	1	2	1	2	1	0	1	13
65-69	0	0	0	1	0	0	0	0	0	1
70-74	0	0	0	0	0	0	0	0	0	0
75+	0	0	0	0	0	0	0	0	0	0
Total	1,534	1,146	661	354	127	53	28	5	1	3,909

Section 3.2(b): Age and Service Distributions of Active Members – Air Actives

Total Alaska Guard Service										
Age Group	0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40+	Total
0-19	13	0	0	0	0	0	0	0	0	13
20-24	154	45	0	0	0	0	0	0	0	199
25-29	168	182	38	0	0	0	0	0	0	388
30-34	159	171	128	16	0	0	0	0	0	474
35-39	116	138	125	78	8	0	0	0	0	465
40-44	75	119	91	73	32	4	0	0	0	394
45-49	25	46	42	41	24	20	3	0	0	201
50-54	8	18	21	17	16	12	12	0	0	104
55-59	3	6	7	6	8	9	6	5	0	50
60-64	0	5	1	2	1	1	1	0	1	12
65-69	0	0	0	0	0	0	0	0	0	0
70-74	0	0	0	0	0	0	0	0	0	0
75+	0	0	0	0	0	0	0	0	0	0
Total	721	730	453	233	89	46	22	5	1	2,300

Section 3.2(c): Age and Service Distributions of Active Members – Army Actives

Total Alaska Guard Service										
Age Group	0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40+	Total
0-19	44	0	0	0	0	0	0	0	0	44
20-24	250	39	0	0	0	0	0	0	0	289
25-29	187	96	13	0	0	0	0	0	0	296
30-34	148	84	66	11	0	0	0	0	0	309
35-39	88	93	40	26	4	0	0	0	0	251
40-44	40	50	42	38	9	1	0	0	0	180
45-49	20	18	16	27	7	3	0	0	0	91
50-54	7	15	17	11	12	2	3	0	0	67
55-59	1	8	9	5	5	0	3	0	0	31
60-64	0	0	0	0	0	1	0	0	0	1
65-69	0	0	0	1	0	0	0	0	0	1
70-74	0	0	0	0	0	0	0	0	0	0
75+	0	0	0	0	0	0	0	0	0	0
Total	785	403	203	119	37	7	6	0	0	1,560

Section 3.2(d): Age and Service Distributions of Active Members – Navy Actives

Total Alaska Guard Service										
Age Group	0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40+	Total
0-19	1	0	0	0	0	0	0	0	0	1
20-24	8	0	0	0	0	0	0	0	0	8
25-29	6	7	0	0	0	0	0	0	0	13
30-34	5	2	3	0	0	0	0	0	0	10
35-39	5	1	0	0	0	0	0	0	0	6
40-44	1	1	2	0	0	0	0	0	0	4
45-49	2	2	0	0	0	0	0	0	0	4
50-54	0	0	0	1	1	0	0	0	0	2
55-59	0	0	0	1	0	0	0	0	0	1
60-64	0	0	0	0	0	0	0	0	0	0
65-69	0	0	0	0	0	0	0	0	0	0
70-74	0	0	0	0	0	0	0	0	0	0
75+	0	0	0	0	0	0	0	0	0	0
Total	28	13	5	2	1	0	0	0	0	49

Section 3.3: Member Data Reconciliation

	Active Members	Vested Members	Benefit Recipients	Total
Total at June 30, 2020	3,934	649	708	5,291
New Entrants	447	0	0	447
Rehires	63	0	0	63
Non-vested Terminations	(361)	0	0	(361)
Vested Terminations	(71)	71	0	0
Retirements	(33)	(23)	56	0
New Survivors	0	0	0	0
New QDROs	0	0	0	0
Deaths	0	0	(14)	(14)
Data Changes/Expiration of Benefits	(70) ¹	5 ²	(59) ³	(124)
Total at June 30, 2022	3,909	702	691	5,302

¹ Includes 70 participants who cashed out on or after June 30, 2020.

² Includes 15 participants who cashed out on or after June 30, 2020 and 20 participants who were rehired from terminated non-vested status and then terminated as vested between June 30, 2020 and June 30, 2022.

³ Includes 65 participants with an expiration of benefits, 3 additions (data corrections), and 3 participants who were rehired from terminated non-vested status and then retired between June 30, 2020 and June 30, 2022.

Section 4: Basis of the Actuarial Valuation

Section 4.1: Summary of Plan Provisions

Effective Date

January 1, 1973, with amendments through June 30, 2022.

Members Included

Members of the Alaska National Guard who were active on or after January 1, 1973, and members of the Alaska Naval Militia who were active on or after July 1, 1980.

Eligibility Service

Eligibility service is defined as the combined Alaska guard service, guard service in any other state, active military service and the reserves of them. A member must have 20 years of eligibility service to be vested in the National Guard and Naval Militia Retirement System.

Benefit Service

Benefit service is defined as satisfactory service in any branch of the Alaska guard. A member must have 5 years of benefit service to be vested in the National Guard and Naval Militia Retirement System. Benefit service is also used to determine the length of the member's pension retirement benefit.

Retirement

Eligibility

Members are eligible for voluntary retirement after completing 20 years of satisfactory service in the Alaska National Guard, Alaska Naval Militia or U.S. Armed Forces, and the reserve of them or any combination of that service if they have at least five years of Alaska National Guard or Naval Militia service. Credit is also allowed for Territorial Guard service rendered to the former territory of Alaska.

Members are eligible for involuntary retirement at any time assuming there has been no misconduct.

Benefit

Eligible members may elect to receive:

- a. monthly benefits of \$100 which are payable for a period equal to the number of months that they were active members;
- b. a lump sum benefit equal to the actuarial equivalent of a.; or
- c. monthly payments until age 72 equal to the actuarial equivalent of a.

Vesting

Members are 100% vested after 20 years of total service in the Alaska National Guard, Alaska Naval Militia, U.S. Armed Forces or Reserves, or any combination of that service if members have at least five years of Alaska National Guard or Naval Militia service.

Survivor's Benefits

- a. Active Members: If the member has at least five years of active service in the Alaska National Guard or Naval Militia, the designated beneficiary will receive a lump sum benefit equal to the retirement benefit.
- b. Retired or Terminated Vested Members: The designated beneficiary will receive a lump benefit equal to the remaining benefits payable.

Disability Benefits

Members are eligible to receive monthly disability benefits of \$100 (which are payable for a period equal to the number of months that they were active members) at any age if they become incapacitated and are vested in the plan.

Changes Since the Prior Valuation

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

Section 4.2: Description of Actuarial Methods and Valuation Procedures

Actuarial Method

Liabilities and contributions shown in the report are computed using the Entry Age Normal Actuarial Cost Method (level dollar basis). Any funding surplus or unfunded accrued liability is amortized over 20 years less the average total military service of active 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 system assets measured on the valuation date.

Under this method, differences between the actual experience and that assumed in the determination of costs and liabilities will emerge as adjustments in the unfunded actuarial accrued liability, subject to amortization.

Valuation of Assets

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

Changes in Methods Since the Prior Valuation

There have been no changes in methods since the prior valuation.

Section 4.3: Summary of Actuarial Assumptions

The demographic and economic assumptions used in the June 30, 2022 valuation are described below. Unless noted otherwise, these assumptions were adopted by the Board at the June 2022 meeting based on the experience study for the period July 1, 2017 to June 30, 2021.

Investment Return

5.75% per year, net of investment expenses.

Mortality (Pre-Commencement)

Pub-2010 Safety Employee table, amount-weighted, and projected with MP-2021 generational improvement.

Mortality (Post-Commencement)

Retiree mortality in accordance with the Pub-2010 Safety Retiree table, amount-weighted, and projected with MP-2021 generational improvement.

Beneficiary mortality in accordance with the Pub-2010 Contingent Survivor table, amount-weighted, and projected with MP-2021 generational improvement.

Turnover

Select and ultimate rates based on the 2017-2021 actual experience (see Table 1).

Disability

No changes to the incidence rates from the prior valuation due to insufficient 2017-2021 actual experience (see Table 2). Disability rates continue after a member is eligible for retirement.

Post-disability mortality in accordance with the Pub-2010 Safety Disabled Retiree table, amount-weighted, and projected with MP-2021 generational improvement.

Retirement

Retirement rates based on the 2017-2021 actual experience (see Table 3).

Vested terminated members are assumed to retire at the later of current age or age 50 when electing an annuity, and at current age when electing a lump sum.

Imputed Data

Data changes from the prior valuation which are deemed to have an immaterial impact on liabilities and contributions are assumed to be correct in the current year's client data.

Active and terminated members with a date of termination after the last date of hire are assumed to be terminated with status based on their amount of vesting service.

We assumed the status of each Air Guard member as of June 30, 2021 was the same as of June 30, 2022, and we increased each Air Guard active member's service as of June 30, 2021 by 1 year.

Form of Payment

50% of members are assumed to elect a lump sum benefit. 50% of members are assumed to elect a monthly annuity with the number of payments equal to the number of months they were active in the plan. A lump sum of the remaining payments is paid if the member should die while receiving payments. Lump sums are calculated based on a 5.75% discount rate annuity certain factor.

Administrative Expenses

The Normal Cost as of June 30, 2022 was increased by \$331,000 for administrative expenses. This amount is based on the average of actual administrative expenses during the last two fiscal years.

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 \$3.9 million.

The amount included in the Normal Cost for administrative expenses was changed from \$256,000 at June 30, 2020 to \$331,000 at June 30, 2022.

Table 1: Turnover Rates

Select Rates during the First 5 Years of Employment

Years of Service	Unisex
< 1	20.00%
1	10.00%
2	10.00%
3	10.00%
4	10.00%

Ultimate Rates after the First 5 Years of Employment

Age	Male	Female	Age	Male	Female
< 30	9.53%	9.94%	45	6.83%	7.13%
30	9.43%	9.84%	46	6.51%	6.79%
31	9.33%	9.74%	47	6.06%	6.32%
32	9.23%	9.63%	48	5.49%	5.73%
33	9.12%	9.51%	49	4.82%	5.03%
34	8.98%	9.37%	50	4.16%	4.33%
35	8.81%	9.20%	51	3.63%	3.79%
36	8.63%	9.00%	52	3.26%	3.40%
37	8.41%	8.77%	53	2.98%	3.12%
38	8.18%	8.53%	54	2.78%	2.91%
39	7.95%	8.29%	55	2.64%	2.75%
40	7.73%	8.06%	56	2.57%	2.67%
41	7.54%	7.87%	57	2.58%	2.69%
42	7.38%	7.70%	58	2.64%	2.76%
43	7.23%	7.55%	59	2.78%	2.90%
44	7.06%	7.37%	60	2.88%	3.00%

Table 2: Disability Rates

Age	Male	Female	Age	Male	Female
< 23	0.0179%	0.0112%	46	0.1247%	0.0780%
23	0.0244%	0.0153%	47	0.1337%	0.0836%
24	0.0310%	0.0194%	48	0.1462%	0.0914%
25	0.0374%	0.0234%	49	0.1588%	0.0993%
26	0.0440%	0.0275%	50	0.1714%	0.1071%
27	0.0505%	0.0316%	51	0.1839%	0.1150%
28	0.0526%	0.0329%	52	0.1965%	0.1228%
29	0.0548%	0.0343%	53	0.2294%	0.1434%
30	0.0570%	0.0356%	54	0.2624%	0.1640%
31	0.0591%	0.0370%	55	0.2954%	0.1846%
32	0.0612%	0.0383%	56	0.3283%	0.2052%
33	0.0634%	0.0397%	57	0.3613%	0.2258%
34	0.0657%	0.0411%	58	0.4112%	0.2570%
35	0.0679%	0.0425%	59	0.4611%	0.2882%
36	0.0702%	0.0439%	60	0.5110%	0.3194%
37	0.0724%	0.0453%	61	0.5610%	0.3506%
38	0.0757%	0.0473%	62	0.6109%	0.3818%
39	0.0789%	0.0493%	63	0.6109%	0.3818%
40	0.0822%	0.0514%	64	0.6109%	0.3818%
41	0.0854%	0.0534%	65	0.6109%	0.3818%
42	0.0886%	0.0554%	66	0.6109%	0.3818%
43	0.0977%	0.0611%	67	0.6109%	0.3818%
44	0.1066%	0.0667%	68	0.4073%	0.2546%
45	0.1157%	0.0723%	69	0.2036%	0.1273%
			70+	0.2036%	0.1273%

Table 3: Retirement Rates

Age	Male	Female
< 53	15.34%	18.20%
53	17.70%	21.00%
54	23.60%	28.00%
55	18.50%	16.25%
56	25.90%	22.75%
57	29.60%	26.00%
58	33.30%	29.25%
59	37.00%	32.50%
60	40.70%	35.75%
61	44.40%	35.75%
62	44.40%	35.75%
63	44.40%	35.75%
64	44.40%	35.75%
65+	100.00%	100.00%

Section 5: Assessment of Risks (ASOP 51 Disclosures)

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

Actuarial Standard of Practice No. 51 (“ASOP 51”) 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 5.75% expected in the actuarial valuation
- Contribution Risk – potential that the contribution actually made will be different than the actuarially determined contribution in the actuarial valuation
- 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
- 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.

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 actual contribution amount and the actuarially determined amount 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).

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 allocations 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.
- Historical experience of actual returns is shown in Section 2.4 of this report. The cumulative historical experience illustrates that although market returns have been above and below the assumed rate, the overall return during the time period was slightly below the 5.75%. The assumed rate, asset allocation, and future market expectations should continue to be evaluated. A 1% decrease in the long-term return on investment assumption will increase the actuarial accrued liability by approximately 9%.

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 plans could increase.
- The mortality assumption for the plan mitigates this risk by assuming future improvements 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.

Other Demographic Risk

The plan is subject to risks associated with other demographic assumptions (e.g., retirement and termination 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 4-year experience studies to ensure the assumptions are consistent with long-term expectations.

Historical Information

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

- Section 1.5 shows how the plan's funded status (comparison of actuarial accrued liabilities to actuarial value of assets) has changed over time.
- Section 2.4 shows the volatility of asset returns over time.
- Section 3 includes various historical information showing how member census data has changed over time.

Plan Maturity Measures

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

Ratio of Retired Liability to Total Liability	June 30, 2018	June 30, 2020	June 30, 2022
1. Retiree and Beneficiary Accrued Liability	\$ 6,094,900	\$ 5,808,004	\$ 6,164,835
2. Total Accrued Liability	\$ 21,934,014	\$ 22,417,247	\$ 28,366,668
3. Ratio, (1) ÷ (2)	27.8%	25.9%	21.7%

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

Ratio of Cash Flow to Assets	FYE June 30, 2018	FYE June 30, 2020	FYE June 30, 2022
1. Contributions	\$ 907,231	\$ 860,686	\$ 0
2. Benefit Payments	<u>1,359,467</u>	<u>1,641,475</u>	<u>1,620,749</u>
3. Cash Flow, (1) - (2)	\$ (452,236)	\$ (780,789)	\$ (1,620,749)
4. Fair Value of Assets	\$ 39,418,117	\$ 42,095,708	\$ 44,088,041
5. Ratio, (3) ÷ (4)	(1.1%)	(1.9%)	(3.7%)

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, due to the funded status being significantly over 100% negative cash flow is appropriate and expected. Also, the low magnitude of the ratio implies there may already be enough liquid assets to cover the benefit payments, less investment return is needed to cover the shortfall, or only a small portion of assets will need to be converted to cash. Therefore, the investment risk is likely not amplified at this time. This maturity measure should be monitored in the future especially if the funded status decreases closer to 100%.

Glossary of Terms

Actuarial Accrued Liability

Total accumulated cost to fund pension 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 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 benefits and the necessary amount of contributions to fund those benefits.

Actuary

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

Annual Required Contribution

Disclosure measure of annual pension cost.

GASB 67 and 68

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

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

Normal Cost

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

Unfunded Actuarial Accrued Liability (UAAL)

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

Vested Benefits

Benefits which are unconditionally guaranteed regardless of employment status.



State of Alaska

Judicial 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 actuarial valuation results of the State of Alaska Judicial Retirement System (JRS) as of June 30, 2022 performed by Buck Global, LLC (Buck).

The actuarial valuation is based on financial information provided in the financial statements audited by KPMG LLP, member data provided by the Division of Retirement and Benefits, and medical enrollment data provided by the healthcare claims administrator (Aetna), as summarized in this report. The benefits considered are those delineated in Alaska statutes effective June 30, 2022. The actuary did not verify the data submitted, but did perform tests for consistency and reasonableness.

All costs, liabilities, and other factors under JRS were determined in accordance with generally accepted actuarial principles and procedures. An actuarial cost method is used to measure the actuarial liabilities which we believe is reasonable. Buck is solely responsible for the actuarial data and actuarial results presented in this report. This report fully and fairly discloses the actuarial position of JRS as of June 30, 2022.

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

The Board and staff of the State of Alaska may use this report for the review of the operations of JRS. Use of this report for any other purpose or by anyone other than the Board or staff of the State of Alaska may not be appropriate and may result in mistaken conclusions due to failure to understand applicable assumptions, methodologies, or inapplicability of the report for that purpose. Because of the risk of misinterpretation of actuarial results, Buck recommends requesting its advanced review of any statement to be based on information contained in this report. Buck will accept no liability for any such statement made without its prior review.

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

In our opinion, the actuarial assumptions used are reasonable, taking into account the experience of the plan and reasonable long-term expectations, and represent our best estimate of the anticipated long-term experience under the plan. The actuary performs an analysis of plan experience periodically and recommends changes if, in the opinion of the actuary, assumption changes are needed to more accurately reflect expected future experience. The last full experience analysis was performed for the period July 1, 2017 to June 30, 2021. Based on that experience study, the Board adopted new assumptions effective beginning with the June 30, 2022 valuation to better reflect expected future experience. Based on our analysis of recent claims experience, changes were made to the healthcare per capita claims cost rates effective June 30, 2022 to better reflect expected future healthcare experience. A summary of the actuarial assumptions and methods used in this actuarial valuation is shown in Sections 4.2 and 4.3. We certify that the assumptions and methods described in Sections 4.2 and 4.3 of this report meet the requirements of all applicable Actuarial Standards of Practice.

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

ACFR Information

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

Governmental Accounting Standards Board (GASB) Statement No. 67 (GASB 67) was effective for JRS beginning with fiscal year ending June 30, 2014, and Statement No. 74 (GASB 74) was effective for JRS beginning with fiscal year ending June 30, 2017. Please see our separate GASB 67 and GASB 74 reports for other information needed for the ACFR.

Assessment of Risks

Actuarial Standard of Practice No. 51 (ASOP 51) applies to actuaries performing funding calculations related to a pension plan. ASOP 51 does not apply to actuaries performing services in connection with other post-employment benefits, such as medical benefits. Accordingly, ASOP 51 does not apply to the healthcare portion of JRS. See Section 5 of this report for further details regarding ASOP 51.

Use of Models

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

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

COVID-19

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

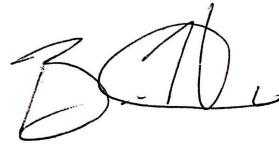
This report was prepared under the overall direction of David Kershner, who meets the Qualification Standards of the American Academy of Actuaries to render the actuarial opinions contained herein. He is a Fellow of the Society of Actuaries, an Enrolled Actuary, a Member of the American Academy of Actuaries,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

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

Respectfully submitted,



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



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 Judicial Retirement System (JRS) provides pension and postemployment healthcare benefits to judicial and other eligible participants. The Commissioner of the Department of Administration is responsible for administering the plan. The Alaska Retirement Management Board has fiduciary responsibility over the assets of the plan. This report presents the results of the actuarial valuation of JRS as of the valuation date of June 30, 2022.

Purpose

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

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

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

Retiree group benefits models necessarily rely on the use of approximations and estimates, and are sensitive to changes in these approximations and estimates. Small variations in these approximations and estimates may lead to significant changes in actuarial measurements.

Funded Status

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

Funded Status as of June 30	2020	2022
Pension		
a. Actuarial Accrued Liability	\$ 211,742,043	\$ 211,705,094
b. Valuation Assets	<u>194,788,043</u>	<u>230,801,847</u>
c. Unfunded Actuarial Accrued Liability, (a) - (b)	\$ 16,954,000	\$ (19,096,753)
d. Funded Ratio based on Valuation Assets, (b) ÷ (a)	92.0%	109.0%
e. Fair Value of Assets	\$ 189,844,025	\$ 227,181,866
f. Funded Ratio based on Fair Value of Assets, (e) ÷ (a)	89.7%	107.3%

Funded Status as of June 30		2020	2022
Healthcare			
a. Actuarial Accrued Liability		\$ 16,763,770	\$ 18,036,242
b. Valuation Assets		<u>34,805,639</u>	<u>40,855,819</u>
c. Unfunded Actuarial Accrued Liability, (a) - (b)		\$ (18,041,869)	\$ (22,819,577)
d. Funded Ratio based on Valuation Assets, (b) ÷ (a)		207.6%	226.5%
e. Fair Value of Assets		\$ 34,036,503	\$ 40,267,620
f. Funded Ratio based on Fair Value of Assets, (e) ÷ (a)		203.0%	223.3%

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

1. Investment Experience

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

2. Salary Increases

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

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

3. Demographic Experience

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

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

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

4. Retiree Medical Claims Experience

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

5. Changes in Methods Since the Prior Valuation

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

6. Changes in Assumptions Since the Prior Valuation

Effective for the June 30, 2022 valuation, the Board adopted the changes to the demographic and economic assumptions recommended by the actuary, based on the results of an experience study performed on the plan experience from July 1, 2017 to June 30, 2021. The changes in assumptions were adopted at the June 2022 Board meeting. The effect of the new assumptions was to decrease the Actuarial Accrued Liability as of June 30, 2022 by approximately \$16.7 million (pension) and \$0.6 million (healthcare).

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

7. Changes in Benefit Provisions Since the Prior Valuation

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

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

Comparative Summary of Contribution Rates

	FY 2023	FY 2025
Pension		
a. Normal Cost Rate Net of Member Contributions	38.85%	33.59%
b. Past Service Cost Rate	<u>24.74%</u>	<u>10.62%</u>
c. Total Employer/State Contribution Rate, (a) + (b), not less than (a)	63.59%	44.21%
Healthcare		
a. Normal Cost Rate	6.49%	7.32%
b. Past Service Cost Rate	<u>(8.24%)</u>	<u>(10.61%)</u>
c. Total Employer/State Contribution Rate, (a) + (b), not less than (a)	6.49%	7.32%
Total		
a. Normal Cost Rate Net of Member Contributions	45.34%	40.91%
b. Past Service Cost Rate	<u>24.74%</u>	<u>10.62%</u>
c. Total Employer/State Contribution Rate, (a) + (b)	70.08%	51.53%

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

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

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

	Pension	Healthcare
1. Total Employer/State Contribution Rate as of June 30, 2020	63.59%	6.49%
2. Change during FY21	<u>(4.89%)</u>	<u>0.05%</u>
3. Total Employer/State Contribution Rate as of June 30, 2021 from Roll-Forward Valuation	58.70%	6.54%
4. Change due to:		
a. Investment Experience	(1.18%)	0.00%
b. Demographic Experience, Health Claims Experience, and New Entrants ¹	2.52%	1.15%
c. State Appropriation	(2.02%)	0.00%
d. Actual vs Expected Contributions	(1.49%)	0.00%
e. Assumption/Method Changes	(12.32%)	(0.29%)
f. Plan Changes	<u>0.00%</u>	<u>(0.08%)</u>
g. Total Change, (a) + (b) + (c) + (d) + (e) + (f)	(14.49%)	0.78%
5. Total Employer/State Contribution Rate as of June 30, 2022, (3) + (4)(g)	44.21%	7.32%

¹ Includes changes in future healthcare claims costs.

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

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

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

	Pension	Healthcare
Experience Study Assumption Changes	\$ (16,712,342)	\$ (630,859)

¹ Includes the effects of various data changes that are typical when new census data is received for the valuation, as well as other items that do not fit neatly into any of the other categories.

Section 1: Actuarial Funding Results

Section 1.1: Actuarial Liabilities and Normal Cost

As of June 30, 2022	Present Value of Projected Benefits	Actuarial Accrued (Past Service) Liability
Active Members		
Retirement Benefits	\$ 77,761,491	\$ 44,594,305
Disability Benefits	159,531	5,632
Death Benefits	805,495	279,916
Termination Benefits ¹	3,133,654	175,554
Medical and Prescription Drug Benefits	15,266,645	7,112,473
Medicare Part D Subsidy	<u>(2,363,068)</u>	<u>(1,172,323)</u>
Subtotal	\$ 94,763,748	\$ 50,995,557
Benefit Recipients		
Retiree Benefits	\$ 150,275,150	\$ 150,275,150
Survivor Benefits	15,616,965	15,616,965
Disability Benefits	0	0
Medical and Prescription Drug Benefits	14,524,454	14,524,454
Medicare Part D Subsidy	<u>(2,752,847)</u>	<u>(2,752,847)</u>
Subtotal	\$ 177,663,722	\$ 177,663,722
Vested Terminations		
Deferred Retirement Benefits	\$ 646,096	\$ 646,096
Medical and Prescription Drug Benefits	363,030	363,030
Medicare Part D Subsidy	<u>(38,545)</u>	<u>(38,545)</u>
Subtotal	\$ 970,581	\$ 970,581
Non-Vested Terminations	\$ 111,476	\$ 111,476
Total	\$ 273,509,527	\$ 229,741,336
Total Pension	\$ 248,509,858	\$ 211,705,094
Total Medical, Net of Part D Subsidy	\$ 24,999,669	\$ 18,036,242
Total Medical, Gross of Part D Subsidy	\$ 30,154,129	\$ 21,999,957

¹ Includes return of contributions.

As of June 30, 2022	Normal Cost
Active Members	
Retirement Benefits	\$ 4,824,421
Disability Benefits	17,866
Death Benefits	77,954
Termination Benefits ¹	316,752
Medical and Prescription Drug Benefits	1,112,031
Medicare Part D Subsidy	(167,213)
Administrative Expenses (Pension)	102,000
Administrative Expenses (Medical)	34,000
Total	\$ 6,317,811
Total Pension	\$ 5,338,993
Total Medical, Net of Part D Subsidy	\$ 978,818
Total Medical, Gross of Part D Subsidy	\$ 1,146,031

¹ Includes return of contributions.

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

Normal Cost Rate	Pension	Healthcare
1. Total Normal Cost	\$ 5,338,993	\$ 978,818
2. Base Salaries for Upcoming Fiscal Year	13,366,464	13,366,464
3. Normal Cost Rate, (1) ÷ (2)	39.94%	7.32%
4. Average Member Contribution Rate	6.35%	0.00%
5. Employer Normal Cost Rate, (3) - (4)	33.59%	7.32%

Past Service Rate	Pension	Healthcare
1. Actuarial Accrued Liability	\$ 211,705,094	\$ 18,036,242
2. Valuation Assets	<u>230,801,847</u>	<u>40,855,819</u>
3. Unfunded Actuarial Accrued Liability, (1) - (2)	\$ (19,096,753)	\$ (22,819,577)
4. Funded Ratio, (2) ÷ (1)	109.0%	226.5%
5. Past Service Cost Amortization Payment	1,419,486	(1,418,672)
6. Base Salaries for Upcoming Fiscal Year	13,366,464	13,366,464
7. Past Service Rate, (5) ÷ (6)	10.62%	(10.61%)
Total Employer / State Contribution Rate, not less than Normal Cost Rate	44.21%	7.32%

Schedule of Past Service Cost Amortizations - Pension

Layer	Amortization Period		Balances		Beginning-of-Year Payment
	Date Created	Years Remaining	Initial	Outstanding	
Initial Unfunded Liability ¹	6/30/2002	5	\$ 5,864,449	\$ 3,448,446	\$ 750,044
FY03/04 Loss ¹	6/30/2004	7	855,068	625,333	101,220
Revaluation of Liabilities ¹	6/30/2005	8	9,115,451	7,182,220	1,038,079
FY05/06 Loss ¹	6/30/2006	9	18,186,558	15,199,068	1,992,415
FY07 Loss	6/30/2007	10	1,364,721	1,195,627	143,906
FY08 Gain	6/30/2008	11	(29,014,739)	(26,412,277)	(2,947,870)
FY09 Loss	6/30/2009	12	21,273,454	19,958,028	2,082,465
Change in Assumptions	6/30/2010	13	13,976,981	13,422,120	1,318,255
FY10 Loss	6/30/2010	13	6,474,780	6,217,742	610,676
FY11 Loss	6/30/2011	14	7,397,917	7,245,520	673,718
FY12 Loss	6/30/2012	15	11,916,371	11,843,943	1,047,832
FY13 Loss	6/30/2013	16	7,033,497	6,825,867	577,044
Change in Assumptions	6/30/2014	17	4,219,851	4,266,263	345,931
FY14 Gain	6/30/2014	17	(14,458,986)	(14,618,026)	(1,185,306)
FY15 Gain	6/30/2015	18	(3,325,706)	(3,373,418)	(263,235)
FY16 Gain	6/30/2016	19	(9,932,623)	(10,078,673)	(759,077)
FY17 Gain	6/30/2017	20	(1,137,538)	(1,151,634)	(83,936)
Change in Assumptions	6/30/2018	21	10,343,783	10,423,412	736,910
FY18 Gain	6/30/2018	21	(12,096,419)	(12,189,542)	(861,771)
Change in Assumptions	6/30/2019	22	(14,775,890)	(14,901,307)	(1,024,055)
FY19 Loss	6/30/2019	22	3,344,559	3,372,948	231,797
Change in Assumptions	6/30/2020	23	(21,604,253)	(21,763,015)	(1,456,623)
FY20 Loss	6/30/2020	23	5,424,705	5,464,568	365,750
FY21 Gain	6/30/2021	24	(11,633,233)	(11,685,152)	(763,045)
Change in Assumptions	6/30/2022	25	(16,712,342)	(16,712,342)	(1,066,429)
FY22 Gain	6/30/2022	25	(2,902,472)	(2,902,472)	(185,209)
Total				\$(19,096,753)	\$ 1,419,486

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

Schedule of Past Service Cost Amortizations - Healthcare

Layer	Amortization Period		Balances		Beginning-of-Year Payment
	Date Created	Years Remaining	Initial	Outstanding	
Initial Unfunded Liability ¹	6/30/2002	5	\$ 2,295,257	\$ 1,349,672	\$ 293,556
FY03/04 Loss ¹	6/30/2004	7	334,660	244,745	39,616
Revaluation of Liabilities ¹	6/30/2005	8	3,567,649	2,811,010	406,288
FY05/06 Loss ¹	6/30/2006	9	7,117,943	5,948,684	779,801
FY07 Gain	6/30/2007	10	(810,073)	(709,702)	(85,420)
Change in Assumptions	6/30/2008	11	789,072	718,298	80,169
FY08 Gain	6/30/2008	11	(14,011,596)	(12,754,834)	(1,423,565)
FY09 Loss	6/30/2009	12	901,355	845,622	88,234
Change in Assumptions	6/30/2010	13	2,006,196	1,926,553	189,217
FY10 Gain	6/30/2010	13	(1,930,656)	(1,854,010)	(182,092)
FY11 Loss	6/30/2011	14	550,376	539,038	50,122
Change in Assumptions	6/30/2012	15	353,605	351,454	31,093
FY12 Gain	6/30/2012	15	(5,516,210)	(5,482,685)	(485,052)
FY13 Loss	6/30/2013	16	226,259	227,238	19,210
Change in Assumptions	6/30/2014	17	772,305	780,799	63,311
FY14 Gain	6/30/2014	17	(3,342,464)	(3,379,230)	(274,006)
FY15 Gain	6/30/2015	18	(1,416,996)	(1,437,324)	(112,157)
Change in Method	6/30/2016	19	(3,567,789)	(3,620,251)	(272,660)
FY16 Gain	6/30/2016	19	(425,711)	(431,971)	(32,534)
FY17 Gain	6/30/2017	20	(586,113)	(593,377)	(43,248)
Change in Assumptions/Methods/EGWP	6/30/2018	21	1,009,960	1,017,735	71,951
FY18 Gain	6/30/2018	21	(2,148,478)	(2,165,016)	(153,061)
Change in Assumptions	6/30/2019	22	126,754	127,828	8,785
FY19 Gain	6/30/2019	22	(155,028)	(156,343)	(10,744)
Change in Assumptions	6/30/2020	23	200,955	202,432	13,549
FY20 Gain	6/30/2020	23	(2,842,610)	(2,863,498)	(191,657)
FY21 Gain	6/30/2021	24	(1,754,192)	(1,762,021)	(115,061)
Change in Assumptions	6/30/2022	25	(630,859)	(630,859)	(40,256)
Medical/Prescription Drug Plan Changes	6/30/2022	25	(223,750)	(223,750)	(14,278)
FY22 Gain	6/30/2022	25	(1,845,814)	(1,845,814)	(117,783)
Total				\$(22,819,577)	\$ (1,418,672)

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

Section 1.3: Actuarial Gain/(Loss) for FY22

	Pension	Healthcare
1. Expected Actuarial Accrued Liability		
a. Actuarial Accrued Liability as of June 30, 2021	\$ 218,717,460	\$ 17,920,646
b. Normal Cost	5,850,927	829,927
c. Interest on (a) and (b) at 7.38%	16,573,147	1,383,792
d. Employer Group Waiver Plan	0	344,091
e. Benefit Payments	(14,770,632)	(1,222,346)
f. Refund of Contributions	0	0
g. Interest on (d) thru (f) at 7.38%, adjusted for timing	(580,813)	(31,831)
h. Assumptions/Methods Changes	<u>(16,712,342)</u>	<u>(630,859)</u>
i. Expected Actuarial Accrued Liability as of June 30, 2022 (a) + (b) + (c) + (d) + (e) + (f) + (g) + (h)	\$ 209,077,747	\$ 18,593,420
2. Actual Actuarial Accrued Liability as of June 30, 2022	<u>211,705,094</u>	<u>18,036,242</u>
3. Liability Gain/(Loss), (1)(i) - (2)	\$ (2,627,347)	\$ 557,178
4. Expected Actuarial Asset Value		
a. Actuarial Value of Assets as of June 30, 2021	\$ 215,641,198	\$ 37,884,167
b. Interest on (a) at 7.38%	15,914,320	2,795,852
c. Employee Contributions	862,028	0
d. Employer Contributions	6,638,140	622,469
e. State Appropriation	4,185,000	0
f. Employer Group Waiver Plan	0	344,091
g. Interest on (c) thru (f) at 7.38%, adjusted for timing	580,683	35,031
h. Benefit Payments	(14,770,632)	(1,222,346)
i. Refund of Contributions	0	0
j. Administrative Expenses	(107,041)	(34,990)
k. Interest on (h) thru (j) at 7.38%, adjusted for timing	<u>(584,692)</u>	<u>(45,570)</u>
l. Expected Actuarial Asset Value as of June 30, 2022 (a) + (b) + (c) + (d) + (e) + (f) + (g) + (h) + (i) + (j) + (k)	\$ 228,359,004	\$ 40,378,704
5. Actual Actuarial Asset Value as of June 30, 2022	<u>230,801,847</u>	<u>40,855,819</u>
6. Actuarial Asset Value Gain/(Loss), (5) - (4)(l)	\$ 2,442,843	\$ 477,115
7. Total Actuarial Gain/(Loss), (3) + (6)	\$ (184,504)	\$ 1,034,293
8. Contribution Gain/(Loss)	\$ 3,088,369	\$ 1,038,241
9. Administrative Expense Gain/(Loss)	\$ (1,393)	\$ (2,970)
10. FY22 Gain/(Loss), (7) + (8) + (9)	\$ 2,902,472	\$ 2,069,564

Section 1.4: Development of Change in Unfunded Liability During FY22

	Pension	Healthcare
1. 2021 Unfunded Liability	\$ 3,076,262	\$ (19,963,521)
a. Interest on Unfunded Liability at 7.38%	\$ 227,028	\$ (1,473,308)
b. Normal Cost	5,850,927	829,927
c. Employee Contributions	(862,028)	0
d. Employer Contributions	(6,638,140)	(622,469)
e. State Appropriation	(4,185,000)	0
f. Administrative Expenses	107,041	34,990
g. Interest on (b) thru (f) at 7.38%, adjusted for timing	(145,005)	39,956
h. Assumptions/Methods Changes	<u>(16,712,342)</u>	<u>(630,859)</u>
i. Expected Change in Unfunded Liability During FY22 (a) + (b) + (c) + (d) + (e) + (f) + (g) + (h)	\$ (22,357,519)	\$ (1,821,763)
2. Expected 2022 Unfunded Liability, (1) + (1)(i)	\$ (19,281,257)	\$ (21,785,284)
a. Liability (Gain)/Loss During FY22	\$ 2,627,347	\$ (557,178)
b. Actuarial Assets (Gain)/Loss During FY22	<u>(2,442,843)</u>	<u>(477,115)</u>
c. Total Actuarial (Gain)/Loss During FY22	\$ 184,504	\$ (1,034,293)
3. Actual 2022 Unfunded Liability, (2) + (2)(c)	\$ (19,096,753)	\$ (22,819,577)

Section 1.5: History of Unfunded Liability and Funded Ratio

Pension

Valuation Date	Total Actuarial Accrued Liability	Valuation Assets	Assets as a Percent of Actuarial Accrued Liability	Unfunded Actuarial Accrued Liability (UAAL)
June 30, 2006	\$ 111,819,972	\$ 77,310,716	69.1%	\$ 34,509,256
June 30, 2007	117,378,824	81,041,009	69.0%	36,337,815
June 30, 2008	130,596,048	122,882,726	94.1%	7,713,322
June 30, 2009	137,586,315	108,691,018	79.0%	28,895,297
June 30, 2010	164,523,775	115,000,226	69.9%	49,523,549
June 30, 2011	173,424,484	116,213,133	67.0%	57,211,351
June 30, 2012	182,267,524	112,870,360	61.9%	69,397,164
June 30, 2013	191,505,115	115,032,531	60.1%	76,472,584
June 30, 2014	194,430,266	128,004,452	65.8%	66,425,814
June 30, 2015	205,160,847	142,191,071	69.3%	62,969,776
June 30, 2016	205,547,759	152,888,596	74.4%	52,659,163
June 30, 2017	216,673,191	165,875,722	76.6%	50,797,469
June 30, 2018	226,559,580	178,489,284	78.8%	48,070,296
June 30, 2019	221,159,289	186,117,830	84.2%	35,041,459
June 30, 2020	211,742,043	194,788,043	92.0%	16,954,000
June 30, 2021	218,717,460	215,641,198	98.6%	3,076,262
June 30, 2022	211,705,094	230,801,847	109.0%	(19,096,753)

Healthcare

Valuation Date	Total Actuarial Accrued Liability	Valuation Assets	Assets as a Percent of Actuarial Accrued Liability	Unfunded Actuarial Accrued Liability (UAAL)
June 30, 2006	\$ 15,905,786	\$ 2,399,387	15.1%	\$ 13,506,399
June 30, 2007	16,610,082	3,732,217	22.5%	12,877,865
June 30, 2008	18,141,832	18,352,929	101.2%	(211,097)
June 30, 2009	19,093,191	18,482,598	96.8%	610,593
June 30, 2010	20,304,331	19,693,969	97.0%	610,362
June 30, 2011	21,406,833	20,333,071	95.0%	1,073,762
June 30, 2012	16,654,623	20,835,672	125.1%	(4,181,049)
June 30, 2013	17,583,031	21,706,165	123.4%	(4,123,134)
June 30, 2014	17,207,952	24,074,313	139.9%	(6,866,361)
June 30, 2015	18,304,497	26,800,113	146.4%	(8,495,616)
June 30, 2016	15,731,490	28,454,747	180.9%	(12,723,257)
June 30, 2017	16,874,200	30,468,517	180.6%	(13,594,317)
June 30, 2018	16,846,959	31,868,079	189.2%	(15,021,120)
June 30, 2019	18,089,100	33,319,896	184.2%	(15,230,796)
June 30, 2020	16,763,770	34,805,639	207.6%	(18,041,869)
June 30, 2021	17,920,646	37,884,167	211.4%	(19,963,521)
June 30, 2022	18,036,242	40,855,819	226.5%	(22,819,577)

Section 2: Plan Assets

Section 2.1: Summary of Fair Value of Assets

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

Section 2.2: Changes in Fair Value of Assets During FY21

Fiscal Year 2021	Pension	Healthcare
1. Fair Value of Assets as of June 30, 2020	\$ 189,844,025	\$ 34,036,503
2. Additions:		
a. Employee Contributions	\$ 837,686	\$ 0
b. Employer Contributions	6,962,607	654,383
c. State Appropriation	5,145,000	0
d. Interest and Dividend Income	2,691,703	479,199
e. Net Appreciation / Depreciation in Fair Value of Investments	54,569,848	9,640,529
f. Employer Group Waiver Plan	0	168,159
g. Other	<u>7,891</u>	<u>14,345</u>
h. Total Additions	\$ 70,214,735	\$ 10,956,615
3. Deductions:		
a. Medical Benefits	\$ 0	\$ 1,692,383
b. Retirement Benefits	14,368,857	0
c. Refund of Contributions	0	0
d. Investment Expenses	544,884	95,170
e. Administrative Expenses	<u>97,022</u>	<u>32,216</u>
f. Total Deductions	\$ 15,010,763	\$ 1,819,769
4. Fair Value of Assets as of June 30, 2021	\$ 245,047,997	\$ 43,173,349
5. Approximate Fair Value Investment Return Rate during FY21 Net of Investment Expenses	30.0%	29.9%

Section 2.3: Changes in Fair Value of Assets During FY22

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

Section 2.4: Development of Actuarial Value of Assets

Investment gains and losses are recognized 20% per year over 5 years. In no event may valuation assets be less than 80% or more than 120% of fair value as of the current valuation date.

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

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

Pension				
Fiscal Year Ending	Asset Gain / (Loss)	Gain / (Loss) Recognized in Prior Years	Gain / (Loss) Recognized This Year	Gain / (Loss) Deferred to Future Years
June 30, 2018	\$ 292,590	\$ 234,072	\$ 58,518	\$ 0
June 30, 2019	(2,647,188)	(1,588,313)	(529,438)	(529,437)
June 30, 2020	(6,148,327)	(2,459,330)	(1,229,665)	(2,459,332)
June 30, 2021	42,620,191	8,524,038	8,524,038	25,572,115
June 30, 2022	<u>(32,754,159)</u>	<u>0</u>	<u>(6,550,832)</u>	<u>(26,203,327)</u>
Total	\$ 1,363,107	\$ 4,710,467	\$ 272,621	\$ (3,619,981)

Healthcare				
Fiscal Year Ending	Asset Gain / (Loss)	Gain / (Loss) Recognized in Prior Years	Gain / (Loss) Recognized This Year	Gain / (Loss) Deferred to Future Years
June 30, 2018	\$ 98,500	\$ 78,800	\$ 19,700	\$ 0
June 30, 2019	(409,783)	(245,870)	(81,957)	(81,956)
June 30, 2020	(1,023,945)	(409,578)	(204,789)	(409,578)
June 30, 2021	7,559,703	1,511,941	1,511,941	4,535,821
June 30, 2022	<u>(5,790,607)</u>	<u>0</u>	<u>(1,158,121)</u>	<u>(4,632,486)</u>
Total	\$ 433,868	\$ 935,293	\$ 86,774	\$ (588,199)

Section 2.5: Historical Asset Rates of Return

Year Ending	Actuarial Value		Fair Value	
	Annual	Cumulative	Annual	Cumulative
June 30, 2005	8.0%	8.0%	8.0%	8.0%
June 30, 2006	11.0%	9.5%	11.0%	9.5%
June 30, 2007	10.2%	9.7%	18.1%	12.3%
June 30, 2008	7.4%	9.1%	(4.8%)	7.7%
June 30, 2009	(9.7%)	5.1%	(20.6%)	1.4%
June 30, 2010	8.7%	5.7%	10.6%	2.8%
June 30, 2011	5.0%	5.6%	20.8%	5.2%
June 30, 2012	0.7%	5.0%	0.1%	4.6%
June 30, 2013	3.6%	4.8%	12.3%	5.4%
June 30, 2014	12.2%	5.5%	18.3%	6.6%
June 30, 2015	10.8%	6.0%	3.0%	6.3%
June 30, 2016	6.6%	6.0%	(0.5%)	5.7%
June 30, 2017	8.3%	6.2%	13.0%	6.3%
June 30, 2018	8.1%	6.3%	8.3%	6.4%
June 30, 2019	5.7%	6.3%	6.0%	6.4%
June 30, 2020	5.9%	6.3%	4.1%	6.2%
June 30, 2021	11.5%	6.6%	30.0%	7.5%
June 30, 2022	8.6%	6.7%	(6.0%)	6.7%

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

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

Section 3: Member Data

Section 3.1: Summary of Members Included

As of June 30	2014	2016	2018	2020	2022
Active Members					
1. Number	76	76	71	72	73
2. Average Age	57.65	58.80	57.53	55.03	53.74
3. Average Service	8.70	9.39	9.49	6.83	6.85
4. Average Entry Age	48.95	49.41	48.04	48.20	46.89
5. Average Annual Earnings	\$ 175,964	\$ 178,903	\$ 182,045	\$ 182,739	\$ 183,102
6. Number Vested	48	54	51	36	35
7. Percent Who Are Vested	63.2%	71.1%	71.8%	50.0%	47.9%
Retirees, Disabilitants, and Beneficiaries					
1. Number	108	109	125	144	149
2. Average Age	72.09	73.34	73.71	73.98	74.88
3. Average Monthly Pension Benefit	\$ 8,141	\$ 8,529	\$ 8,291	\$ 8,305	\$ 8,395
Vested Terminations (vested at termination, not refunded contributions, and not commenced benefit)					
1. Number	4	3	3	2	1
2. Average Age	53.53	57.35	59.05	55.87	55.17
3. Average Monthly Pension Benefit	\$ 5,704	\$ 7,017	\$ 7,623	\$ 6,305	\$ 4,049
Non-Vested Terminations (not vested at termination and not refunded contributions)					
1. Number	0	0	0	1	2
2. Average Account Balance	\$ 0	\$ 0	\$ 0	\$ 66,828	\$ 55,738
Total Number of Members	188	188	199	219	225

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

Section 3.2: Age and Service Distribution of Active Members

Annual Earnings by Age

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	1	189,720	189,720
35 - 39	3	540,288	180,096
40 - 44	7	1,285,752	183,679
45 - 49	13	2,399,316	184,563
50 - 54	15	2,767,416	184,494
55 - 59	18	3,188,100	177,117
60 - 64	9	1,636,320	181,813
65 - 69	7	1,359,552	194,222
70 - 74	0	0	0
75+	0	0	0

Total 73 \$ 13,366,464 \$ 183,102

Annual Earnings by Service

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

Total 73 \$ 13,366,464 \$ 183,102

Years of Service by Age

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

Section 3.3: Member Data Reconciliation

Pension

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

Healthcare

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

Section 4: Basis of the Actuarial Valuation

Section 4.1: Summary of Plan Provisions

Effective Date

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

Administration of Plan

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

Membership

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

Credited Service

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

Member Contributions

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

Interest: Members' contributions earn 4.5% interest, compounded semiannually on June 30 and December 31.

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

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

Retirement Benefits

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

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

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

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

Disability Benefits

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

Survivor's Benefits

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

- a. 50% of the monthly benefit that the member would have received if retired at the time of death; or
- b. 30% of the authorized monthly base salary if the member was not eligible to retire, or was entitled to less than 60% of the authorized monthly base salary.

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

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

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

Postemployment Healthcare Benefits

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

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

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

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

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

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

Changes in Benefit Provisions Valued Since the Prior Valuation

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

Section 4.2: Description of Actuarial Methods and Valuation Procedures

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

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

Actuarial Cost Method

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

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

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

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

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

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

Valuation of Assets

The actuarial asset value was initialized to equal Fair Value of Assets as of June 30, 2006. Beginning in FY07, the asset valuation method recognizes 20% of the gain or loss each year, for a period of five years. All assets are valued at fair value. Assets are accounted for on an accrued basis and are taken directly from financial statements audited by KPMG LLP. Valuation assets are constrained to a range of 80% to 120% of the fair value of assets.

Changes in Methods Since the Prior Valuation

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

Valuation of Retiree Medical and Prescription Drug Benefits

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

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

Benefits

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

Administration and Data Sources

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

Claims incurred for the period from July 2020 through June 2022 (FY21 through FY22) were provided by the State of Alaska from reports extracted from their data warehouse, which separated claims by Medicare status. Monthly enrollment data for the same period was provided by Aetna.

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

Aetna provided a snapshot file as of July 1, 2022 of retirees and dependents that included a coverage level indicator. The monthly enrollment data includes double coverage participants. These are participants whereby both the retiree and spouse are retirees from the State and both are reflected with Couple coverage in the enrollment. In this case, such a couple would show up as four members in the monthly enrollment (each would be both a retiree and a spouse). As a result, the snapshot census file was used to adjust the total member counts in the monthly enrollment reports to estimate the number of unique participants enrolled in coverage. Based on the snapshot files from the last two valuations, the total member count in the monthly enrollment reports needs to be reduced by approximately 13% to account for the number of participants with double coverage.

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

Methodology

Buck projected historical claim data to FY23 for retirees using the following summarized steps:

1. Develop historical annual incurred claim cost rates – an analysis of medical costs was completed based on claims information and enrollment data provided by the State of Alaska and Aetna for each year in the experience period of FY21 through FY22.
 - Costs for medical services and prescriptions were analyzed separately, and separate trend rates were developed to project expected future medical and prescription costs for the valuation year (e.g. from the experience period up through FY23).
 - Because the reports provided reflected incurred claims, no additional adjustment was needed to determine incurred claims to be used in the valuation.
 - An offset for costs expected to be reimbursed by Medicare was incorporated beginning at age 65. Alaska retirees who do not have 40 quarters of Medicare-covered compensation do not qualify for Medicare Part A coverage free of charge. This is a relatively small and closed group. Medicare was applied to State employment for all employees hired after March 31, 1986. For the “no-Part A” individuals who are required to enroll in Medicare Part B, the State is the primary payer for hospital bills and other Part A services. Claim experience is not available separately for participants with both Medicare Parts A and B and those with Part B only. For Medicare Part B only participants, a lower average claims cost was applied to retirees covered by both Medicare Part A and B vs. retirees covered only by Medicare Part B based upon manual rate models that estimate the Medicare covered proportion of medical costs. To the extent that no-Part A claims can be isolated and applied strictly to the appropriate closed group, actuarial accrued liability will be more accurate.
 - Based on census data received from Aetna, less than 1% of the current retiree population was identified as having coverage only under Medicare Part B. We assume that 2% of actives hired before April 1, 1986 and current retirees who are not yet Medicare eligible will not be eligible for Medicare Part A.
 - Based upon a reconciliation of valuation census data to the snapshot eligibility files provided by Aetna as of July 1, 2021, and July 1, 2022, Buck adjusted member counts used for duplicate records where participants have double coverage; i.e. primary coverage as a retiree and secondary coverage as the covered spouse of another retiree. This is to reflect the total cost per distinct individual/member which is then applied to distinct members in the valuation census.
 - Buck understands that pharmacy claims reported do not reflect rebates. Based on actual pharmacy rebate information provided by Optum, rebates were assumed to be 16.2% of pre-Medicare, and 14.3% of Medicare prescription drug claims for FY21; and 20.1% of pre-Medicare, and 13.5% of Medicare prescription drug claims for FY22.
2. Develop estimated EGWP reimbursements – Segal provided estimated 2023 EGWP subsidies, developed with the assistance of OptumRx. These amounts are applicable only to Medicare-eligible participants.
3. Adjust for claim fluctuation, anomalous experience, etc. – explicit adjustments are often made for anticipated large claims or other anomalous experience. FY21 and FY22 experience was thoroughly reviewed to assess the impact of COVID-19 and whether an adjustment to FY21 and FY22 claims was appropriate for use in the June 30, 2022 valuation. FY21 medical per capita claims were noticeably lower than expected, so a 4% load was added to the FY21 medical claims used in the per capita claims cost development to better reflect future expected long-term costs of the plan. FY22 medical per capita claims were reasonable when compared to pre-COVID levels, so no adjustments were made to the FY22 medical claims used in the per capita claims cost development. Total prescription drug claims experience for FY21 and FY22 was reasonable and consistent with FY19 and FY20 experience. Therefore, no adjustment was made to FY21 and FY22 prescription drug claims. Due to group size and demographics, we did not make any additional large claim

adjustments. We do blend both Alaska plan-specific and national trend factors as described below. Buck compared data utilized to lag reports and quarterly plan experience presentations provided by the State and Aetna to assess accuracy and reasonableness of data.

4. Trend all data points to the projection period – project prior years' experience forward to FY23 for retiree benefits on an incurred claim basis. Trend factors derived from historical Alaska-specific experience and national trend factors are shown in the table in item 5 below.
5. Apply credibility to prior experience – adjust prior year's data by assigning weight to recent periods, as shown at the right of the table below. The Board approved a change in the weighting of experience periods beginning with the June 30, 2017 valuation as outlined below. Note also that for both years of prescription drugs we averaged projected plan costs using Alaska-specific trend factors and national trend factors, assigning 75% weight to Alaska-specific trends and 25% to national trends. For both years of medical we applied 100% weight to national trends because the Alaska-specific trends were impacted by COVID-19:

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

Trend assumptions used for rate development are assessed annually and as additional/improved reporting becomes available, we will incorporate into rate development as appropriate.

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

Healthcare Reform

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

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

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

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

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

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

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

Data

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

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

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

- All records provided with retiree medical coverage on the Aetna data were included in this valuation and we relied on the Aetna data as the source of medical coverage for current retirees and their dependents.
- Some records in the Aetna data were duplicates due to the double coverage (i.e. coverage as a retiree and as a spouse of another retiree) allowed under the plan. Records were adjusted for these members so that each member was only valued once. Any additional value of the double coverage (due to coordination of benefits) is small and reflected in the per capita costs.
- Covered children included in the Aetna data were valued until age 23, unless disabled. We assumed that those dependents over 23 were only eligible and valued due to being disabled.
- For individuals included in the pension data expecting a future pension, we valued health benefits starting at the same point that the pension benefit is assumed to start.

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

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

A. Fiscal 2021

	Medical		Prescription Drugs (Rx)	
	Pre-Medicare	Medicare	Pre-Medicare	Medicare
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

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>	<u>\$ 1,661</u>	<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 4.3: Summary of Actuarial Assumptions

The demographic and economic assumptions used in the June 30, 2022 valuation are described below. Unless noted otherwise, these assumptions were adopted by the Board at the June 2022 meeting based on the experience study for the period July 1, 2017 to June 30, 2021.

Investment Return

7.25% per year, net of investment expenses.

Salary Scale

0% per year through FY24, and 3.00% per year thereafter.

Payroll Growth

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

Total Inflation

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

Compensation and Benefit Limit Increases

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

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

Benefit Payment Increases

Benefits for retired members are assumed to increase 0% per year through FY24, and 3.00% per year thereafter.

Mortality (Pre-Commencement)

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

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

Mortality (Post-Commencement)

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

Retiree mortality in accordance with the following tables:

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

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

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

Turnover

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

Disability

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

Post-disability mortality in accordance with the following tables:

- Pension: Pub-2010 Non-Safety Disabled Retiree table, amount-weighted, and projected with MP-2021 generational improvement.
- Healthcare: Pub-2010 Non-Safety Disabled Retiree table, headcount-weighted, and projected with MP-2021 generational improvement.

Retirement

Retirement rates as shown in Table 3.

Deferred vested members are assumed to retire at age 60.

Spouse Age Difference

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

Percent Married for Pension

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

Dependent Spouse Medical Coverage Election

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

Dependent Children

- Pension: None.
- Healthcare: Benefits for dependent children have been valued only for members currently covering their dependent children. These benefits are only valued through the dependent children's age 23 (unless the child is disabled).

Imputed Data

Data changes from the prior year which are deemed to have an immaterial impact on liabilities and contribution rates are assumed to be correct in the current year's client data.

Non-vested terminations with appropriate refund dates are assumed to have received a full refund of contributions. Active members with missing salary and service are assumed to be terminated with status based on their vesting percentage.

Administrative Expenses

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

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

Contribution Refunds

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

Early Retirement Factors

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

Form of Payment

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

Healthcare Participation

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

Medicare Part B Only

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

Healthcare Per Capita Claims Cost

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

	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.

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

Table 1: Turnover Rates

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

Table 2: Disability Rates

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

Table 3: Retirement Rates

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

Section 5: Assessment of Risks (ASOP 51 Disclosures)

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

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

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

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

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

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

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

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

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

Assessment of Risks

Investment Risk

Plan costs are very sensitive to the market return.

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

Contribution Risk

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

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

Long-Term Return on Investment Risk

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

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

Longevity Risk

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

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

Salary Increase Risk

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

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

Inflation Risk

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

Other Demographic Risk

The plan is subject to risks associated with other demographic assumptions (e.g., retirement and termination). Differences between actual and expected experience for these assumptions tend to have less impact on the overall costs of the plan. The demographic assumptions used in the valuation are 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:

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

Plan Maturity Measures

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

Ratio of Retired Liability to Total Liability

As of June 30	2018	2020	2022
1. Retiree and Beneficiary Accrued Liability	\$ 156,622,684	\$ 164,454,193	\$ 165,892,115
2. Total Accrued Liability	\$ 226,559,580	\$ 211,742,043	\$ 211,705,094
3. Ratio, (1) ÷ (2)	69.1%	77.7%	78.4%

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

Ratio of Cash Flow to Assets

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

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

Contribution Volatility

As of June 30	2018	2020	2022
1. Fair Value of Assets	\$ 176,794,969	\$ 189,844,025	\$ 227,181,866
2. Payroll	\$ 13,392,864	\$ 13,157,172	\$ 13,366,464
3. Asset to Payroll Ratio, (1) ÷ (2)	1,320.1%	1,442.9%	1,699.6%
4. Accrued Liability	\$ 226,559,580	\$ 211,742,043	\$ 211,705,094
5. Liability to Payroll Ratio, (4) ÷ (2)	1,691.6%	1,609.3%	1,583.9%

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

Glossary of Terms

Actuarial Accrued Liability

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

Actuarial Cost Method

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

Actuarial Present Value of Projected Benefits

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

Actuarial Valuation

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

Actuary

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

GASB 67 and 68

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

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

GASB 74 and 75

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

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

Normal Cost

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

Unfunded Actuarial Accrued Liability (UAAL)

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

Vested Benefits

Benefits which are unconditionally guaranteed regardless of employment.

State of Alaska

Timeline for June 30, 2022 Valuations (PERS, TRS, PERS DCR, TRS DCR, JRS, NGNMRS)

Item #	Task	Original Deadline	Revised Deadline	Date Completed	Team Responsible	Comments / Notes
1	Enrollment data request to Aetna	7/15/22		7/14/22	Buck	
2	Valuation data request to DRB	7/15/22		7/15/22	Buck	
3	Monthly audit discussion with GRS / Buck	7/20/22	7/22/22	7/22/22	GRS / Buck	
4	Monthly audit discussion with GRS / Buck	8/17/22	8/19/22	not needed	GRS / Buck	
5	Preliminary 6/30/22 assets to Buck	8/30/22		8/31/22	DRB	These will be used only for the adoption of FY24 contribution rates.
6	Valuation data to Buck	9/2/22		9/6/22	DRB	NGNMRS data received 4/5/23.
7	Send valuation data files received from DRB to GRS	9/6/22		9/6/22	Buck	
8	Actuarial Committee Meeting - FY24 contribution rates (based on 6/30/21 valuations)	9/14/22		9/14/22	All	Anchorage. Deadline for meeting materials is 8/26 (extended to 9/6 since assets not available until the end of August).
9	Audit data and sample lives request to Buck	9/16/22		9/17/22	GRS	
10	Monthly audit discussion with GRS / Buck	9/21/22			GRS / Buck	
11	Claims data request to Segal/DRB	9/23/22		9/6/22	Buck	Incurred claims through 6/30/22 that are paid through 8/31/22.
12	Data questions to DRB	9/23/22		9/27/22	Buck	PERS data questions sent on 9/26, TRS sent on 9/27.
13	Data answers to Buck	10/7/22		10/7/22	DRB	
14	Final 6/30/22 assets to Buck	10/14/22		10/21/22	DRB	
15	Monthly audit discussion with GRS / Buck	10/19/22	10/21/22	10/21/22	GRS / Buck	
16	Claims data to Buck	10/21/22		10/24/22	Segal / DRB	Incurred claims through 6/30/22 that are paid through 8/31/22.
17	6/30/22 valuation data and DRB data questions to GRS	10/28/22		11/7/22	Buck	PERS pension/PERS DCR sent on 10/28, TRS pension/TRS DCR sent on 11/4, PERS/TRS OPEB sent on 11/7. JRS sent on 4/18/23. NGNMRS sent on 5/30/23.
18	Sample life information to GRS	11/11/22		11/14/22	Buck	All except PERS pension active and OPEB DCR sample lives sent on 11/11. PERS pension active sent on 11/14. OPEB DCR sent on 11/18. JRS sent on 4/26/23. NGNMRS sent on 5/30/23.
19	Monthly audit discussion with GRS / Buck	11/16/22	11/18/22	11/18/22	GRS / Buck	
20	Preliminary valuation results and PVB's by individual to GRS	11/18/22		11/18/22	Buck	PERS DCR sent on 12/9. TRS DCR sent on 12/12. JRS sent on 4/18/23. NGNMRS sent on 5/30/23.
21	Actuarial Committee Meeting - 6/30/22 valuation results (preliminary)	11/30/22	11/30/22	11/30/22	All	Anchorage. Deadline for meeting materials is 11/14.
22	Monthly audit discussion with GRS / Buck	12/21/22	12/21/22	12/21/22	GRS / Buck	
23	Draft DCR valuation reports to GRS	1/6/23		1/6/23	Buck	
24	Monthly audit discussion with GRS / Buck	1/18/23	1/20/23	1/20/23	GRS / Buck	
25	Draft DB valuation reports to GRS	1/20/23		1/27/23	Buck	TRS sent on 1/20. PERS sent on 1/27. Revised PERS sent on 2/3 (projections were modified). JRS sent on 4/17. NGNMRS sent on 5/30.
26	Monthly audit discussion with GRS / Buck	2/15/23	2/17/23	2/17/23	GRS / Buck	
27	Draft actuarial review report to Buck	3/7/23		3/14/23	GRS	
28	Monthly audit discussion with GRS / Buck	3/15/23	3/7/23	not needed	GRS / Buck	
29	Actuarial Committee Meeting - 6/30/22 valuation results (full), projections, sensitivity analysis, draft valuation reports	3/15/23		3/15/23	All	Juneau. Deadline for meeting materials is 2/24.
30	Monthly audit discussion with GRS / Buck	4/19/23		not needed	GRS / Buck	
31	ARMB Meeting - follow-up to March meeting (if needed)	April 2023 - TBD		not needed	All	Teleconference.
32	Monthly audit discussion with GRS / Buck	5/17/23		not needed	GRS / Buck	
33	Monthly audit discussion with GRS / Buck	6/7/23			GRS / Buck	
34	Actuarial Committee Meeting - final valuation reports	6/14/23			All	Anchorage. Deadline for meeting materials is 5/26.

Note: All deadline and completion dates are specific to PERS and TRS.

ALASKA RETIREMENT MANAGEMENT BOARD

Actuarial Committee

SUBJECT: Certification of Actuarial Review

ACTION: X

DATE: June 14, 2023

INFORMATION:

BACKGROUND:

AS 39.10.220 (a) (9) prescribes certain duties and reports that the Alaska Retirement Management Board is responsible for securing from a member of the American Academy of Actuaries. Additionally, it contains a requirement that “the results of all actuarial assumptions prepared under this paragraph shall be reviewed and certified by a second member of the American Academy of Actuaries before presentation to the board.”

AS 37.10.220(a)(9) provides that “the results of all actuarial assumptions prepared under this paragraph shall be reviewed and certified by a second member of the American Academy of Actuaries before presentation to the Board.”

STATUS:

Buck Global, LLC (Buck), the board’s primary actuary, has completed valuation reports of the following two (2) defined benefit plans as of June 30, 2022:

- Public Employees’ Retirement System (PERS)
- Teachers’ Retirement System (TRS)

The following two (2) defined contribution plans as of June 30, 2022:

- PERS Tier IV for Occupational Death & Disability and Retiree Medical Benefits
- TRS Tier III for Occupational Death & Disability and Retiree Medical Benefits

Gabriel Roeder Smith & Company (GRS), the board’s review actuary, has reviewed the valuation reports prepared by Buck and provided a letter and report describing a review of the above listed valuation reports.

GRS compiled and reviewed an audit findings list (incorporated in the report referenced above) setting out recommendations and suggestions from the GRS review reports for further discussion or action.

RECOMMENDATION:

The Actuarial Committee recommends that the Alaska Retirement Management Board accept the review and certification of the FY 2022 actuarial reports by Gabriel Roeder Smith & Company.

ALASKA RETIREMENT MANAGEMENT BOARD

Actuarial Committee

SUBJECT: Acceptance of Actuarial Valuation Reports
PERS / TRS DB & DCR

ACTION: X

DATE: June 14, 2023

INFORMATION:

BACKGROUND:

AS 37.10.220(a)(8) prescribes that the Alaska Retirement Management Board (Board) “coordinate with the retirement system administrator to have an annual actuarial valuation of each retirement system prepared to determine system assets, accrued liabilities, and funding ratios and to certify to the appropriate budgetary authority of each employer in the system.”

AS 37.10.220(a)(9) provides that “the results of all actuarial assumptions prepared under this paragraph shall be reviewed and certified by a second member of the American Academy of Actuaries before presentation to the Board.”

STATUS:

Buck Global, LLC (Buck), the Department of Administration’s and Plans’ actuary, has completed and reviewed the following results and reports with the Board’s Actuarial Committee on November 30, 2022, March 15, 2023, and June 14, 2023:

- 1) an actuarial valuation of the Public Employees’ Retirement System as of June 30, 2022
- 2) an actuarial valuation of the Teachers’ Retirement System as of June 30, 2022
- 3) an actuarial valuation of the Public Employees’ Retirement System – Defined Contribution Retirement Plan (for Occupational Death and Disability and Retiree Medical Benefits) as of June 30, 2022
- 4) an actuarial valuation of the Teachers’ Retirement System – Defined Contribution Retirement Plan (for Occupational Death and Disability and Retiree Medical Benefits) as of June 30, 2022

There are two assumption changes recommended and presented in the final reports:

- 1) At the June 2022 Board meeting, 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;
- 2) Healthcare claim costs are updated annually and described in Section 5.2 for the PERS and TRS DB and Section 4.2 for the PERS DCR and TRS DCR actuarial valuation reports; and
- 3) The Normal Cost load for administrative expenses was updated based on the most recent two years of actual amounts paid from plan assets.

Gabriel Roeder Smith & Company (GRS), the Board’s actuary, has reviewed the listed actuarial valuations and provided their reports and audit findings to the Actuarial Committee and the Board.

RECOMMENDATION:

The Actuarial Committee recommends that the Alaska Retirement Management Board accept the actuarial valuation reports prepared by Buck for the Public Employees', Teachers', Public Employees' Defined Contribution (for Occupational Death and Disability and Retiree Medical Benefits), and Teachers' Defined Contribution (for Occupational Death and Disability and Retiree Medical Benefits) retirement systems as of June 30, 2022.



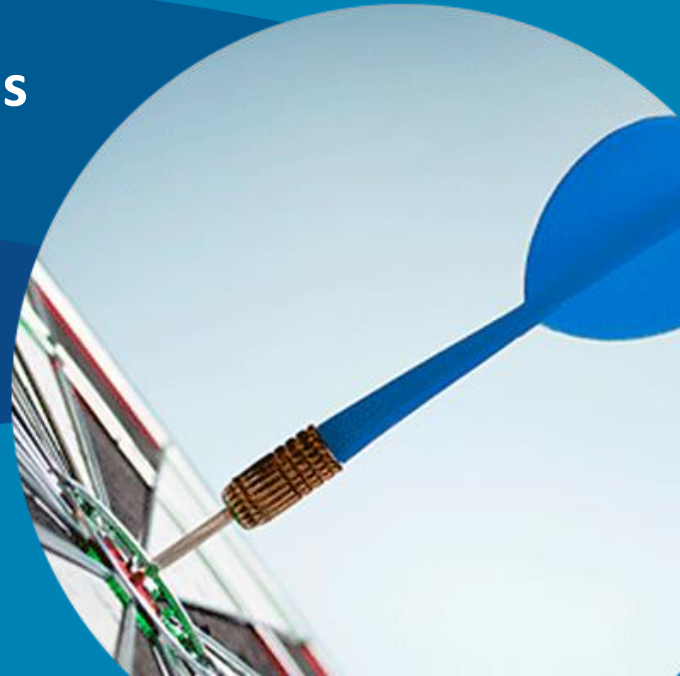
Alaska Retirement Management Board

Actuarial Review of June 30, 2022 Valuations

Paul Wood, ASA, FCA, MAAA

Bill Detweiler, ASA, EA, FCA, MAAA

June 14 & 15, 2023



Today's Agenda

- Quick review of finding and recommendations for PERS/TRS
- JRS Test Life Review

Test Life Review – PERS/TRS – Findings

- We identified one minor finding related to the new assumptions, and some minor findings related to data being used and the valuation of certain ancillary benefits, or related to unique characteristics of the test lives chosen
- We believe all of these findings are immaterial according to our standards of practice and, as long as Buck and the Board agree, recommend they be included in the next valuation

Test Life Review – PERS/TRS – Findings

- **Finding #1 - Date of Birth**
- **Finding #2 - Salary Increase Rate**
- **Finding #3 - Marriage Assumption**
- **Finding #4 - Occupational Death Lump Sum**
- **Finding #5 - Alaska COLA for Disabled Members**

Summary of Recommendations – PERS/TRS

- We recommend Buck continues to track the medical claims experience closely, particularly any impact from legislative changes
- We recommend Buck continue to disclose the nature and impact of all programming changes included in the valuation
- We recommend Buck generate a new gain/loss item that tracks the experience of the EGWP savings assumption
- We recommend that Buck implement the changes to their valuation methods as detailed in findings of the test life review
- We recommend Buck make some small modifications to their valuation reports to improve communication and disclosures

Test Life Review – Summary

JRS Pension

Actives		Test Case 1 - Pension		
<u>Basic Data:</u>				
Sex		Female		
Current Age		37.30		
Current Credited Service		1.22		
Present Value of Benefits (PVB)		GRS*	Buck	% Diff
<u>Retirement:</u>				
Normal Retirement Benefit		385,376	385,376	0.0%
Early Retirement Benefit		120,981	120,981	0.0%
Total Retirement PVB		506,357	506,356	0.0%
<u>Disability:</u>				
Disability Benefit		6,864	6,864	0.0%
Disability Benefit < 2		6	6	-0.1%
Total Disability PVB		6,870	6,870	0.0%
<u>Death:</u>				
Married and Eligible		965	965	0.0%
Married and Not Eligible		4,039	4,038	0.0%
Single		431	427	0.9%
Death Benefit < 2		8	8	0.0%
Total Death PVB		5,442	5,437	0.1%
<u>Withdrawal:</u>				
Nonvested		4,456	4,456	0.0%
Normal DV Benefit		113,604	113,605	0.0%
Normal DV Death Benefit		448	448	0.0%
Total Withdrawal PVB		118,508	118,508	0.0%
GRAND TOTAL PVB		637,176	637,172	0.0%
Inactives - PVB		GRS*	Buck	% Diff
Retiree - Pension		844,996	844,996	0.0%
Deferred Vested		645,431	646,096	-0.1%

Test Life Review – Summary

JRS Retiree Health

	Test Case 1 - Health		
Present Value of Benefits (PVB)	GRS	Buck	% Diff
<i>Retirement:</i>			
Benefit - Member	68,320.35	68,481.97	-0.2%
Benefit - Spouse	29,870.07	29,867.98	0.0%
Post 65 Part D Contribution - Member	(10,268.20)	(10,306.52)	-0.4%
Post 65 Part D Contribution - Spouse	(5,846.17)	(5,858.54)	-0.2%
Total Retirement PVB	82,076.06	82,184.89	-0.1%
<i>Inactives - PVB</i>			
Retiree - Health	93,761.42	96,986.00	-3.3%
Deferred Vested - Health	317,413.68	318,651.00	-0.4%
Total Retirement PVB	1,901,602.13	1,906,729.00	-0.3%

JRS Wrap Up

- No findings related to the test lives
- Still waiting on NGNMRS data
- Will issue the combined JRS/NGNMRS report after test lives are available

Questions?





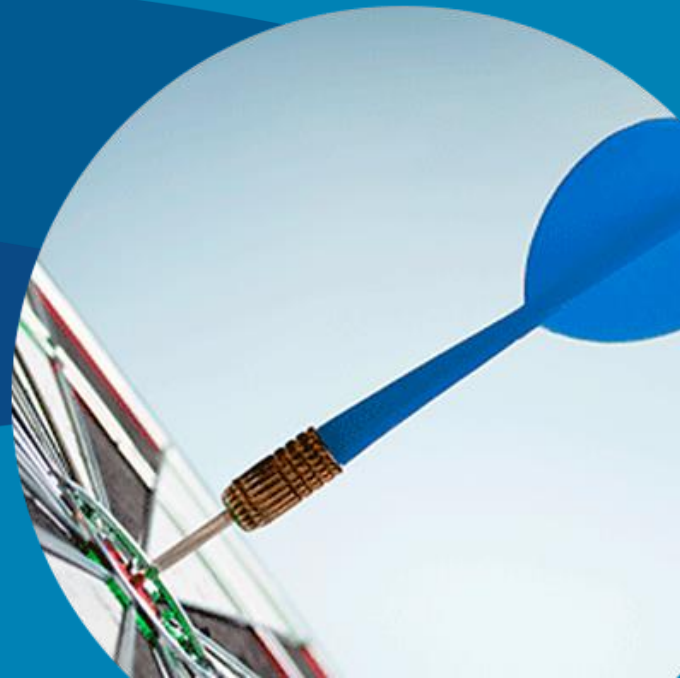
Alaska Retirement Management Board

Full Replication – New Assumptions

Paul Wood, ASA, FCA, MAAA

Bill Detweiler, ASA, EA, FCA, MAAA

June 14 & 15, 2023



ARMB Replication – New Assumptions

Overview

- New assumptions used in the June 30, 2022 valuations
- We updated our replication results from last year with the newly adopted assumptions

ARMB Replication – New Assumptions

Overview

- Full replication of the June 30, 2022 valuations for the following plans:
 - PERS Defined Benefit (DB) Pension & Medical
 - TRS DB Pension & Medical
 - PERS Defined Contribution Retirement (DCR) - Occupational Death & Disability (OD&D) and Medical
 - TRS DCR - OD&D and Medical
 - JRS DB Pension & Medical

ARMB Replication – New Assumptions

Overview

- The replication differs from the test life audit that we perform each year
- For the replication, we coded up all of the benefits and replicated the Present Value of Future Benefits (PVB), the Actuarial Accrued Liability (AAL) and the Actuarial Determined Employer Contribution (ADEC)

ARMB Replication – New Assumptions

Replication Results – PERS DB (\$ thousands)

		Buck		GRS	Difference
PVB - Pension	\$	16,637,092	\$	16,641,894	0.03%
PVB - Medical		<u>6,959,082</u>		<u>7,001,081</u>	0.60%
PVB - Total		23,596,174		23,642,975	0.20%
AAL	\$	22,750,748	\$	22,786,182	0.16%
AVA		<u>19,941,441</u>		<u>19,941,441</u>	0.00%
UAAL		2,809,307		2,844,741	
Funded Ratio		87.7%		87.5%	
Normal Cost	\$	184,966	\$	187,214	1.22%
ADEC \$	\$	537,027	\$	539,246	0.41%
ADEC %		21.79%		21.88%	

ARMB Replication – New Assumptions

Replication Results – TRS DB (\$ thousands)

	Buck	GRS	Difference
PVB - Pension	\$ 8,021,896	\$ 8,020,713	-0.01%
PVB - Medical	<u>2,543,179</u>	<u>2,549,408</u>	0.24%
PVB - Total	10,565,075	10,570,121	0.05%
AAL	\$ 10,246,623	\$ 10,245,104	-0.01%
AVA	<u>9,537,420</u>	<u>9,537,420</u>	0.00%
UAAL	709,203	707,684	
Funded Ratio	93.1%	93.1%	
Normal Cost	\$ 67,083	\$ 68,305	1.82%
ADEC \$	\$ 180,073	\$ 181,073	0.56%
ADEC %	23.40%	23.53%	

ARMB Replication – New Assumptions

Replication Results – PERS DCR (\$ thousands)

		Buck		GRS	Difference
PVB - OD&D	\$	49,008	\$	49,045	0.07%
PVB - Medical		<u>254,692</u>		<u>259,068</u>	1.72%
PVB - Total		303,700		308,112	1.45%
AAL	\$	184,348	\$	185,190	0.46%
AVA		<u>275,576</u>		<u>275,576</u>	0.00%
UAAL		(91,228)		(90,386)	
Funded Ratio		149.5%		148.8%	
Normal Cost	\$	18,809	\$	18,985	0.93%
ADEC \$	\$	165,865	\$	166,358	0.30%
ADEC %		6.73%		6.75%	

ARMB Replication – New Assumptions

Replication Results – TRS DCR (\$ thousands)

		Buck	GRS	Difference
PVB - OD&D	\$	2,401	\$ 2,384	-0.72%
PVB - Medical		<u>67,679</u>	<u>68,566</u>	1.31%
PVB - Total		70,080	70,950	1.24%
AAL	\$	47,996	\$ 48,167	0.36%
AVA		<u>75,103</u>	<u>75,103</u>	0.00%
UAAL		(27,107)	(26,936)	
Funded Ratio		156.5%	155.9%	
Normal Cost	\$	3,455	\$ 3,503	1.40%
ADEC \$	\$	56,100	\$ 56,100	0.00%
ADEC %		7.29%	7.29%	

ARMB Replication – New Assumptions

Replication Results – JRS

	Buck		GRS		Difference
PVB - Pension	\$	248,509,858	\$	248,530,624	0.01%
PVB - Medical		<u>24,999,669</u>		<u>24,767,405</u>	-0.93%
PVB - Total		273,509,527		273,298,029	-0.08%
AAL	\$	229,741,336	\$	229,652,592	-0.04%
AVA		<u>271,657,666</u>		<u>271,657,666</u>	0.00%
UAAL		(41,916,330)		(42,005,074)	
Funded Ratio		118.2%		118.3%	
Normal Cost	\$	6,317,811	\$	6,142,785	-2.77%
ADEC \$	\$	6,887,739	\$	6,715,312	-2.50%
ADEC %		51.53%		50.24%	

ARMB Replication – New Assumptions

Evaluation of Results

- Overall, the replications produced results that were within a reasonable range
- The match on the Present Value of Benefits and Actuarially Accrued Liability is generally within 2%, and often less than 1%
- This can be considered a highly successful replication of the aggregate results
- This replication of the actuarial accrued liabilities indicates that the liabilities presented in the retained actuary's valuation reports provided a reasonable representation of the AAL based on the assumptions, methods and procedures used by the retained actuary in the actuarial valuation

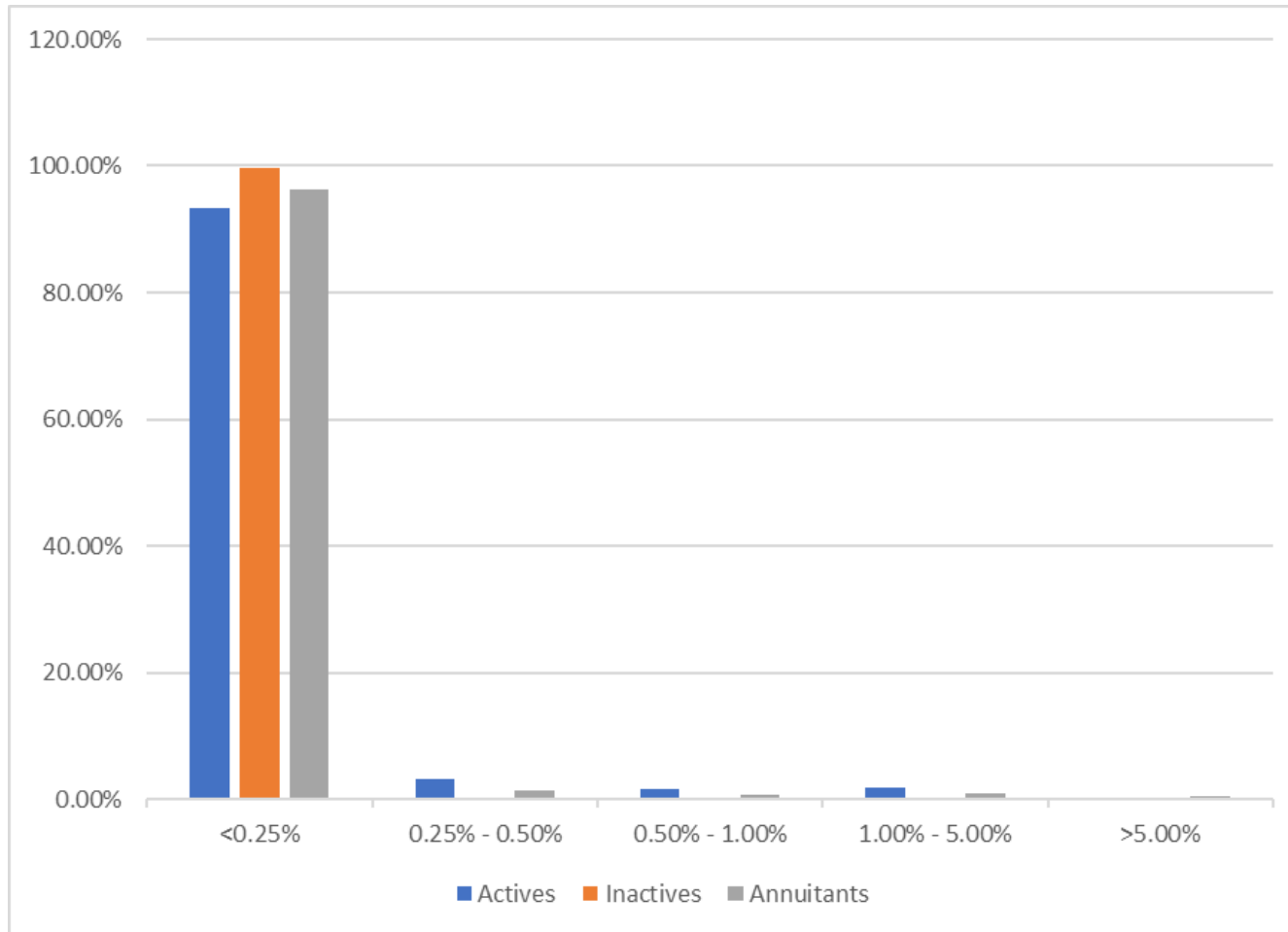
ARMB Replication – New Assumptions

Evaluation of Results – Individual PVB

- Buck provided the Present Value of Benefits for all individuals with liabilities under the plan
- GRS was able to compare the results for each individual valued in the liabilities
- As an example, the chart on the next page shows the distribution of the percent differences in the present value of benefits by individual for the PERS and TRS pension
- This information will be very helpful in future test life reviews as it will inform our request for certain types of test lives

ARMB Replication – New Assumptions

Evaluation of Results – Individual PVB



ARMB Replication – New Assumptions

Conclusions

- We have performed both a test life review and a full replication
- Our results are within a reasonable range of the Buck valuations
- It is our opinion that the Buck valuation conclusions accurately portray the actuarial status of the systems and are reflected in the required contribution rates

ARMB Replication – New Assumptions

Next Steps

- The full replication gives us insights into the test lives we should be requesting for the next review
- We will identify some additional test lives to check to pinpoint any particular issues that can be incorporated into future valuations

Questions?



Alaska Retirement Management Board

COMMITTEE SELF-ASSESSMENT

Actuarial Committee

Self-assessment within the meaning of the committee's charter may be achieved by discussion, at least twice a year, of the following questions:

	YES	NO
1. Are discussions at the committee level meaningful and, if not, what can be done about it?		
2. Is the committee touching on key issues; what key issues are being missed?		
3. Is the committee giving appropriate time to key issues?		
4. Does the work of the Actuarial Committee appropriately meet the needs of the Board by reducing necessary Board meeting time spent on the matters that come before the Actuarial Committee?		

Alaska Retirement Management Board
CHARTER OF THE ACTUARIAL COMMITTEE

I. Actuarial Committee Purpose.

The Actuarial Committee (Committee) assists the Alaska Retirement Management Board (Board) in fulfilling the Board's function of independent oversight of the integrity of the Alaska Retirement Management Board's (Board) retirement systems' actuarial valuations, experience analyses, and other requested reports and analysis, including compliance with legal, accounting, and regulatory requirements. It also serves as a conduit of communication between the Actuary, the Review Actuary, the Audit Actuary, Department of Administration (DOA) and Department of Revenue (DOR) staff, and the Board.

The Committee has the authority to conduct any review appropriate to fulfilling its responsibilities and it has direct access to the independent actuaries, as well as DOR and DOA management and staff, and legal counsel. The Committee may recommend that the Board retain, at Board expense and consistent with applicable procurement requirements, special legal, accounting, or other consultants or experts it considers necessary in the performance of its duties.

II. Actuarial Committee Responsibilities and Duties.

A. The Committee shall assist the Board in carrying out the following responsibilities:

1. Coordinate with the retirement system administrator to have an annual actuarial valuation of each retirement system prepared to determine system assets, accrued liabilities, and funding ratios and to certify to the appropriate budgetary authority of each employer in the system (A) an appropriate contribution rate for normal costs; (B) an appropriate contribution rate for liquidating any past service liability; in this subparagraph, the appropriate contribution rate for liquidating the past service liability of the defined benefit retirement plan under AS 14.25.009 - 14.25.220 or the past service liability of the defined benefit retirement plan under AS 39.35.095 - 39.35.680 must be determined by a level percent of pay method based on amortization of the past service liability for a closed term of 25 years;

2. Review actuarial assumptions prepared and certified by a member of the American Academy of Actuaries and conduct experience analyses of the retirement systems not less than once every four years, except for health cost assumptions, which shall be reviewed annually; the results of all actuarial assumptions prepared under this paragraph shall be reviewed and certified by a second member of the American Academy of Actuaries before presentation to the board.

3. Review the annual actuarial valuations and any actuarial experience analysis prepared by the Actuary and the report prepared by the Review Actuary prior to presentation or distribution of any report.

4. Coordinate with staff to conduct an independent audit of the state's actuary not less than once every four years and review any audit report prepared by the Audit Actuary prior to presentation or distribution to the Board.

5. In consultation with management and the independent actuaries, consider the integrity of the actuarial reporting processes and controls, including the process for "closure" on the audit findings.

6. Review any significant changes to applicable actuarial principles and any items required to be communicated by the independent actuaries.

7. Review the independence and performance of the actuaries and periodically recommend to the Board the appointment of the independent actuaries or recommend approval of any discharge of actuaries when circumstances warrant.

8. Review, discuss and recommend for Board consideration any strategic issues related to the actuarial work.

9. Review and assess the adequacy of this Charter at least annually and submit recommended changes to it to the Board for approval.

10. Review and periodically perform self-assessment of the Committee's performance.

B. The Committee shall have the following responsibilities with respect to the ARMB's independent actuaries:

1. Schedule an annual pre-valuation entrance conference with the Actuary that includes DOA and DOR staff and the Review Actuary to discuss scope, staffing, locations, timeline, reliance upon management, and general approach to the annual valuation conducted for the retirement systems; and in the year that an actuarial experience analysis is conducted, schedule a similar entrance conference.

2. Discuss with management and the independent actuaries the actuarial principles and provide input as to the underlying assumptions and methods used in the preparation of the retirement systems' valuation reports and experience analyses to ensure the integrity of actuarial numbers used in preparation of accounting reports, compliance with GASB or other regulatory bodies, consistency with the actuarial policies of the plan, and alignment with the purpose of the reporting.

3. Review the Actuary's draft valuation and the Review Actuary's draft report (and the experience analysis and review when conducted); discuss the contents with the actuaries and monitor the follow-up on significant observations, findings, and recommendations.

4. Discuss with the independent actuaries the clarity and format of the presentations in appearances before the committee and the Board.

5. Meet with the actuaries, in the absence of management, to review findings, recommendations or other pertinent subjects.

6. Review Audit Actuary report (conducted every four years); discuss any significant findings with Actuary and management.

C. In addition to the foregoing, the Committee shall:

1. Perform such other activities consistent with this Charter, and governing law as the Committee considers necessary or appropriate or as the Board may otherwise request.

2. Maintain minutes of Committee meetings and periodically report to the Board on significant results of the Committee's activities.

Alaska Retirement Management Board

Actuarial Committee Schedule of 2023 Meetings

March 15, 2023 (Juneau/ Videoconference)

1. Discuss Draft Review Actuary Report;
2. Review Draft Valuation Reports; requests or recommendations for edits or corrections
3. Review Audit Findings List; proposed resolution and recommendations
4. Optional Renewal for Actuary Contract (Buck) for FY24
4. Education Topic:

April TBD, 2023 (Videoconference)

1. *If necessary* – scheduled to follow up on discussion/findings/questions from March meeting

June 14, 2023 (Anchorage/ Videoconference)

1. Review and discussion of final review reports and valuations, including any items brought forward from March meeting
2. Action: Recommendations from committee to board for acceptance of review reports and valuations
3. Recommendation from committee to board for action on Audit Findings List
4. FY2023 valuation discussion
 - a. Valuation Timeline
 - b. Actuarial principles and underlying assumptions; any proposed new assumptions
 - c. Outstanding audit issues (Audit Findings List)
5. Committee Performance – Self Assessment
6. Education Topic:

September 13, 2023 (Anchorage/ Videoconference)

1. Review contribution rate resolutions/action memos for recommendation to Board
2. Status/Follow-up from previous meetings
3. Education Topic:

December 6, 2023 (Anchorage/ Videoconference)

1. Status Report/Discussion on Draft Actuarial Valuation and Second Actuary Review Process
2. Discussion of new trends and findings in actuarial matters
3. Committee Performance – Self Assessment
4. Education topic:

Periodic and As Needed Meeting Topics

1. Updates by DOA on actuary procurement.
2. Actuarial Committee training.

Alaska Retirement Management Board

Actuarial Committee

Proposed Schedule of 2024 Meetings

March 5, 2024 (Juneau/ Videoconference)

1. Discuss Draft Review Actuary Report;
2. Review Draft Valuation Reports; requests or recommendations for edits or corrections
3. Review Audit Findings List; proposed resolution and recommendations
4. Optional Renewal for Actuary Contract (Buck) for FY24
4. Education Topic:

April TBD, 2024 (Videoconference)

1. *If necessary* – scheduled to follow up on discussion/findings/questions from March meeting

June 11, 2024 (Anchorage/ Videoconference)

1. Review and discussion of final review reports and valuations, including any items brought forward from March meeting
2. Action: Recommendations from committee to board for acceptance of review reports and valuations
3. Recommendation from committee to board for action on Audit Findings List
4. FY2023 valuation discussion
 - a. Valuation Timeline
 - b. Actuarial principles and underlying assumptions; any proposed new assumptions
 - c. Outstanding audit issues (Audit Findings List)
5. Committee Performance – Self Assessment
6. Education Topic:

September 17, 2024 (TBD/ Videoconference)

1. Review contribution rate resolutions/action memos for recommendation to Board
2. Status/Follow-up from previous meetings
3. Education Topic:

December 3, 2024 (Anchorage/ Videoconference)

1. Status Report/Discussion on Draft Actuarial Valuation and Second Actuary Review Process
2. Discussion of new trends and findings in actuarial matters
3. Committee Performance – Self Assessment
4. Education topic:

Periodic and As Needed Meeting Topics

1. Updates by DOA on actuary procurement.
2. Actuarial Committee training.