

PUBLIC

ALASKA
RETIREMENT
MANAGEMENT
BOARD

MARCH
15, 2023

ACTUARIAL
COMMITTEE

**STATE OF ALASKA
ALASKA RETIREMENT MANAGEMENT BOARD**

ACTUARIAL COMMITTEE MEETING

March 15, 2023 – 1:00 p.m.

Location: State Office Building Department of Administration Large Conference Room, 10 th Floor 333 Willoughby Ave., Juneau, AK	Teleconference: Call-In #: 1-907-202-7104 Code: 739 534 743#
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- I. Call to Order**
- II. Roll Call**
- III. Public Meeting Notice**
- IV. A. Approval of Agenda
B. Approval of Minutes – November 30, 2022**
- V. Public / Member Participation, Communications and Appearances**
*(Three Minute Limit. Callers may need to press *6 to unmute.)*
- VI. Actuarial Update**
 - A. Buck/Gallagher Announcement**
 - B. June 30, 2022 Valuation Results (PERS, TRS, PERS-DCR, TRS-DCR, & JRS)**
 - C. 2022 Valuation Projections & Sensitivity Analysis (PERS / TRS)**
 - D. Valuation Timeline**
 - E. Draft June 30, 2022 Valuation Reports**
Tonya Manning, Chief Actuary, Buck
David Kershner, Principal, Consulting Actuary, Buck
Stephen Oates, Principal, Health Actuary, Buck
- VII. Review of Valuation Results and Recommendations**
Paul Wood, Actuary, Senior Consultant & Team Leader, GRS
Bill Detweiler, Consultant, GRS
- XI. Future Meetings**
 - A. Calendar Review**
 - B. Agenda Items**
 - C. Requests / Follow-Ups**
- XII. Public / Member Comments**
- XIII. Adjournment**

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

**November 30, 2022
1:30 p.m.**

**Originating at:
Atwood Conference Center
550 West 7th Avenue, 1st Floor
Anchorage, Alaska 99501**

Committee Members Present:

Allen Hippler, Chair

Donald Krohn

Lorne Bretz

Commissioner Adam Crum

Dennis Moen

Bob Williams

Michael Williams

Commissioner Paula Vrana

Committee Members Absent:

Sandra Ryan

Department of Revenue Staff Present:

Zach Hanna, Chief Investment Officer

Scott Jones, Head of Investment Operations,
Performance & Analytics

Shane Carson, State Investment Officer

Hunter Romberg, Senior Compliance Officer

Alysia Jones, Board Liaison

Pamela Leary, Director, Treasury Division

Ryan Kauzlarich, Assistant Comptroller

Sean Howard, State Investment Officer

Grant Ficek, Business Analyst

Leighan Gonzales, Executive Assistant

Department of Law Staff Present:

Ben Hofmeister, Assistant Attorney General

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

Ajay Desai, Director

Kevin Worley, Chief Financial Officer

Jim Puckett, Chief Pension Officer

Roberto Acevedo, Counseling &
Education Manager

Investment Advisory Council Present:

Ruth Ryerson

Dr. William Jennings

Buck Staff Present:

David Kershner, Principal, Consulting Actuary

Stephen Oates, Principal, Health Actuary

GRS Staff Present:

Paul Wood, Actuary, Senior Consultant, & Team Leader

Bill Detweiler, Consultant

Public Present:

Randall Burns, RPEA

PROCEEDINGS

CALL TO ORDER

CHAIR HIPPLER called the Actuarial Committee of the ARM Board to order and asked for a roll call.

MS. JONES called the roll.

PUBLIC MEETING NOTICE

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

MS. JONES replied, yes, it had.

APPROVE THE AGENDA

CHAIR HIPPLER asked for a motion to approve the agenda.

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

There being no objection, the MOTION was APPROVED.

APPROVAL OF MINUTES

CHAIR HIPPLER moved to the minutes of September 14, 2022 and entertained a motion.

MOTION: A motion to accept the minutes of September 14, 2022, was made by TRUSTEE KROHN; 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. He asked Ms. Jones if anyone indicated a desire to present.

MS. JONES replied no.

CHAIR HIPPLER moved to GRS and recognized Mr. Wood and Mr. Detweiler.

GRS PERSPECTIVE ON NORMAL COST AND HEALTH TRUST FUNDING LEVELS

MR. WOOD stated that the presentation was borne out of a conversation with Chair Bob Williams at the National Council on Teacher Retirement conference. The discussion came about over what their thoughts were on the retiree health care trust and whether the normal cost contribution should be made to that trust; given the level of funding. He explained the goal of this presentation was to walk through a risk tolerance framework, and help the Board develop a more robust method to make that decision at the September meeting. He began with a talk about the pension funding and liabilities. He talked about “funded ratio,” which was one of the main metrics that would be looked at. He shared the equation $C + I = B + E$, which means

contributions plus investment earnings equal the benefit plan plus expenses. The focus would be on whether that C portion, the contribution piece, needed to be made in a certain amount of that contribution in September. He then talked about developing the risk tolerance framework and shared a couple of ground rules. The projections were intended to model potential outcomes and did not guarantee any sort of results or outcome. He focused on investment risk and on some health care trends. He then focused on the range of expected outcomes and applied different probabilities to that range. He explained stochastic projections and how they were performed and noted that interpreting stochastic results is difficult. He continued through his presentation, detailing the risk tolerance framework.

TRUSTEE BOB WILLIAMS stated that Trustee Ryan was unable to be here, but she did go through the deck and provided comments. He shared that she recommended the Board look at doing a risk tolerance matrix. He continued that they were restricted and could not pull money from one thing and put it in another. They could talk about legislatively doing something where there would be an option of being able to make a decision about where to put the money.

MR. WOOD stated that this would be future money; nothing that was already in the trust. MR. KERSHNER commented that he thought it was a good idea to develop a risk tolerance framework. He recommended that it be revisited periodically, especially if legislative bills such as House Bill 55 and House Bill 220) passed, as adjustments to the risk tolerance framework would need to be made.

TRUSTEE BOB WILLIAMS thanked Mr. Wood for the presentation, which was very thorough, thoughtful, and helpful.

DISCUSSION: INFLATION OUTLOOK/PROJECTIONS

CHAIR HIPPLER stated that the Board asked for periodic updates on inflation and the inflation outlook, which was a significant topic over the last few years and would likely remain a significant topic moving forward. He recognized Mr. David Kershner.

MR. KERSHNER provided an update to the inflation projections presented at the September meeting. He noted that they added the third quarter of 2022 based on the GEMS model, and the capital market assumptions used in the recent experience study, Q1 2021. He went through and explained the data points and stated that 2.5 was the sweet spot, which was consistent with the Board's adopted rate.

MR. DETWEILER stated that he did not have much of an update from what he discussed at the last meeting regarding continuing to think for the long-term. That long-term outlook is what should be focused on, and not overreacting to short-term volatility.

CHAIR HIPPLER asked MR. DETWEILER what time horizon they look at and gave projection of medical cost inflation as an example. MR. DETWEILER responded to start with the inflation piece and build on top of that, in the range of 15 to 30 years. He added that it can vary by plan.

VALUATIONS AND ACTUARY REVIEW

PERS/TRS PRELIMINARY 2022 VALUATION RESULTS

CHAIR HIPPLER introduced Mr. Kershner and Mr. Oates, with Buck, to discuss the PERS and TRS preliminary 2022 valuation results.

MR. KERSHNER presented the preliminary June 30, 2022, valuation results for PERS and TRS, the defined benefit plans covering both pension and health care liabilities. He reviewed the purpose of the valuations and went through general observations and highlights in both of the assets and liabilities.

MR. OATES detailed what happened to the claims experience that affected the health care liabilities and then gave an update on the recently passed Inflation Reduction Act of 2022.

COMMISSIONER CRUM stated that what had been seen in this current fiscal year was an actual high utilization in the Medicaid program. He continued that the numbers over the last 18 months exceed the typical. That was measured based on check-writes on a weekly basis, which had been creeping up.

INFLATION REDUCTION ACT OF 2022 – IMPACTS ON MEDICARE PART D

MR. OATES gave a heads-up that this Inflation Reduction Act was a meaningful, ambitious piece of legislation that would probably impact their program. He explained the liabilities being measured are based on prior law and noted that at the next measurement date this new law would be taken into consideration in evaluating the plan's liabilities. From an actuarial perspective, the funding from the Federal Government was expected to decrease significantly in 2025, and the liabilities are expected to go up because of that. The Federal Government is cutting how much they would pay for catastrophic-tier drugs from 80 percent to 40 percent, and it is actually split between the manufacturers and the Federal Government. They put in some price-control measures to try to rein in the health care trend on prescription drugs, which impacts the plan. He added that this was the highest trend assumption related to drugs. He continued through the impacts and concluded his presentation.

MR. KERSHNER clarified that the results presented were for PERS and TRS only. The next steps would be to complete the PERS DCR and TRS DCR valuations, the Judicial Plan, and the National Guard valuation. He continued that the Judicial Plan and National Guard evaluations are done once every two years. Their full valuation is done in even years, and the 2022 valuation was a full valuation based on updated data. Those valuations would be completed. Projections of the assets, contributions, and liabilities for PERS and TRS will be done, and the sensitivity analysis will then be introduced.

ACTUARY REVIEW

CHAIR HIPPLER moved to the Actuary Review with GRS.

MR. DETWEILER stated that the return had just begun. Test lives were received from Buck, and we have started to review those test lives. He continued that the focus on the test lives in this year's review were the new assumptions that were proposed and adopted by the Board to make sure that those were being properly applied to the liabilities for this year. Also received was an additional detail on the claims cost development. He added that there would be more to come at the next meeting in March.

PERIODIC SELF-ASSESSMENT

CHAIR HIPPLER moved to the periodic self-assessment. He explained that this was a periodic review of how the committee was functioning; how it could do better. He went through the

questions individually and, there being no comments, he noted that the requirements are being met.

REVIEW COMMITTEE CHARTER

CHAIR HIPPLER moved to the review of the Actuarial Committee Charter and stated that if there was any updating or amending, to please let him know now or in the future.

FUTURE MEETINGS

CHAIR HIPPLER moved to reviewing the calendar for the year. The Actuarial Committee is scheduled to meet in April, '23, if follow-up from March '23 meeting is needed. He asked for questions or comments on the calendar. He then asked for any future agenda items or requests for follow-ups and noted development of a risk matrix to assist with the normal cost funding decision making process would be a future topic. He asked for any other items to come before the committee. He asked for any public or member comments. There being none, he asked for a motion to adjourn.

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

There being no objection, the MOTION was APPROVED.

(Actuarial Committee meeting adjourned at 3:15 p.m.)



State of Alaska

Presentation to ARMB Actuarial Committee

- Buck/Gallagher Announcement

Tonya Manning, FSA, EA, MAAA, FCA
US Wealth Practice Leader & Chief Actuary

March 15, 2023

Buck to be acquired by Arthur J. Gallagher & Co.



“I’m delighted to share an exciting and noteworthy milestone for Buck. Arthur J. Gallagher & Co. (“Gallagher”), a global insurance brokerage, risk management, and consulting services firm, has announced their agreement to acquire Buck globally. We expect the transaction to close in Q1 2023.

Buck is thrilled to be bringing our industry-leading capabilities to Gallagher’s best-in-class organization. Together, we’ll continue to build upon our excellent market reputations, breadth of talent, commitment to DE&I, and client-first mindset as we serve many of the world’s leading corporations and brands. We could not have achieved this result without the dedication of our exceptional global workforce.”

— Jack Freker, CEO, Buck.

Key facts about the deal

We'll be joining Gallagher's Benefits and HR Consulting division that offers services across Benefits, Compensation, Retirement, Employee Communication, Workplace Culture, and more – all very much aligned with Buck.

\$1.4 billion

Benefits and HR Consulting business

4,500+

Gallagher employees across North America, the U.K., Canada, and Australia in Benefits and HR Consulting

50%

Increase in headcount with the addition of Buck's team

Buck + Gallagher: Better together

Gallagher is an established Fortune 500 company and will bring added stability for Buck along with new opportunities for us to support your priorities.

What you can expect going forward

**Gallagher's
commitment**

to supporting Buck
and our clients

Superior service

from your current
Buck team members
will continue

Additional resources

to serve you even
more effectively than
we do today

**People-first,
client-centric culture**

as these are shared
priorities and we both
have demonstrated
commitments to DE&I



State of Alaska Retirement Systems

Presentation to ARMB Actuarial Committee

- June 30, 2022 Valuations Results (PERS, TRS, PERS DCR, TRS DCR, JRS)
- Valuation Projections & Sensitivity Analysis (PERS, TRS)
- Historical Figures (PERS, TRS)

March 15, 2023

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Purpose of the 2022 Valuations

Purpose of the 2022 Valuations

- Measure each plan's funded status as of June 30, 2022.
- Compare actual FY22 experience (assets and liabilities) to expected experience based on the assumptions used in the 2021 valuations.
 - Differences between actual and expected experience are the gains/losses.
- Calculate the effects of the new assumptions adopted by the ARMB in June 2022 based on the 2021 experience study.
- Provide the basis for FY25 contribution rates to be adopted by the ARMB in September 2023.

2022 Valuation Highlights

Highlights of Valuation Results

- **Assets** underperformed relative to expectations in FY22.

(\$millions)	PERS	TRS	PERS DCR	TRS DCR	JRS
FY22 Market Asset Loss	2,858	1,373	38	10	39

- **Pension liabilities** are higher than expected primarily due to larger CPI-based Postretirement Pension Adjustments (PRPAs) and salary increases that exceeded assumed increases.
- **Healthcare liabilities** are lower than expected primarily due to favorable claims experience.
- **New assumptions** had a relatively small impact on the liabilities.

Key Reasons for FY22 Liability Gains/(Losses) – PERS

(\$000's)

	Pension	Healthcare
PRPA increases due to 2021 CPI > expected	(162,028)	n/a
Salary increases > expected	(50,545)	n/a
Demographic experience	8,059	(417)
Claims experience	n/a	251,976
Changes in dependent coverage elections	n/a	17,064
Medicare Part B only experience	n/a	5,064
Other	<u>2,682</u>	<u>5,564</u>
Total - \$	(201,832)	279,251
Total - %	(1.3)%	4.1%

Key Reasons for FY22 Liability Gains/(Losses) – TRS

(\$000's)

	Pension	Healthcare
PRPA increases due to 2021 CPI > expected	(85,465)	n/a
Salary increases > expected	(30,870)	n/a
Demographic experience	(7,166)	(13,268)
Claims experience	n/a	94,487
Changes in dependent coverage elections	n/a	1,071
Medicare Part B only experience	n/a	1,235
Other	<u>2,942</u>	<u>1,813</u>
Total - \$	(120,559)	85,338
Total - %	(1.5)%	3.5%

FY22 Claims Experience Gains

- Key reasons for the \$252M (PERS) and \$94M (TRS) per capita claims cost gains:
 - Medical costs are lower than projected (7% lower for Pre-Medicare / 5% lower for Medicare)
 - EGWP subsidy provided by Segal increased by 16% from \$1,131 for 2022 to \$1,309 for 2023

Fiscal 2023 Valuation age 65 per capita cost	Medical			Prescription Drugs (Rx)		
	Pre-Medicare	Medicare Parts A & B	Medicare Part B Only	Pre-Medicare	Medicare	EGWP (Subsidy)
- Expected	16,929	1,706	5,629	3,615	3,721	(1,211)
- Actual	15,706	1,625	5,363	3,712	3,907	(1,309)
- Dollar (Gain) / Loss	(1,223)	(81)	(266)	97	186	(98)
- Percentage (Gain) / Loss	(7.2%)	(4.7%)	(4.7%)	2.7%	5.0%	(8.1%)

Individual Retiree Cost at Age 65 Actual vs Expected

Medical, Rx and EGWP Combined
Medicare Member with A&B



Pre-65 = Pre-Medicare Medical + Rx
Post-65 = Medicare A&B + Rx + EGWP

2022 Valuation Results

2022 Valuation Results – PERS

(\$000's)

	6/30/21	6/30/22	FY22 Gain/(Loss)	Increase/(Decrease) in 6/30/22 Liabilities for New Assumptions
Actuarial Accrued Liability				
Pension	15,419,975	16,093,679	(201,832)	205,891
Healthcare	6,856,170	6,657,069	279,251	(88,392)
Total	22,276,145	22,750,748	77,419	117,499
Actuarial Value of Assets				
Pension	10,466,709	10,961,498	127,582	
Healthcare	8,581,155	8,979,943	114,141	
Total	19,047,864	19,941,441	241,723	
Market Value of Assets				
Pension	11,912,309	10,816,140	(1,570,061)	
Healthcare	9,784,141	8,869,134	(1,288,435)	
Total	21,696,450	19,685,274	(2,858,496)	
Funded Ratio - Actuarial				
Pension	67.9%	68.1%		
Healthcare	125.2%	134.9%		
Total	85.5%	87.7%		
Funded Ratio - Market				
Pension	77.3%	67.2%		
Healthcare	142.7%	133.2%		
Total	97.4%	86.5%		

2022 Valuation Results – TRS

(\$000's)

	6/30/21	6/30/22	FY22 Gain/(Loss)	Increase/(Decrease) in 6/30/22 Liabilities for New Assumptions
Actuarial Accrued Liability				
Pension	7,471,887	7,804,046	(120,559)	144,033
Healthcare	2,439,603	2,442,577	85,338	20,542
Total	9,911,490	10,246,623	(35,221)	164,575
Actuarial Value of Assets				
Pension	5,910,369	6,100,204	74,323	
Healthcare	3,267,737	3,437,216	42,047	
Total	9,178,106	9,537,420	116,370	
Market Value of Assets				
Pension	6,731,481	6,026,651	(880,940)	
Healthcare	3,723,031	3,392,211	(491,853)	
Total	10,454,512	9,418,862	(1,372,793)	
Funded Ratio - Actuarial				
Pension	79.1%	78.2%		
Healthcare	133.9%	140.7%		
Total	92.6%	93.1%		
Funded Ratio - Market				
Pension	90.1%	77.2%		
Healthcare	152.6%	138.9%		
Total	105.5%	91.9%		

2022 Valuation Results – PERS DCR

(\$000's)

	6/30/21	6/30/22	FY22 Gain/(Loss)	Increase/(Decrease) in 6/30/22 Liabilities for New Assumptions
Actuarial Accrued Liability				
ODD	11,740	14,952	4,261	1,222
Healthcare	168,472	169,396	5,564	(22,348)
Total	180,212	184,348	9,825	(21,126)
Actuarial Value of Assets				
ODD	53,075	62,938	476	
Healthcare	180,536	212,638	1,638	
Total	233,611	275,576	2,114	
Market Value of Assets				
ODD	60,145	61,458	(8,596)	
Healthcare	204,555	207,686	(29,106)	
Total	264,700	269,144	(37,702)	
Funded Ratio - Actuarial				
ODD	452.1%	420.9%		
Healthcare	107.2%	125.5%		
Total	129.6%	149.5%		
Funded Ratio - Market				
ODD	512.3%	411.0%		
Healthcare	121.4%	122.6%		
Total	146.9%	146.0%		

2022 Valuation Results – TRS DCR

(\$000's)

	6/30/21	6/30/22	FY22 Gain/(Loss)	Increase/(Decrease) in 6/30/22 Liabilities for New Assumptions
Actuarial Accrued Liability				
ODD	205	199	353	0 *
Healthcare	44,396	47,797	90	(3,374)
Total	44,601	47,996	443	(3,374)
Actuarial Value of Assets				
ODD	5,843	6,700	56	
Healthcare	59,380	68,403	557	
Total	65,223	75,103	613	
Market Value of Assets				
ODD	6,623	6,557	(925)	
Healthcare	67,278	66,909	(9,418)	
Total	73,901	73,466	(10,343)	
Funded Ratio - Actuarial				
ODD	2850.2%	3366.8%		
Healthcare	133.8%	143.1%		
Total	146.2%	156.5%		
Funded Ratio - Market				
ODD	3230.7%	3295.0%		
Healthcare	151.5%	140.0%		

* Rounds to less than \$1,000

June 30, 2022 Valuation Results – JRS

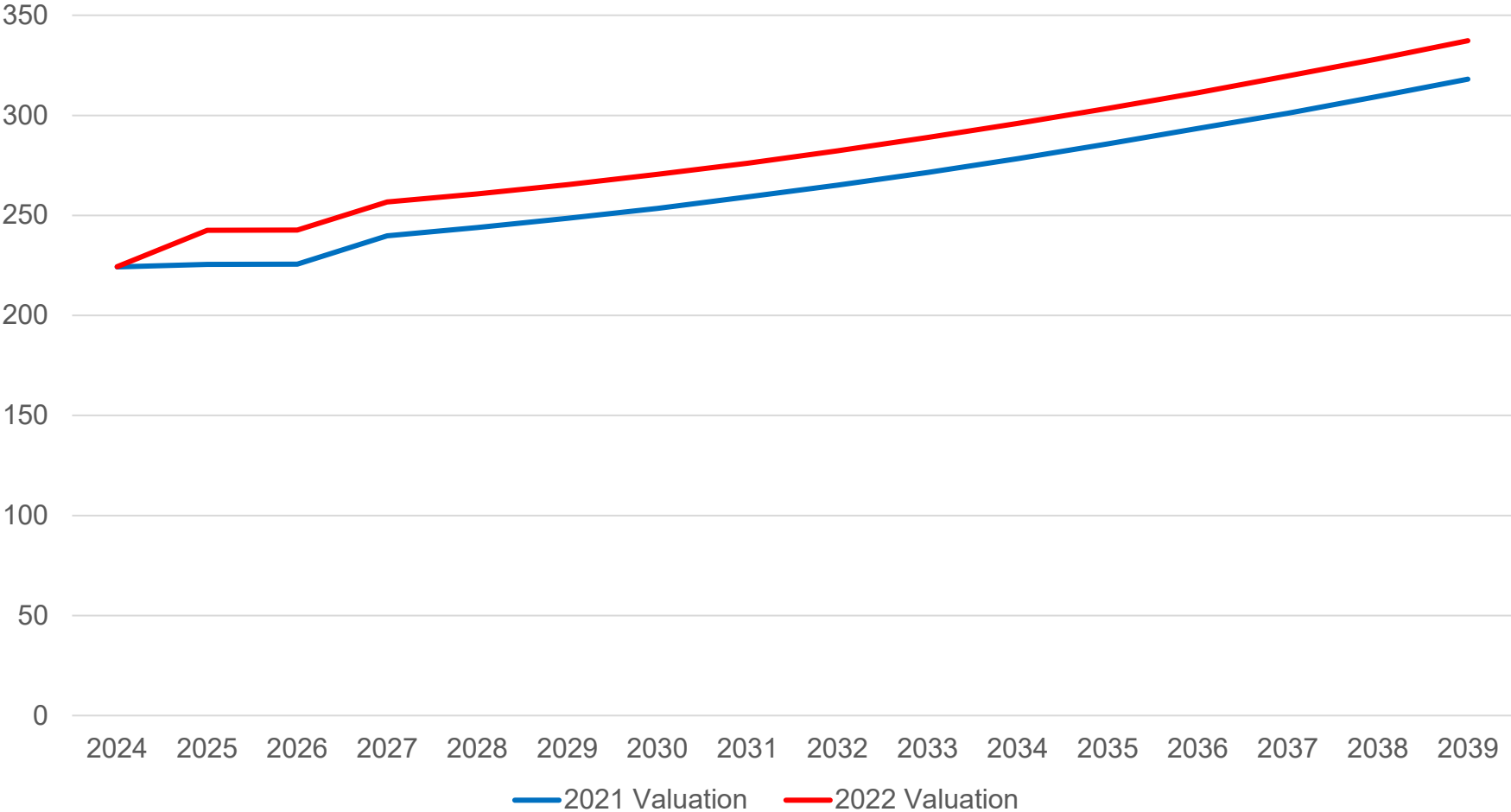
(\$000's)

	6/30/20	6/30/22	FY22 Gain/(Loss)	Increase/(Decrease) in 6/30/22 Liabilities for New Assumptions
Actuarial Accrued Liability				
Pension	211,742	211,705	(2,627)	(16,712)
Healthcare	16,764	18,036	557	(631)
Total	228,506	229,741	(2,070)	(17,343)
Actuarial Value of Assets				
Pension	194,788	230,802	2,443	
Healthcare	34,806	40,856	477	
Total	229,594	271,658	2,920	
Market Value of Assets				
Pension	189,844	227,182	(32,754)	
Healthcare	34,037	40,268	(5,791)	
Total	223,881	267,450	(38,545)	
Funded Ratio - Actuarial				
Pension	92.0%	109.0%		Liability gain/(loss) is for FY21 and FY22. 6/30/22 healthcare liabilities reflect a decrease of \$224K for medical and Rx plan changes that were made in FY21.
Healthcare	207.6%	226.5%		
Total	100.5%	118.2%		
Funded Ratio - Market				
Pension	89.7%	107.3%		
Healthcare	203.0%	223.3%		
Total	98.0%	116.4%		

PERS/TRS State Contribution Projections

PERS – State-as-an-Employer Contributions

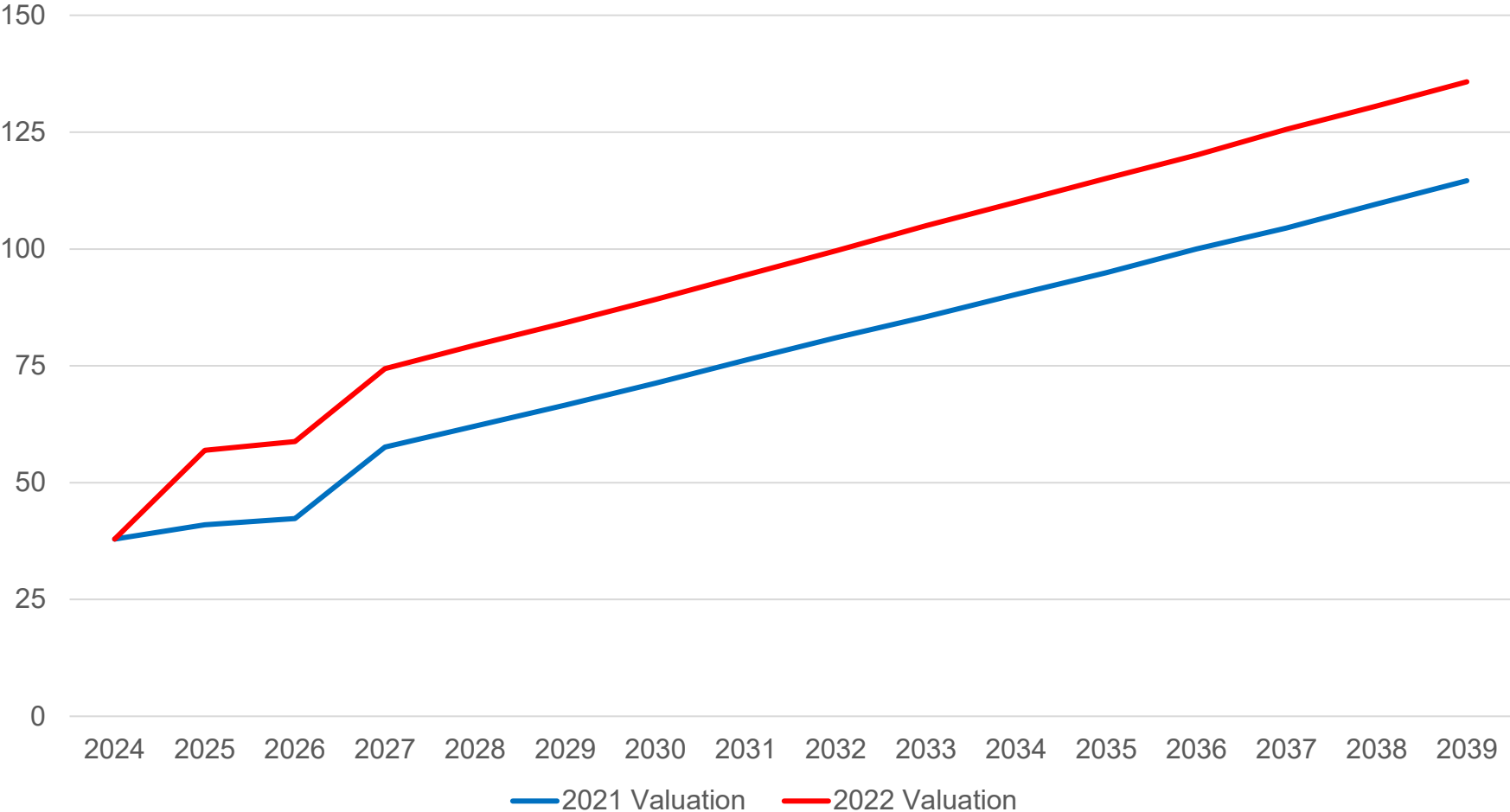
(\$millions)



All figures reflect the FY24 adopted contribution rates and assume 0% Normal Cost contribution to the Healthcare trust in FY25 and beyond.

PERS – Additional State Contributions

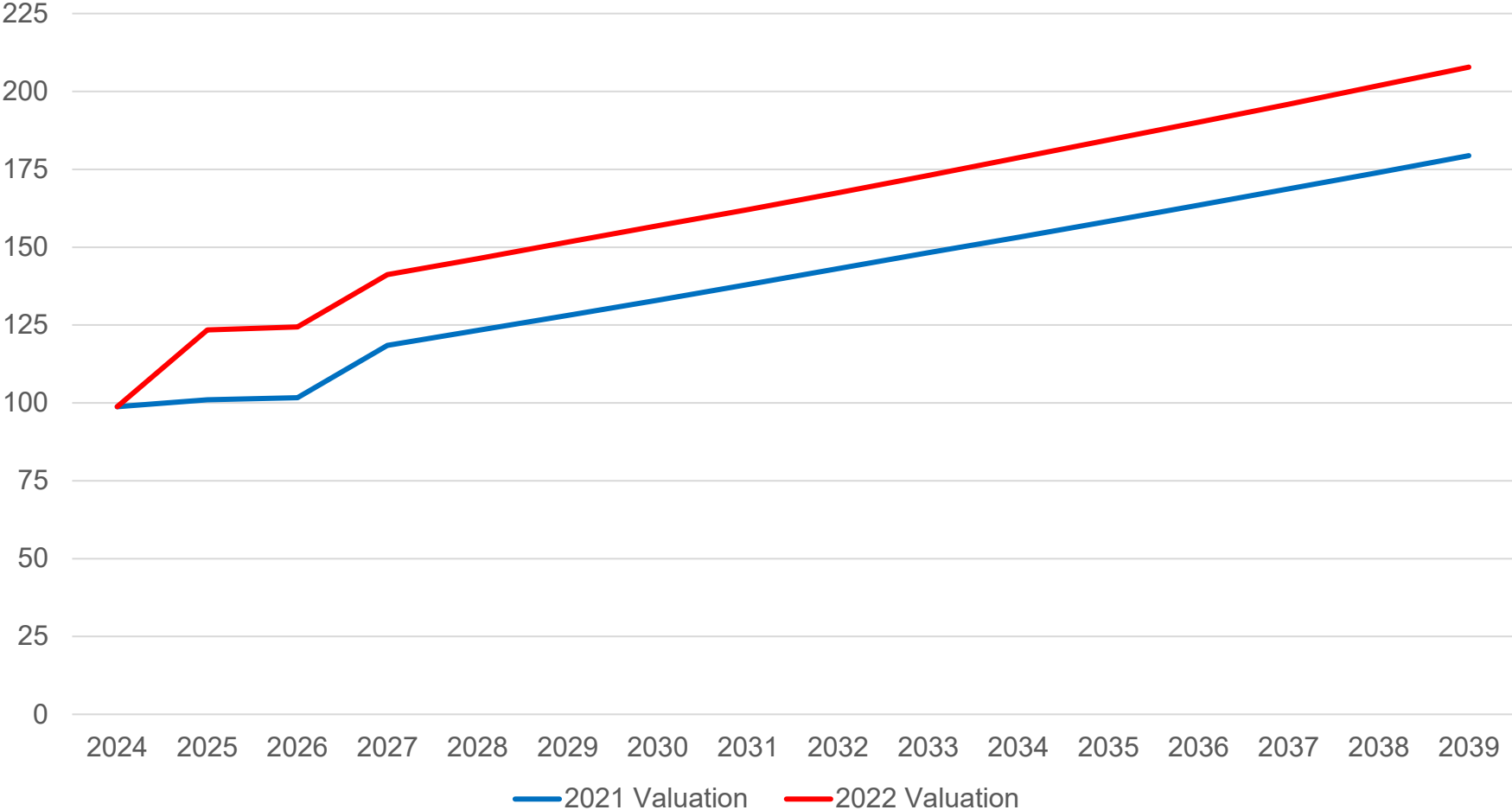
(\$millions)



All figures reflect the FY24 adopted contribution rates and assume 0% Normal Cost contribution to the Healthcare trust in FY25 and beyond.

TRS – Additional State Contributions

(\$millions)



All figures reflect the FY24 adopted contribution rates and assume 0% Normal Cost contribution to the Healthcare trust in FY25 and beyond.

State Contribution Projection Summary – PERS

(\$millions)

Fiscal Year	State-as-an-Employer Contributions			Additional State Contributions			Total State Contributions		
	2021 Valuation	2022 Valuation	Increase	2021 Valuation	2022 Valuation	Increase	2021 Valuation	2022 Valuation	Increase
2024	224	224	0	38	38	0	262	262	0
2025	226	243	17	41	57	16	267	300	33
2026	226	243	17	42	59	17	268	302	34
2027	240	257	17	58	74	17	297	331	34
2028	244	261	17	62	79	17	306	340	34
2029	249	265	17	67	84	18	315	350	34
2030	254	271	17	71	89	18	325	360	35
2031	259	276	17	76	94	18	335	371	35
2032	265	282	17	81	100	19	346	382	36
2033	272	289	17	86	105	20	357	394	37
2034	278	296	18	90	110	20	369	406	37
2035	286	304	18	95	115	20	381	419	38
2036	293	311	18	100	120	20	393	431	38
2037	301	320	19	105	126	21	406	445	40
2038	309	328	19	110	131	21	419	459	40
2039	318	337	19	115	136	21	433	473	40
2040-2052	270	476	206	0	0	0	270	476	206
Total	4,512	4,982	469	1,235	1,517	282	5,748	6,499	751

All figures reflect the FY24 adopted contribution rates and assume 0% Normal Cost contribution to the Healthcare trust in FY25 and beyond.

State Contribution Projection Summary – TRS

(\$millions)

Fiscal Year	Additional State Contributions		
	2021 Valuation	2022 Valuation	Increase
2024	99	99	0
2025	101	123	22
2026	102	124	23
2027	119	141	23
2028	123	146	23
2029	128	152	24
2030	133	157	24
2031	138	162	24
2032	143	168	24
2033	148	173	25
2034	153	179	26
2035	158	184	26
2036	164	190	27
2037	169	196	27
2038	174	202	28
2039	179	208	28
2040-2052	0	15	15
Total	2,231	2,619	388

All figures reflect the FY24 adopted contribution rates and assume 0% Normal Cost contribution to the Healthcare trust in FY25 and beyond.

PERS/TRS Sensitivity Analysis

Sensitivity Analysis – Background

- The projections shown on slides 17-21 assume all experience after FY22 matches the valuation assumptions.
- We also ran the 2022 valuation projections under the following **adverse experience** scenario:

Variable	Adverse Experience	Period*
Market Asset Returns	2.5%	FY23 – FY27
Healthcare Trend Increases	Valuation trend + 10%	FY23 – FY27
Inflation Rate	6%	FY23 – FY24

* For all other years, experience is assumed to match the valuation assumptions.

- For purposes of this analysis, the effect of higher inflation is measured only by the impact on PRPAs and salary increases.
- All sensitivity analysis figures reflect the FY24 adopted contribution rates and assume **100%** Normal Cost contribution to the Healthcare trust in FY25 and beyond (which is different than what was assumed for the projections on slides 17-21).

Sensitivity Analysis – Observations

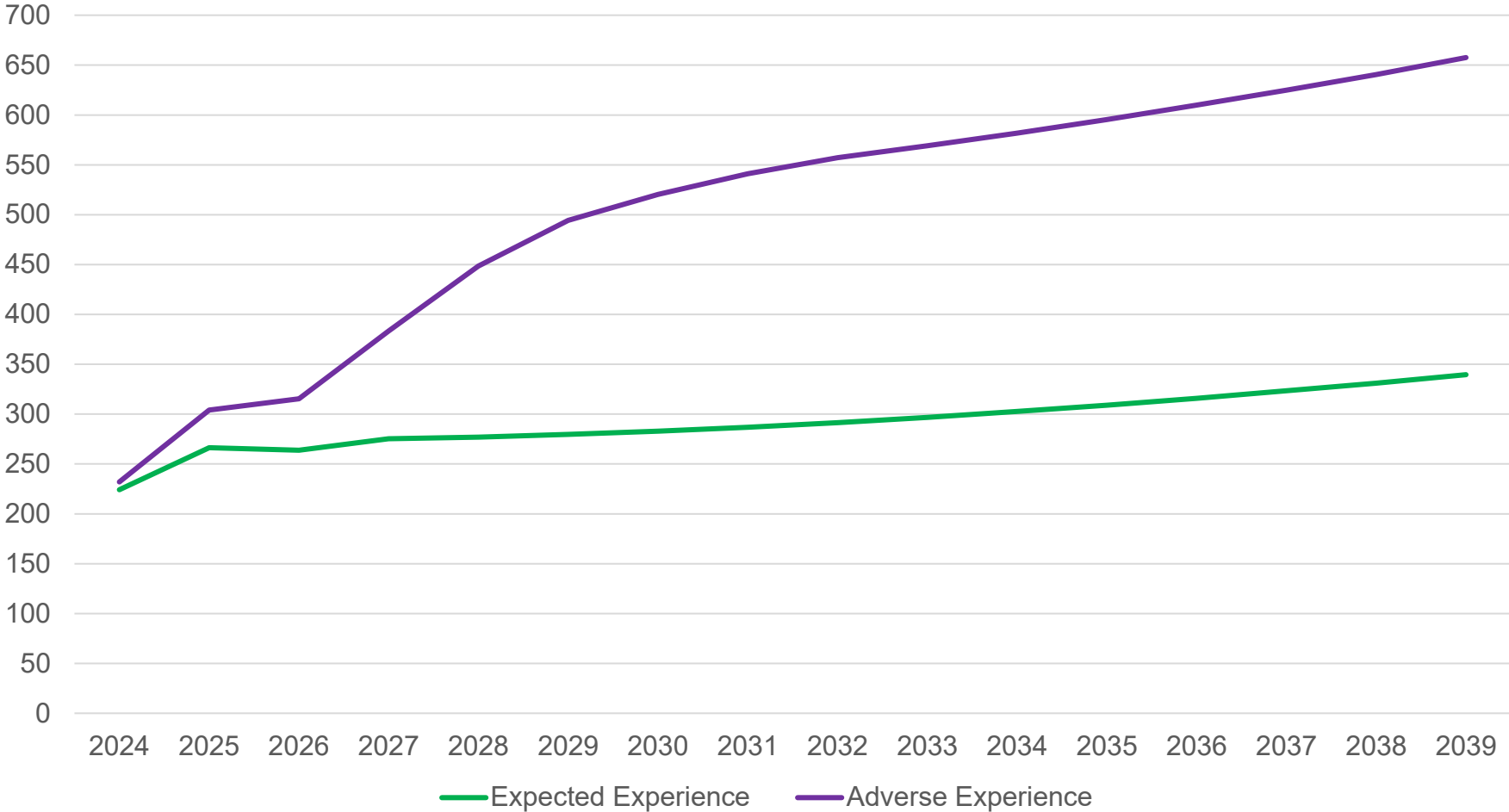
- The choice of the 2.5% return for 5 years was based on the average market return during the 10-year period 2000-2009.
- The likelihood of 5 consecutive years with healthcare trends 10% above the current trend assumption (which starts in the 5.5%-7.5% range and declines to 4.5% per year for FY50+) is pretty small.
- As expected, the adverse asset returns have the largest impact on the projected figures. The total market losses during the 5 years are projected to be about \$4B for PERS and \$2B for TRS.
- The increases in projected State Contributions through FY52 are summarized below (in \$millions):

	Adverse Asset Returns	Adverse Health Trend	Adverse Inflation	Total
PERS				
State-as-an-Employer Contributions	5,355	2,516	835	8,706
Additional State Contributions	4,641	794	285	5,720
Total	9,996	3,310	1,120	14,426
TRS				
Additional State Contributions	5,044	1,418	753	7,215

For purposes of this table, the effect of higher inflation is measured only by the impact on PRPAs and salary increases.

PERS – State-as-an-Employer Contributions

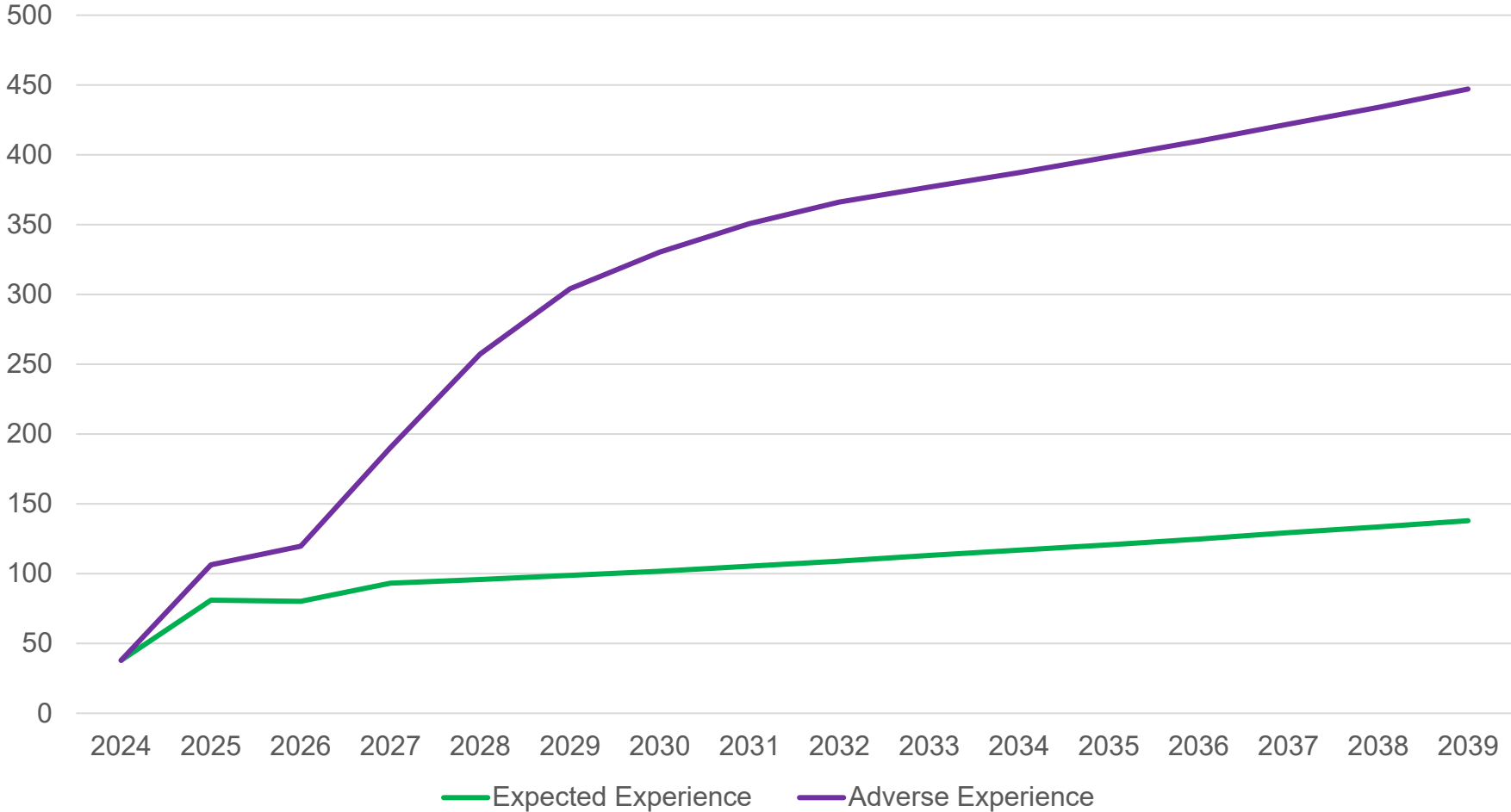
(\$millions)



All figures reflect the FY24 adopted contribution rates and assume **100%** Normal Cost contribution to the Healthcare trust in FY25 and beyond.

PERS – Additional State Contributions

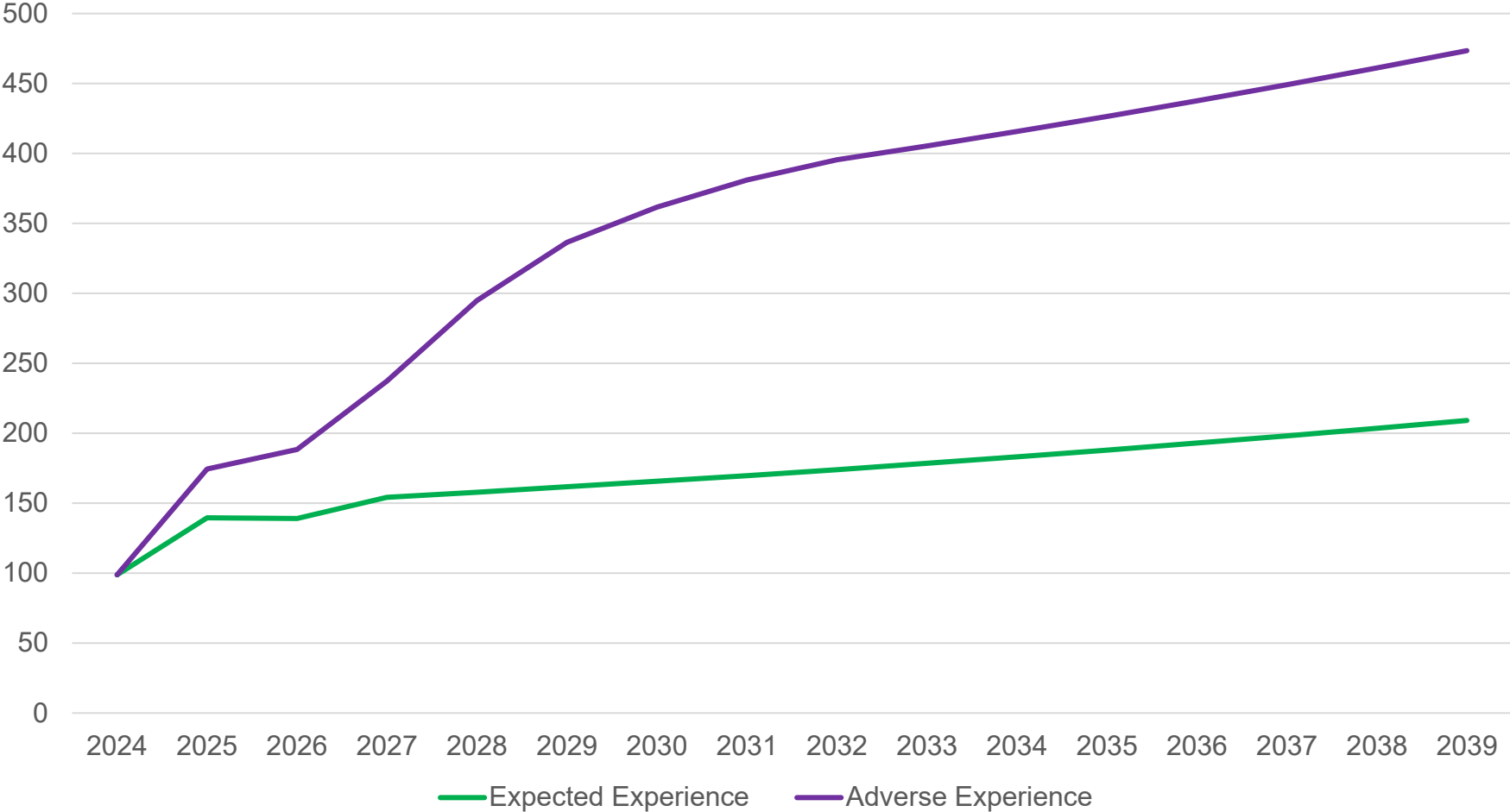
(\$millions)



All figures reflect the FY24 adopted contribution rates and assume **100%** Normal Cost contribution to the Healthcare trust in FY25 and beyond.

TRS – Additional State Contributions

(\$millions)



All figures reflect the FY24 adopted contribution rates and assume **100%** Normal Cost contribution to the Healthcare trust in FY25 and beyond.

State Contribution Projection Summary – PERS

(\$millions)

Fiscal Year	State-as-an-Employer Contributions			Additional State Contributions			Total State Contributions		
	Expected Experience	Adverse Experience	Increase	Expected Experience	Adverse Experience	Increase	Expected Experience	Adverse Experience	Increase
2024	224	232	8	38	38	0	262	270	8
2025	266	304	38	81	106	25	347	411	63
2026	264	315	52	80	120	39	344	435	91
2027	275	383	108	93	190	97	368	574	205
2028	277	448	172	96	257	161	373	706	333
2029	280	494	215	99	304	205	378	798	420
2030	283	520	237	102	330	229	385	851	466
2031	287	541	254	105	351	246	392	892	500
2032	292	557	266	109	366	257	401	923	523
2033	297	569	272	113	377	264	410	946	536
2034	303	582	279	117	387	271	420	969	550
2035	309	595	287	121	398	278	430	994	564
2036	316	610	294	125	410	285	441	1,020	579
2037	323	625	301	129	422	293	453	1,047	594
2038	331	641	309	134	434	301	465	1,075	610
2039	340	658	318	138	447	309	478	1,105	627
2040-2052	479	5,776	5,297	0	2,461	2,461	479	8,237	7,758
Total	5,145	13,851	8,706	1,679	7,399	5,720	6,824	21,250	14,426

All figures reflect the FY24 adopted contribution rates and assume **100%** Normal Cost contribution to the Healthcare trust in FY25 and beyond.

State Contribution Projection Summary – TRS

(\$millions)

Fiscal Year	Additional State Contributions		
	Expected Experience	Adverse Experience	Increase
2024	99	99	0
2025	140	175	35
2026	139	189	50
2027	154	237	83
2028	158	295	137
2029	162	337	175
2030	166	362	196
2031	170	381	211
2032	174	396	222
2033	179	405	227
2034	183	416	233
2035	188	426	238
2036	193	438	245
2037	198	449	251
2038	204	461	258
2039	209	473	264
2040-2052	15	4,406	4,391
Total	2,729	9,944	7,215

All figures reflect the FY24 adopted contribution rates and assume **100%** Normal Cost contribution to the Healthcare trust in FY25 and beyond.

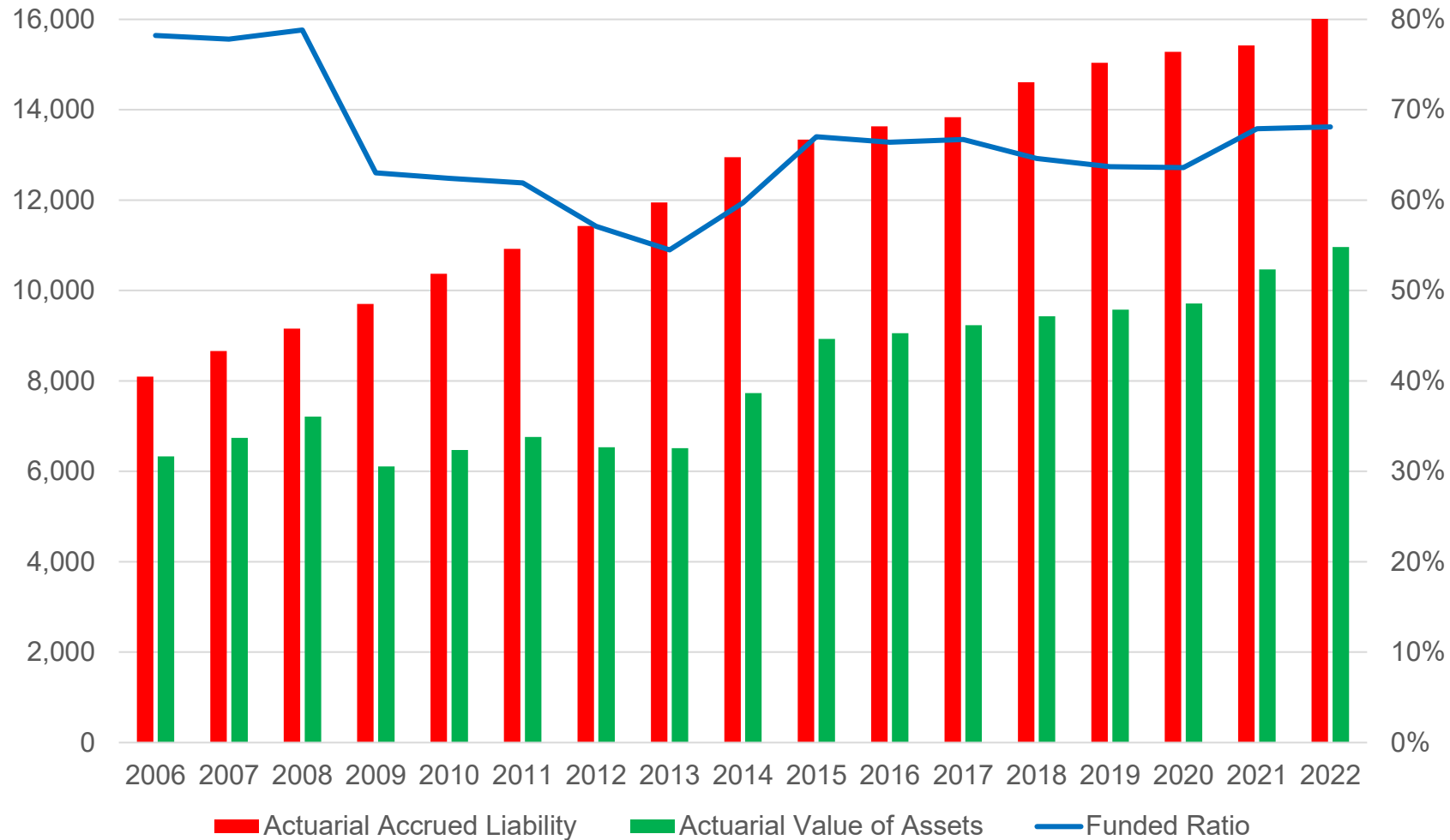
Projected Funded Ratios

June 30	PERS - Pension		PERS - Healthcare		TRS - Pension		TRS - Healthcare	
	Expected Experience	Adverse Experience	Expected Experience	Adverse Experience	Expected Experience	Adverse Experience	Expected Experience	Adverse Experience
2022	68%	68%	135%	135%	78%	78%	141%	141%
2023	69%	67%	136%	127%	78%	76%	142%	133%
2024	70%	65%	138%	113%	79%	73%	144%	118%
2025	71%	64%	141%	100%	80%	72%	147%	105%
2026	70%	60%	140%	84%	78%	67%	146%	89%
2027	70%	58%	142%	73%	79%	64%	149%	77%
2028	71%	56%	145%	67%	79%	62%	152%	71%
2029	72%	55%	148%	64%	80%	60%	156%	68%
2030	73%	55%	152%	62%	81%	59%	160%	66%
2031	74%	55%	156%	61%	82%	59%	165%	65%
2032	76%	57%	160%	61%	83%	60%	170%	65%
2033	77%	58%	165%	60%	84%	61%	176%	64%
2034	79%	59%	171%	60%	85%	62%	182%	63%
2035	81%	61%	177%	59%	87%	63%	190%	63%
2036	84%	64%	185%	58%	89%	65%	198%	62%
2037	87%	66%	193%	58%	91%	67%	208%	61%
2038	90%	69%	202%	57%	94%	69%	218%	60%
2039	95%	73%	213%	56%	98%	73%	230%	59%

All figures reflect the FY24 adopted contribution rates and assume **100%** Normal Cost contribution to the Healthcare trust in FY25 and beyond.

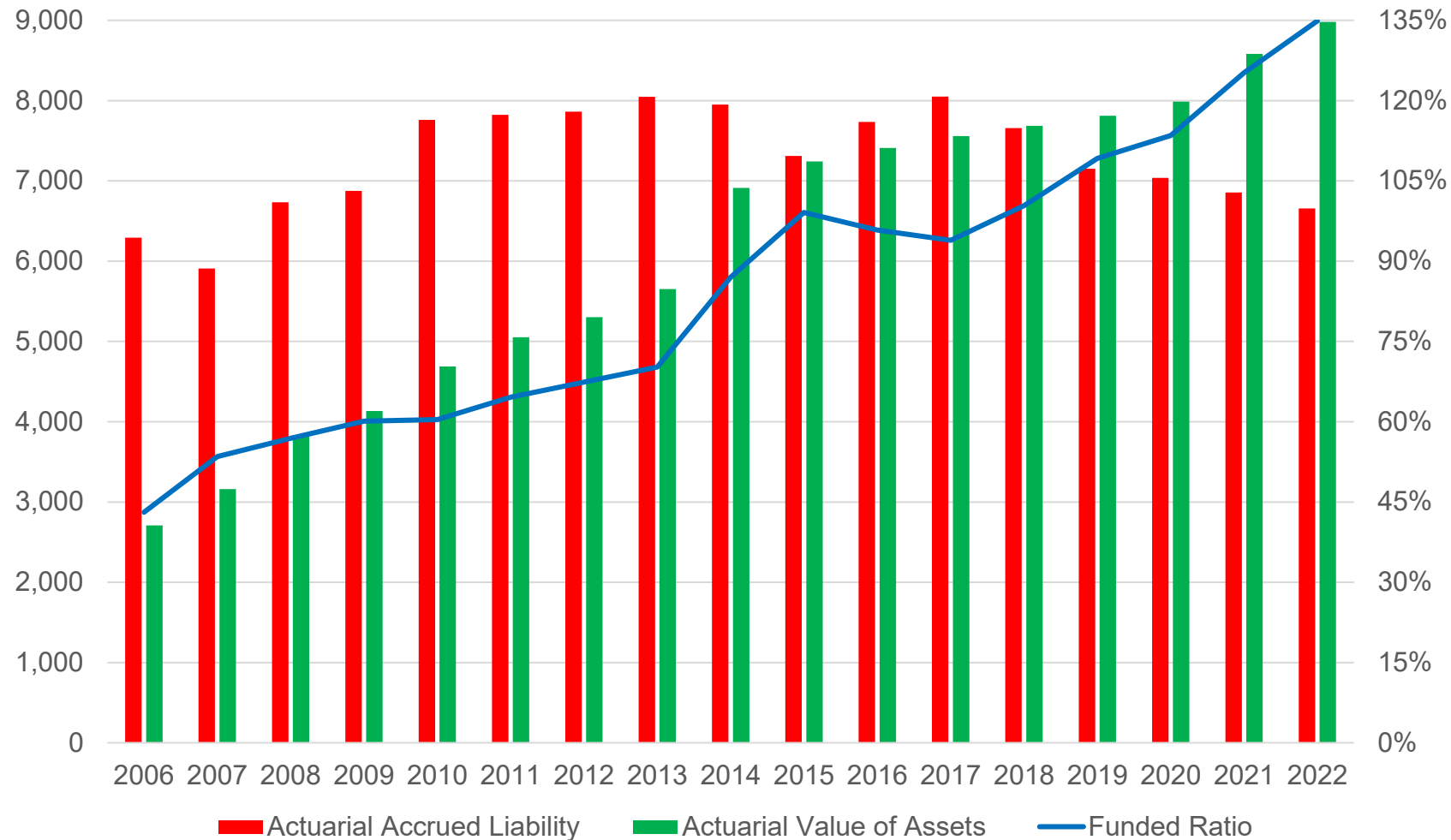
PERS/TRS Historical Figures (2006-2022)

Assets, Liabilities and Funded Ratio – PERS Pension (\$millions)



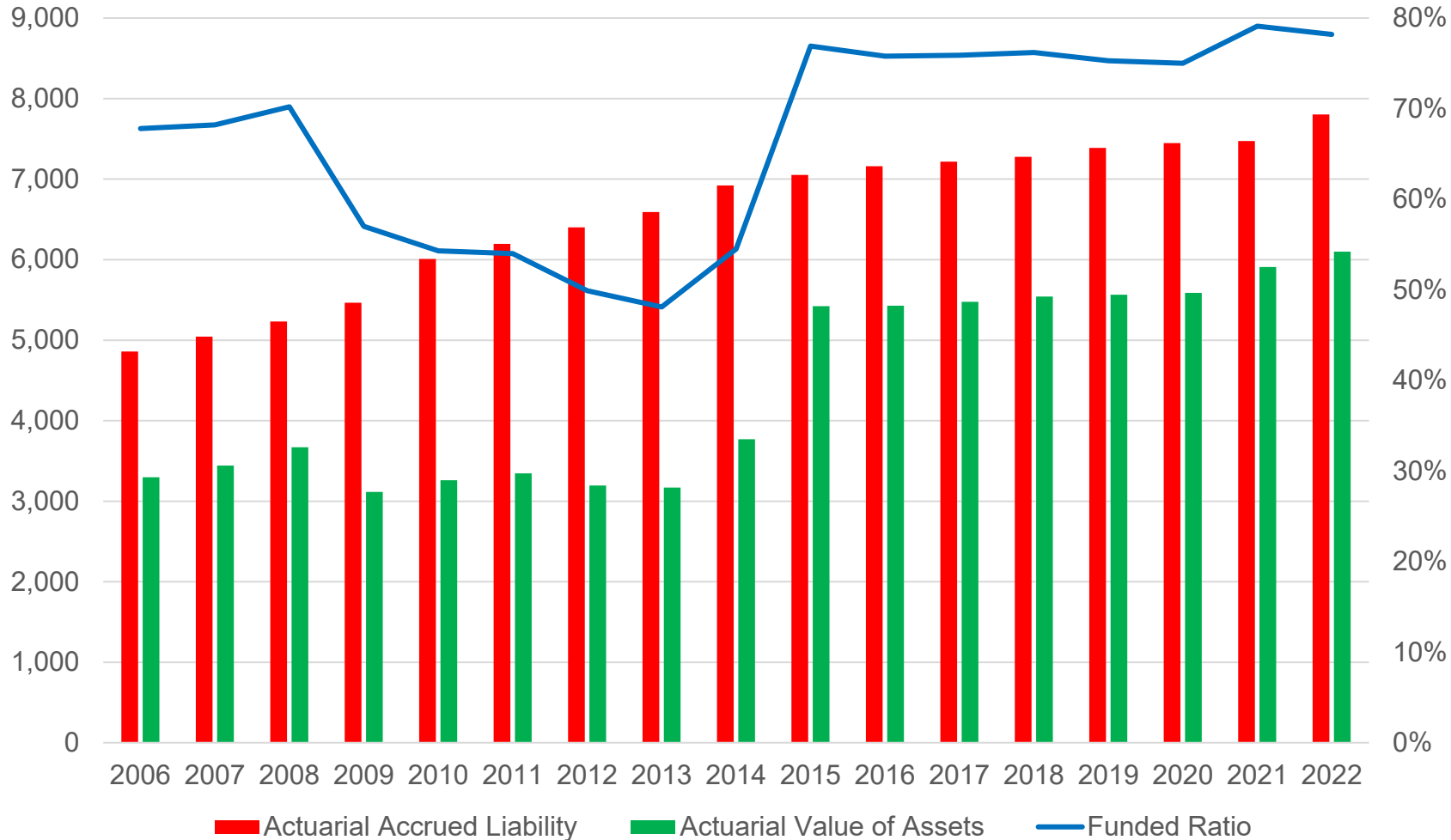
2006 Funded Ratio: 78.2%
2022 Funded Ratio: 68.1%

Assets, Liabilities and Funded Ratio – PERS Healthcare (\$millions)



2006 Funded Ratio: 43.1%
2022 Funded Ratio: 134.9%

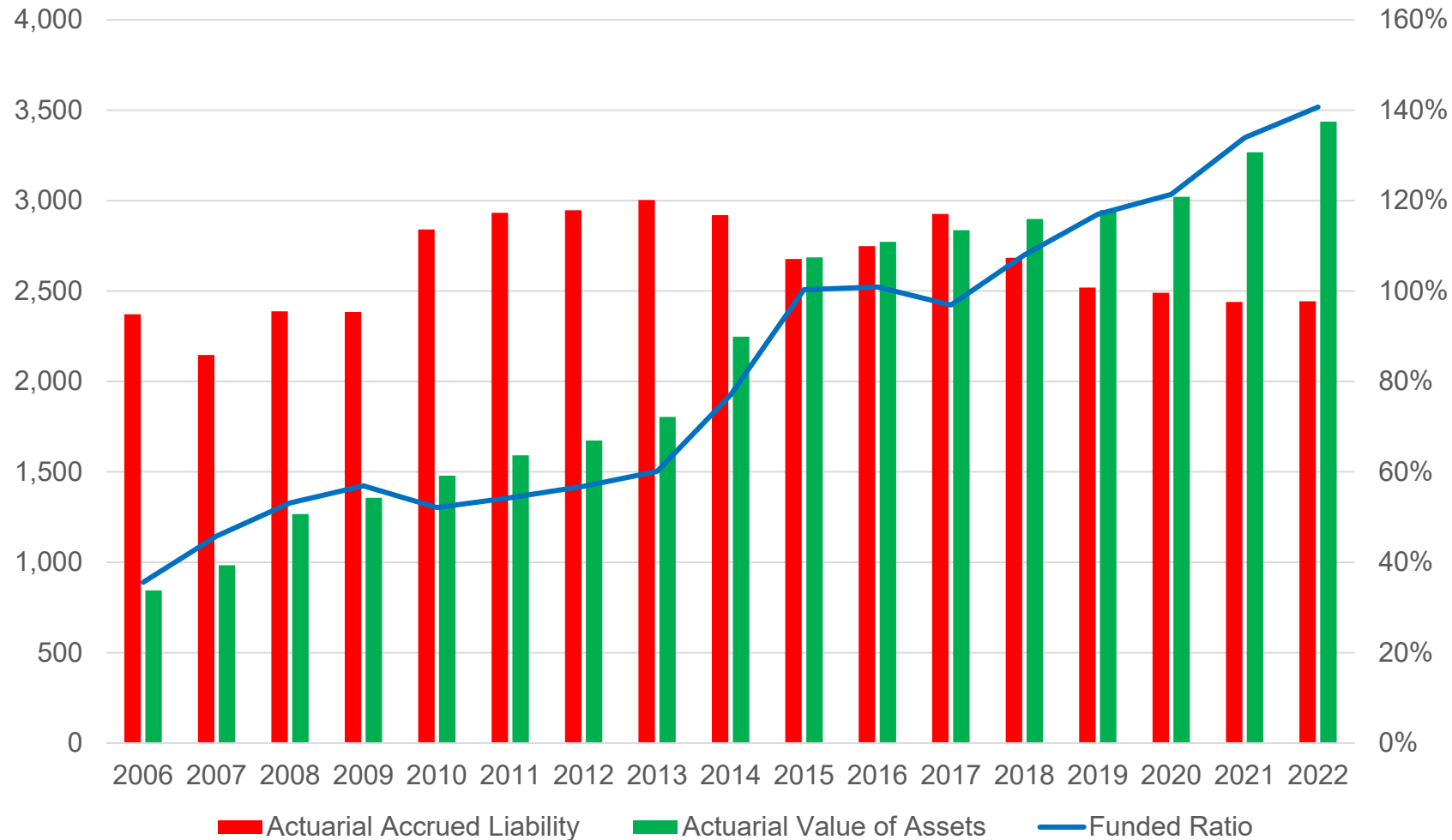
Assets, Liabilities and Funded Ratio – TRS Pension (\$millions)



2006 Funded Ratio: 67.8%
2022 Funded Ratio: 78.2%

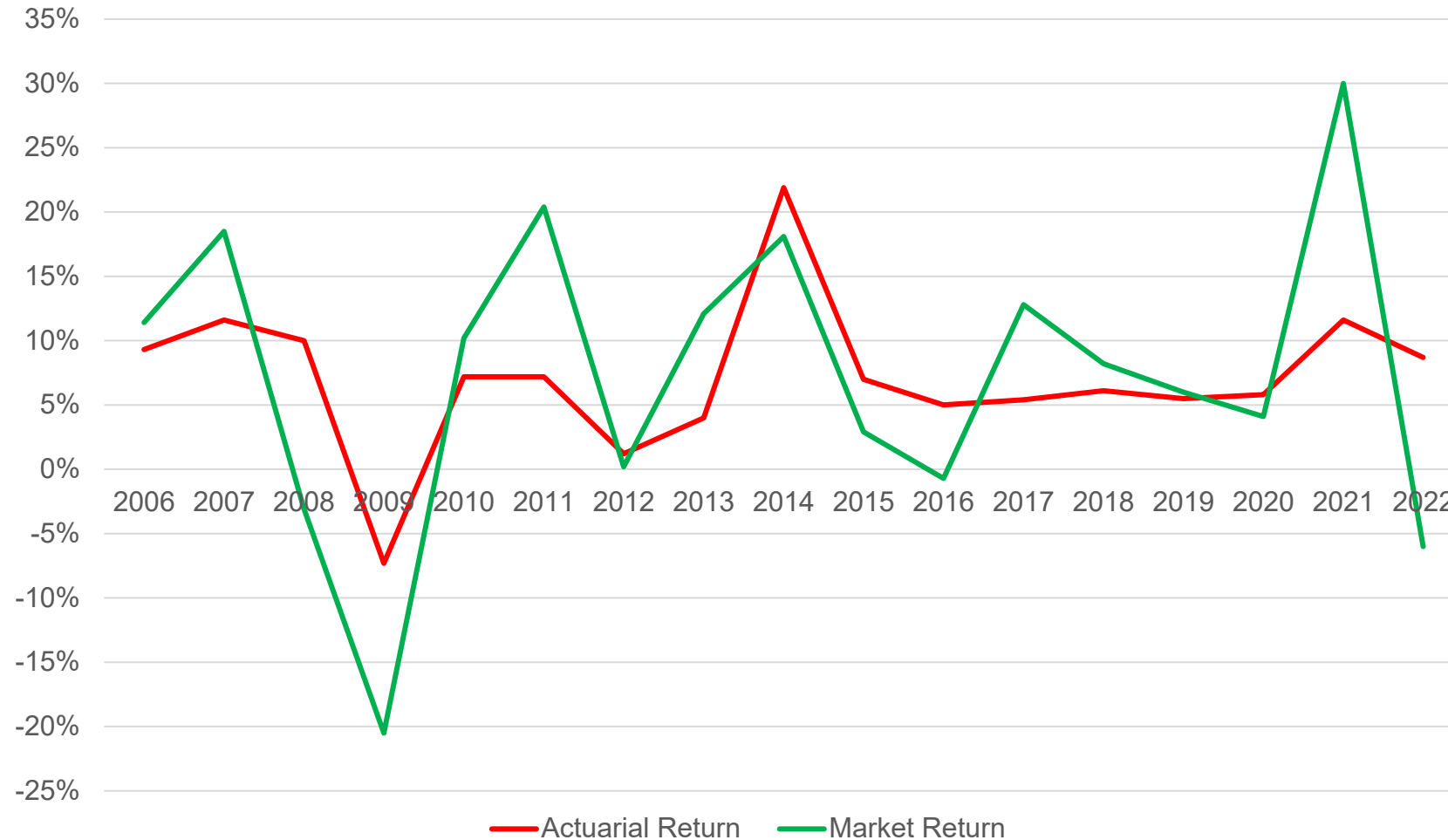
Assets, Liabilities and Funded Ratio – TRS Healthcare

(\$millions)



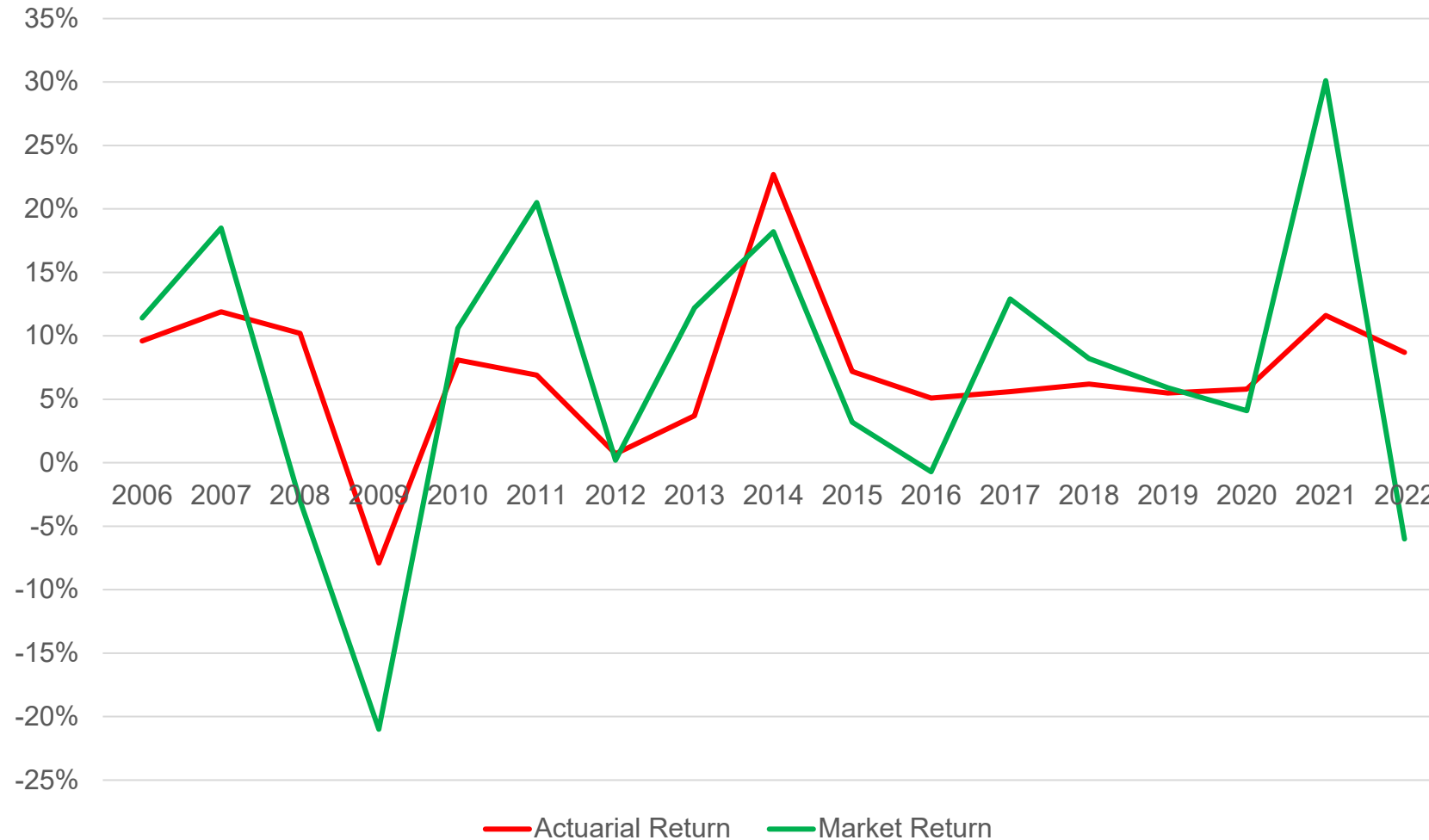
2006 Funded Ratio: 35.6%
 2022 Funded Ratio: 140.7%

Asset Returns – PERS



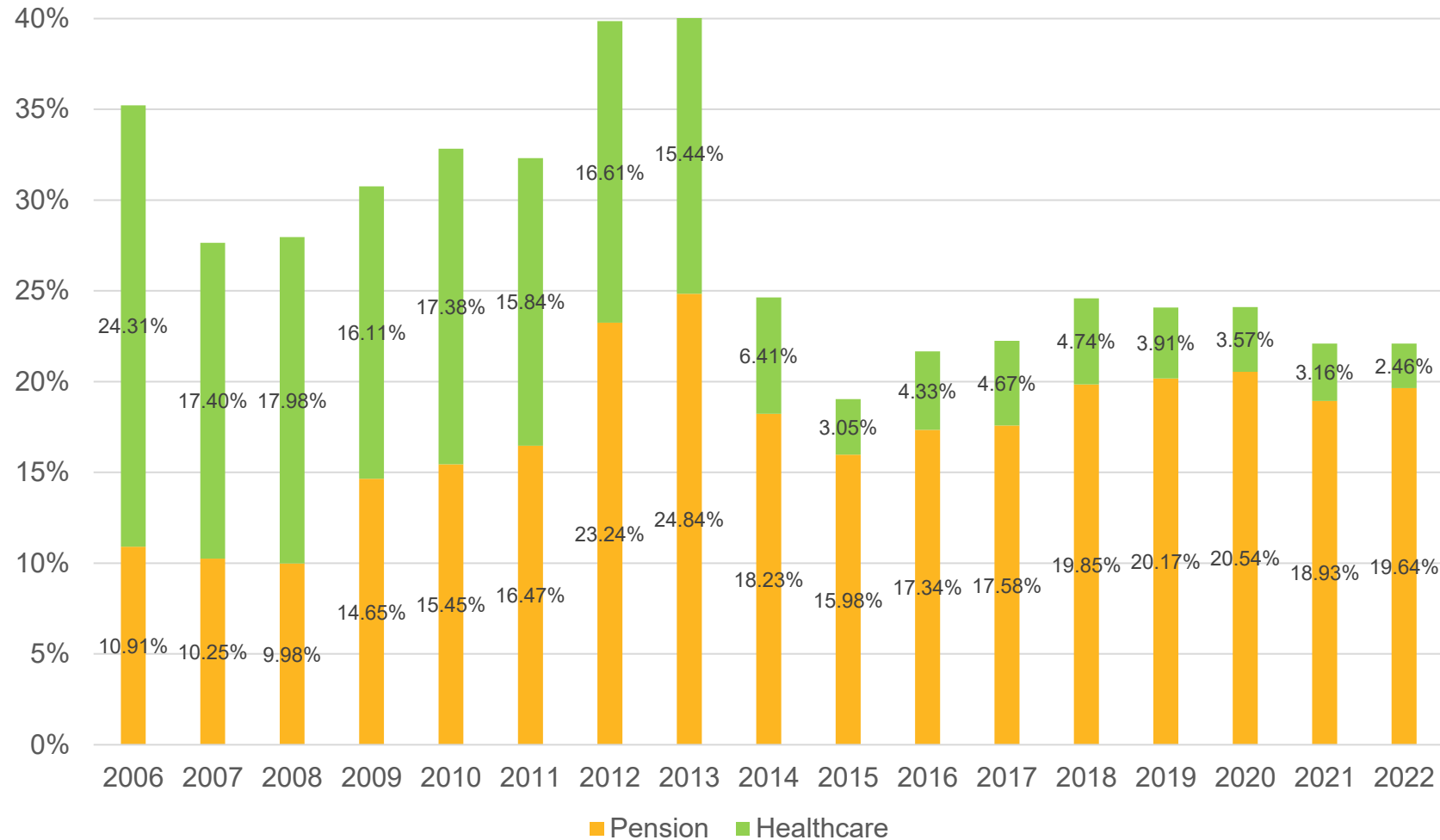
The spike in actuarial return in 2014 is due to the reset of actuarial value to market value that was effective 6/30/14.

Asset Returns – TRS



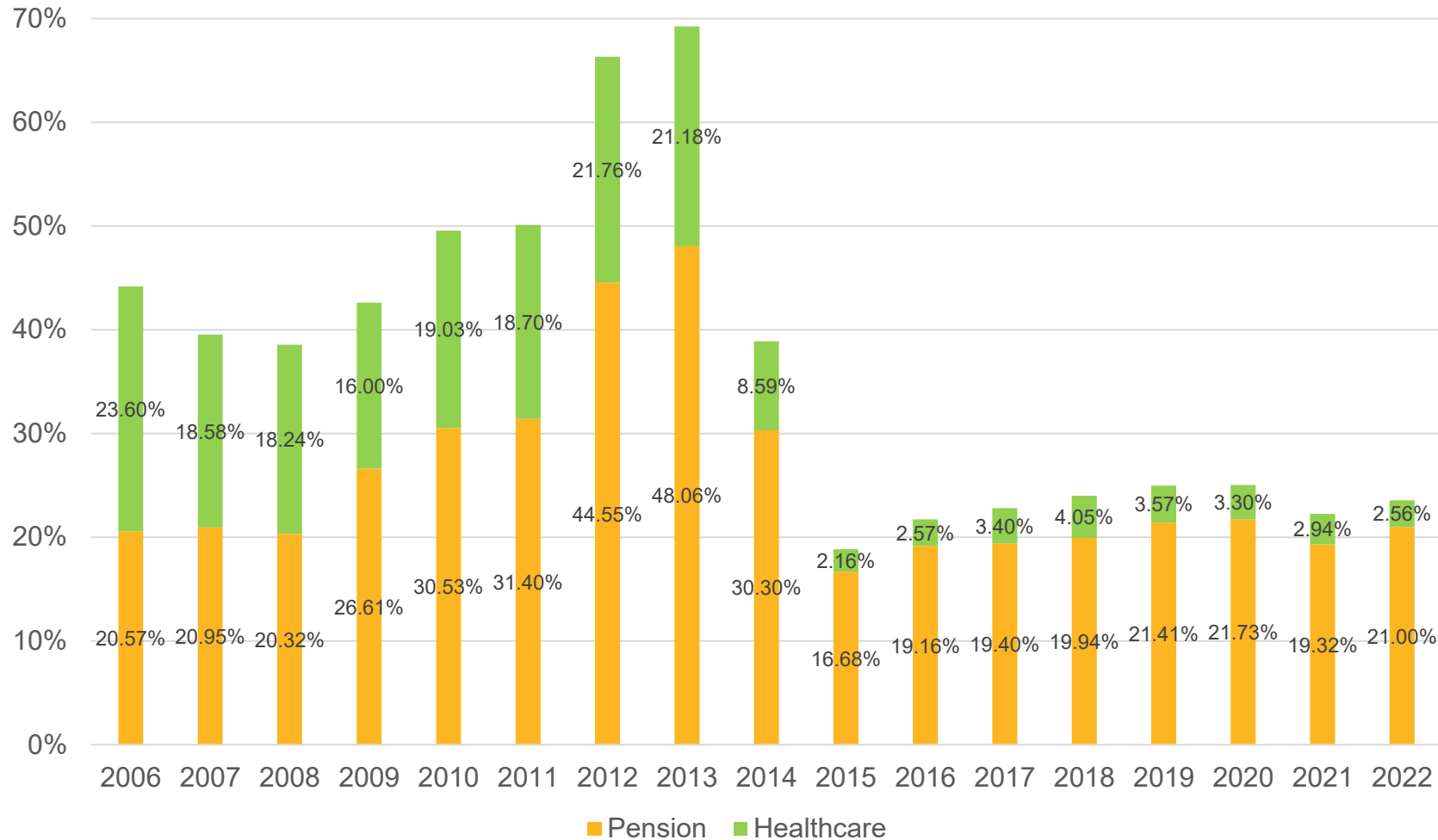
The spike in actuarial return in 2014 is due to the reset of actuarial value to market value that was effective 6/30/14.

June 30 Valuation Contribution Rates – PERS



Rates shown for June 30, 2006 through June 30, 2013 are the ARMB-adopted contribution rates for the fiscal year beginning two years later. Starting with the June 30, 2014 valuations, the ARMB-adopted contribution rates (not shown on this slide) are based on a 2-year roll-forward of liabilities and a 1-year roll-forward of assets to the fiscal year beginning two years later. All rates are a percentage of DB/DCR payroll.

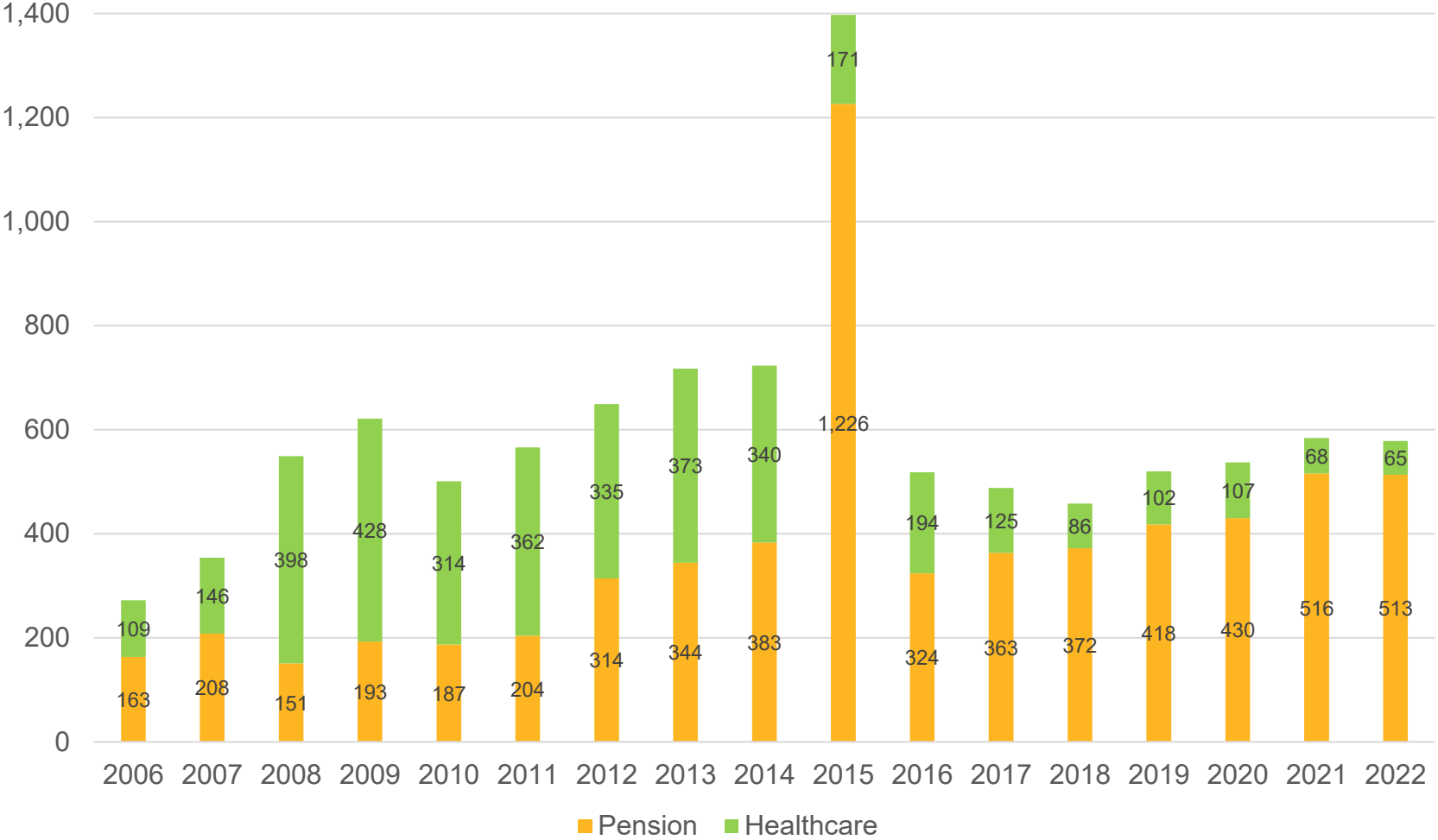
June 30 Valuation Contribution Rates – TRS



Rates shown for June 30, 2006 through June 30, 2013 are the ARMB-adopted contribution rates for the fiscal year beginning two years later. Starting with the June 30, 2014 valuations, the ARMB-adopted contribution rates (not shown on this slide) are based on a 2-year roll-forward of liabilities and a 1-year roll-forward of assets to the fiscal year beginning two years later. All rates are a percentage of DB/DCR payroll.

Employer/State Contributions – PERS

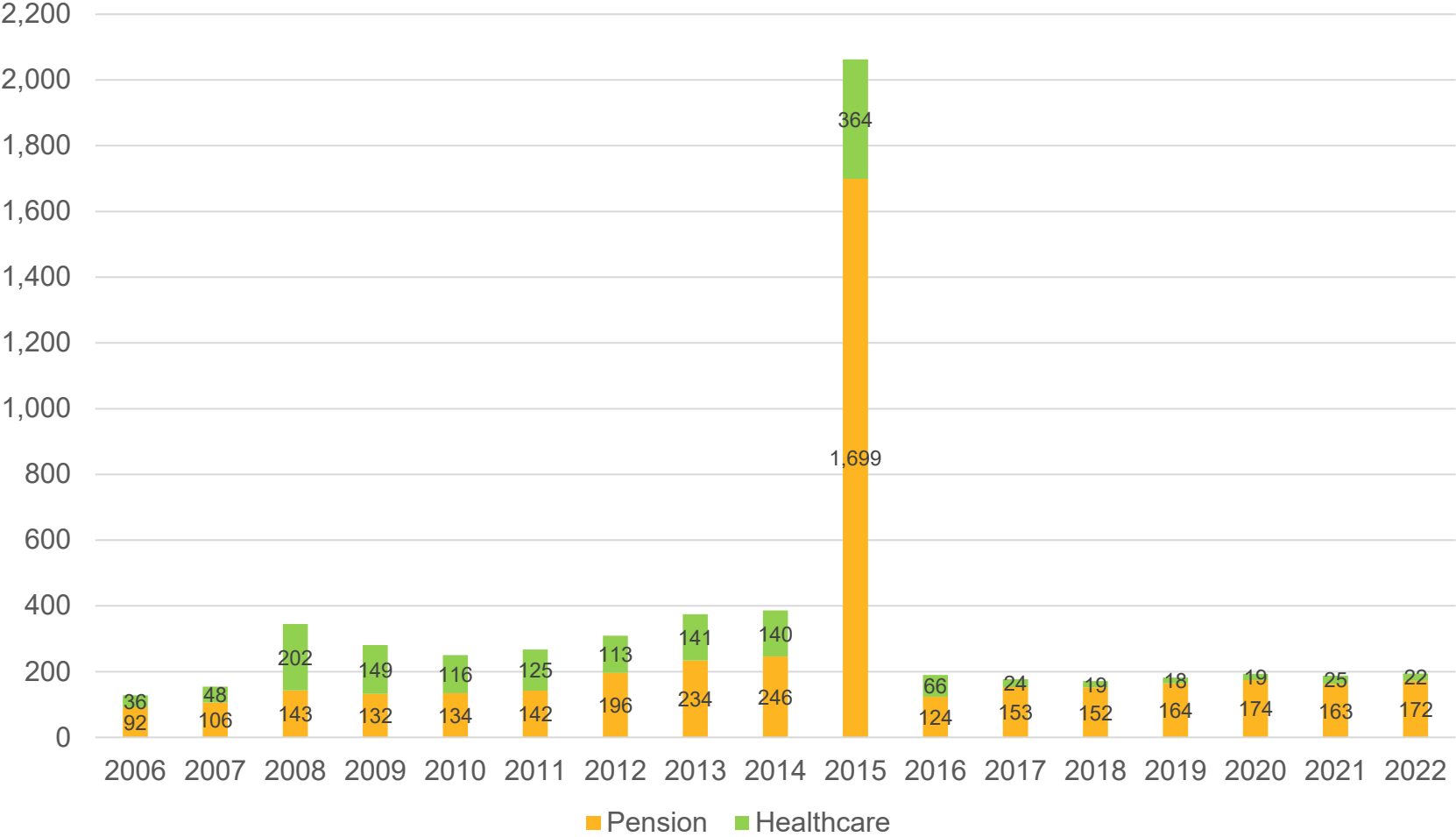
(\$millions)



The spike in 2015 is due to the \$1B Additional State Contribution that was made to PERS in FY15.

Employer/State Contributions – TRS

(\$millions)



The spike in 2015 is due to the \$2B Additional State Contribution that was made to TRS in FY15.

Actuarial Certification

Actuarial Certification

The purpose of this presentation is to provide the ARMB Actuarial Committee with June 30, 2022 valuation results and projections for discussion at the March 15, 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 draft June 30, 2022 actuarial valuation reports. These reports include 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 and Steve Oates, both of whom meet 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

Stephen Oates
ASA, EA, MAAA, FCA
Principal, Health



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	
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.
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.
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.
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).
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			GRS	
28	Monthly audit discussion with GRS / Buck	3/15/23	3/10/23		GRS / Buck	
29	Actuarial Committee Meeting - 6/30/22 valuation results (full), projections, sensitivity analysis, draft valuation reports	3/15/23			All	Juneau. Deadline for meeting materials is 2/24.
30	Monthly audit discussion with GRS / Buck	4/19/23			GRS / Buck	
31	ARMB Meeting - follow-up to March meeting (if needed)	April 2023 - TBD			All	Teleconference.
32	Monthly audit discussion with GRS / Buck	5/17/23			GRS / Buck	
33	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.



State of Alaska

Public Employees' Retirement System

Actuarial Valuation Report
As of June 30, 2022

February 2023

DRAFT



February 2, 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 overall funded status (on a combined pension/healthcare basis) is expected to increase to 100% in FY33 (the funded status of the pension trust is expected to increase to 100% in FY64).

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.

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. Separate GASB 67 and GASB 74 reports as of June 30, 2022 have been prepared. We have also prepared the member data tables shown in Section 4 of this report for the Statistical Section of the ACFR, as well as the

summary of actuarial assumptions and analysis of financial experience for the Actuarial Section of the ACFR. 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

DRAFT

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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%

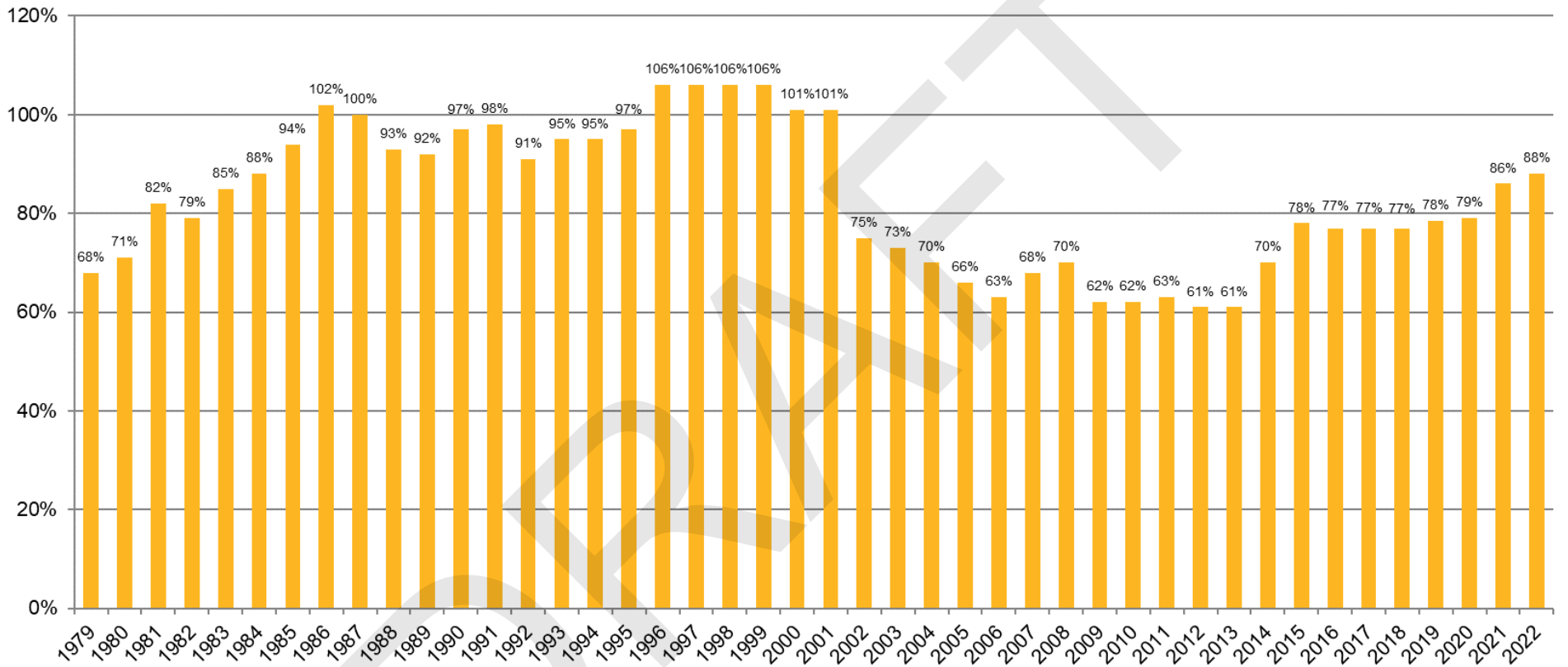
Healthcare

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%

Total

a. Actuarial Accrued Liability	\$ 22,276,145	\$ 22,750,748
b. Valuation Assets	<u>19,047,864</u>	<u>19,941,441</u>
c. Unfunded Actuarial Accrued Liability, (a) - (b)	\$ 3,228,281	\$ 2,809,307
d. Funded Ratio based on Valuation Assets, (b) ÷ (a)	85.5%	87.7%
e. Fair Value of Assets	\$ 21,696,450	\$ 19,685,274
f. Funded Ratio based on Fair Value of Assets, (e) ÷ (a)	97.4%	86.5%

Funded Ratio History (Based on Valuation Assets)



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 \$2,858 million. 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 \$242 million.

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.

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 total Actuarial Accrued Liability as of June 30, 2022 by approximately \$117 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	Total
1. Total Employer/State Contribution Rate as of June 30, 2021	18.93%	3.16%	22.09%
2. Change due to:			
a. Health Claims Experience	N/A	(0.11%)	(0.11%)
b. Salary Increases	0.13%	N/A	0.13%
c. Investment Experience	(0.34%)	0.00%	(0.34%)
d. Demographic Experience and Miscellaneous ¹	0.52%	(0.37%)	0.15%
e. Actual vs Expected Contributions	(0.14%)	0.00%	(0.14%)
f. Assumption/Method Changes	0.54%	(0.22%)	0.32%
g. Plan Changes	<u>0.00%</u>	<u>0.00%</u>	<u>0.00%</u>
h. Total Change, (a) + (b) + (c) + (d) + (e) + (f) + (g)	0.71%	(0.70%)	0.01%
3. Total Employer/State Contribution Rate as of June 30, 2022, (1) + (2)(h)	19.64%	2.46%	22.10%

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

	Pension	Healthcare	Total
Retirement Experience	\$ (20,482)	\$ (9,371)	\$ (29,853)
Termination Experience	(6,115)	(12,796)	(18,911)
Disability Experience	120	282	402
Active Mortality Experience	8,240	3,144	11,384
Inactive Mortality Experience	17,838	6,761	24,599
Salary Increases	(50,545)	N/A	(50,545)
Rehires (Net of Rehire Load)	8,458	11,563	20,021
Transfers between PF and Others	(724)	631	(93)
COLA Increases	1,134	N/A	1,134
PRPA Increases	(162,028)	N/A	(162,028)
Benefit Payments different than Expected	17,930	11,949	29,879
Per Capita Claims Cost	N/A	251,976	251,976
Medicare Part B Only Experience	N/A	5,064	5,064
Changes in Dependent Coverage Elections	N/A	17,064	17,064
Programming Changes ²	791	(314)	477
Miscellaneous ³	<u>(16,449)</u>	<u>(6,702)</u>	<u>(23,151)</u>
Total	\$ (201,832)	\$ 279,251	\$ 77,419

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	Total
1. Increase/(Decrease) in Actuarial Accrued Liability at June 30, 2022 due to Rehires	\$ 11,800	\$ (519)	\$ 11,281
2. June 30, 2021 Normal Cost Rehire Load, with interest to June 30, 2022	\$ 20,258	\$ 11,044	\$ 31,302
3. Rehire Gain/(Loss), (2) - (1)	\$ 8,458	\$ 11,563	\$ 20,021

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

	Pension	Healthcare	Total
Experience Study Assumption Changes	\$ 205,891	\$ (88,392)	\$ 117,499

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	(4,169)	(4,169)
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	(93,135)	(93,135)
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	Total
1. Total Normal Cost	\$ 31,423	\$ 10,076	\$ 41,499
2. DB Rate Payroll Projected for FY23	142,154	142,154	142,154
3. DCR Rate Payroll Projected for FY23	249,857	249,857	249,857
4. Total Rate Payroll Projected for FY23	392,011	392,011	392,011
5. Normal Cost Rate			
a. Based on DB Rate Payroll, (1) ÷ (2)	22.10%	7.09%	29.19%
b. Based on Total Rate Payroll, (1) ÷ (4)	8.02%	2.57%	10.59%
6. Average Member Contribution Rate	2.72%	0.00%	2.72%
7. Employer Normal Cost, (5)(b) - (6)	5.30%	2.57%	7.87%

Past Service Rate	Pension	Healthcare	Total
1. Actuarial Accrued Liability	\$ 2,706,643	\$ 873,556	\$ 3,580,199
2. Valuation Assets ¹	1,843,510	1,178,369	3,021,879
3. Unfunded Actuarial Accrued Liability, (1) - (2)	\$ 863,133	\$ (304,813)	\$ 558,320
4. Funded Ratio, (2) ÷ (1)	68.1%	134.9%	84.4%
5. Past Service Cost Amortization Payment	68,268	(20,436)	47,832
6. Total Rate Payroll Projected for FY23	392,011	392,011	392,011
7. Past Service Rate, (5) ÷ (6)	17.41%	(5.21%)	17.41%
Total Employer / State Contribution Rate, not less than Normal Cost Rate	22.71%	2.57%	25.28%

Normal Cost Rate by Tier (Total Employer and Member) ²	Pension	Healthcare	Total
Tier 1	23.97%	14.63%	38.60%
Tier 2	21.86%	6.88%	28.74%
Tier 3	22.12%	7.04%	29.16%

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)

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

Layer	Amortization Period		Balances		Beginning-of-Year Payment
	Date Created	Years Remaining	Initial	Outstanding	
Initial Amount	6/30/2018	17	700,241	681,720	55,277
Change in Assumptions/Methods/EGWP	6/30/2018	21	115,718	116,610	8,244
FY19 Gain	6/30/2019	22	(15,595)	(15,727)	(1,080)
FY20 Gain	6/30/2020	23	(6,878)	(6,928)	(463)
Medical/Prescription Drug Plan Changes	6/30/2021	24	(7,361)	(7,394)	(483)
FY21 Gain	6/30/2021	24	(177,755)	(178,549)	(11,659)
Change in Assumptions	6/30/2022	25	47,068	47,068	3,004
FY22 Gain	6/30/2022	25	(78,480)	(78,480)	(5,008)
Total				\$ 558,320	\$ 47,832

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

Others

Normal Cost Rate	Pension	Healthcare	Total
1. Total Normal Cost	\$ 93,349	\$ 50,118	\$ 143,467
2. DB Rate Payroll Projected for FY23	654,512	654,512	654,512
3. DCR Rate Payroll Projected for FY23	1,395,484	1,395,484	1,395,484
4. Total Rate Payroll Projected for FY23	2,049,996	2,049,996	2,049,996
5. Normal Cost Rate			
a. Based on DB Rate Payroll, (1) ÷ (2)	14.26%	7.66%	21.92%
b. Based on Total Rate Payroll, (1) ÷ (4)	4.55%	2.44%	6.99%
6. Average Member Contribution Rate	2.17%	0.00%	2.17%
7. Employer Normal Cost, (5)(b) - (6)	2.38%	2.44%	4.82%

Past Service Rate	Pension	Healthcare	Total
1. Actuarial Accrued Liability	\$ 13,387,036	\$ 5,783,513	\$ 19,170,549
2. Valuation Assets ¹	9,117,988	7,801,574	16,919,562
3. Unfunded Actuarial Accrued Liability, (1) - (2)	\$ 4,269,048	\$ (2,018,061)	\$ 2,250,987
4. Funded Ratio, (2) ÷ (1)	68.1%	134.9%	88.3%
5. Past Service Cost Amortization Payment	341,778	(133,951)	207,827
6. Total Rate Payroll Projected for FY23	2,049,996	2,049,996	2,049,996
7. Past Service Rate, (5) ÷ (6)	16.67%	(6.53%)	16.67%
Total Employer / State Contribution Rate, not less than Normal Cost Rate	19.05%	2.44%	21.49%

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

Tier 1	18.43%	14.41%	32.84%
Tier 2	13.73%	7.62%	21.35%
Tier 3	14.11%	7.13%	21.24%

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)

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

Layer	Amortization Period		Balances		Beginning-of-Year Payment
	Date Created	Years Remaining	Initial	Outstanding	
Initial Amount	6/30/2018	17	3,841,904	3,740,292	303,283
Change in Assumptions/Methods/EGWP	6/30/2018	21	489,573	493,339	34,878
FY19 Gain	6/30/2019	22	(317,706)	(320,404)	(22,020)
FY20 Gain	6/30/2020	23	(160,368)	(161,545)	(10,813)
Medical/Prescription Drug Plan Changes	6/30/2021	24	(54,446)	(54,689)	(3,571)
FY21 Gain	6/30/2021	24	(1,108,858)	(1,113,806)	(72,732)
Change in Assumptions	6/30/2022	25	70,431	70,431	4,494
FY22 Gain	6/30/2022	25	(402,631)	(402,631)	(25,692)
Total				\$ 2,250,987	\$ 207,827

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

All Members

Normal Cost Rate	Pension	Healthcare	Total
1. Total Normal Cost	\$ 124,772	\$ 60,194	\$ 184,966
2. DB Rate Payroll Projected for FY23	796,666	796,666	796,666
3. DCR Rate Payroll Projected for FY23	1,645,341	1,645,341	1,645,341
4. Total Rate Payroll Projected for FY23	2,442,007	2,442,007	2,442,007
5. Normal Cost Rate			
a. Based on DB Rate Payroll, (1) ÷ (2)	15.66%	7.56%	23.22%
b. Based on Total Rate Payroll, (1) ÷ (4)	5.11%	2.46%	7.57%
6. Average Member Contribution Rate ¹	2.26%	0.00%	2.26%
7. Employer Normal Cost, (5)(b) - (6)	2.85%	2.46%	5.31%

Past Service Rate	Pension	Healthcare	Total
1. Actuarial Accrued Liability	\$ 16,093,679	\$ 6,657,069	\$ 22,750,748
2. Valuation Assets	10,961,498	8,979,943	19,941,441
3. Unfunded Actuarial Accrued Liability, (1) - (2)	\$ 5,132,181	\$ (2,322,874)	\$ 2,809,307
4. Funded Ratio, (2) ÷ (1)	68.1%	134.9%	87.7%
5. Past Service Cost Amortization Payment	410,046	(154,387)	255,659
6. Total Rate Payroll Projected for FY23	2,442,007	2,442,007	2,442,007
7. Past Service Rate, (5) ÷ (6)	16.79%	(6.32%)	16.79%
Total Employer / State Contribution Rate, not less than Normal Cost Rate	19.64%	2.46%	22.10%

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

Tier 1	18.60%	14.41%	33.01%
Tier 2	14.54%	7.55%	22.09%
Tier 3	15.80%	7.11%	22.91%

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)

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

Layer	Amortization Period		Balances		Beginning-of-Year Payment
	Date Created	Years Remaining	Initial	Outstanding	
Initial Amount	6/30/2018	17	4,542,145	4,422,012	358,560
Change in Assumptions/Methods/EGWP	6/30/2018	21	605,291	609,949	43,122
FY19 Gain	6/30/2019	22	(333,301)	(336,131)	(23,100)
FY20 Gain	6/30/2020	23	(167,246)	(168,473)	(11,276)
Medical/Prescription Drug Plan Changes	6/30/2021	24	(61,807)	(62,083)	(4,054)
FY21 Gain	6/30/2021	24	(1,286,613)	(1,292,355)	(84,391)
Change in Assumptions	6/30/2022	25	117,499	117,499	7,498
FY22 Gain	6/30/2022	25	(481,111)	(481,111)	(30,700)
Total				\$ 2,809,307	\$ 255,659

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

	Pension	Healthcare	Total
1. Liability Roll Forward			
a. Actuarial Accrued Liability as of June 30, 2022	\$ 16,093,679	\$ 6,657,069	\$ 22,750,748
b. Normal Cost	116,137	56,376	172,513
c. Interest on (a) and (b) at 7.25%	1,175,212	486,725	1,661,937
d. Estimated Benefit Payments	(1,037,270)	(410,266)	(1,447,536)
e. Interest on (d) at 7.25%, adjusted for timing	(40,081)	(14,612)	(54,693)
f. Expected Actuarial Accrued Liability as of June 30, 2023	\$ 16,307,677	\$ 6,775,292	\$ 23,082,969
g. Projected Normal Cost	103,083	50,293	153,376
h. Interest on (f) and (g) at 7.25%	1,189,780	494,855	1,684,635
i. Estimated Benefit Payments	(1,087,579)	(431,186)	(1,518,765)
j. Interest on (i) at 7.25%, adjusted for timing	(42,024)	(15,357)	(57,381)
k. Expected Actuarial Accrued Liability as of June 30, 2024	\$ 16,470,937	\$ 6,873,897	\$ 23,344,834
2. Asset Roll Forward			
a. Actuarial Value of Assets as of June 30, 2022	\$ 10,961,498	\$ 8,979,943	\$ 19,941,441
b. Interest on (a) at 7.25%	794,709	651,046	1,445,755
c. Employee Contributions	60,769	0	60,769
d. Employer Contributions	414,488	0	414,488
e. State Assistance Contributions	33,933	0	33,933
f. Interest on (c) thru (e) at 7.25%, adjusted for timing*	19,387	0	19,387
g. Estimated Benefit Payments	(1,037,270)	(410,266)	(1,447,536)
h. Administrative Expenses	(8,635)	(3,818)	(12,453)
i. Interest on (g) and (h) at 7.25%, adjusted for timing	(40,388)	(14,748)	(55,136)
j. AVA Adjustments	6,792	11,126	17,918
k. Expected Actuarial Value of Assets as of June 30, 2023	\$ 11,205,283	\$ 9,213,283	\$ 20,418,566
l. Interest on (k) at 7.25%	812,383	667,963	1,480,346
m. Employee Contributions	55,952	0	55,952
n. Employer Contributions	414,172	0	414,172
o. State Assistance Contributions**	37,942	0	37,942
p. Interest on (m) thru (o) at 7.25%, adjusted for timing*	19,495	0	19,495
q. Estimated Benefit Payments	(1,087,579)	(431,186)	(1,518,765)
r. Administrative Expenses	(7,716)	(3,410)	(11,126)
s. Interest on (q) and (r) at 7.25%, adjusted for timing	(42,299)	(15,478)	(57,777)
t. AVA Adjustments	32,783	29,961	62,744
u. Expected Actuarial Value of Assets as of June 30, 2024	\$ 11,440,416	\$ 9,461,133	\$ 20,901,549
3. Expected Unfunded Actuarial Accrued Liability as of June 30, 2024, 1(k) - 2(u)	\$ 5,030,521	\$ (2,587,236)	\$ 2,443,285

* 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	Total
4. Expected Annual Rate Payroll for FY25			
a. Defined Benefit Members			\$ 649,344
b. Defined Contribution Retirement Members			1,815,216
c. Total Rate Payroll			\$ 2,464,560
5. Expected FY25 Contribution Rate Calculation			
a. Projected Normal Cost for FY25	\$ 98,092	\$ 47,841	\$ 145,933
b. Projected Normal Cost Rate for FY25	3.98%	1.94%	5.92%
c. Expected Member Contribution Rate for FY25	(1.83%)	0.00%	(1.83%)
d. Expected Employer Normal Cost Rate for FY25	2.15%	1.94%	4.09%
e. Expected Unfunded Liability as of June 30, 2024	\$ 5,030,521	\$ (2,587,236)	\$ 2,443,285
f. FY25 Layered Amortization of Expected Unfunded Liability	436,203	(179,950)	256,253
g. Expected Past Service Cost Contribution Rate for FY25	17.70%	(7.30%)	17.70%
h. Expected Total Contribution Rate for FY25, not less than Normal Cost Rate	19.85%	1.94%	21.79%

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	24,336	1,629
Change in Assumptions	6/30/2022	23	205,891	207,237	13,871
Expected FY23 Loss	6/30/2023	24	37,905	38,058	2,485
Expected FY24 Loss	6/30/2024	25	12,666	12,666	808
Total				\$ 5,030,521	\$ 436,203

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)	(508,592)	(34,041)
Change in Assumptions/Methods/EGWP	6/30/2022	23	(88,392)	(88,969)	(5,955)
Expected FY23 Gain	6/30/2023	24	(112,290)	(112,746)	(7,362)
Expected FY24 Gain	6/30/2024	25	(150,310)	(150,310)	(9,591)
Total				\$ (2,587,236)	\$ (179,950)

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 - Total (\$'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	\$ 4,542,145	\$ 4,278,880	\$ 378,552
Change in Assumptions/Methods/EGWP	6/30/2018	19	605,291	604,475	45,526
FY19 Gain	6/30/2019	20	(333,301)	(334,610)	(24,388)
FY20 Gain	6/30/2020	21	(167,246)	(168,391)	(11,905)
Medical/Prescription Drug Plan Changes	6/30/2021	22	(61,807)	(62,280)	(4,280)
FY21 Gain	6/30/2021	22	(707,913)	(1,296,469)	(89,096)
FY22 Gain	6/30/2022	23	(480,319)	(484,256)	(32,412)
Change in Assumptions/Methods/EGWP	6/30/2022	23	117,499	118,268	7,916
Expected FY23 Gain	6/30/2023	24	(74,385)	(74,688)	(4,877)
Expected FY24 Gain	6/30/2024	25	(137,644)	<u>(137,644)</u>	<u>(8,783)</u>
Total				\$ 2,443,285	\$ 256,253

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

	Pension	Healthcare	Total
1. Expected Actuarial Accrued Liability			
a. Actuarial Accrued Liability as of June 30, 2021	\$ 15,419,975	\$ 6,856,170	\$ 22,276,145
b. Normal Cost	119,376	70,467	189,843
c. Interest on (a) and (b) at 7.38%	1,146,804	511,186	1,657,990
d. Employer Group Waiver Plan	0	54,646	54,646
e. Benefit Payments	(953,055)	(453,308)	(1,406,363)
f. Refund of Contributions	(9,302)	0	(9,302)
g. Interest on (d) thru (f) at 7.38%, adjusted for timing	(37,842)	(14,449)	(52,291)
h. Assumptions/Methods Changes	205,891	(88,392)	117,499
i. Expected Actuarial Accrued Liability as of June 30, 2022 (a) + (b) + (c) + (d) + (e) + (f) + (g) + (h)	\$ 15,891,847	\$ 6,936,320	\$ 22,828,167
2. Actual Actuarial Accrued Liability as of June 30, 2022	16,093,679	6,657,069	22,750,748
3. Liability Gain/(Loss), (1)(i) - (2)	\$ (201,832)	\$ 279,251	\$ 77,419
4. Expected Actuarial Asset Value			
a. Actuarial Value of Assets as of June 30, 2021	\$ 10,466,709	\$ 8,581,155	\$ 19,047,864
b. Interest on (a) at 7.38%	772,443	633,289	1,405,732
c. Employee Contributions	66,412	0	66,412
d. Employer Contributions	415,538	64,990	480,528
e. State Assistance Contributions	97,700	0	97,700
f. Employer Group Waiver Plan	0	54,646	54,646
g. Interest on (c) thru (f) at 7.38%, adjusted for timing	24,678	4,336	29,014
h. Benefit Payments	(953,055)	(453,308)	(1,406,363)
i. Refund of Contributions	(9,302)	0	(9,302)
j. Administrative Expenses	(9,038)	(2,776)	(11,814)
k. Interest on (h) thru (j) at 7.38%, adjusted for timing	(38,169)	(16,530)	(54,699)
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	\$ 19,699,718
5. Actual Actuarial Asset Value as of June 30, 2022	10,961,498	8,979,943	19,941,441
6. Actuarial Asset Value Gain/(Loss), (5) - (4)(l)	\$ 127,582	\$ 114,141	\$ 241,723
7. Total Actuarial Gain/(Loss), (3) + (6)	\$ (74,250)	\$ 393,392	\$ 319,142
8. Contribution Gain/(Loss)	\$ 51,250	\$ 108,834	\$ 160,084
9. Administrative Expense Gain/(Loss)	\$ (1,178)	\$ 3,063	\$ 1,885
10. FY22 Gain/(Loss), (7) + (8) + (9)	\$ (24,178)	\$ 505,289	\$ 481,111

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

	Pension	Healthcare	Total
1. 2021 Unfunded Liability	\$ 4,953,266	\$ (1,724,985)	\$ 3,228,281
a. Interest on Unfunded Liability at 7.38%	\$ 365,551	\$ (127,304)	\$ 238,247
b. Normal Cost	119,376	70,467	189,843
c. Employee Contributions	(66,412)	0	(66,412)
d. Employer Contributions	(415,538)	(64,990)	(480,528)
e. State Assistance Contributions	(97,700)	0	(97,700)
f. Administrative Expenses	9,038	2,776	11,814
g. Interest on (b) thru (f) at 7.38%, adjusted for timing	(15,541)	2,946	(12,595)
h. Assumptions/Methods Changes	205,891	(88,392)	117,499
i. Expected Change in Unfunded Liability During FY22 (a) + (b) + (c) + (d) + (e) + (f) + (g) + (h)	\$ 104,665	\$ (204,497)	\$ (99,832)
2. Expected 2022 Unfunded Liability, (1) + (1)(i)	\$ 5,057,931	\$ (1,929,482)	\$ 3,128,449
a. Liability (Gain)/Loss During FY22	\$ 201,832	\$ (279,251)	\$ (77,419)
b. Actuarial Assets (Gain)/Loss During FY22	(127,582)	(114,141)	(241,723)
c. Total Actuarial (Gain)/Loss During FY22	\$ 74,250	\$ (393,392)	\$ (319,142)
3. Actual 2022 Unfunded Liability, (2) + (2)(c)	\$ 5,132,181	\$ (2,322,874)	\$ 2,809,307

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				
	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

Total
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				
	2018	2019	2020	2021	2022
1. Health Claims	(1.51%)	(2.39%)	(0.87%)	(0.12%)	(0.11%)
2. Salary Experience	(0.30%)	0.16%	(0.03%)	0.05%	0.13%
3. Investment Experience	0.92%	0.88%	0.75%	(1.06%)	(0.34%)
4. Demographic Experience and Miscellaneous	(0.82%)	0.71%	0.19%	(0.80%)	0.15%
5. Actual vs Expected Contributions	<u>0.20%</u>	<u>0.13%</u>	<u>(0.01%)</u>	<u>(0.06%)</u>	<u>(0.14%)</u>
6. (Gain) or Loss During Year From Experience, (1) + (2) + (3) + (4) + (5)	(1.51%)	(0.51%)	0.03%	(1.99%)	(0.31%)
7. Assumptions / Method Changes	3.85%	0.00%	0.00%	0.00%	0.32%
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)	2.34%	(0.51%)	0.03%	(2.02%)	0.01%
10. Beginning Total Employer / State Contribution Rate	<u>22.25%</u>	<u>24.59%</u>	<u>24.08%</u>	<u>24.11%</u>	<u>22.09%</u>
11. Ending Valuation Year Employer / State Contribution Rate, (9) + (10)	24.59%	24.08%	24.11%	22.09%	22.10%
12. Fiscal Year Rates Adopted by ARMB					
a. Fiscal Year Employer / State Contribution Rate	24.93%	24.01%	18.38%	18.47%	21.79% *
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)

Valuation Date	Total Actuarial Accrued Liability	Valuation Assets	Assets as a Percent of Actuarial Accrued Liability	Unfunded Actuarial Accrued Liability (UAAL)
June 30, 2003	\$ 10,561,653	\$ 7,687,281	72.8%	\$ 2,874,372
June 30, 2004	11,443,916	8,030,414	70.2%	3,413,502
June 30, 2005	12,844,841	8,442,919	65.7%	4,401,922
June 30, 2006	14,388,413	9,040,908	62.8%	5,347,505
June 30, 2007	14,570,933	9,900,960	68.0%	4,669,973
June 30, 2008	15,888,141	11,040,106	69.5%	4,848,035
June 30, 2009	16,579,371	10,242,978	61.8%	6,336,393
June 30, 2010	18,132,492	11,157,464	61.5%	6,975,028
June 30, 2011	18,740,550	11,813,774	63.0%	6,926,776
June 30, 2012	19,292,361	11,832,030	61.3%	7,460,331
June 30, 2013	19,992,759	12,162,626	60.8%	7,830,133
June 30, 2014	20,897,372	14,644,598	70.1%	6,252,774
June 30, 2015	20,648,663	16,173,459	78.3%	4,475,204
June 30, 2016	21,369,490	16,467,992	77.1%	4,901,498
June 30, 2017	21,881,395	16,786,771	76.7%	5,094,624
June 30, 2018	22,264,137	17,116,701	76.9%	5,147,436
June 30, 2019	22,190,874	17,387,184	78.4%	4,803,690
June 30, 2020	22,316,075	17,703,068	79.3%	4,613,007
June 30, 2021	22,276,145	19,047,864	85.5%	3,228,281
June 30, 2022	22,750,748	19,941,441	87.7%	2,809,307

Section 2: Plan Assets

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

As of June 30, 2022	Pension	Healthcare	Total	Allocation Percent
Cash and Short-Term Investments				
- Cash and Cash Equivalents	\$ 155,842	\$ 112,908	\$ 268,750	1.5%
- Subtotal	\$ 155,842	\$ 112,908	\$ 268,750	1.5%
Fixed Income Investments				
- Domestic Fixed Income Pool	\$ 2,300,390	\$ 1,899,694	\$ 4,200,084	21.3%
- International Fixed Income Pool	0	0	0	0.0%
- Tactical Fixed Income Pool	0	0	0	0.0%
- High Yield Pool	0	0	0	0.0%
- Treasury Inflation Protection Pool	0	0	0	0.0%
- Emerging Debt Pool	0	0	0	0.0%
- Subtotal	\$ 2,300,390	\$ 1,899,694	\$ 4,200,084	21.3%
Equity Investments				
- Domestic Equity Pool	\$ 2,618,110	\$ 2,162,072	\$ 4,780,182	24.2%
- International Equity Pool	1,421,227	1,173,607	2,594,834	13.1%
- Private Equity Pool	1,779,516	1,469,549	3,249,065	16.5%
- Emerging Markets Equity Pool	318,049	262,649	580,698	2.9%
- Alternative Equity Strategies	629,789	520,088	1,149,877	5.8%
- Subtotal	\$ 6,766,691	\$ 5,587,965	\$ 12,354,656	62.5%
Other Investments				
- Real Estate Pool	\$ 813,282	\$ 672,726	\$ 1,486,008	7.5%
- Other Investments Pool	778,899	643,225	1,422,124	7.2%
- Absolute Return Pool	0	0	0	0.0%
- Other Assets	15	967	982	0.0%
- Subtotal	\$ 1,592,196	\$ 1,316,918	\$ 2,909,114	14.7%
Total Cash and Investments	\$ 10,815,119	\$ 8,917,485	\$ 19,732,604	100.0%
Net Accrued Receivables	1,021	(48,351)	(47,330)	
Net Assets	\$ 10,816,140	\$ 8,869,134	\$ 19,685,274	

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

Fiscal Year 2022	Pension	Healthcare	Total
1. Fair Value of Assets as of June 30, 2021	\$ 11,912,309	\$ 9,784,141	\$ 21,696,450
2. Additions:			
a. Employee Contributions	\$ 66,412	\$ 0	\$ 66,412
b. Employer Contributions	415,538	64,990	480,528
c. State Assistance Contributions	97,700	0	97,700
d. Interest and Dividend Income	153,569	127,317	280,886
e. Net Appreciation / Depreciation in Fair Value of Investments	(829,657)	(682,785)	(1,512,442)
f. Employer Group Waiver Plan	0	54,646	54,646
g. Other	187	125	312
h. Total Additions	\$ (96,251)	\$ (435,707)	\$ (531,958)
3. Deductions:			
a. Medical Benefits	\$ 0	\$ 453,308	\$ 453,308
b. Retirement Benefits	953,055	0	953,055
c. Refund of Contributions	9,302	0	9,302
d. Investment Expenses	28,523	23,216	51,739
e. Administrative Expenses	9,038	2,776	11,814
f. Total Deductions	\$ 999,918	\$ 479,300	\$ 1,479,218
4. Fair Value of Assets as of June 30, 2022	\$ 10,816,140	\$ 8,869,134	\$ 19,685,274
5. Approximate Fair Value Investment Return Rate during FY22 Net of Investment Expenses	-6.0%	-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	Total
1. Deferral of Investment Gain / (Loss) for FY22			
a. Fair Value of Assets as of June 30, 2021	\$ 11,912,309	\$ 9,784,141	\$ 21,696,450
b. Contributions	579,650	64,990	644,640
c. Employer Group Waiver Plan	0	54,646	54,646
d. Benefit Payments	962,357	453,308	1,415,665
e. Administrative Expenses	9,038	2,776	11,814
f. Actual Investment Return (net of investment expenses)	(704,424)	(578,559)	(1,282,983)
g. Expected Return Rate (net of investment expenses)	7.38%	7.38%	7.38%
h. Expected Return, Weighted for Timing	865,637	709,876	1,575,513
i. Investment Gain / (Loss) for the Year, (f) - (h)	(1,570,061)	(1,288,435)	(2,858,496)
2. Actuarial Value as of June 30, 2022			
a. Fair Value as of June 30, 2022	\$ 10,816,140	\$ 8,869,134	\$ 19,685,274
b. Deferred Investment Gain / (Loss)	(145,358)	(110,809)	(256,167)
c. Actuarial Value as of June 30, 2022, (a) - (b)	10,961,498	8,979,943	19,941,441
3. Ratio of Actuarial Value of Assets to Fair Value of Assets			
	101.3%	101.2%	101.3%
4. Approximate Actuarial Value Investment Return Rate during FY22 Net of Investment Expenses			
	8.6%	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	\$ 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)

Total				
Fiscal Year Ending	Asset Gain / (Loss)	Gain / (Loss) Recognized in Prior Years	Gain / (Loss) Recognized This Year	Gain / (Loss) Deferred to Future Years
June 30, 2018	\$ 48,831	\$ 39,064	\$ 9,767	\$ 0
June 30, 2019	(237,370)	(142,422)	(47,473)	(47,475)
June 30, 2020	(555,577)	(222,233)	(111,115)	(222,229)
June 30, 2021	3,833,888	766,777	766,777	2,300,334
June 30, 2022	<u>(2,858,496)</u>	<u>0</u>	<u>(571,699)</u>	<u>(2,286,797)</u>
Total	\$ 231,276	\$ 441,186	\$ 46,257	\$ (256,167)

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%

* Cumulative since fiscal year ending June 30, 2005

Section 3: Projections

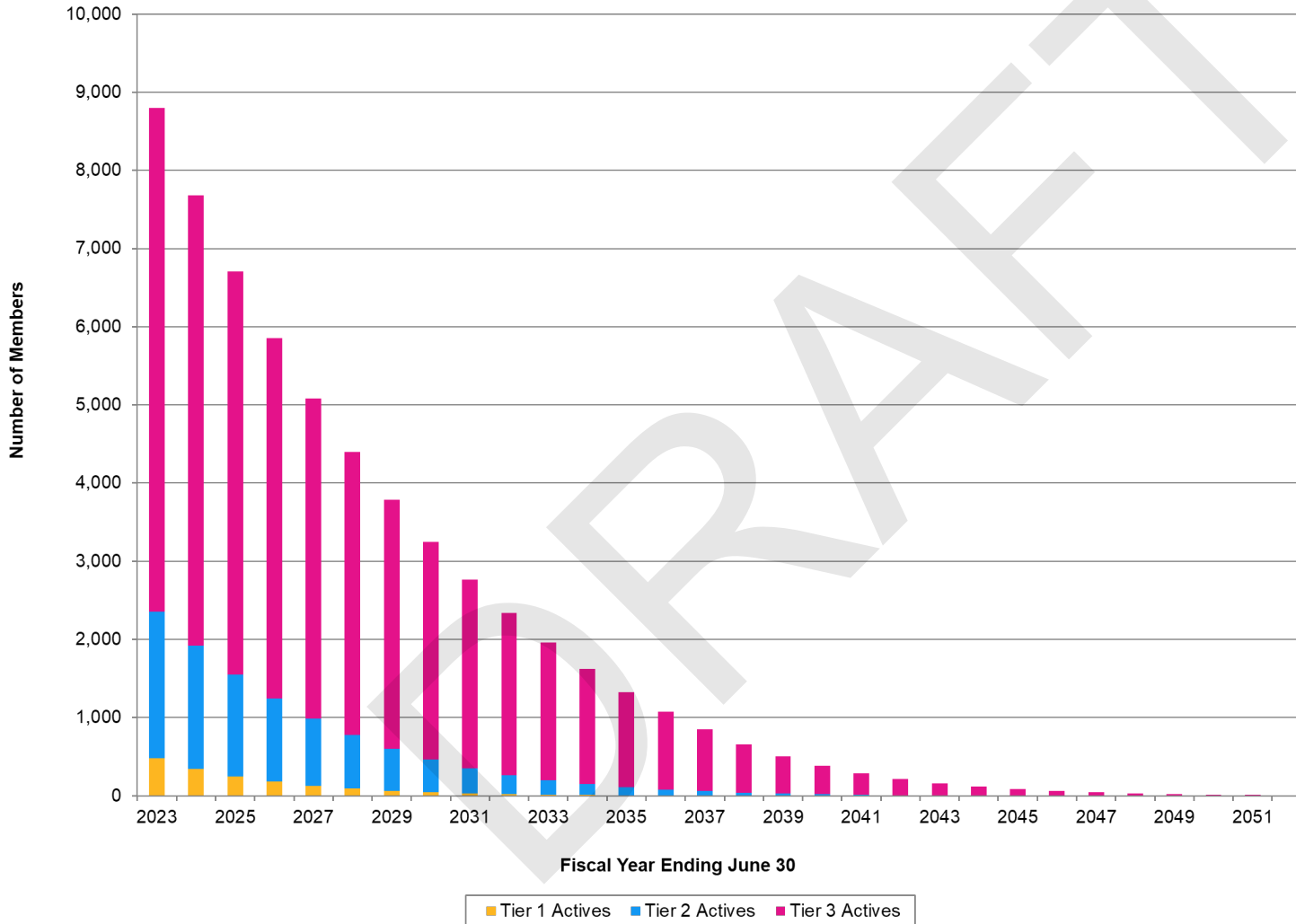
Section 3.1: Projection Assumptions and Methods

Key Assumptions

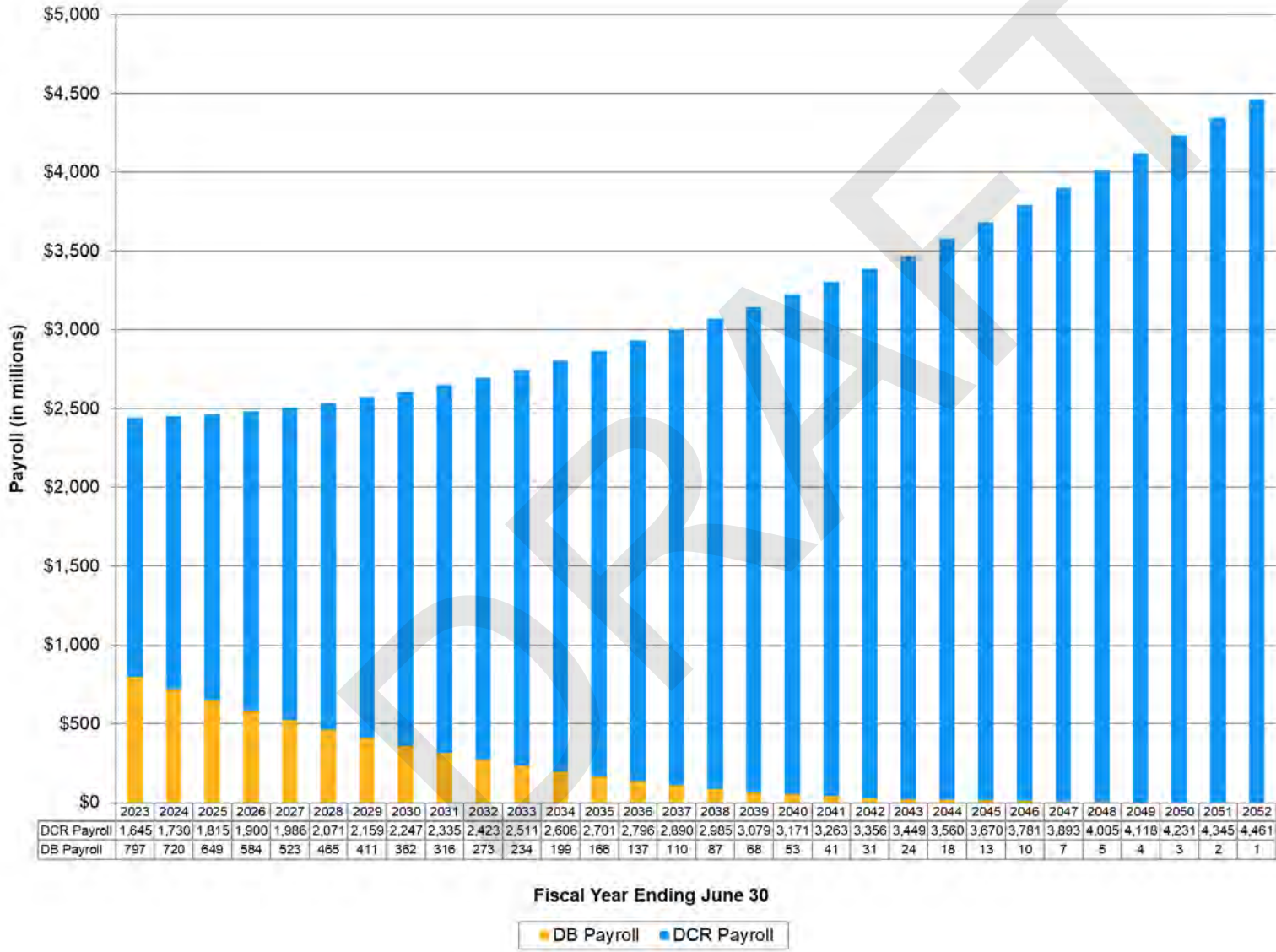
- 7.25% investment return (net of investment expenses) on the Fair Value of Assets in all future years.
- The Actuarial Value of Assets was re-initialized to Fair Value as of June 30, 2014. The Actuarial Value of Assets after June 30, 2014 reflects the deferred gains and losses generated by the smoothing method. The current deferred amount is recognized in the first four years of the projections.
- Actuarial assumptions and methods as described in Section 5. No actuarial gains/losses are assumed after June 30, 2022 (other than the recognition of current deferred asset gains/losses).
- 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

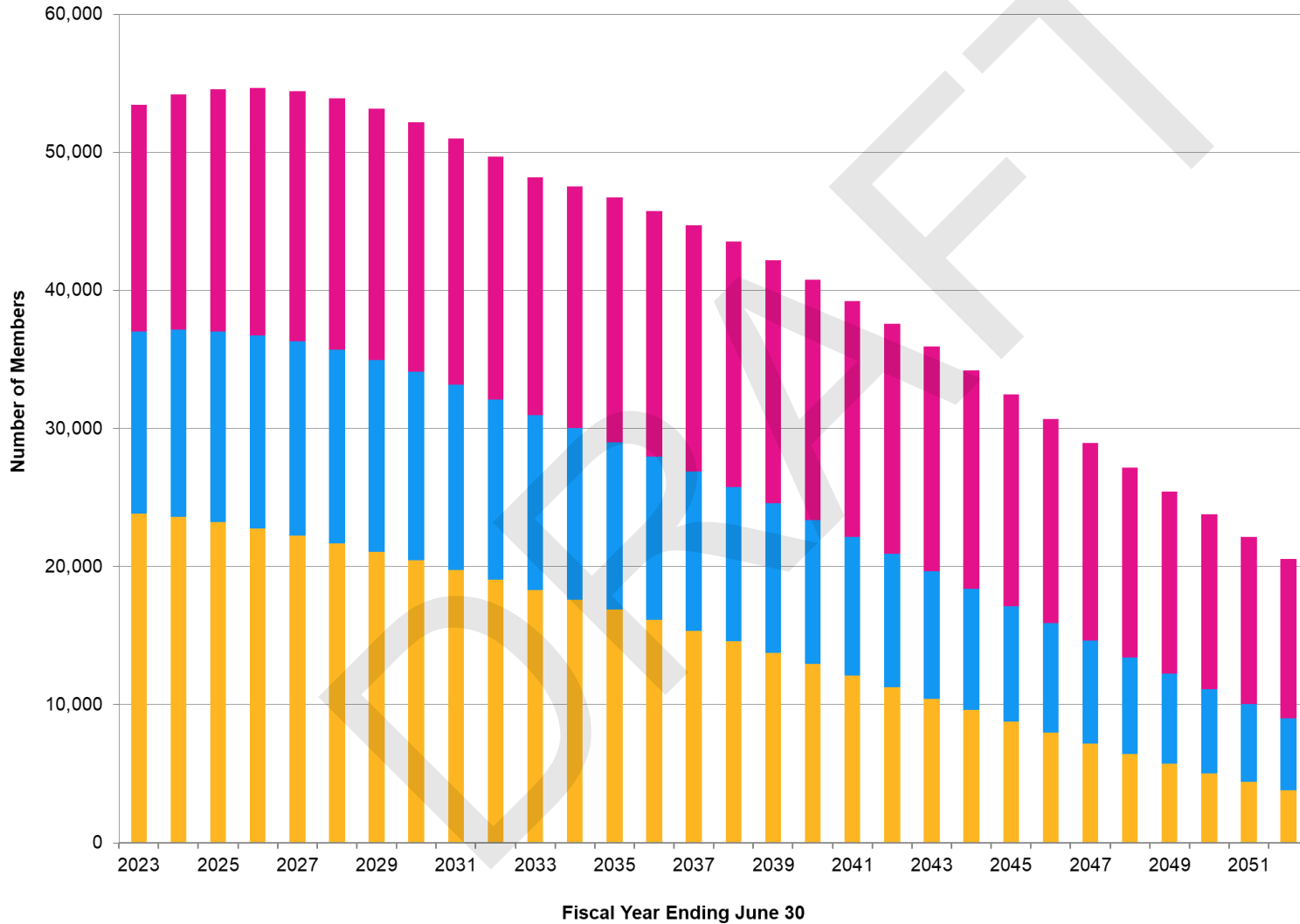
Projected Active Member Count



Projected DB and DCR Payroll



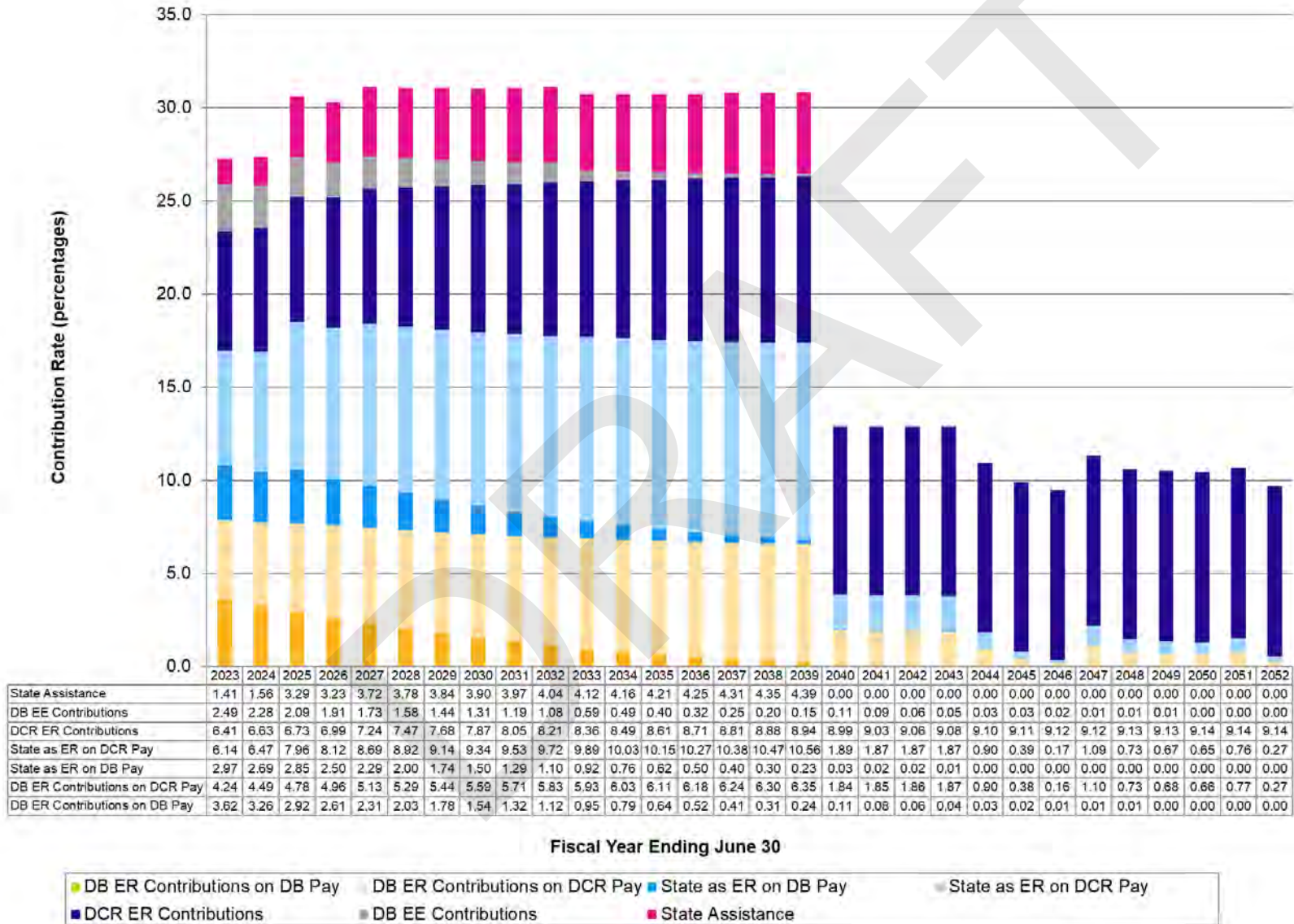
Projected Inactive Member Count



■ Tier 1 Inactives
 ■ Tier 2 Inactives
 ■ Tier 3 Inactives

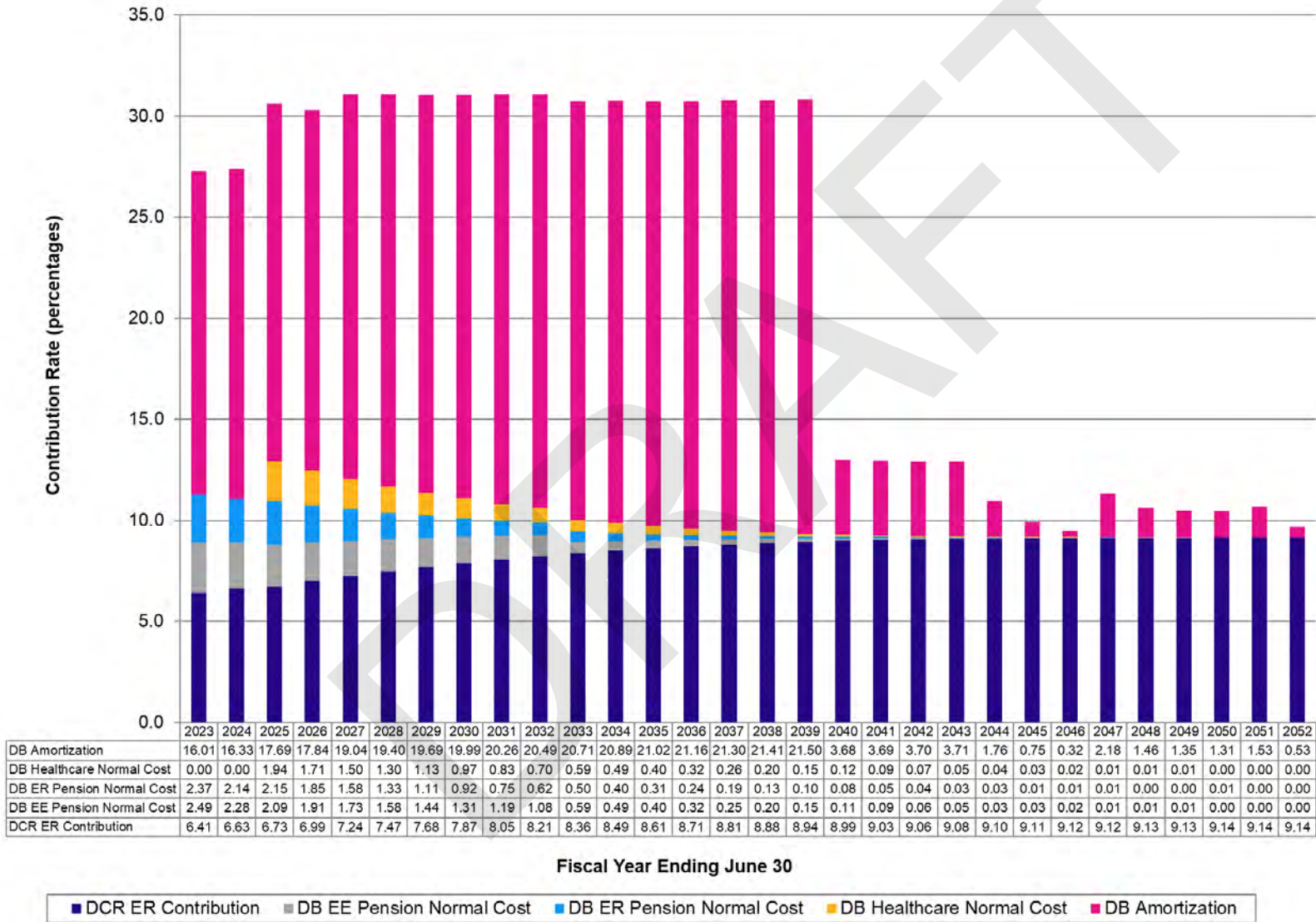
Section 3.3A: Projected Employer/State Contribution Rates

Based on Total DB and DCR Payroll

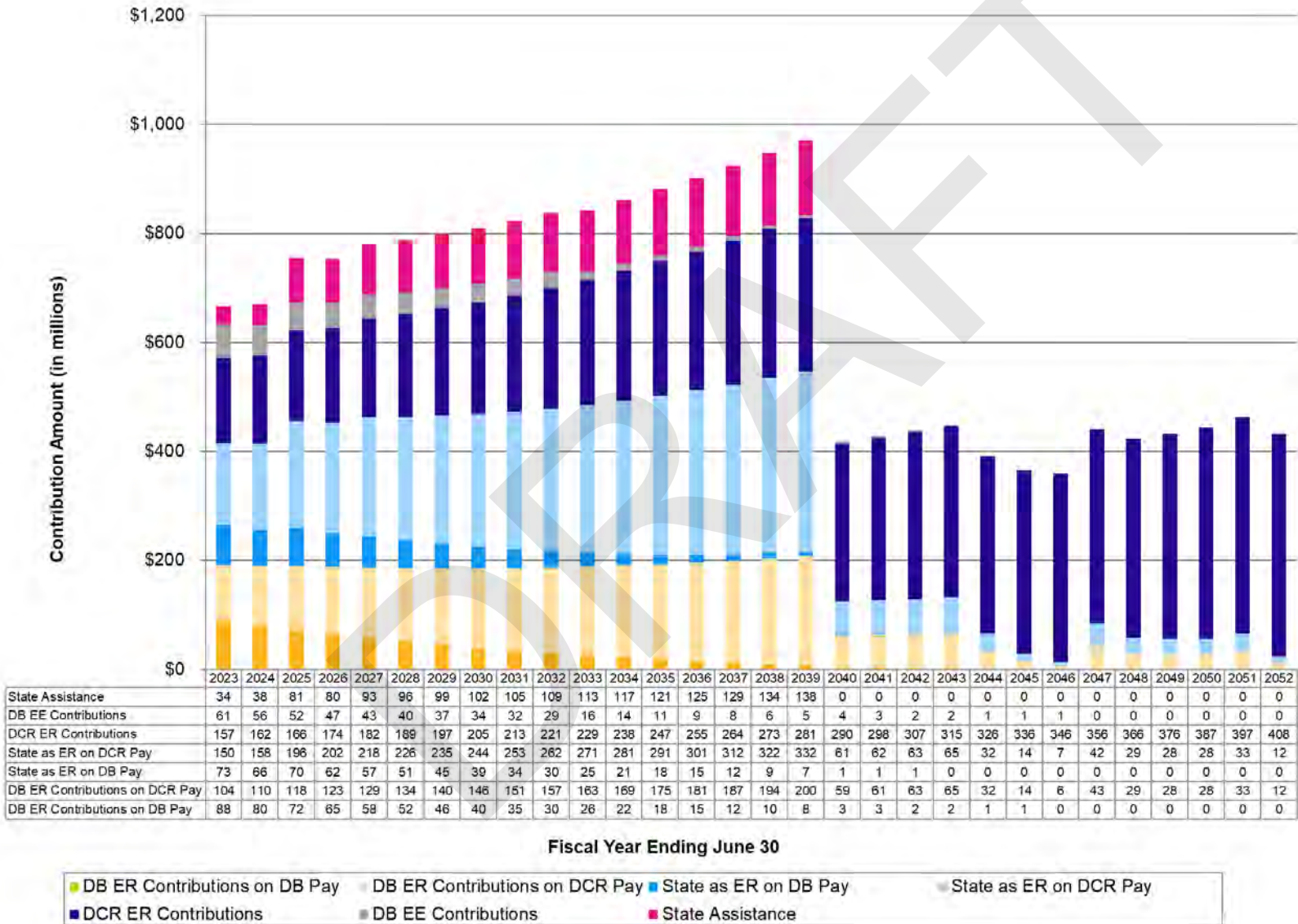


Section 3.3B: Components of Projected Total Contribution Rates

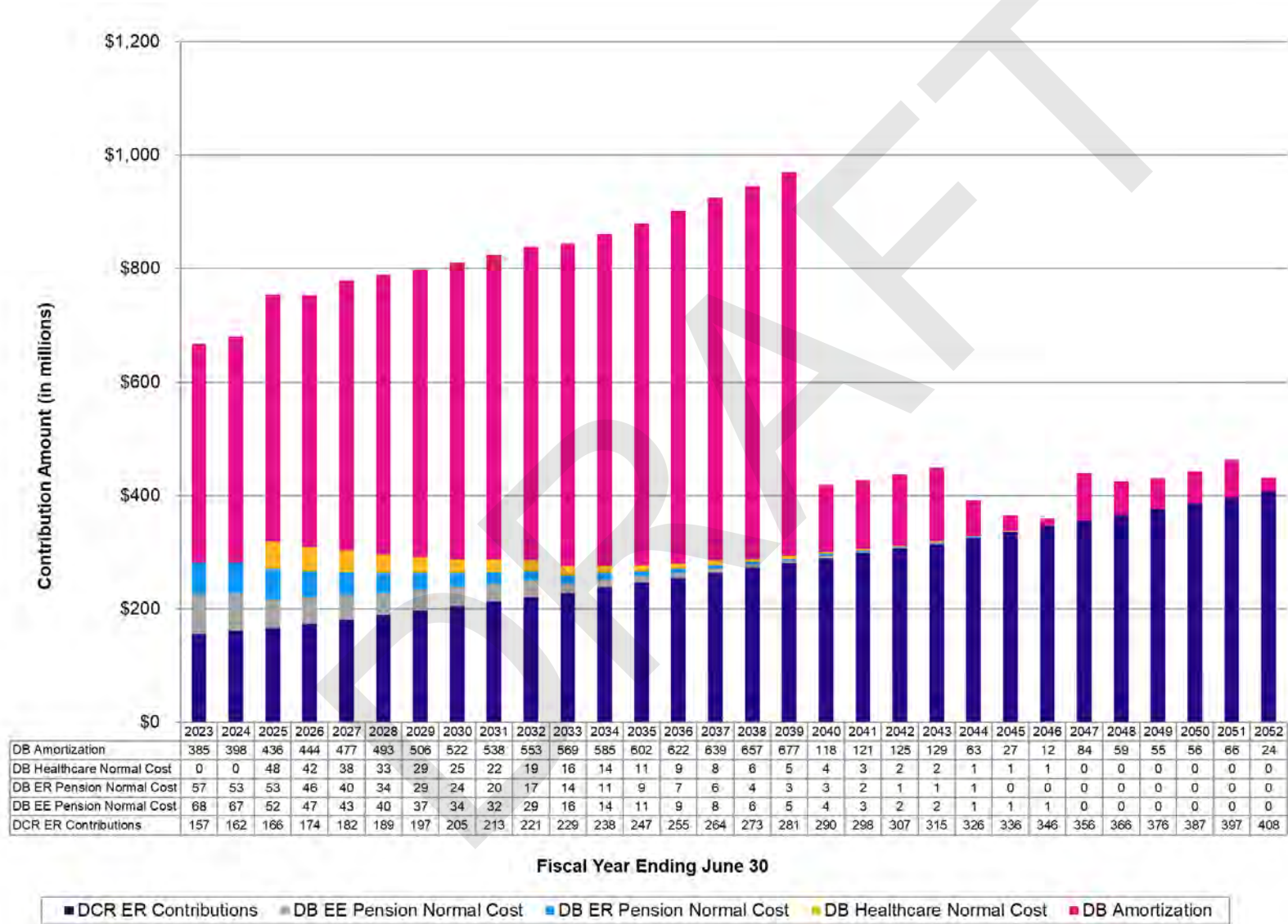
Based on Total DB and DCR Payroll



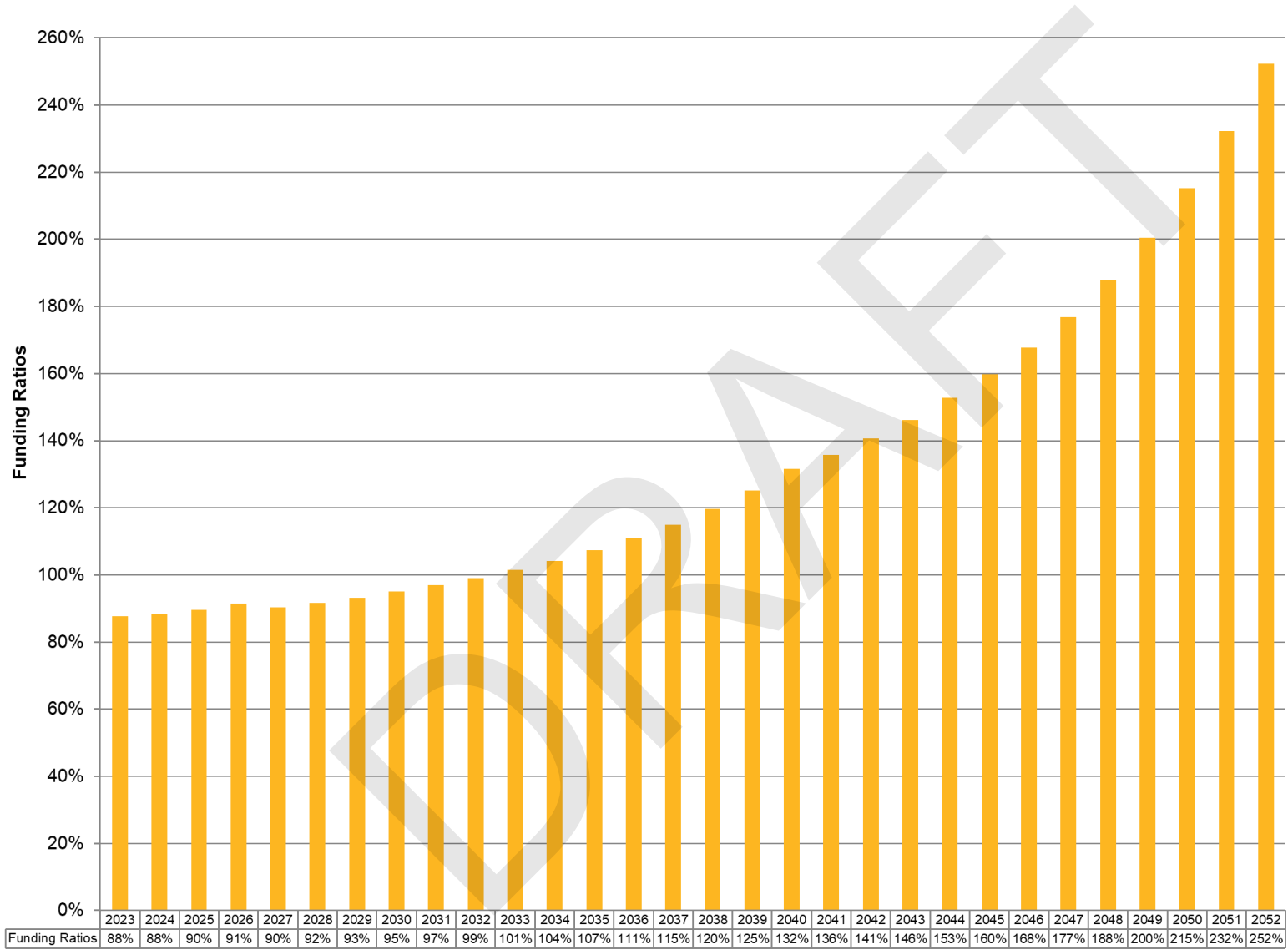
Section 3.4A: Projected Employer/State Contribution Amounts



Section 3.4B: Components of Projected Total Contribution Amounts



Section 3.5: Projection of Funded Ratios



Fiscal Year Ending June 30

Section 3.6: 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)
	Actuarial Assets	Accrued Liability	Funding Ratio	Unfunded Liability / (Surplus)	Total Salaries	Actuarial Contrib. Rates			DB Contributions					Benefit Payments	
						DB	DCR	Total	Non-State Employers	State as an Employer	State Assistance	Employee	Total		
2023	\$ 19,941,441	\$ 22,750,748	87.7%	\$ 2,809,307	\$ 2,442,007	18.38%	6.41%	24.79%	\$ 191,953	\$ 222,535	\$ 33,933	\$ 60,769	\$ 509,190	\$ 1,447,536	\$ (292,658)
2024	20,418,566	23,082,969	88.5%	2,664,403	2,449,710	18.47%	6.63%	25.10%	189,842	224,330	37,942	55,952	508,066	1,518,765	(376,621)
2025	20,901,549	23,344,834	89.5%	2,443,285	2,464,560	21.79%	6.73%	28.52%	189,750	266,258	81,020	51,505	588,533	1,585,941	(571,699)
2026	21,541,041	23,544,166	91.5%	2,003,125	2,484,549	21.41%	6.99%	28.40%	188,031	263,737	80,173	47,358	579,299	1,647,739	0
2027	21,373,398	23,673,070	90.3%	2,299,672	2,508,463	22.13%	7.24%	29.37%	186,680	275,229	93,213	43,470	598,592	1,703,581	0
2028	21,770,326	23,738,225	91.7%	1,967,899	2,535,575	22.03%	7.47%	29.50%	185,757	276,947	95,883	40,074	598,661	1,756,237	0
2029	22,142,543	23,739,801	93.3%	1,597,258	2,570,663	21.94%	7.68%	29.62%	185,605	279,633	98,765	36,966	600,969	1,805,208	0
2030	22,494,315	23,678,541	95.0%	1,184,226	2,608,993	21.87%	7.87%	29.74%	185,874	282,897	101,816	34,079	604,666	1,853,252	0
2031	22,826,487	23,552,278	96.9%	725,791	2,650,982	21.83%	8.05%	29.88%	186,459	286,924	105,326	31,679	610,388	1,898,935	0
2032	23,142,129	23,360,022	99.1%	217,893	2,696,089	21.81%	8.21%	30.02%	187,457	291,539	109,021	29,238	617,255	1,940,536	0
2033	23,445,403	23,102,309	101.5%	(343,094)	2,745,032	21.81%	8.36%	30.17%	188,784	296,832	113,076	16,196	614,888	1,966,253	0
2034	23,742,291	22,780,284	104.2%	(962,007)	2,804,506	21.77%	8.49%	30.26%	191,036	302,706	116,799	13,742	624,283	1,996,729	0
2035	24,039,492	22,395,620	107.3%	(1,643,872)	2,867,406	21.73%	8.61%	30.34%	193,585	308,927	120,575	11,470	634,557	2,022,139	0
2036	24,343,138	21,949,956	110.9%	(2,393,182)	2,932,888	21.72%	8.71%	30.43%	196,527	315,836	124,660	9,385	646,408	2,042,499	0
2037	24,660,524	21,444,927	115.0%	(3,215,597)	3,000,710	21.74%	8.81%	30.55%	199,559	323,437	129,358	7,502	659,856	2,057,855	0
2038	24,999,477	20,881,988	119.7%	(4,117,489)	3,072,106	21.74%	8.88%	30.62%	203,223	331,133	133,520	6,144	674,020	2,063,953	0
2039	25,371,837	20,267,406	125.2%	(5,104,431)	3,146,912	21.76%	8.94%	30.70%	207,219	339,508	138,041	4,720	689,488	2,064,067	0
2040	25,787,541	19,604,678	131.5%	(6,182,863)	3,223,871	3.87%	8.99%	12.86%	62,906	61,858	0	3,546	128,310	2,053,618	0
2041	25,658,195	18,902,045	135.7%	(6,756,150)	3,304,029	3.82%	9.03%	12.85%	63,637	62,577	0	2,974	129,188	2,034,500	0
2042	25,540,398	18,166,228	140.6%	(7,374,170)	3,386,930	3.81%	9.06%	12.87%	65,063	63,979	0	2,032	131,074	2,007,046	0
2043	25,444,646	17,403,947	146.2%	(8,040,699)	3,472,665	3.79%	9.08%	12.87%	66,359	65,254	0	1,736	133,349	1,972,362	0
2044	25,380,414	16,621,204	152.7%	(8,759,210)	3,577,503	1.83%	9.10%	10.93%	33,010	32,459	0	1,073	66,542	1,926,698	0
2045	25,289,805	15,828,161	159.8%	(9,461,644)	3,683,645	0.78%	9.11%	9.89%	14,487	14,246	0	1,105	29,838	1,875,324	0
2046	25,207,992	15,030,193	167.7%	(10,177,799)	3,791,021	0.35%	9.12%	9.47%	6,690	6,579	0	758	14,027	1,817,246	0
2047	25,164,189	14,234,058	176.8%	(10,930,131)	3,900,021	2.20%	9.12%	11.32%	43,261	42,540	0	390	86,191	1,752,847	0
2048	25,258,803	13,446,562	187.8%	(11,812,241)	4,010,390	1.47%	9.13%	10.60%	29,724	29,229	0	401	59,354	1,686,540	0
2049	25,401,316	12,670,416	200.5%	(12,730,900)	4,121,778	1.36%	9.13%	10.49%	28,264	27,792	0	412	56,468	1,617,086	0
2050	25,623,265	11,909,793	215.1%	(13,713,472)	4,233,861	1.32%	9.14%	10.46%	28,178	27,709	0	0	55,887	1,548,027	0
2051	25,932,387	11,165,498	232.3%	(14,766,889)	4,347,409	1.53%	9.14%	10.67%	33,537	32,978	0	0	66,515	1,477,155	0
2052	26,348,488	10,440,665	252.4%	(15,907,823)	4,462,598	0.54%	9.14%	9.68%	12,150	11,948	0	0	24,098	1,406,815	0
Total									\$ 3,744,607	\$ 5,367,556	\$ 1,713,121	\$ 514,676	\$ 11,339,960		

Section 3.6: 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	Total	Pension	Healthcare	Total
2023	68.1%	134.9%	87.7%	\$ 5,132,181	\$ (2,322,874)	\$ 2,809,307
2024	68.7%	136.0%	88.5%	5,102,394	(2,437,991)	2,664,403
2025	69.5%	137.6%	89.5%	5,030,521	(2,587,236)	2,443,285
2026	70.7%	141.0%	91.5%	4,853,217	(2,850,092)	2,003,125
2027	69.5%	139.6%	90.3%	5,079,354	(2,779,682)	2,299,672
2028	70.3%	142.2%	91.7%	4,948,924	(2,981,025)	1,967,899
2029	71.2%	145.1%	93.3%	4,794,487	(3,197,229)	1,597,258
2030	72.2%	148.3%	95.0%	4,613,868	(3,429,642)	1,184,226
2031	73.2%	151.9%	96.9%	4,404,992	(3,679,201)	725,791
2032	74.4%	155.9%	99.1%	4,165,128	(3,947,235)	217,893
2033	75.8%	160.4%	101.5%	3,891,872	(4,234,966)	(343,094)
2034	77.4%	165.4%	104.2%	3,581,806	(4,543,813)	(962,007)
2035	79.2%	171.0%	107.3%	3,231,339	(4,875,211)	(1,643,872)
2036	81.3%	177.4%	110.9%	2,837,462	(5,230,644)	(2,393,182)
2037	83.8%	184.7%	115.0%	2,396,200	(5,611,797)	(3,215,597)
2038	86.8%	192.9%	119.7%	1,903,402	(6,020,891)	(4,117,489)
2039	90.3%	202.3%	125.2%	1,355,036	(6,459,467)	(5,104,431)
2040	94.5%	213.1%	131.5%	746,579	(6,929,442)	(6,182,863)
2041	94.8%	225.4%	135.7%	677,256	(7,433,406)	(6,756,150)
2042	95.2%	239.6%	140.6%	599,380	(7,973,550)	(7,374,170)
2043	95.7%	255.8%	146.2%	511,934	(8,552,633)	(8,040,699)
2044	96.4%	274.4%	152.7%	414,082	(9,173,292)	(8,759,210)
2045	96.5%	295.7%	159.8%	377,197	(9,838,841)	(9,461,644)
2046	96.3%	320.1%	167.7%	374,680	(10,552,479)	(10,177,799)
2047	96.0%	347.9%	176.8%	387,518	(11,317,649)	(10,930,131)
2048	96.4%	379.7%	187.8%	325,811	(12,138,052)	(11,812,241)
2049	96.6%	416.0%	200.5%	287,172	(13,018,072)	(12,730,900)
2050	96.9%	457.5%	215.1%	248,543	(13,962,015)	(13,713,472)
2051	97.2%	505.1%	232.3%	207,161	(14,974,050)	(14,766,889)
2052	97.8%	559.8%	252.4%	151,697	(16,059,520)	(15,907,823)

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	Inactive Members					Total Inactive Members
	Active 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

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

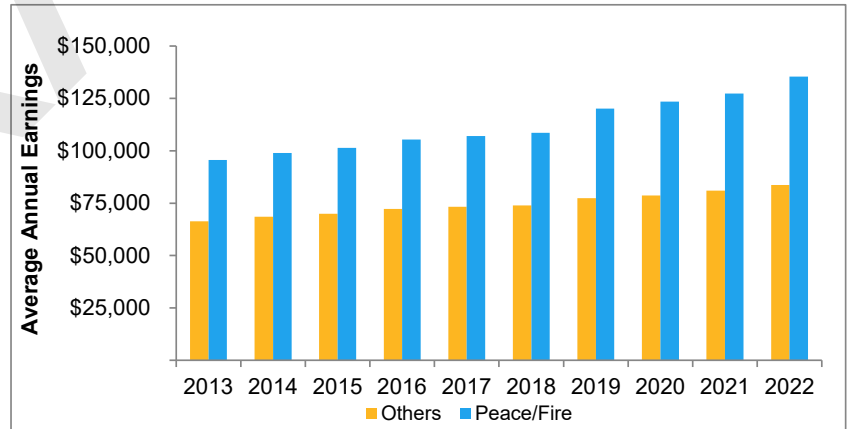
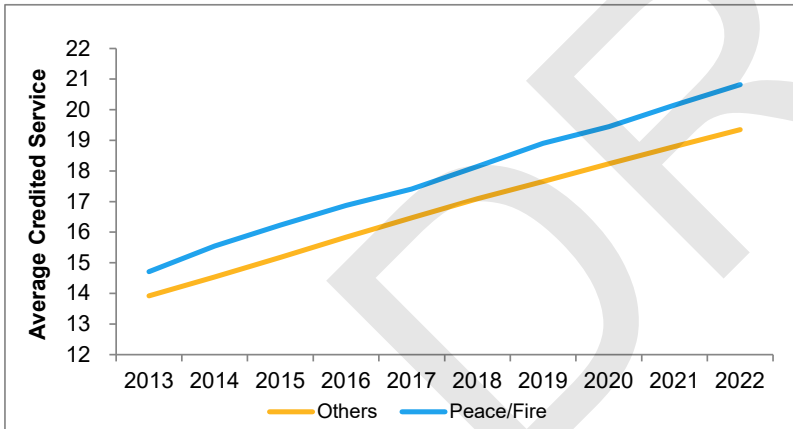
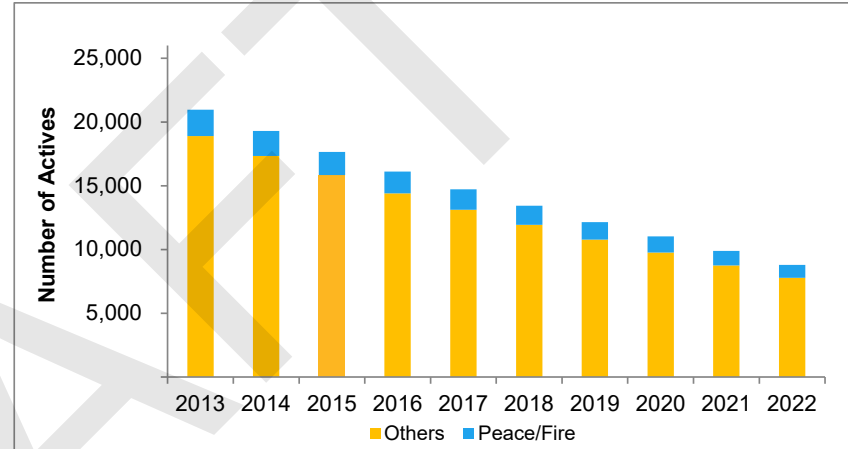
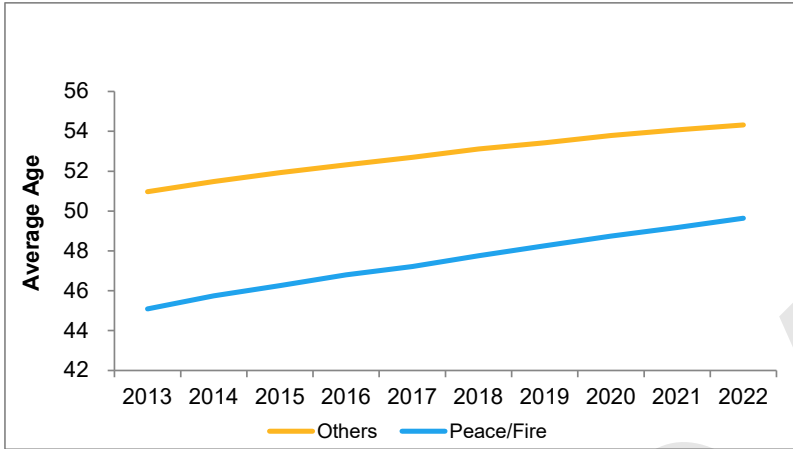
As of June 30	2018	2019	2020	2021	2022
Peace Officer / Firefighter					
1. Number	1,507	1,382	1,266	1,137	1,014 ¹
2. Average Age	47.75	48.25	48.74	49.18	49.64
3. Average Credited Service	18.15	18.90	19.45	20.15	20.82
4. Average Entry Age	29.60	29.35	29.29	29.03	28.82
5. Average Annual Earnings	\$ 108,580	\$ 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									
	0 - 4	5 - 9	10 - 14	15 - 19	20 - 24	25 - 29	30 - 34	35 - 39	40+	Total
0 - 19	0	0	0	0	0	0	0	0	0	0
20 - 24	0	0	0	0	0	0	0	0	0	0
25 - 29	0	0	0	0	0	0	0	0	0	0
30 - 34	0	0	0	0	0	0	0	0	0	0
35 - 39	0	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									
	0 - 4	5 - 9	10 - 14	15 - 19	20 - 24	25 - 29	30 - 34	35 - 39	40+	Total
0 - 19	0	0	0	0	0	0	0	0	0	0
20 - 24	0	0	0	0	0	0	0	0	0	0
25 - 29	0	0	0	0	0	0	0	0	0	0
30 - 34	1	0	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

	Inactive Members						Total
	Active Members	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
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
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
Number of Recipients	0	6	11	23	40	32	9
Period 7/1/2018 – 6/30/2019:							
Average Monthly Pension	\$ 0	\$ 651	\$ 1,933	\$ 3,362	\$ 4,786	\$ 6,196	\$ 5,688
Number of Recipients	0	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
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
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
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
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
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
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.

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
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
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
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
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
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
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
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
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
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
Number of Recipients	59	349	365	257	206	209	132

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

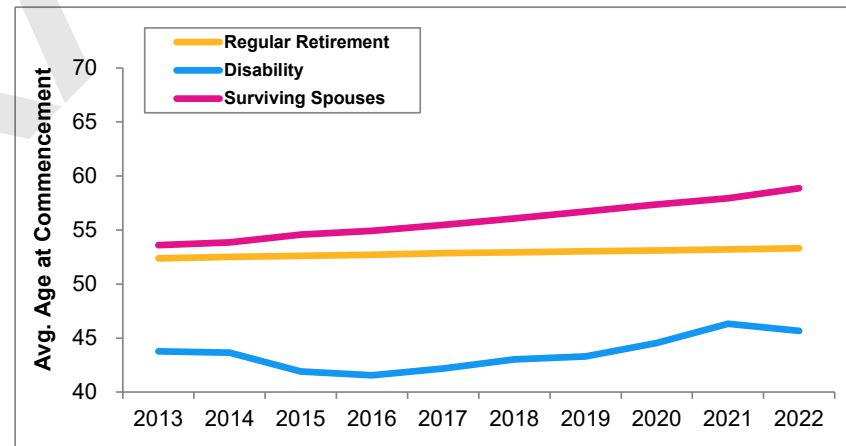
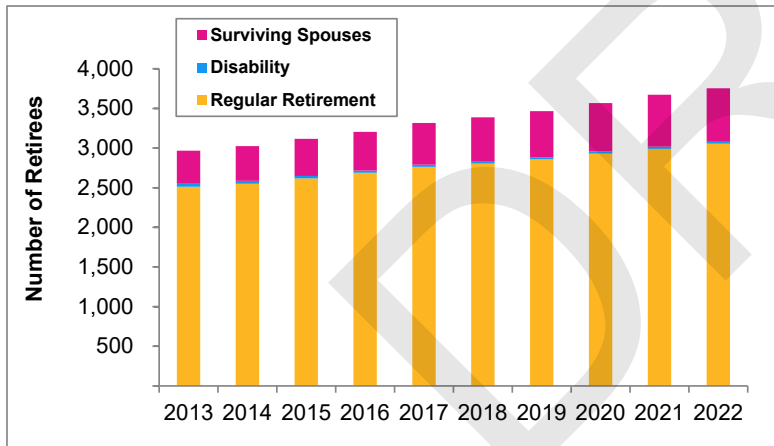
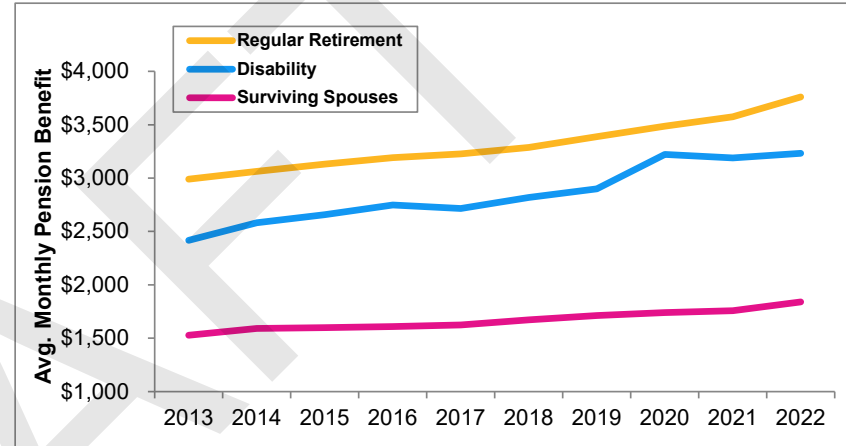
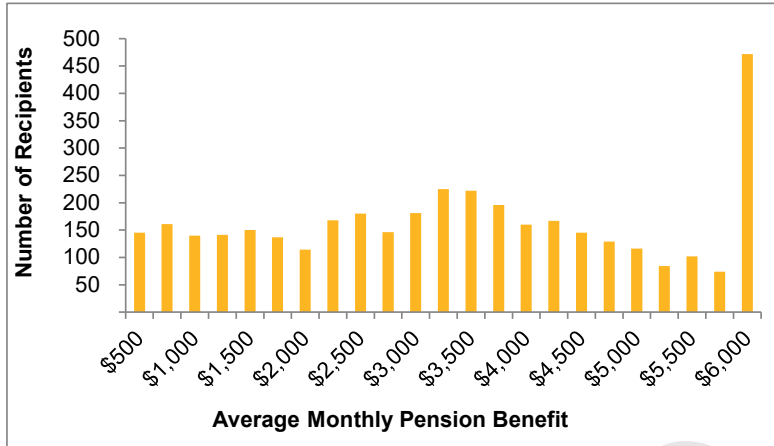
Beneficiaries are not included in the table above.

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

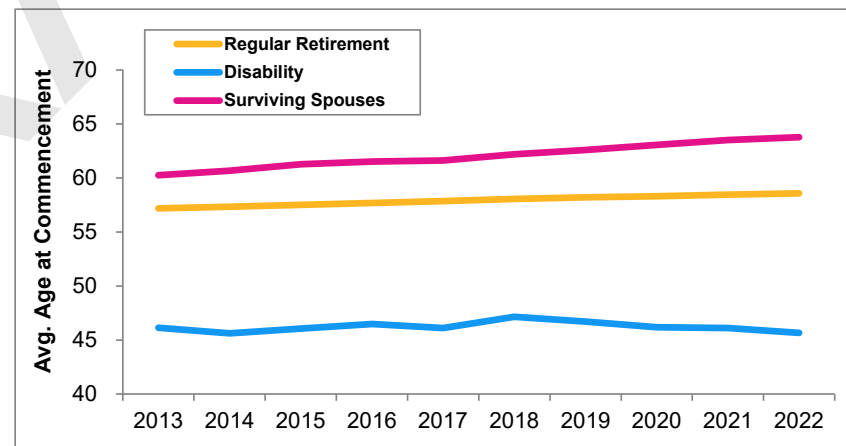
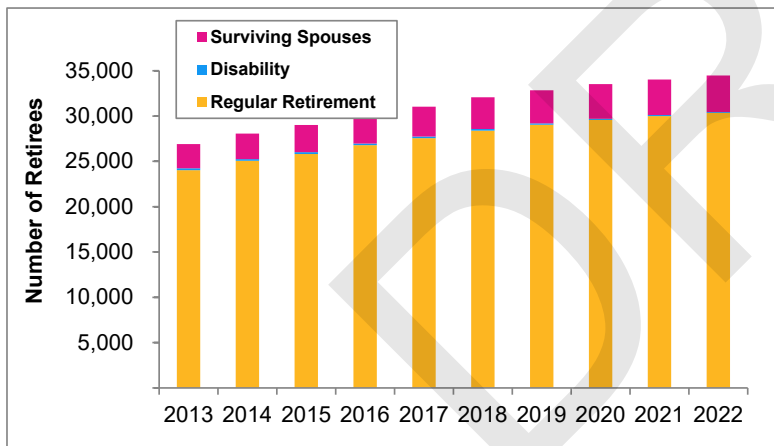
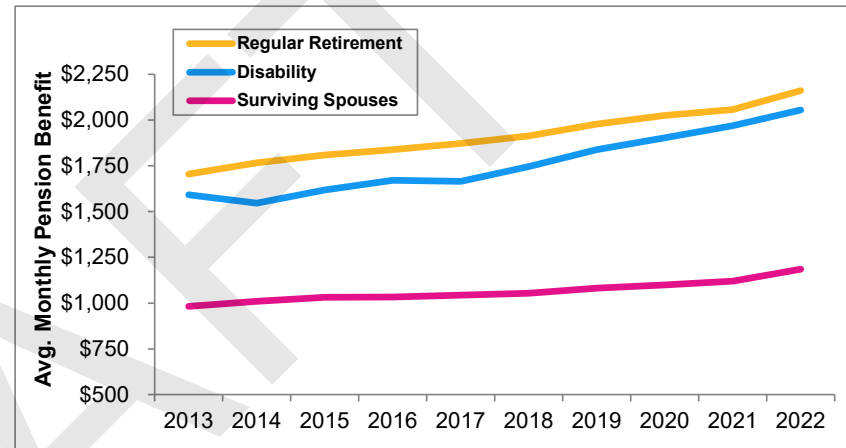
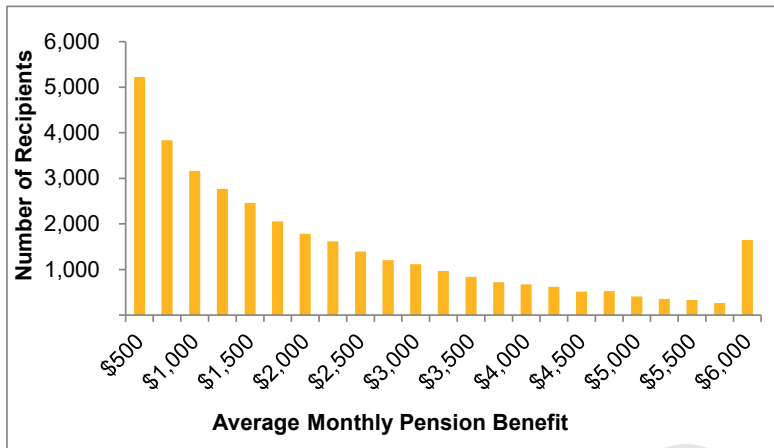
Summary of All Pension Benefit Recipients

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	0
20 - 24	0	0	0	0	0	0	0	0	0	0	0
25 - 29	0	0	0	0	0	0	0	0	0	0	0
30 - 34	1	0	0	0	0	0	0	0	0	0	1
35 - 39	1	4	0	0	0	0	0	0	0	0	5
40 - 44	5	2	2	0	0	0	0	0	0	0	9
45 - 49	10	10	5	3	0	0	0	0	0	0	28
50 - 54	89	25	16	5	1	0	1	0	0	0	137
55 - 59	702	204	34	18	9	3	0	0	0	0	970
60 - 64	3,335	1,529	499	45	12	12	6	0	0	0	5,438
65 - 69	1,784	3,460	2,456	803	40	13	8	1	1	1	8,566
70 - 74	749	1,780	2,310	2,583	949	41	12	5	3	3	8,432
75+	719	868	1,271	2,092	2,883	1,633	1,017	354	65	65	10,902
Total	7,395	7,882	6,593	5,549	3,894	1,702	1,044	360	69	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.

	Medical		Prescription Drugs (Rx)	
	Pre-Medicare	Medicare	Pre-Medicare	Medicare
A. Fiscal 2021				
1. Incurred Claims	\$ 196,566,470	\$ 86,512,435	\$ 60,691,609	\$ 207,822,858
2. Adjustments for Rx Rebates and COVID (Medical only)	<u>7,862,659</u>	<u>3,460,497</u>	<u>(9,832,041)</u>	<u>(29,718,669)</u>
3. Net incurred claims	\$ 204,429,129	\$ 89,972,933	\$ 50,859,568	\$ 178,104,189
4. Average Enrollment	18,106	47,025	18,106	47,025
5. Claim Cost Rate (3) / (4)	11,291	1,913	2,809	3,787
6. Trend to Fiscal 2023	1.161	1.107	1.183	1.183
7. Fiscal 2023 Incurred Cost Rate (5) x (6)	\$ 13,108	\$ 2,117	\$ 3,322	\$ 4,479
8. Adjustment Factor for 2022 Plan Changes	1.014	1.000	0.913	0.976
9. Adjusted Fiscal 2023 Incurred Cost Rate (7) x (8)	\$ 13,290	\$ 2,117	\$ 3,034	\$ 4,371

B. Fiscal 2022				
1. Incurred Claims	\$ 197,733,173	\$ 98,249,082	\$ 64,076,270	\$ 230,832,315
2. Adjustments for Rx Rebates	<u>0</u>	<u>0</u>	<u>(12,879,330)</u>	<u>(31,162,363)</u>
3. Net incurred claims	\$ 197,733,173	\$ 98,249,082	\$ 51,196,940	\$ 199,669,953
4. Average Enrollment	17,072	48,698	17,072	48,698
5. Claim Cost Rate (3) / (4)	11,582	2,018	2,999	4,100
6. Trend to Fiscal 2023	1.074	1.056	1.095	1.095
7. Fiscal 2023 Incurred Cost Rate (5) x (6)	\$ 12,439	\$ 2,131	\$ 3,284	\$ 4,490
8. Adjustment Factor for 2022 Plan Changes	1.007	1.000	0.957	0.988
9. Adjusted Fiscal 2023 Incurred Cost Rate (7) x (8)	\$ 12,526	\$ 2,131	\$ 3,141	\$ 4,436

	Medical		Prescription Drugs (Rx)	
	Pre-Medicare	Medicare	Pre-Medicare	Medicare
C. Adjusted Incurred Cost Rate by Fiscal Year				
1. Fiscal 2021 A.(9)	13,290	2,117	3,034	4,371
2. Fiscal 2022 B.(9)	12,526	2,131	3,141	4,436

D. Weighting by Fiscal Year				
1. Fiscal 2021	50%	50%	50%	50%
2. Fiscal 2022	50%	50%	50%	50%

E. Fiscal 2023 Incurred Cost Rate				
1. Rate at Average Age C x D	\$ 12,908	\$ 2,124	\$ 3,088	\$ 4,403
2. Average Aging Factor	0.822	1.279	0.832	1.127
3. Rate at Age 65 (1) / (2)	\$ 15,706	\$ 1,661	\$ 3,712	\$ 3,907

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)	\$ 1,625
8. Cost for those eligible for Part B only: (7) x (4)	\$ 5,363

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

Below are the results of this analysis:

**Distribution of Per Capita Claims Cost by Age
for the Period July 1, 2022 through June 30, 2023**

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

Section 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.

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: Actuarial Standard of Practice No. 51

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.

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)	June 30, 2021	June 30, 2022
1. Retiree and Beneficiary Accrued Liability	\$ 10,774,140	\$ 11,426,889
2. Total Accrued Liability	\$ 15,419,975	\$ 16,093,679
3. Ratio, (1) ÷ (2)	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)	FYE June 30, 2021	FYE June 30, 2022
1. Contributions	\$ 586,737	\$ 579,650
2. Benefit Payments	<u>930,006</u>	<u>962,357</u>
3. Cash Flow, (1) - (2)	\$ (343,269)	\$ (382,707)
4. Fair Value of Assets	\$ 11,912,309	\$ 10,816,140
5. Ratio, (3) ÷ (4)	(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)	June 30, 2021	June 30, 2022
1. Fair Value of Assets	\$ 11,912,309	\$ 10,816,140
2. DB/DCR Payroll	\$ 2,406,757	\$ 2,442,007
3. Asset to Payroll Ratio, (1) ÷ (2)	495.0%	442.9%
4. Accrued Liability	\$ 15,419,975	\$ 16,093,679
5. Liability to Payroll Ratio, (4) ÷ (2)	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%.

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.

DRAFT



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

January 2023

DRAFT



January 6, 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 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 overall funded status is expected to remain at or above 100%.

The Board and staff of the State of Alaska may use this report for the review of the operations of 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.

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

Assessment of Risks

Actuarial Standard of Practice No. 51 (ASOP 51) applies to actuaries performing funding calculations related to a pension plan. ASOP 51 does not apply to actuaries performing services in connection with other post-employment benefits, such as medical benefits. Accordingly, ASOP 51 does not apply to the retiree medical portion of 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

DRAFT

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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	180,536	212,638
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%
Total		
a. Actuarial Accrued Liability	\$ 180,212	\$ 184,348
b. Valuation Assets	233,611	275,576
c. Unfunded Actuarial Accrued Liability, (a) - (b)	\$ (53,399)	\$ (91,228)
d. Funded Ratio based on Valuation Assets, (b) ÷ (a)	129.6%	149.5%
e. Fair Value of Assets	\$ 264,700	\$ 269,144
f. Funded Ratio based on Fair Value of Assets, (e) ÷ (a)	146.9%	146.0%

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 (6.3)% compared to the expected investment return of 7.38% (net of investment expenses). This resulted in a market asset loss of approximately \$37,702,000. 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 \$2,114,000.

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.

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 \$21,126,000.

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		
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	Total
Retirement Experience	\$ 0	\$ (185)	\$ (185)
Termination Experience	31	4,563	4,594
Disability Experience	2,109	355	2,464
Active Mortality Experience	1,966	(39)	1,927
Inactive Mortality Experience	(26)	(11)	(37)
Salary Increases	(160)	N/A	(160)
New Entrants	(76)	(1,887)	(1,963)
Rehires	(62)	(3,029)	(3,091)
Transfers Between P/F and Others	(45)	(11)	(56)
Benefit Payments Different than Expected	177	(316)	(139)
Per Capita Claims Cost	N/A	3,679	3,679
Miscellaneous ¹	<u>347</u>	<u>2,445</u>	<u>2,792</u>
Total	\$ 4,261	\$ 5,564	\$ 9,825

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	Total
Experience Study Assumption Changes	\$ 1,222	\$ (22,348)	\$ (21,126)

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	<u>(9,818)</u>	<u>(5,212)</u>
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	<u>(278)</u>	<u>(278)</u>
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	<u>(496)</u>
Subtotal	\$ 3,556
Administrative Expense Load	
Occupational Death & Disability	\$ 11
Retiree Medical	<u>13</u>
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	<u>(62,156)</u>	<u>(42,205)</u>
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	<u>(2,449)</u>	<u>(2,449)</u>
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	<u>(3,485)</u>
Subtotal	\$ 15,181
Administrative Expense Load	
Occupational Death & Disability	\$ 22
Retiree Medical	<u>26</u>
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	<u>(71,974)</u>	<u>(47,417)</u>
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	<u>(2,727)</u>	<u>(2,727)</u>
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	<u>(3,981)</u>
Subtotal	\$ 18,737
Administrative Expense Load	
Occupational Death & Disability	\$ 33
Retiree Medical	<u>39</u>
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	Total
1. Total Normal Cost	\$ 1,724	\$ 1,856	\$ 3,580
2. DCR Plan Rate Payroll Projected for FY23	249,857	249,857	249,857
3. Employer Normal Cost Rate, (1) ÷ (2)	0.69%	0.74%	1.43%
Past Service Rate			
1. Actuarial Accrued Liability	\$ 12,326	\$ 20,143	\$ 32,469
2. Valuation Assets	18,616	25,285	43,901
3. Unfunded Actuarial Accrued Liability, (1) - (2)	\$ (6,290)	\$ (5,142)	\$ (11,432)
4. Funded Ratio based on Valuation Assets	151.0%	125.5%	135.2%
5. Past Service Cost Amortization Payment	(490)	(287)	(777)
6. DCR Plan Rate Payroll Projected for FY23	249,857	249,857	249,857
7. Past Service Cost Rate, (5) ÷ (6)	(0.20%)	(0.11%)	(0.31%)
Total Employer Contribution Rate, not less than Normal Cost Rate	0.69%	0.74%	1.43%

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

Total Employer Contribution Rate as Percent of Total Payroll	Occupational Death & Disability	Retiree Medical	Total
1. Total Normal Cost	\$ 1,724	\$ 1,856	\$ 3,580
2. Total DB and DCR Plan Rate Payroll Projected for FY23	392,011	392,011	392,011
3. Employer Normal Cost Rate, (1) ÷ (2)	0.44%	0.47%	0.91%
4. Past Service Cost Amortization Payment	(490)	(287)	(777)
5. Past Service Cost Rate, (4) ÷ (2)	(0.12%)	(0.08%)	(0.20%)
Total Employer Contribution Rate, not less than Normal Cost Rate	0.44%	0.47%	0.91%

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)

Peace Officer / Firefighter

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

Layer	Amortization Period		Balances		
	Date Created	Years Remaining	Initial	Outstanding	Beginning-of-Year Payment
Initial Unfunded Liability	06/30/2007	10	\$ (121)	\$ (110)	\$ (14)
Change in Assumptions	06/30/2008	11	17	14	2
FY08 Gain	06/30/2008	11	(648)	(591)	(66)
Change in Assumptions	06/30/2009	12	(112)	(106)	(11)
FY09 Loss	06/30/2009	12	408	382	40
Change in Assumptions	06/30/2010	13	120	114	11
FY10 Gain	06/30/2010	13	(328)	(314)	(31)
FY11 Loss	06/30/2011	14	143	136	12
Change in Assumptions	06/30/2012	15	3,085	3,067	271
FY12 Gain	06/30/2012	15	(622)	(619)	(55)
FY13 Loss	06/30/2013	16	676	681	58
Change in Assumptions	06/30/2014	17	(4,308)	(4,356)	(354)
PRPA Modification	06/30/2014	17	(91)	(91)	(7)
FY14 Loss	06/30/2014	17	1,118	1,129	91
FY15 Gain	06/30/2015	18	(1,376)	(1,395)	(109)
EGWP Gain	06/30/2016	19	(1,675)	(1,702)	(128)
FY16 Loss	06/30/2016	19	1,120	1,138	85
Change in Assumptions	06/30/2017	20	2,244	2,273	166
FY17 Gain	06/30/2017	20	(575)	(585)	(43)
FY18 Gain	06/30/2018	21	(493)	(497)	(35)
Change in Assumptions/Methods	06/30/2018	21	(1,282)	(1,293)	(91)
FY19 Gain	06/30/2019	22	(1,072)	(1,081)	(74)
Change in Assumptions	06/30/2020	23	1,116	1,124	75
FY20 Gain	06/30/2020	23	(1,874)	(1,888)	(126)
Prescription Drug Plan Changes	06/30/2021	24	(235)	(236)	(15)
FY21 Gain	06/30/2021	24	(3,568)	(3,584)	(234)
Change in Assumptions	06/30/2022	25	(179)	(179)	(12)
FY22 Gain	06/30/2022	25	(2,863)	(2,863)	(183)
Total				\$ (11,432)	\$ (777)

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	Total
1. Total Normal Cost	\$ 3,377	\$ 11,852	\$ 15,229
2. DCR Plan Rate Payroll Projected for FY23	1,395,484	1,395,484	1,395,484
3. Employer Normal Cost Rate, (1) ÷ (2)	0.24%	0.85%	1.09%
Past Service Rate			
1. Actuarial Accrued Liability	\$ 2,626	\$ 149,253	\$ 151,879
2. Valuation Assets	44,322	187,353	231,675
3. Unfunded Actuarial Accrued Liability, (1) - (2)	\$ (41,696)	\$ (38,100)	\$ (79,796)
4. Funded Ratio based on Valuation Assets	1,687.8%	125.5%	152.5%
5. Past Service Cost Amortization Payment	(3,041)	(2,041)	(5,082)
6. DCR Plan Rate Payroll Projected for FY23	1,395,484	1,395,484	1,395,484
7. Past Service Cost Rate, (5) ÷ (6)	(0.22%)	(0.15%)	(0.37%)
Total Employer Contribution Rate, not less than Normal Cost Rate	0.24%	0.85%	1.09%

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

Total Employer Contribution Rate as Percent of Total Payroll	Occupational Death & Disability	Retiree Medical	Total
1. Total Normal Cost	\$ 3,377	\$ 11,852	\$ 15,229
2. Total DB and DCR Plan Rate Payroll Projected for FY23	2,049,996	2,049,996	2,049,996
3. Employer Normal Cost Rate, (1) ÷ (2)	0.16%	0.58%	0.74%
4. Past Service Cost Amortization Payment	(3,041)	(2,041)	(5,082)
5. Past Service Cost Rate, (4) ÷ (2)	(0.15%)	(0.10%)	(0.25%)
Total Employer Contribution Rate, not less than Normal Cost Rate	0.16%	0.58%	0.74%

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)

Others

Schedule of Past Service Cost Amortizations - Total (\$'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	\$ (375)	\$ (331)	\$ (39)
Change in Assumptions	06/30/2008	11	165	151	16
FY08 Gain	06/30/2008	11	(1,020)	(929)	(104)
Change in Assumptions	06/30/2009	12	(214)	(200)	(21)
FY09 Gain	06/30/2009	12	(2,362)	(2,215)	(232)
Change in Assumptions	06/30/2010	13	(548)	(525)	(51)
FY10 Gain	06/30/2010	13	(415)	(403)	(40)
FY11 Gain	06/30/2011	14	(364)	(352)	(32)
Change in Assumptions	06/30/2012	15	25,180	25,024	2,214
FY12 Loss	06/30/2012	15	218	217	20
FY13 Loss	06/30/2013	16	9,195	9,233	781
Change in Assumptions	06/30/2014	17	(21,873)	(22,113)	(1,793)
PRPA Modification	06/30/2014	17	(27)	(28)	(3)
FY14 Loss	06/30/2014	17	4,999	5,059	411
FY15 Gain	06/30/2015	18	(10,576)	(10,728)	(837)
EGWP Gain	06/30/2016	19	(17,884)	(18,144)	(1,367)
FY16 Loss	06/30/2016	19	8,006	8,122	613
Change in Assumptions	06/30/2017	20	21,288	21,550	1,570
FY17 Gain	06/30/2017	20	(4,035)	(4,083)	(297)
FY18 Gain	06/30/2018	21	(2,472)	(2,492)	(176)
Change in Assumptions/Methods	06/30/2018	21	(9,265)	(9,338)	(661)
FY19 Gain	06/30/2019	22	(14,825)	(14,952)	(1,028)
Change in Assumptions	06/30/2020	23	6,369	6,416	430
FY20 Gain	06/30/2020	23	(11,091)	(11,172)	(748)
Prescription Drug Plan Changes	06/30/2021	24	(1,794)	(1,802)	(118)
FY21 Gain	06/30/2021	24	(21,164)	(21,258)	(1,389)
Change in Assumptions	06/30/2022	25	(20,947)	(20,947)	(1,336)
FY22 Gain	06/30/2022	25	(13,556)	(13,556)	(865)
Total				\$ (79,796)	\$ (5,082)

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	Total
1. Total Normal Cost	\$ 5,101	\$ 13,708	\$ 18,809
2. DCR Plan Rate Payroll Projected for FY23	1,645,341	1,645,341	1,645,341
3. Employer Normal Cost Rate, (1) ÷ (2)	0.31%	0.83%	1.14%
Past Service Rate			
1. Actuarial Accrued Liability	\$ 14,952	\$ 169,396	\$ 184,348
2. Valuation Assets	62,938	212,638	275,576
3. Unfunded Actuarial Accrued Liability, (1) - (2)	\$ (47,986)	\$ (43,242)	\$ (91,228)
4. Funded Ratio based on Valuation Assets	420.9%	125.5%	149.5%
5. Past Service Cost Amortization Payment	(3,531)	(2,328)	(5,859)
6. DCR Plan Rate Payroll Projected for FY23	1,645,341	1,645,341	1,645,341
7. Past Service Cost Rate, (5) ÷ (6)	(0.21%)	(0.14%)	(0.35%)
Total Employer Contribution Rate, not less than Normal Cost Rate	0.31%	0.83%	1.14%

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

Total Employer Contribution Rate as Percent of Total Payroll	Occupational Death & Disability	Retiree Medical	Total
1. Total Normal Cost	\$ 5,101	\$ 13,708	\$ 18,809
2. Total DB and DCR Plan Rate Payroll Projected for FY23	2,442,007	2,442,007	2,442,007
3. Employer Normal Cost Rate, (1) ÷ (2)	0.21%	0.56%	0.77%
4. Past Service Cost Amortization Payment	(3,531)	(2,328)	(5,859)
5. Past Service Cost Rate, (4) ÷ (2)	(0.14%)	(0.10%)	(0.24%)
Total Employer Contribution Rate, not less than Normal Cost Rate	0.21%	0.56%	0.77%

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)

All Members

Schedule of Past Service Cost Amortizations - Total (\$'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	\$ (496)	\$ (441)	\$ (53)
Change in Assumptions	06/30/2008	11	182	165	18
FY08 Gain	06/30/2008	11	(1,668)	(1,520)	(170)
Change in Assumptions	06/30/2009	12	(326)	(306)	(32)
FY09 Gain	06/30/2009	12	(1,954)	(1,833)	(192)
Change in Assumptions	06/30/2010	13	(428)	(411)	(40)
FY10 Gain	06/30/2010	13	(743)	(717)	(71)
FY11 Gain	06/30/2011	14	(221)	(216)	(20)
Change in Assumptions	06/30/2012	15	28,265	28,091	2,485
FY12 Gain	06/30/2012	15	(404)	(402)	(35)
FY13 Loss	06/30/2013	16	9,871	9,914	839
Change in Assumptions	06/30/2014	17	(26,181)	(26,469)	(2,147)
PRPA Modification	06/30/2014	17	(118)	(119)	(10)
FY14 Loss	06/30/2014	17	6,117	6,188	502
FY15 Gain	06/30/2015	18	(11,952)	(12,123)	(946)
EGWP Gain	06/30/2016	19	(19,559)	(19,846)	(1,495)
FY16 Loss	06/30/2016	19	9,126	9,260	698
Change in Assumptions	06/30/2017	20	23,532	23,823	1,736
FY17 Gain	06/30/2017	20	(4,610)	(4,668)	(340)
FY18 Gain	06/30/2018	21	(2,965)	(2,989)	(211)
Change in Assumptions/Methods	06/30/2018	21	(10,547)	(10,631)	(752)
FY19 Gain	06/30/2019	22	(15,897)	(16,033)	(1,102)
Change in Assumptions	06/30/2020	23	7,485	7,540	505
FY20 Gain	06/30/2020	23	(12,965)	(13,060)	(874)
Prescription Drug Plan Changes	06/30/2021	24	(2,029)	(2,038)	(133)
FY21 Gain	06/30/2021	24	(24,732)	(24,842)	(1,623)
Change in Assumptions	06/30/2022	25	(21,126)	(21,126)	(1,348)
FY22 Gain	06/30/2022	25	(16,419)	(16,419)	(1,048)
Total				\$ (91,228)	\$ (5,859)

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

	Occupational Death & Disability	Retiree Medical	Total
1. Expected Actuarial Accrued Liability			
a. Actuarial Accrued Liability as of June 30, 2021	\$ 11,740	\$ 168,472	\$ 180,212
b. Normal Cost	5,456	15,587	21,043
c. Interest on (a) and (b) at 7.38%	1,269	13,584	14,853
d. Employer Group Waiver Plan	0	140	140
e. Benefit Payments	(456)	(463)	(919)
f. Interest on (d) and (e) at 7.38%, adjusted for timing	(18)	(12)	(30)
g. Experience Study Assumptions/Methods	1,222	(22,348)	(21,126)
h. Expected Actuarial Accrued Liability as of June 30, 2022 (a) + (b) + (c) + (d) + (e) + (f) + (g)	<u>\$ 19,213</u>	<u>\$ 174,960</u>	<u>\$ 194,173</u>
2. Actual Actuarial Accrued Liability as of June 30, 2022	<u>14,952</u>	<u>169,396</u>	<u>184,348</u>
3. Liability Gain/(Loss), (1)(h) - (2)	\$ 4,261	\$ 5,564	\$ 9,825
4. Expected Actuarial Asset Value			
a. Actuarial Asset Value as of June 30, 2021	\$ 53,075	\$ 180,536	\$ 233,611
b. Interest on (a) at 7.38%	3,917	13,324	17,241
c. Employer Contributions	5,769	16,920	22,689
d. Employer Group Waiver Plan	0	140	140
e. Interest on (c) and (d) at 7.38%, adjusted for timing	209	618	827
f. Benefit Payments	(456)	(463)	(919)
g. Administrative Expenses	(33)	(56)	(89)
h. Interest on (f) and (g) at 7.38%, adjusted for timing	(19)	(19)	(38)
i. Expected Actuarial Asset Value as of June 30, 2022 (a) + (b) + (c) + (d) + (e) + (f) + (g) + (h)	<u>\$ 62,462</u>	<u>\$ 211,000</u>	<u>\$ 273,462</u>
5. Actuarial Asset Value as of June 30, 2022	<u>62,938</u>	<u>212,638</u>	<u>275,576</u>
6. Actuarial Asset Gain/(Loss), (5) - (4)(i)	\$ 476	\$ 1,638	\$ 2,114
7. Total Actuarial Gain/(Loss), (3) + (6)	\$ 4,737	\$ 7,202	\$ 11,939
8. Contribution Gain/(Loss)	\$ 3,363	\$ 1,166	\$ 4,529
9. Administrative Expense Gain/(Loss)	\$ (17)	\$ (32)	\$ (49)
10. FY22 Gain/(Loss), (7) + (8) + (9)	\$ 8,083	\$ 8,336	\$ 16,419

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

Valuation Date	Total Actuarial Accrued Liability	Valuation Assets	Assets as a Percent of Actuarial Accrued Liability	Unfunded Actuarial Accrued Liability (UAAL)
June 30, 2007	\$ 759	\$ 1,255	165.3%	\$ (496)
June 30, 2008	2,018	4,007	198.6%	(1,989)
June 30, 2009	4,316	8,613	199.6%	(4,297)
June 30, 2010	8,038	13,568	168.8%	(5,530)
June 30, 2011	13,251	19,058	143.8%	(5,807)
June 30, 2012	46,921	24,915	53.1%	22,006
June 30, 2013	63,885	31,709	49.6%	32,176
June 30, 2014	53,844	41,461	77.0%	12,383
June 30, 2015	63,732	63,202	99.2%	530
June 30, 2016	77,052	87,027	112.9%	(9,975)
June 30, 2017	117,243	108,503	92.5%	8,740
June 30, 2018	126,311	131,058	103.8%	(4,747)
June 30, 2019	134,720	155,484	115.4%	(20,764)
June 30, 2020	161,335	187,776	116.4%	(26,441)
June 30, 2021	180,212	233,611	129.6%	(53,399)
June 30, 2022	184,348	275,576	149.5%	(91,228)

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	Total	Allocation Percent
Cash and Short-Term Investments				
- Cash and Cash Equivalents	\$ 950	\$ 3,135	\$ 4,085	1.5%
- Subtotal	\$ 950	\$ 3,135	\$ 4,085	1.5%
Fixed Income Investments				
- Domestic Fixed Income Pool	\$ 13,018	\$ 44,033	\$ 57,051	21.3%
- International Fixed Income Pool	0	0	0	0.0%
- Tactical Fixed Income Pool	0	0	0	0.0%
- High Yield Pool	0	0	0	0.0%
- Treasury Inflation Protection Pool	0	0	0	0.0%
- Emerging Debt Pool	0	0	0	0.0%
- Subtotal	\$ 13,018	\$ 44,033	\$ 57,051	21.3%
Equity Investments				
- Domestic Equity Pool	\$ 14,818	\$ 50,116	\$ 64,934	24.2%
- International Equity Pool	8,041	27,199	35,240	13.1%
- Private Equity Pool	10,070	34,063	44,133	16.4%
- Emerging Markets Equity Pool	1,800	6,088	7,888	3.0%
- Alternative Equity Strategies	3,564	12,056	15,620	5.8%
- Subtotal	\$ 38,293	\$ 129,522	\$ 167,815	62.5%
Other Investments				
- Real Estate Pool	\$ 4,610	\$ 15,594	\$ 20,204	7.5%
- Other Investments Pool	4,408	14,909	19,317	7.2%
- Absolute Return Pool	0	0	0	0.0%
- Other Assets	0	0	0	0.0%
- Subtotal	\$ 9,018	\$ 30,503	\$ 39,521	14.7%
Total Cash and Investments	\$ 61,279	\$ 207,193	\$ 268,472	100.0%
Net Accrued Receivables	179	493	672	
Net Assets	\$ 61,458	\$ 207,686	\$ 269,144	
Peace Officer / Firefighter	\$ 18,178	N/A	N/A	
Others	43,280	N/A	N/A	
All Members	\$ 61,458	\$ 207,686	\$ 269,144	

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

Fiscal Year 2022	Occupational Death & Disability	Retiree Medical	Total
1. Fair Value of Assets as of June 30, 2021	\$ 60,145	\$ 204,555	\$ 264,700
2. Additions:			
a. Member Contributions	\$ 0	\$ 0	\$ 0
b. Employer Contributions	5,769	16,920	22,689
c. Interest and Dividend Income	825	2,794	3,619
d. Net Appreciation/(Depreciation) in Fair Value of Investments	(4,641)	(15,687)	(20,328)
e. Employer Group Waiver Plan	0	140	140
f. Other	1	0	1
g. Total Additions	<u>\$ 1,954</u>	<u>\$ 4,167</u>	<u>\$ 6,121</u>
3. Deductions:			
a. Medical Benefits	\$ 0	\$ 463	\$ 463
b. Death & Disability Benefits	456	0	456
c. Investment Expenses	152	517	669
d. Administrative Expenses	33	56	89
e. Total Deductions	<u>\$ 641</u>	<u>\$ 1,036</u>	<u>\$ 1,677</u>
4. Fair Value of Assets as of June 30, 2022	\$ 61,458	\$ 207,686	\$ 269,144
5. Approximate Fair Value Investment Return Rate during FY22 Net of Investment Expenses	-6.3%	-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	Total
1. Investment Gain/(Loss) for FY22			
a. Fair Value as of June 30, 2021	\$ 60,145	\$ 204,555	\$ 264,700
b. Contributions	5,769	16,920	22,689
c. Employer Group Waiver Plan	0	140	140
d. Benefit Payments	456	463	919
e. Administrative Expenses	33	56	89
f. Actual Investment Return (net of investment expenses)	(3,967)	(13,410)	(17,377)
g. Expected Return Rate (net of investment expenses)	7.38%	7.38%	7.38%
h. Expected Return	4,629	15,696	20,325
i. Investment Gain/(Loss) for the Year (f) - (h)	(8,596)	(29,106)	(37,702)
2. Actuarial Value as of June 30, 2022			
a. Fair Value as of June 30, 2022	\$ 61,458	\$ 207,686	\$ 269,144
b. Deferred Investment Gain/(Loss)	(1,480)	(4,952)	(6,432)
c. Preliminary Actuarial Value as of June 30, 2022, (a) - (b)	62,938	212,638	275,576
d. Upper Limit: 120% of Fair Value as of June 30, 2022	73,749	249,223	322,972
e. Lower Limit: 80% of Fair Value as of June 30, 2022	49,167	166,149	215,316
f. Actuarial Value at June 30, 2022, (c) limited by (d) and (e)	62,938	212,638	275,576
3. Ratio of Actuarial Value of Assets to Fair Value of Assets			
	102.4%	102.4%	102.4%
4. Approximate Actuarial Value Investment Return Rate during FY22 Net of Investment Expenses			
	8.2%	8.2%	8.2%
5. Actuarial Value Allocation¹			
a. Peace Officer / Firefighter	\$ 18,616	\$ 25,285	\$ 43,901
b. Others	44,322	187,353	231,675
c. All Members	\$ 62,938	\$ 212,638	\$ 275,576

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)

Total				
Fiscal Year Ending	Asset Gain / (Loss)	Gain / (Loss) Recognized in Prior Years	Gain / (Loss) Recognized This Year	Gain / (Loss) Deferred to Future Years
June 30, 2018	\$ (35)	\$ (28)	\$ (7)	\$ 0
June 30, 2019	(1,582)	(948)	(316)	(318)
June 30, 2020	(5,003)	(2,002)	(1,001)	(2,000)
June 30, 2021	43,414	8,683	8,683	26,048
June 30, 2022	<u>(37,702)</u>	<u>0</u>	<u>(7,540)</u>	<u>(30,162)</u>
Total	\$ (908)	\$ 5,705	\$ (181)	\$ (6,432)

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%

* Cumulative 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	
Retail Non-Formulary Brand (per 30-day fill)	25% \$25 min / \$75 max	40%
Retail Formulary Brand (per 30-day fill)	35% \$80 min / \$150 max	
Mail-Order Generic	\$20 copay	
Mail-Order Non-Formulary Brand	\$50 copay	40%
Mail-Order Formulary Brand	\$100 copay	
Pharmacy Out-of-Pocket Max (single / family)	\$1,000 / \$2,000	
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%

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.

DRAFT



State of Alaska

Teachers' Retirement System

Actuarial Valuation Report
As of June 30, 2022

January 2023

DRAFT



January 20, 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 overall funded status (on a combined pension/healthcare basis) is expected to increase to 100% in FY31 (the funded status of the pension trust is expected to increase to 100% in FY52).

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.

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. Separate GASB 67 and GASB 74 reports as of June 30, 2022 have been prepared. We have also prepared the member data tables shown in Section 4 of this report for the Statistical Section of the ACFR, as well as the summary of actuarial assumptions and analysis of financial experience for the Actuarial Section of the ACFR. 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%

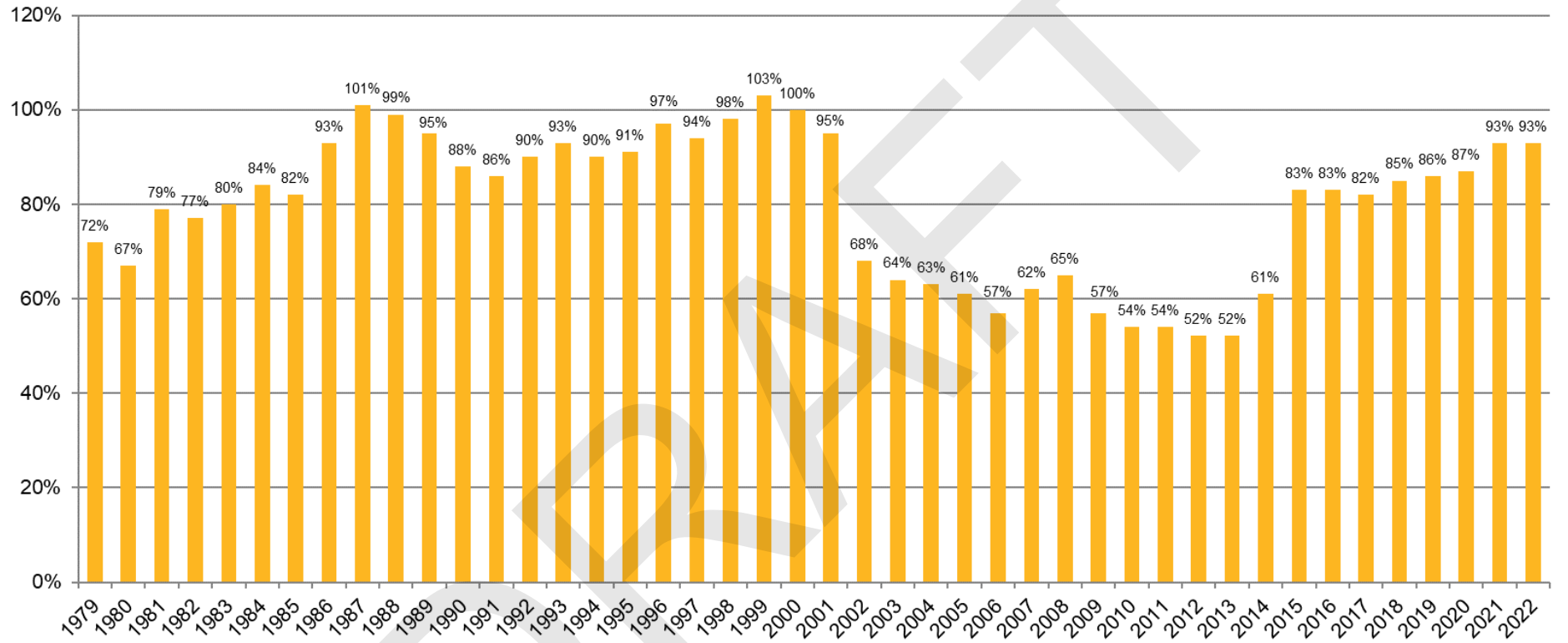
Healthcare

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%

Total

a. Actuarial Accrued Liability	\$ 9,911,490	\$ 10,246,623
b. Valuation Assets	<u>9,178,106</u>	<u>9,537,420</u>
c. Unfunded Actuarial Accrued Liability, (a) - (b)	\$ 733,384	\$ 709,203
d. Funded Ratio based on Valuation Assets, (b) ÷ (a)	92.6%	93.1%
e. Fair Value of Assets	\$ 10,454,512	\$ 9,418,862
f. Funded Ratio based on Fair Value of Assets, (e) ÷ (a)	105.5%	91.9%

Funded Ratio History (Based on Valuation Assets)



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 \$1,373 million. 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 \$116 million.

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 a liability loss of approximately \$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.

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 total Actuarial Accrued Liability as of June 30, 2022 by approximately \$165 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	2.05%	2.21%
b. Past Service Cost Rate	<u>16.44%</u>	<u>19.09%</u>
c. Total Employer/State Contribution Rate, (a) + (b), not less than (a) ¹	18.49%	21.30%
Healthcare		
a. Normal Cost Rate	2.41%	2.10%
b. Past Service Cost Rate	<u>(9.08%)</u>	<u>(10.27%)</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>19.09%</u>
c. Total Employer/State Contribution Rate, (a) + (b) ¹	20.90%	23.40%
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	Total
1. Total Employer/State Contribution Rate as of June 30, 2021	19.32%	2.94%	22.26%
2. Change due to:			
a. Health Claims Experience	N/A	(0.11%)	(0.11%)
b. Salary Increases	0.26%	N/A	0.26%
c. Investment Experience	(0.63%)	0.00%	(0.63%)
d. Demographic Experience and Miscellaneous ¹	0.91%	(0.21%)	0.70%
e. Actual vs Expected Contributions	(0.25%)	0.00%	(0.25%)
f. Assumption/Method Changes	1.39%	(0.06%)	1.33%
g. Plan Changes	<u>0.00%</u>	<u>0.00%</u>	<u>0.00%</u>
h. Total Change, (a) + (b) + (c) + (d) + (e) + (f) + (g)	1.68%	(0.38%)	1.30%
3. Total Employer/State Contribution Rate as of June 30, 2022, (1) + (2)(h)	21.00%	2.56%	23.56%

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

	Pension	Healthcare	Total
Retirement Experience	\$ (3,443)	\$ (13,048)	\$ (16,491)
Termination Experience	(6,589)	(3,293)	(9,882)
Disability Experience	265	209	474
Active Mortality Experience	2,166	1,228	3,394
Inactive Mortality Experience	304	(291)	13
Salary Increases	(30,870)	N/A	(30,870)
Rehires (Net of Rehire Load)	131	1,927	2,058
COLA Increases	575	N/A	575
PRPA Increases	(85,465)	N/A	(85,465)
Benefit Payments Different than Expected	13,078	5,319	18,397
Per Capita Claims Cost	N/A	94,487	94,487
Medicare Part B Only Experience	N/A	1,235	1,235
Changes in Dependent Coverage Elections	N/A	1,071	1,071
Programming Changes ²	(33)	(53)	(86)
Miscellaneous ³	<u>(10,678)</u>	<u>(3,453)</u>	<u>(14,131)</u>
Total	\$ (120,559)	\$ 85,338	\$ (35,221)

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	Total
1. Increase/(Decrease) in Actuarial Accrued Liability at June 30, 2022 due to Rehires	\$ 6,340	\$ 428	\$ 6,768
2. June 30, 2021 Normal Cost Rehire Load, with interest to June 30, 2022	\$ 6,471	\$ 2,355	\$ 8,826
3. Rehire Gain/(Loss), (2) - (1)	\$ 131	\$ 1,927	\$ 2,058

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

	Pension	Healthcare	Total
Experience Study Assumption Changes	\$ 144,033	\$ 20,542	\$ 164,575

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	(24,627)	(24,627)
Subtotal	<u>\$ 2,553,775</u>	<u>\$ 2,235,323</u>
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	(350,122)	(350,122)
Subtotal	<u>\$ 8,011,300</u>	<u>\$ 8,011,300</u>
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	Total
1. Total Normal Cost	\$ 47,629	\$ 19,454	\$ 67,083
2. DB Rate Payroll Projected for FY23	303,011	303,011	303,011
3. DCR Rate Payroll Projected for FY23	455,927	455,927	455,927
4. Total Rate Payroll Projected for FY23	758,938	758,938	758,938
5. Normal Cost Rate			
a. Based on DB Rate Payroll, (1) ÷ (2)	15.72%	6.42%	22.14%
b. Based on Total Rate Payroll, (1) ÷ (4)	6.28%	2.56%	8.84%
6. Average Member Contribution Rate ¹	3.45%	0.00%	3.45%
7. Employer Normal Cost, (5)(b) - (6)	2.83%	2.56%	5.39%

Past Service Rate	Pension	Healthcare	Total
1. Actuarial Accrued Liability	\$ 7,804,046	\$ 2,442,577	\$ 10,246,623
2. Valuation Assets	<u>6,100,204</u>	<u>3,437,216</u>	<u>9,537,420</u>
3. Unfunded Actuarial Accrued Liability, (1) - (2)	\$ 1,703,842	\$ (994,639)	\$ 709,203
4. Funded Ratio, (2) ÷ (1)	78.2%	140.7%	93.1%
5. Past Service Cost Amortization Payment	137,935	(67,255)	70,680
6. Total Rate Payroll Projected for FY23	758,938	758,938	758,938
7. Past Service Rate, (5) ÷ (6)	18.17%	(8.86%)	9.31%
Total Employer / State Contribution Rate, not less than Normal Cost Rate	21.00%	2.56%	23.56%
Normal Cost Rate by Tier (Total Employer and Member)²			
Tier 1	16.48%	5.71%	22.20%
Tier 2	15.69%	6.45%	22.14%

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	17,525	1,118
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)

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

Layer	Amortization Period		Balances		Beginning-of-Year Payment
	Date Created	Years Remaining	Initial	Outstanding	
Initial Amount	6/30/2018	17	\$ 1,672,059	\$ 1,627,834	\$ 131,993
Change in Assumptions/Methods/EGWP	6/30/2018	21	(151,928)	(153,100)	(10,824)
FY19 Gain	6/30/2019	22	(119,443)	(120,457)	(8,278)
FY20 Gain	6/30/2020	23	(57,112)	(57,532)	(3,851)
Medical/Prescription Drug Plan Changes	6/30/2021	24	(21,763)	(21,860)	(1,427)
FY21 Gain	6/30/2021	24	(559,453)	(561,950)	(36,695)
Change in Assumptions	6/30/2022	25	164,575	164,575	10,502
FY22 Gain	6/30/2022	25	(168,307)	(168,307)	(10,740)
Total				\$ 709,203	\$ 70,680

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

	Pension	Healthcare	Total
1. Liability Roll Forward			
a. Actuarial Accrued Liability as of June 30, 2022	\$ 7,804,046	\$ 2,442,577	\$ 10,246,623
b. Normal Cost	44,003	17,514	61,517
c. Interest on (a) and (b) at 7.25%	568,984	178,357	747,341
d. Estimated Benefit Payments	(550,245)	(137,591)	(687,836)
e. Interest on (d) at 7.25%, adjusted for timing	(21,262)	(4,900)	(26,162)
f. Expected Actuarial Accrued Liability as of June 30, 2023	\$ 7,845,526	\$ 2,495,957	\$ 10,341,483
g. Projected Normal Cost	39,619	16,023	55,642
h. Interest on (f) and (g) at 7.25%	571,673	182,119	753,792
i. Estimated Benefit Payments	(568,379)	(144,855)	(713,234)
j. Interest on (i) at 7.25%, adjusted for timing	(21,962)	(5,159)	(27,121)
k. Expected Actuarial Accrued Liability as of June 30, 2024	\$ 7,866,477	\$ 2,544,085	\$ 10,410,562
2. Asset Roll Forward			
a. Actuarial Value of Assets as of June 30, 2022	\$ 6,100,204	\$ 3,437,216	\$ 9,537,420
b. Interest on (a) at 7.25%	442,265	249,198	691,463
c. Employee Contributions	29,310	0	29,310
d. Employer Contributions	44,322	0	44,322
e. State Assistance Contributions	91,029	0	91,029
f. Interest on (c) thru (e) at 7.25%, adjusted for timing*	9,222	0	9,222
g. Estimated Benefit Payments	(550,245)	(137,591)	(687,836)
h. Administrative Expenses	(3,626)	(1,940)	(5,566)
i. Interest on (g) and (h) at 7.25%, adjusted for timing	(21,391)	(4,970)	(26,361)
j. AVA Adjustments	5,791	3,261	9,052
k. Expected Actuarial Value of Assets as of June 30, 2023	\$ 6,146,881	\$ 3,545,174	\$ 9,692,055
l. Interest on (k) at 7.25%	445,649	257,025	702,674
m. Employee Contributions	27,141	0	27,141
n. Employer Contributions	42,176	0	42,176
o. State Assistance Contributions**	98,766	0	98,766
p. Interest on (m) thru (o) at 7.25%, adjusted for timing*	9,629	0	9,629
q. Estimated Benefit Payments	(568,379)	(144,855)	(713,234)
r. Administrative Expenses	(3,282)	(1,775)	(5,057)
s. Interest on (q) and (r) at 7.25%, adjusted for timing	(22,079)	(5,222)	(27,301)
t. AVA Adjustments	21,435	10,448	31,883
u. Expected Actuarial Value of Assets as of June 30, 2024	\$ 6,197,937	\$ 3,660,795	\$ 9,858,732
3. Expected Unfunded Actuarial Accrued Liability as of June 30, 2024, 1(k) - 2(u)	\$ 1,668,540	\$ (1,116,710)	\$ 551,830

* 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	Total
4. Expected Annual Rate Payroll for FY25			
a. Defined Benefit Members			\$ 248,321
b. Defined Contribution Retirement Members			521,222
c. Total Rate Payroll			\$ 769,543
5. Expected FY25 Contribution Rate Calculation			
a. Projected Normal Cost for FY25	\$ 38,452	\$ 16,196	\$ 54,648
b. Projected Normal Cost Rate for FY25	5.00%	2.10%	7.10%
c. Expected Member Contribution Rate for FY25	(2.79%)	0.00%	(2.79%)
d. Expected Employer Normal Cost Rate for FY25	2.21%	2.10%	4.31%
e. Expected Unfunded Liability as of June 30, 2024	\$ 1,668,540	\$ (1,116,710)	\$ 551,830
f. FY25 Layered Amortization of Expected Unfunded Liability	146,889	(79,005)	67,884
g. Expected Past Service Cost Contribution Rate for FY25	19.09%	(10.27%)	19.09%
h. Expected Total Contribution Rate for FY25, not less than Normal Cost Rate	21.30%	2.10%	23.40%

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	19,209	19,289	1,260
Expected FY24 Loss	6/30/2024	25	61	61	4
Total				\$ 1,668,540	\$ 146,889

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 - 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	(54,598)	(54,820)	(3,580)
Expected FY24 Gain	6/30/2024	25	(69,275)	(69,275)	(4,420)
Total				\$ (1,116,710)	\$ (79,005)

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 - Total (\$'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	\$ 1,672,059	\$ 1,575,144	\$ 139,353
Change in Assumptions/Methods/EGWP	6/30/2018	19	(151,928)	(151,727)	(11,427)
FY19 Gain	6/30/2019	20	(119,443)	(119,912)	(8,740)
FY20 Gain	6/30/2020	21	(57,112)	(57,504)	(4,066)
Medical/Prescription Drug Plan Changes	6/30/2021	22	(21,763)	(21,929)	(1,507)
FY21 Gain	6/30/2021	22	(559,453)	(563,740)	(38,742)
Change in Assumptions	6/30/2022	23	164,575	165,650	11,087
FY22 Gain	6/30/2022	23	(168,307)	(169,407)	(11,338)
Expected FY23 Gain	6/30/2023	24	(35,389)	(35,531)	(2,320)
Expected FY24 Gain	6/30/2024	25	(69,214)	(69,214)	(4,416)
Total				\$ 551,830	\$ 67,884

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

	Pension	Healthcare	Total
1. Expected Actuarial Accrued Liability			
a. Actuarial Accrued Liability as of June 30, 2021	\$ 7,471,887	\$ 2,439,603	\$ 9,911,490
b. Normal Cost	44,727	20,425	65,152
c. Interest on (a) and (b) at 7.38%	554,726	181,550	736,276
d. Employer Group Waiver Plan	0	18,819	18,819
e. Benefit Payments	(510,457)	(148,330)	(658,787)
f. Refund of Contributions	(1,305)	0	(1,305)
g. Interest on (d) thru (f) at 7.38%, adjusted for timing	(20,124)	(4,694)	(24,818)
h. Assumptions/Methods Changes	144,033	20,542	164,575
i. Expected Actuarial Accrued Liability as of June 30, 2022 (a) + (b) + (c) + (d) + (e) + (f) + (g) + (h)	\$ 7,683,487	\$ 2,527,915	\$ 10,211,402
2. Actual Actuarial Accrued Liability as of June 30, 2022	7,804,046	2,442,577	10,246,623
3. Liability Gain/(Loss), (1)(i) - (2)	\$ (120,559)	\$ 85,338	\$ (35,221)
4. Expected Actuarial Asset Value			
a. Actuarial Value of Assets as of June 30, 2021	\$ 5,910,369	\$ 3,267,737	\$ 9,178,106
b. Interest on (a) at 7.38%	436,185	241,159	677,344
c. Employee Contributions	30,013	0	30,013
d. Employer Contributions	29,781	21,806	51,587
e. State Assistance Contributions	142,665	0	142,665
f. Employer Group Waiver Plan	0	18,819	18,819
g. Interest on (c) thru (f) at 7.38%, adjusted for timing	12,696	1,472	14,168
h. Benefit Payments	(510,457)	(148,330)	(658,787)
i. Refund of Contributions	(1,305)	0	(1,305)
j. Administrative Expenses	(3,805)	(2,044)	(5,849)
k. Interest on (h) thru (j) at 7.38%, adjusted for timing	(20,261)	(5,450)	(25,711)
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	\$ 9,421,050
5. Actual Actuarial Asset Value as of June 30, 2022	6,100,204	3,437,216	9,537,420
6. Actuarial Asset Value Gain/(Loss), (5) - (4)(l)	\$ 74,323	\$ 42,047	\$ 116,370
7. Total Actuarial Gain/(Loss), (3) + (6)	\$ (46,236)	\$ 127,385	\$ 81,149
8. Contribution Gain/(Loss)	\$ 29,199	\$ 58,843	\$ 88,042
9. Administrative Expense Gain/(Loss)	\$ (488)	\$ (396)	\$ (884)
10. FY22 Gain/(Loss), (7) + (8) + (9)	\$ (17,525)	\$ 185,832	\$ 168,307

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

	Pension	Healthcare	Total
1. 2021 Unfunded Liability	\$ 1,561,518	\$ (828,134)	\$ 733,384
a. Interest on Unfunded Liability at 7.38%	\$ 115,240	\$ (61,116)	\$ 54,124
b. Normal Cost	44,727	20,425	65,152
c. Employee Contributions	(30,013)	0	(30,013)
d. Employer Contributions	(29,781)	(21,806)	(51,587)
e. State Assistance Contributions	(142,665)	0	(142,665)
f. Administrative Expenses	3,805	2,044	5,849
g. Interest on (b) thru (f) at 7.38%, adjusted for timing	(9,258)	791	(8,467)
h. Assumptions/Methods Changes	144,033	20,542	164,575
i. Expected Change in Unfunded Liability During FY22 (a) + (b) + (c) + (d) + (e) + (f) + (g) + (h)	\$ 96,088	\$ (39,120)	\$ 56,968
2. Expected 2022 Unfunded Liability, (1) + (1)(i)	\$ 1,657,606	\$ (867,254)	\$ 790,352
a. Liability (Gain)/Loss During FY22	\$ 120,559	\$ (85,338)	\$ 35,221
b. Actuarial Assets (Gain)/Loss During FY22	(74,323)	(42,047)	(116,370)
c. Total Actuarial (Gain)/Loss During FY22	\$ 46,236	\$ (127,385)	\$ (81,149)
3. Actual 2022 Unfunded Liability, (2) + (2)(c)	\$ 1,703,842	\$ (994,639)	\$ 709,203

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%	21.30% *
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

Total
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				
	2018	2019	2020	2021	2022
1. Health Claims	(1.58%)	(2.51%)	(0.95%)	(0.11%)	(0.11%)
2. Salary Experience	(0.39%)	(0.06%)	(0.06%)	0.25%	0.26%
3. Investment Experience	1.36%	1.38%	1.21%	(1.95%)	(0.63%)
4. Demographic Experience and Miscellaneous	1.86%	2.35%	0.21%	(0.91%)	0.70%
5. Actual vs Expected Contributions	<u>0.02%</u>	<u>(0.17%)</u>	<u>(0.36%)</u>	<u>(0.03%)</u>	<u>(0.25%)</u>
6. (Gain) or Loss During Year From Experience, (1) + (2) + (3) + (4) + (5)	1.27%	0.99%	0.05%	(2.75%)	(0.03%)
7. Assumptions / Method Changes	(0.08%)	0.00%	0.00%	0.00%	1.33%
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)	1.19%	0.99%	0.05%	(2.77%)	1.30%
10. Beginning Total Employer / State Contribution Rate	<u>22.80%</u>	<u>23.99%</u>	<u>24.98%</u>	<u>25.03%</u>	<u>22.26%</u>
11. Ending Valuation Year Employer / State Contribution Rate, (9) + (10)	23.99%	24.98%	25.03%	22.26%	23.56%
12. Fiscal Year Rates Adopted by ARMB					
a. Fiscal Year Employer / State Contribution Rate	24.34%	25.49%	17.90%	18.49%	23.40% *
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)

Valuation Date	Total Actuarial Accrued Liability	Valuation Assets	Assets as a Percent of Actuarial Accrued Liability	Unfunded Actuarial Accrued Liability (UAAL)
June 30, 2003	\$ 5,835,609	\$ 3,752,285	64.3%	\$ 2,083,324
June 30, 2004	6,123,600	3,845,370	62.8%	2,278,230
June 30, 2005	6,498,556	3,958,939	60.9%	2,539,617
June 30, 2006	7,229,851	4,141,700	57.3%	3,088,151
June 30, 2007	7,189,403	4,424,399	61.5%	2,765,004
June 30, 2008	7,619,178	4,936,976	64.8%	2,682,202
June 30, 2009	7,847,514	4,472,958	57.0%	3,374,556
June 30, 2010	8,847,788	4,739,128	53.6%	4,108,660
June 30, 2011	9,128,795	4,937,937	54.1%	4,190,858
June 30, 2012	9,346,444	4,869,154	52.1%	4,477,290
June 30, 2013	9,592,107	4,974,076	51.9%	4,618,031
June 30, 2014	9,841,032	6,019,274	61.2%	3,821,758
June 30, 2015	9,729,117	8,108,923	83.3%	1,620,194
June 30, 2016	9,907,624	8,200,391	82.8%	1,707,233
June 30, 2017	10,144,618	8,313,637	82.0%	1,830,981
June 30, 2018	9,960,440	8,440,309	84.7%	1,520,131
June 30, 2019	9,906,664	8,511,493	85.9%	1,395,171
June 30, 2020	9,936,711	8,608,347	86.6%	1,328,364
June 30, 2021	9,911,490	9,178,106	92.6%	733,384
June 30, 2022	10,246,623	9,537,420	93.1%	709,203

Section 2: Plan Assets

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

As of June 30, 2022	Pension	Healthcare	Total	Allocation Percent
Cash and Short-Term Investments				
- Cash and Cash Equivalents	\$ 80,385	\$ 42,932	\$ 123,317	1.3%
- Subtotal	\$ 80,385	\$ 42,932	\$ 123,317	1.3%
Fixed Income Investments				
- Domestic Fixed Income Pool	\$ 1,284,523	\$ 726,044	\$ 2,010,567	21.3%
- International Fixed Income Pool	0	0	0	0.0%
- Tactical Fixed Income Pool	0	0	0	0.0%
- High Yield Pool	0	0	0	0.0%
- Treasury Inflation Protection Pool	0	0	0	0.0%
- Emerging Debt Pool	0	0	0	0.0%
- Subtotal	\$ 1,284,523	\$ 726,044	\$ 2,010,567	21.3%
Equity Investments				
- Domestic Equity Pool	\$ 1,461,935	\$ 826,322	\$ 2,288,257	24.2%
- International Equity Pool	793,625	448,533	1,242,158	13.2%
- Private Equity Pool	993,669	561,647	1,555,316	16.5%
- Emerging Markets Equity Pool	177,596	100,382	277,978	3.0%
- Alternative Equity Strategies	351,670	198,773	550,443	5.8%
- Subtotal	\$ 3,778,495	\$ 2,135,657	\$ 5,914,152	62.7%
Other Investments				
- Real Estate Pool	\$ 454,131	\$ 257,109	\$ 711,240	7.5%
- Other Investments Pool	434,931	245,834	680,765	7.2%
- Absolute Return Pool	0	0	0	0.0%
- Other Assets	0	318	318	0.0%
- Subtotal	\$ 889,062	\$ 503,261	\$ 1,392,323	14.7%
Total Cash and Investments	\$ 6,032,465	\$ 3,407,894	\$ 9,440,359	100.0%
Net Accrued Receivables	(5,814)	(15,683)	(21,497)	
Net Assets	\$ 6,026,651	\$ 3,392,211	\$ 9,418,862	

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

Fiscal Year 2022	Pension	Healthcare	Total
1. Fair Value of Assets as of June 30, 2021	\$ 6,731,481	\$ 3,723,031	\$ 10,454,512
2. Additions:			
a. Employee Contributions	\$ 30,013	\$ 0	\$ 30,013
b. Employer Contributions	29,781	21,806	51,587
c. State Assistance Contributions	142,665	0	142,665
d. Interest and Dividend Income	86,780	48,505	135,285
e. Net Appreciation / Depreciation in Fair Value of Investments	(462,389)	(260,772)	(723,161)
f. Employer Group Waiver Plan	0	18,819	18,819
g. Other	<u>36</u>	<u>47</u>	<u>83</u>
h. Total Additions	\$ (173,114)	\$ (171,595)	\$ (344,709)
3. Deductions:			
a. Medical Benefits	\$ 0	\$ 148,330	\$ 148,330
b. Retirement Benefits	510,457	0	510,457
c. Refund of Contributions	1,305	0	1,305
d. Investment Expenses	16,149	8,851	25,000
e. Administrative Expenses	<u>3,805</u>	<u>2,044</u>	<u>5,849</u>
f. Total Deductions	\$ 531,716	\$ 159,225	\$ 690,941
4. Fair Value of Assets as of June 30, 2022	\$ 6,026,651	\$ 3,392,211	\$ 9,418,862
5. Approximate Fair Value Investment Return Rate during FY22 Net of Investment Expenses	(6.0%)	(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	Total
1. Deferral of Investment Gain / (Loss) for FY22			
a. Fair Value of Assets as of June 30, 2021	\$ 6,731,481	\$ 3,723,031	\$ 10,454,512
b. Contributions	202,459	21,806	224,265
c. Employer Group Waiver Plan	0	18,819	18,819
d. Benefit Payments	511,762	148,330	660,092
e. Administrative Expenses	3,805	2,044	5,849
f. Actual Investment Return (net of investment expenses)	(391,722)	(221,071)	(612,793)
g. Expected Return Rate (net of investment expenses)	7.38%	7.38%	7.38%
h. Expected Return, Weighted for Timing	489,218	270,782	760,000
i. Investment Gain / (Loss) for the Year, (f) - (h)	(880,940)	(491,853)	(1,372,793)
2. Actuarial Value as of June 30, 2022			
a. Fair Value as of June 30, 2022	\$ 6,026,651	\$ 3,392,211	\$ 9,418,862
b. Deferred Investment Gain / (Loss)	(73,553)	(45,005)	(118,558)
c. Actuarial Value as of June 30, 2022, (a) - (b)	6,100,204	3,437,216	9,537,420
3. Ratio of Actuarial Value of Assets to Fair Value of Assets			
	101.2%	101.3%	101.3%
4. Approximate Actuarial Value Investment Return Rate during FY22 Net of Investment Expenses			
	8.7%	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)

Total				
Fiscal Year Ending	Asset Gain / (Loss)	Gain / (Loss) Recognized in Prior Years	Gain / (Loss) Recognized This Year	Gain / (Loss) Deferred to Future Years
June 30, 2018	\$ 22,620	\$ 18,096	\$ 4,524	\$ 0
June 30, 2019	(120,555)	(72,333)	(24,111)	(24,111)
June 30, 2020	(274,183)	(109,672)	(54,837)	(109,674)
June 30, 2021	1,855,769	371,154	371,154	1,113,461
June 30, 2022	<u>(1,372,793)</u>	<u>0</u>	<u>(274,559)</u>	<u>(1,098,234)</u>
Total	\$ 110,858	\$ 207,245	\$ 22,171	\$ (118,558)

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%

* Cumulative since fiscal year ending June 30, 2005

Section 3: Projections

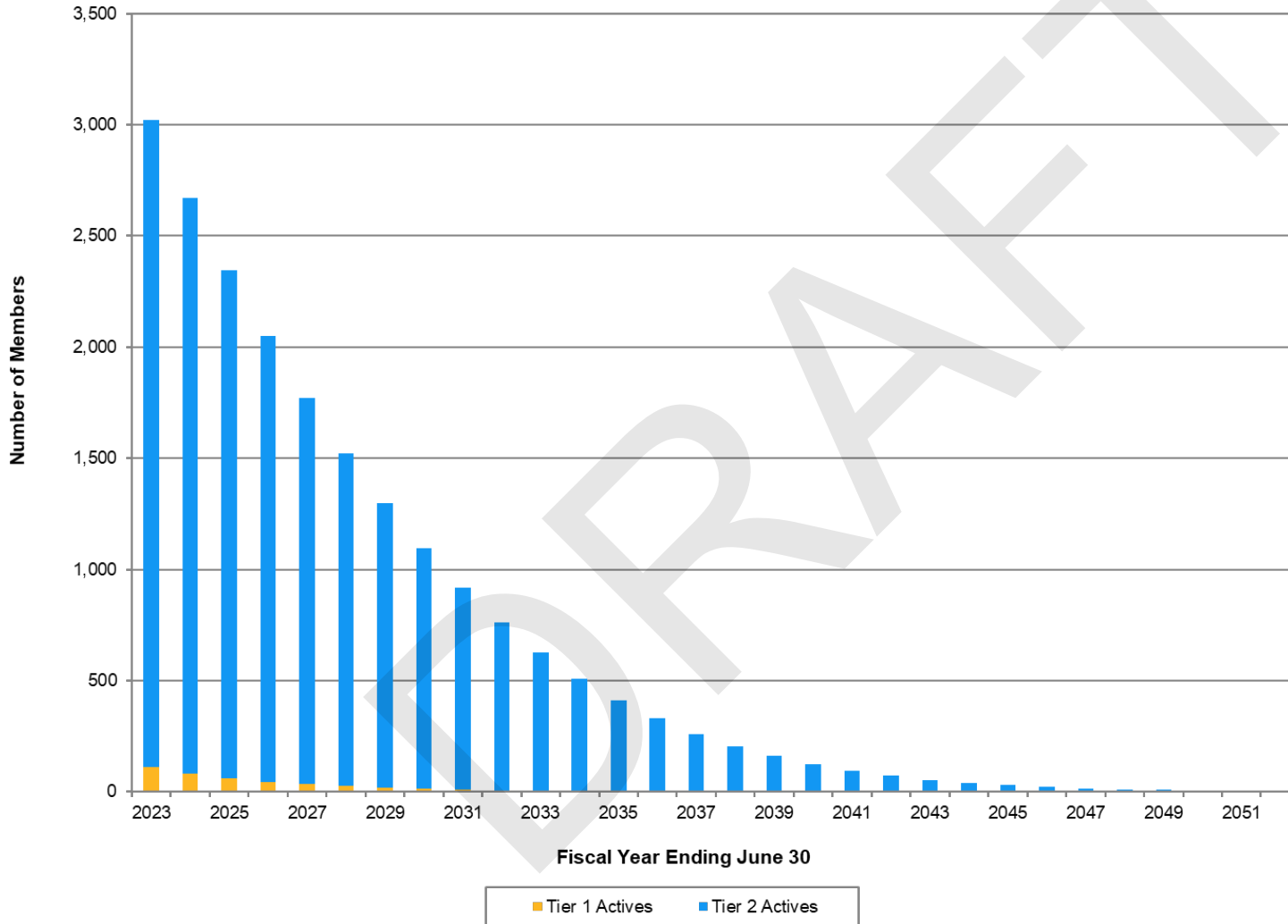
Section 3.1: Projection Assumptions and Methods

Key Assumptions

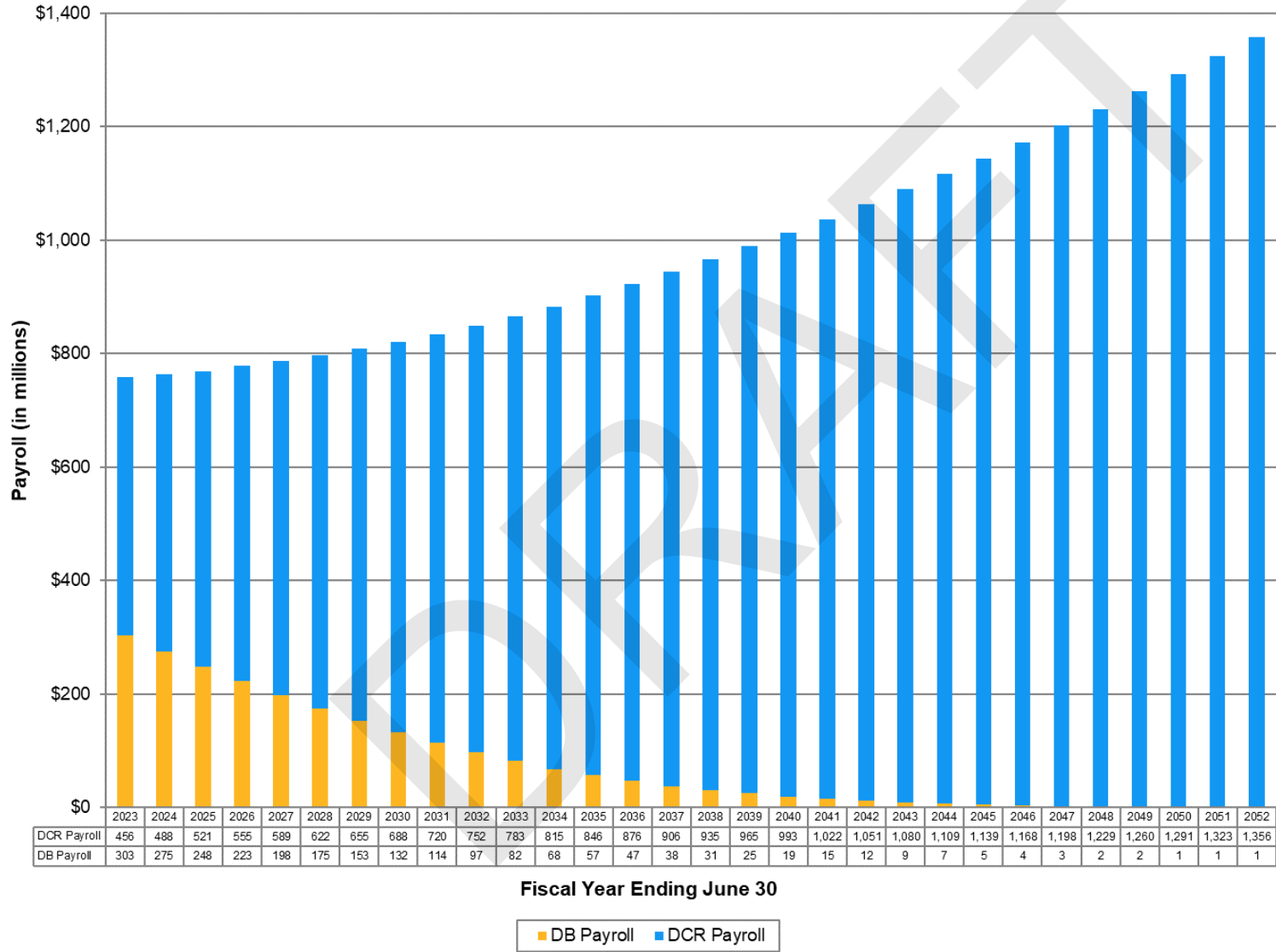
- 7.25% investment return (net of investment expenses) on the Fair Value of Assets in all future years.
- The Actuarial Value of Assets was re-initialized to Fair Value as of June 30, 2014. The Actuarial Value of Assets after June 30, 2014 reflects the deferred gains and losses generated by the smoothing method. The current deferred amount is recognized in the first four years of the projections.
- Actuarial assumptions and methods as described in Section 5. No actuarial gains/losses are assumed after June 30, 2022 (other than the recognition of current deferred asset gains/losses).
- 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

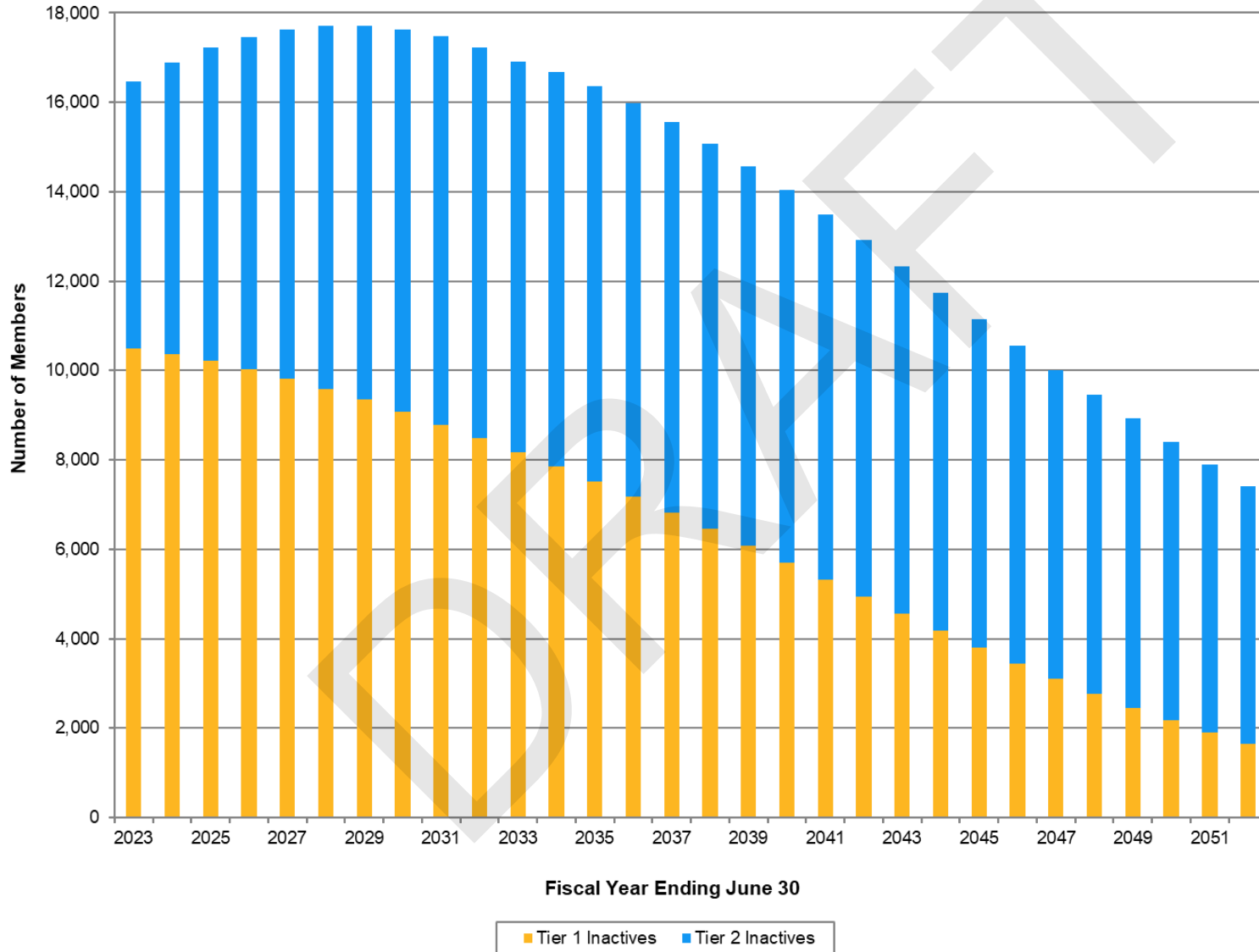
Projected Active Member Count



Projected DB and DCR Payroll

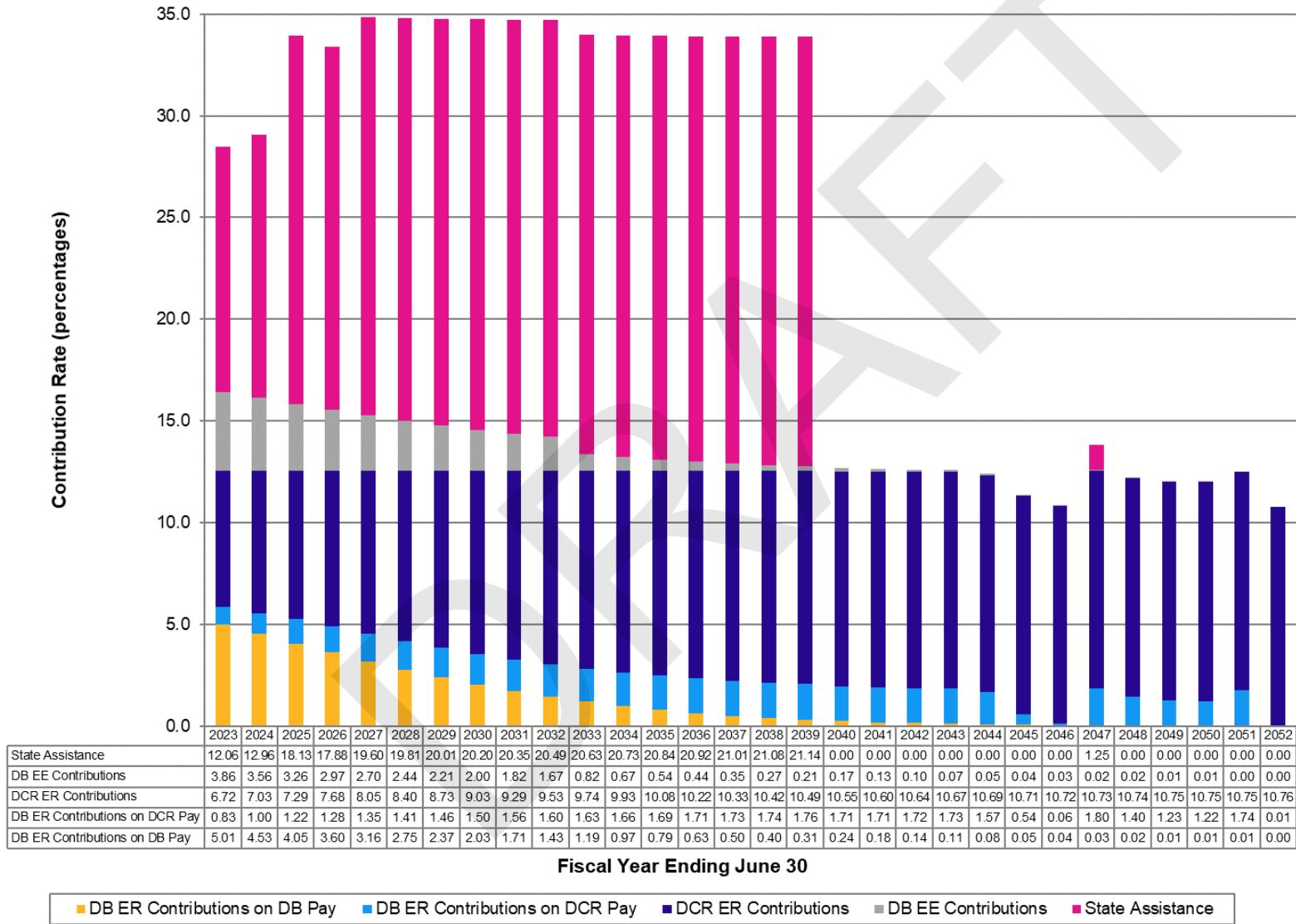


Projected Inactive Member Count



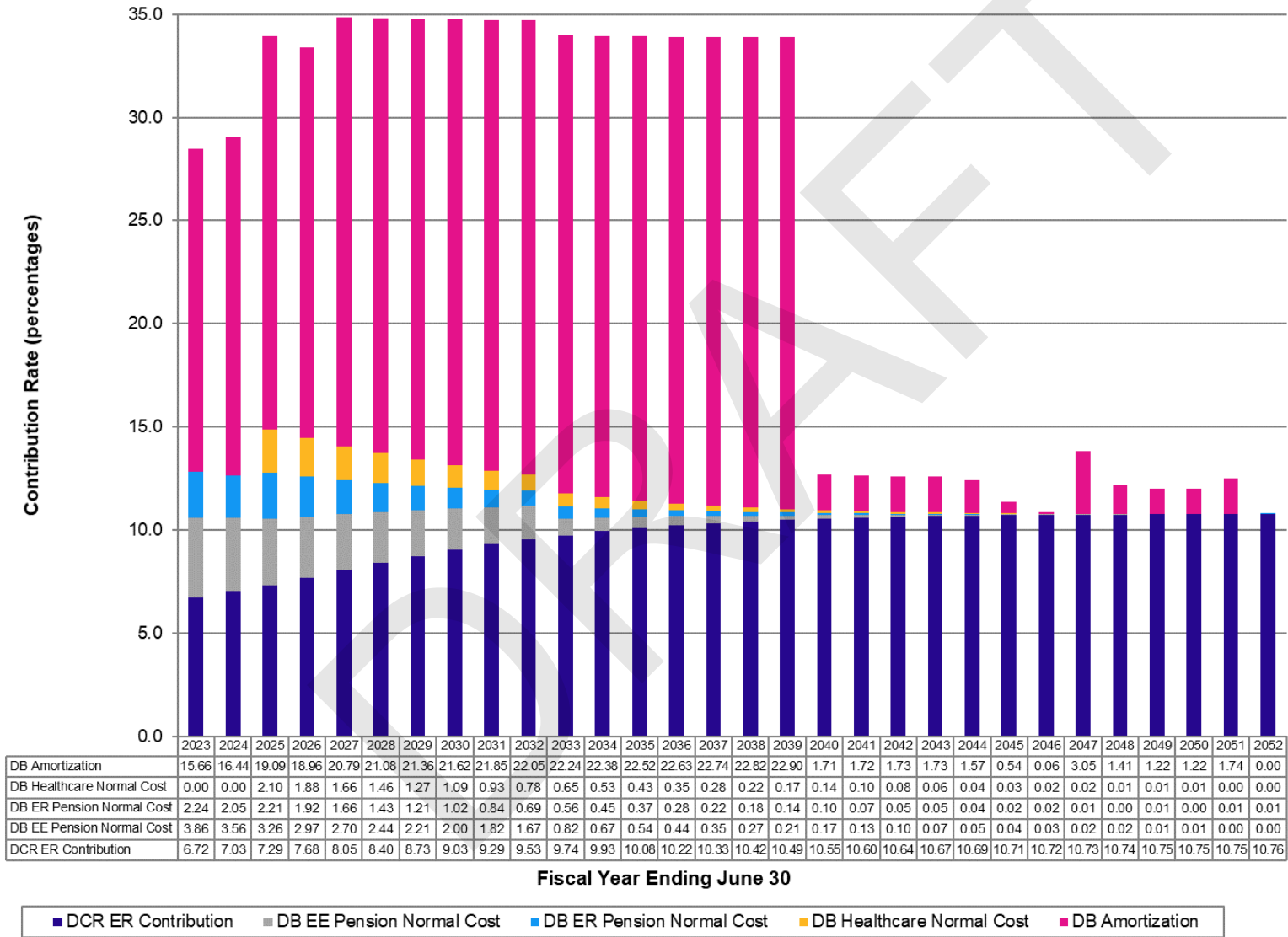
Section 3.3A: Projected Employer/State Contribution Rates

Based on Total DB and DCR Payroll

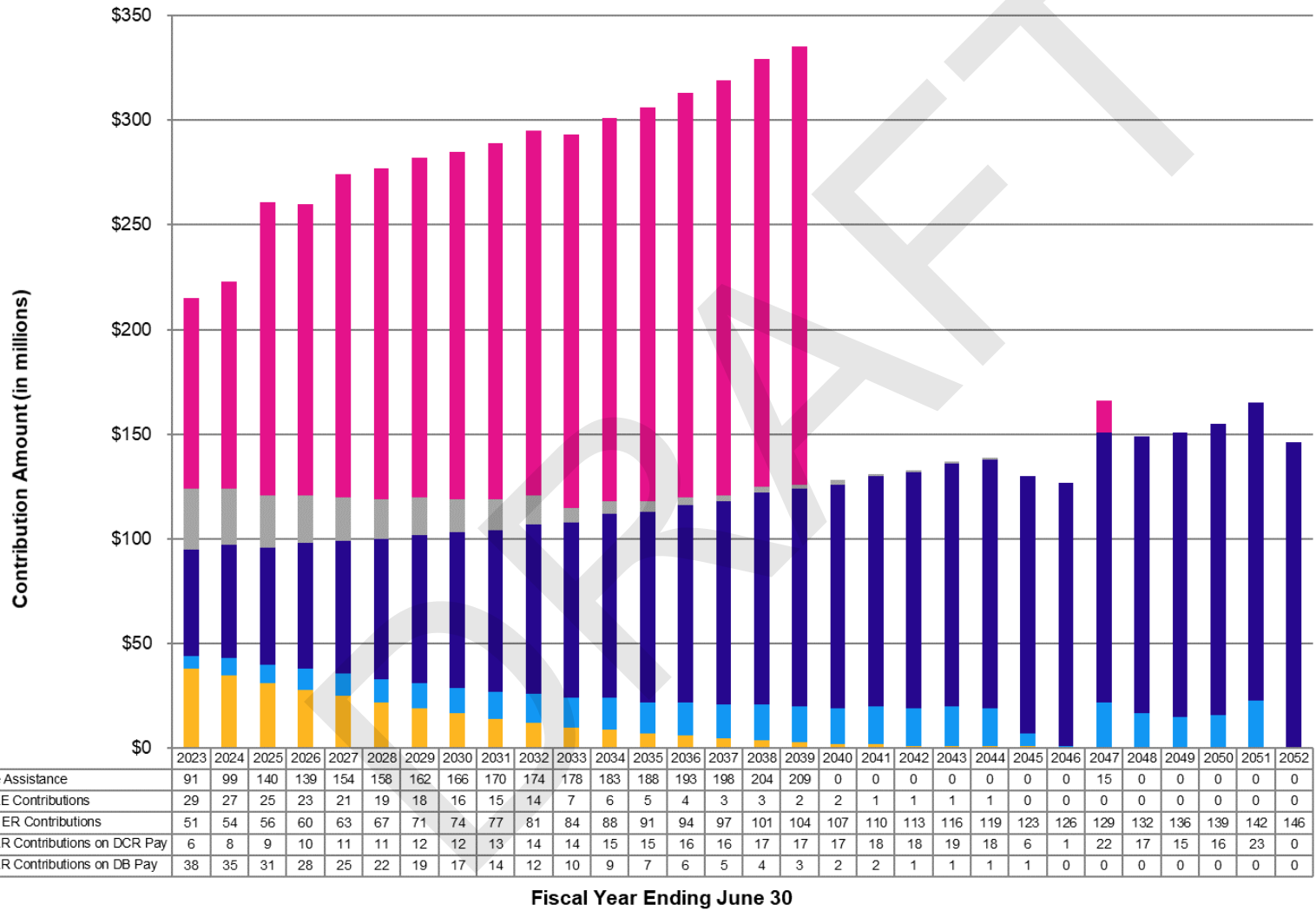


Section 3.3B: Components of Projected Total Contribution Rates

Based on Total DB and DCR Payroll

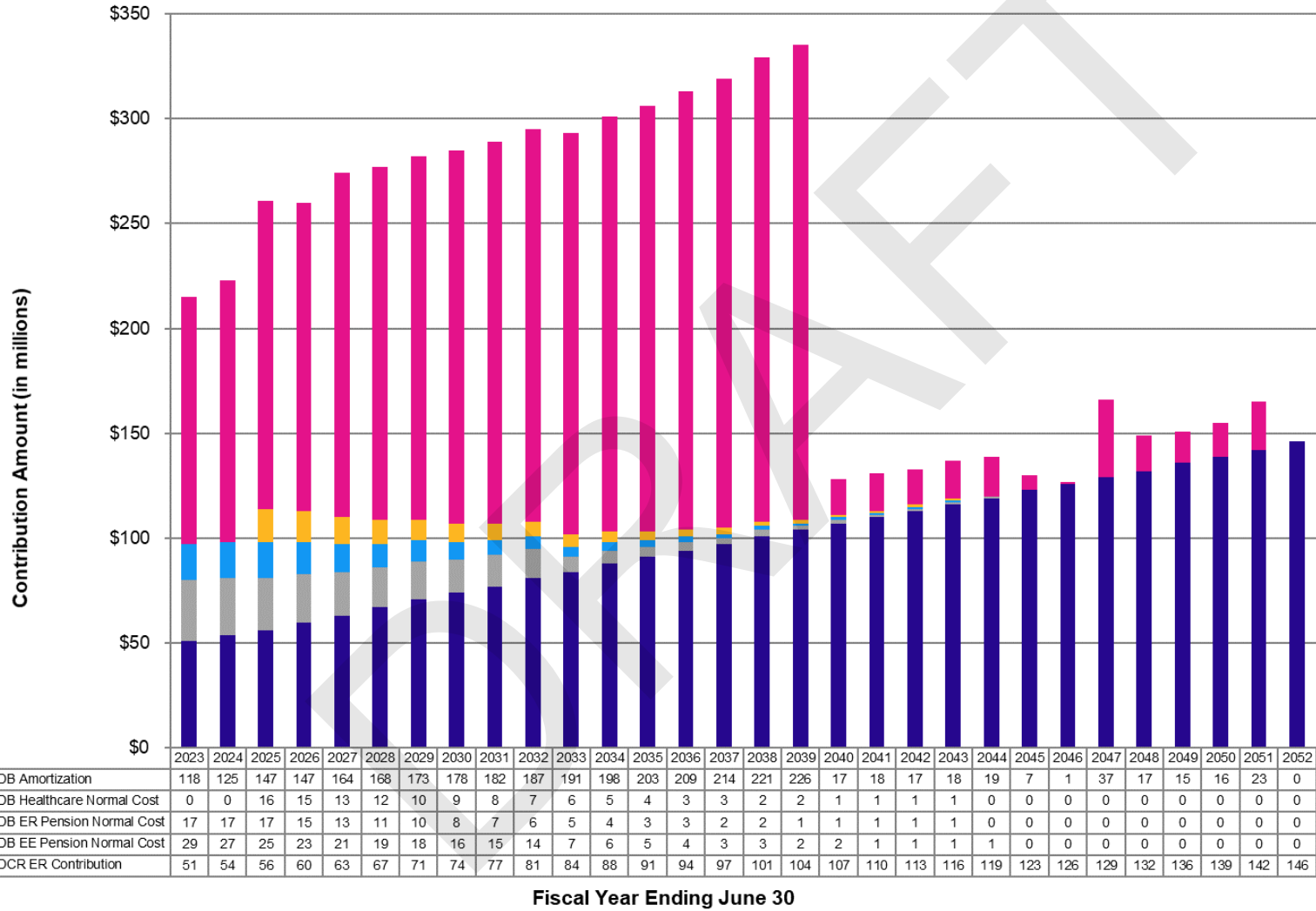


Section 3.4A: Projected Employer/State Contribution Amounts



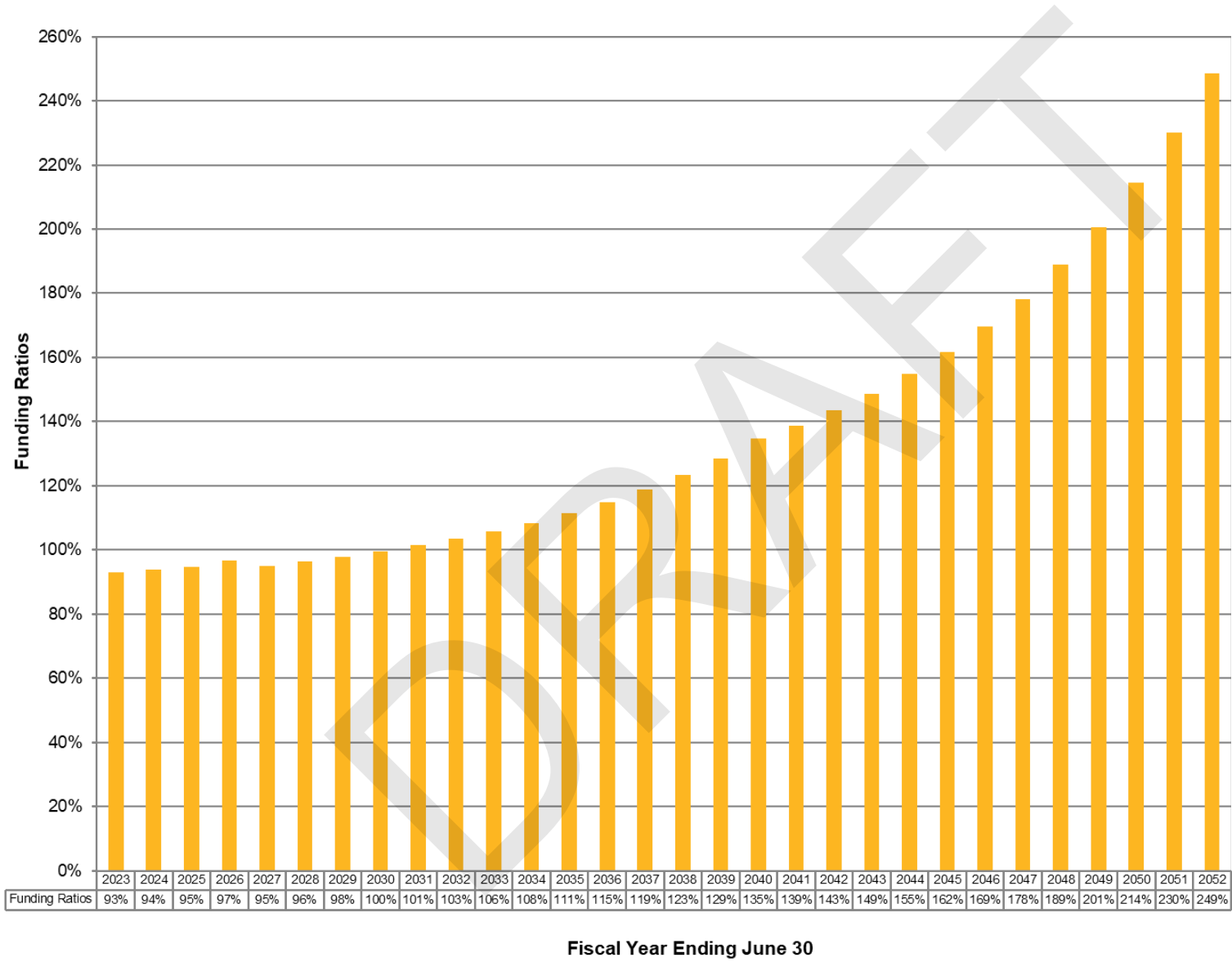
■ DB ER Contributions on DB Pay
 ■ DB ER Contributions on DCR Pay
 ■ DCR ER Contributions
 ■ DB EE Contributions
 ■ State Assistance

Section 3.4B: Components of Projected Total Contribution Amounts



■ DCR ER Contribution
 ■ DB EE Pension Normal Cost
 ■ DB ER Pension Normal Cost
 ■ DB Healthcare Normal Cost
 ■ DB Amortization

Section 3.5: Projection of Funded Ratios



Section 3.6: 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)	
	Actuarial Assets	Accrued Liability	Funding Ratio	Unfunded Liability / (Surplus)	Total Salaries	Actuarial Contrib. Rates			DB Contributions					Benefit Payments
						DB	DCR	Total	Employer	State Assistance	Employee	Total		
2023	\$ 9,537,420	\$ 10,246,623	93.1%	\$ 709,203	\$ 758,938	17.90%	6.72%	24.62%	\$ 44,322	\$ 91,029	\$ 29,310	\$ 164,661	\$ 687,836	\$ (136,205)
2024	9,692,055	10,341,483	93.7%	649,428	762,674	18.49%	7.03%	25.52%	42,176	98,766	27,141	168,083	713,234	(177,963)
2025	9,858,732	10,410,562	94.7%	551,830	769,543	23.40%	7.29%	30.69%	40,555	139,518	25,050	205,123	738,588	(274,559)
2026	10,103,358	10,454,691	96.6%	351,333	777,644	22.76%	7.68%	30.44%	37,949	139,043	23,117	200,109	762,473	0
2027	9,958,052	10,470,260	95.1%	512,208	786,668	24.11%	8.05%	32.16%	35,479	154,187	21,248	210,914	784,730	0
2028	10,085,798	10,458,669	96.4%	372,871	796,835	23.97%	8.40%	32.37%	33,149	157,853	19,446	210,448	806,853	0
2029	10,199,951	10,418,413	97.9%	218,462	807,915	23.84%	8.73%	32.57%	30,944	161,664	17,862	210,470	828,160	0
2030	10,300,857	10,348,748	99.5%	47,891	820,089	23.73%	9.03%	32.76%	28,949	165,658	16,420	211,027	846,576	0
2031	10,391,087	10,251,016	101.4%	(140,071)	833,636	23.62%	9.29%	32.91%	27,260	169,645	15,210	212,115	862,631	0
2032	10,472,832	10,126,135	103.4%	(346,697)	848,709	23.52%	9.53%	33.05%	25,716	173,900	14,151	213,767	876,591	0
2033	10,548,214	9,974,852	105.7%	(573,362)	865,045	23.45%	9.74%	33.19%	24,394	178,459	7,093	209,946	882,277	0
2034	10,619,676	9,797,766	108.4%	(821,910)	883,121	23.36%	9.93%	33.29%	23,227	183,071	5,917	212,215	889,551	0
2035	10,691,556	9,597,533	111.4%	(1,094,023)	902,185	23.32%	10.08%	33.40%	22,374	188,015	4,872	215,261	893,383	0
2036	10,768,241	9,376,403	114.8%	(1,391,838)	922,342	23.26%	10.22%	33.48%	21,583	192,954	4,058	218,595	893,881	0
2037	10,853,804	9,136,702	118.8%	(1,717,102)	943,547	23.24%	10.33%	33.57%	21,041	198,239	3,302	222,582	891,659	0
2038	10,952,375	8,880,230	123.3%	(2,072,145)	965,801	23.22%	10.42%	33.64%	20,668	203,591	2,608	226,867	886,105	0
2039	11,068,636	8,609,531	128.6%	(2,459,105)	989,011	23.21%	10.49%	33.70%	20,472	209,077	2,077	231,626	878,722	0
2040	11,206,246	8,325,739	134.6%	(2,880,507)	1,012,805	1.95%	10.55%	12.50%	19,750	0	1,722	21,472	869,182	0
2041	11,138,489	8,030,344	138.7%	(3,108,145)	1,037,390	1.89%	10.60%	12.49%	19,606	0	1,349	20,955	855,481	0
2042	11,079,587	7,726,974	143.4%	(3,352,613)	1,062,873	1.86%	10.64%	12.50%	19,769	0	1,063	20,832	838,903	0
2043	11,033,561	7,418,184	148.7%	(3,615,377)	1,089,093	1.84%	10.67%	12.51%	20,039	0	762	20,801	818,079	0
2044	11,005,829	7,108,072	154.8%	(3,897,757)	1,116,241	1.65%	10.69%	12.34%	18,417	0	558	18,975	795,642	0
2045	10,997,521	6,798,315	161.8%	(4,199,206)	1,143,969	0.59%	10.71%	11.30%	6,749	0	458	7,207	770,886	0
2046	11,002,147	6,491,422	169.5%	(4,510,725)	1,172,308	0.10%	10.72%	10.82%	1,172	0	352	1,524	746,300	0
2047	11,026,763	6,187,512	178.2%	(4,839,251)	1,201,260	3.08%	10.73%	13.81%	21,983	15,016	240	37,239	721,660	0
2048	11,116,299	5,886,925	188.8%	(5,229,374)	1,230,971	1.42%	10.74%	12.16%	17,480	0	246	17,726	698,170	0
2049	11,215,965	5,588,770	200.7%	(5,627,195)	1,261,453	1.24%	10.75%	11.99%	15,642	0	126	15,768	674,537	0
2050	11,345,376	5,293,413	214.3%	(6,051,963)	1,292,425	1.23%	10.75%	11.98%	15,897	0	129	16,026	651,156	0
2051	11,508,721	5,000,834	230.1%	(6,507,887)	1,324,176	1.75%	10.75%	12.50%	23,173	0	0	23,173	627,282	0
2052	11,716,101	4,711,773	248.7%	(7,004,328)	1,356,780	0.01%	10.76%	10.77%	136	0	0	136	603,329	0
Total									\$ 700,071	\$ 2,819,685	\$ 245,887	\$ 3,765,643		

Section 3.6: 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	Total	Pension	Healthcare	Total
2023	78.2%	140.7%	93.1%	\$ 1,703,842	\$ (994,639)	\$ 709,203
2024	78.3%	142.0%	93.7%	1,698,645	(1,049,217)	649,428
2025	78.8%	143.9%	94.7%	1,668,540	(1,116,710)	551,830
2026	80.0%	147.4%	96.6%	1,577,316	(1,225,983)	351,333
2027	78.1%	146.2%	95.1%	1,721,863	(1,209,655)	512,208
2028	78.6%	149.0%	96.4%	1,670,745	(1,297,874)	372,871
2029	79.2%	152.3%	97.9%	1,611,261	(1,392,799)	218,462
2030	79.9%	155.9%	99.5%	1,542,720	(1,494,829)	47,891
2031	80.7%	160.0%	101.4%	1,464,321	(1,604,392)	(140,071)
2032	81.6%	164.6%	103.4%	1,375,311	(1,722,008)	(346,697)
2033	82.6%	169.8%	105.7%	1,274,772	(1,848,134)	(573,362)
2034	83.8%	175.6%	108.4%	1,161,419	(1,983,329)	(821,910)
2035	85.2%	182.2%	111.4%	1,034,136	(2,128,159)	(1,094,023)
2036	86.9%	189.7%	114.8%	891,525	(2,283,363)	(1,391,838)
2037	89.0%	198.1%	118.8%	732,622	(2,449,724)	(1,717,102)
2038	91.4%	207.5%	123.3%	555,877	(2,628,022)	(2,072,145)
2039	94.2%	218.2%	128.6%	359,975	(2,819,080)	(2,459,105)
2040	97.6%	230.2%	134.6%	143,299	(3,023,806)	(2,880,507)
2041	97.7%	243.9%	138.7%	135,177	(3,243,322)	(3,108,145)
2042	97.7%	259.4%	143.4%	125,935	(3,478,548)	(3,352,613)
2043	97.8%	276.9%	148.7%	115,416	(3,730,793)	(3,615,377)
2044	98.0%	296.5%	154.8%	103,516	(4,001,273)	(3,897,757)
2045	98.1%	318.4%	161.8%	92,085	(4,291,291)	(4,199,206)
2046	98.0%	342.7%	169.5%	91,631	(4,602,356)	(4,510,725)
2047	97.8%	369.8%	178.2%	96,711	(4,935,962)	(4,839,251)
2048	98.4%	400.1%	188.8%	64,466	(5,293,840)	(5,229,374)
2049	98.7%	434.4%	200.7%	50,409	(5,677,604)	(5,627,195)
2050	99.0%	473.4%	214.3%	37,278	(6,089,241)	(6,051,963)
2051	99.3%	518.1%	230.1%	22,873	(6,530,760)	(6,507,887)
2052	100.0%	569.3%	248.7%	(146)	(7,004,182)	(7,004,328)

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	\$ 252,805
2024	14,609	568,379	2062	2,926	234,246
2025	15,021	585,728	2063	2,653	216,010
2026	15,372	601,776	2064	2,394	198,141
2027	15,663	616,595	2065	2,149	180,696
2028	15,881	630,201	2066	1,918	163,739
2029	16,020	642,414	2067	1,700	147,347
2030	16,079	652,806	2068	1,496	131,598
2031	16,071	661,318	2069	1,307	116,576
2032	15,974	668,212	2070	1,131	102,362
2033	15,811	666,955	2071	970	89,027
2034	15,568	669,193	2072	825	76,648
2035	15,254	669,276	2073	693	65,273
2036	14,876	667,217	2074	576	54,939
2037	14,460	663,100	2075	473	45,671
2038	13,980	657,207	2076	383	37,469
2039	13,480	649,134	2077	307	30,316
2040	12,963	639,305	2078	243	24,172
2041	12,416	627,824	2079	188	18,982
2042	11,857	614,595	2080	144	14,669
2043	11,280	599,853	2081	109	11,151
2044	10,696	583,913	2082	81	8,332
2045	10,123	566,826	2083	59	6,119
2046	9,562	548,818	2084	43	4,414
2047	9,014	530,064	2085	30	3,130
2048	8,486	510,689	2086	21	2,182
2049	7,978	490,853	2087	15	1,500
2050	7,486	470,728	2088	10	1,017
2051	7,009	450,452	2089	7	685
2052	6,548	430,117	2090	4	460
2053	6,106	409,801	2091	4	309
2054	5,682	389,559	2092	2	211
2055	5,276	369,439	2093	2	147
2056	4,889	349,476	2094	1	104
2057	4,520	329,695	2095	1	75
2058	4,168	310,119	2096	1	55
2059	3,834	290,767	2097	0	0
2060	3,516	271,655	2098	0	0

Counts include retirees, disabilitants, 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, or 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, not refunded contributions)					
1. Number	1,900	1,810	1,744	1,679	1,616
2. Average Account Balance	\$ 20,872	\$ 21,612	\$ 22,591	\$ 23,388	\$ 23,906
Total Number of Members	20,392	20,157	19,986	19,774	19,494

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

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

Summary of Members Included

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

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

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

Summary of Members Included

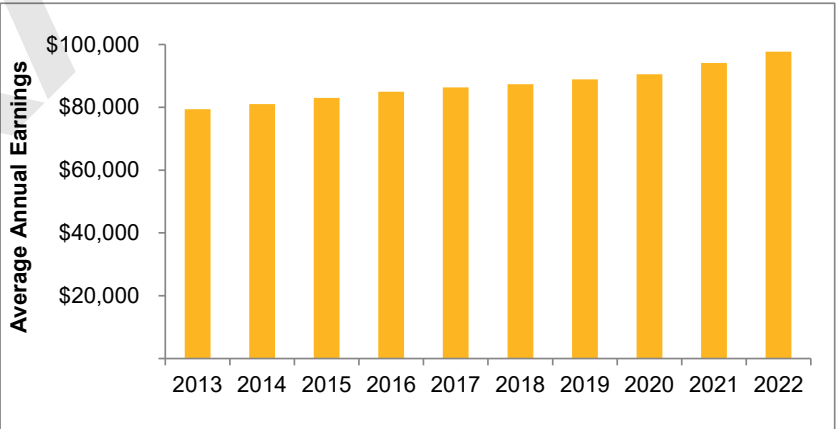
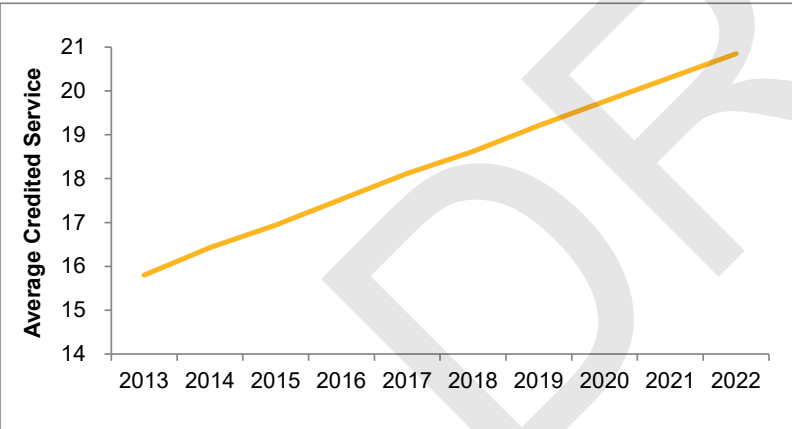
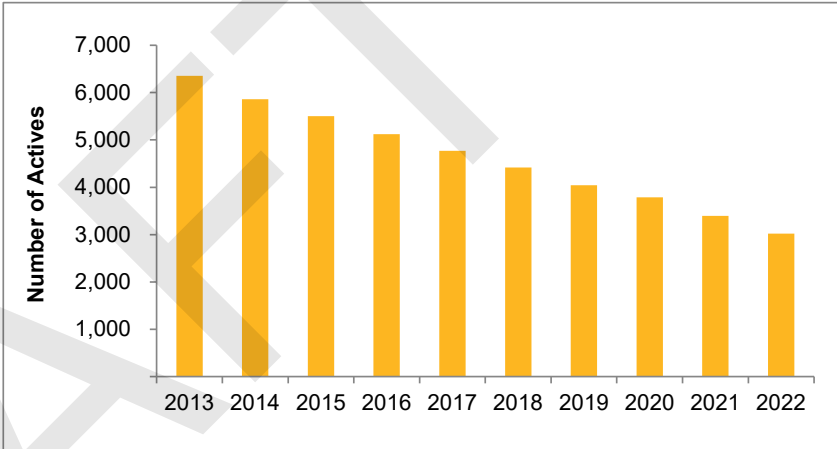
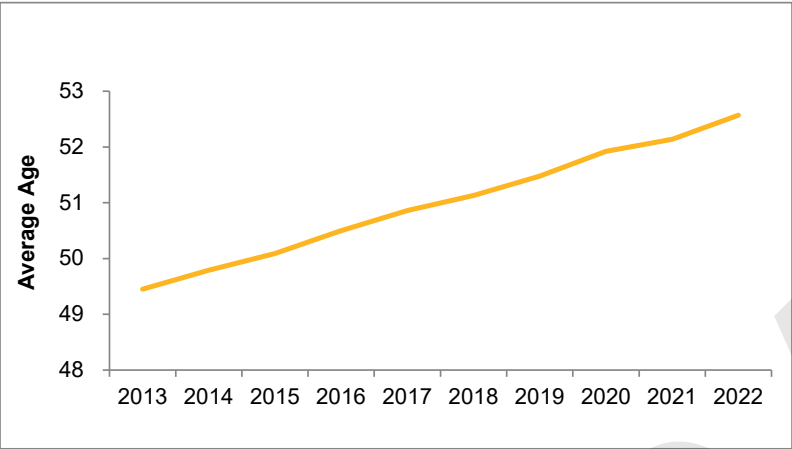
As of June 30, 2022	Inactive Members					Total Inactive Members
	Active Members	Retirees	Covered Spouses	Covered Children / Dependents	Deferred	
Retiree Medical Participants						
1. Retiree Coverage Only	2,997	7,814	0	0	423	8,237
2. Retiree + Spouse	0	3,996	3,996	0	543	8,535
3. Retiree + Children /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

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

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

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	0
20 - 24	0	0	0	0	0	0	0	0	0	0	0
25 - 29	0	0	0	0	0	0	0	0	0	0	0
30 - 34	0	0	0	0	0	0	0	0	0	0	0
35 - 39	0	1	1	8	0	0	0	0	0	0	10
40 - 44	1	14	52	278	75	0	0	0	0	0	420
45 - 49	1	25	58	264	360	34	0	0	0	0	742
50 - 54	7	25	42	213	409	179	6	0	0	0	881
55 - 59	0	13	23	107	199	121	57	7	0	0	527
60 - 64	3	1	9	53	99	68	33	4	2	0	272
65 - 69	1	2	6	23	33	15	13	10	1	0	104
70 - 74	1	0	1	7	14	8	8	3	6	0	48
75+	0	0	0	3	9	3	0	2	2	0	19
Total	14	81	192	956	1,198	428	117	26	11	0	3,023

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

Section 4.3: Member Data Reconciliation

Pension

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

* Pickup beneficiaries are primarily new DROs.

Healthcare

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

Section 4.4: Schedule of Active Member Data

Valuation Date	Number	Annual Earnings (000's)	Annual Average Earnings	Percent Increase in Average Earnings	Number of Participating Employers
June 30, 2022	3,023	\$ 295,354	\$ 97,702	3.8%	57
June 30, 2021	3,396	319,711	94,143	4.0%	56
June 30, 2020	3,789	343,146	90,564	1.9%	56
June 30, 2019	4,044	359,426	88,879	1.7%	56
June 30, 2018	4,418	386,016	87,373	1.2%	56
June 30, 2017	4,772	411,951	86,327	1.6%	57
June 30, 2016	5,123	435,222	84,955	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
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
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
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
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
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
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
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
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
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
Number of Recipients	10	57	67	90	101	79	64

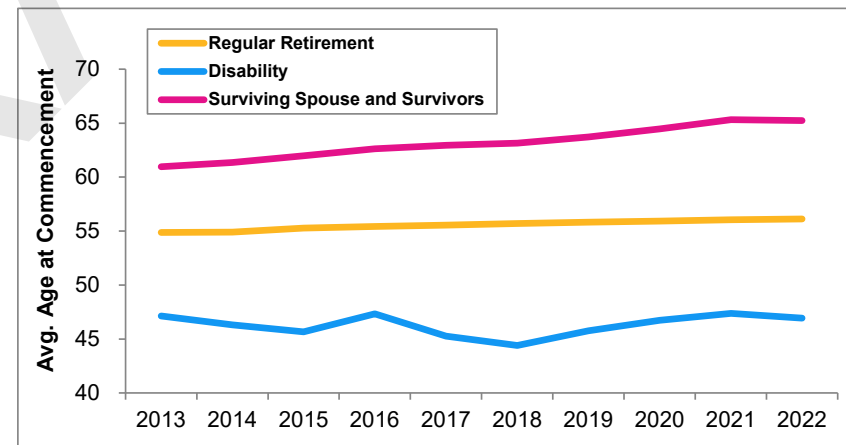
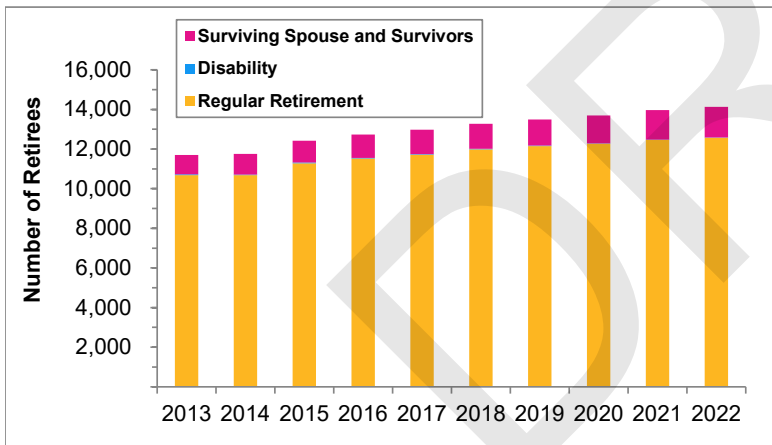
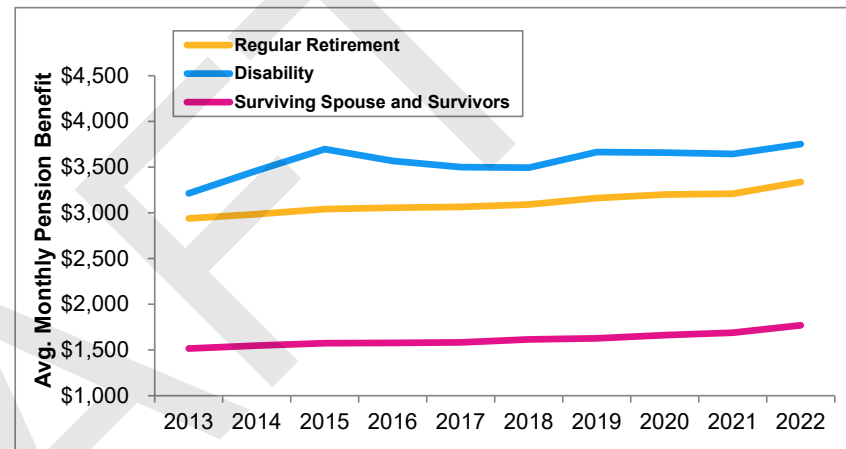
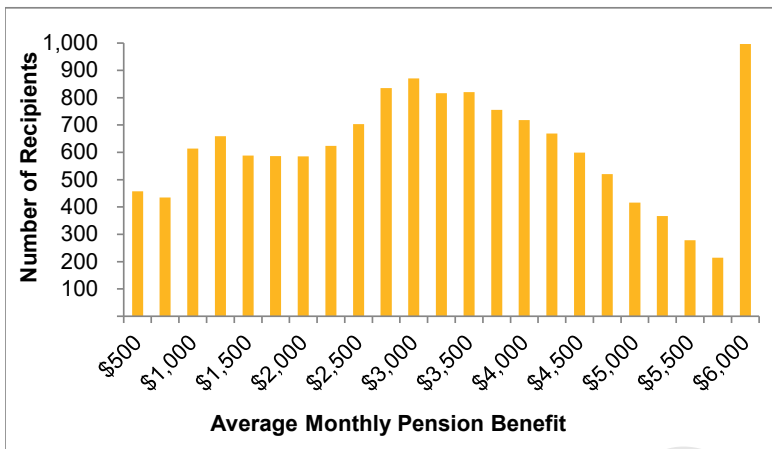
“Average Monthly Pension” includes postretirement pension adjustments and cost-of-living increases.

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	56.38	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									
	0 - 4	5 - 9	10 - 14	15 - 19	20 - 24	25 - 29	30 - 34	35 - 39	40+	Total
0 - 19	0	0	0	0	0	0	0	0	0	0
20 - 24	0	0	0	0	0	0	0	0	0	0
25 - 29	0	0	0	0	0	0	0	0	0	0
30 - 34	0	0	0	0	0	0	0	0	0	0
35 - 39	0	0	0	0	0	0	0	0	0	0
40 - 44	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

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 supplemental contributions provision or occupational and non-occupational death provisions, the designated beneficiary receives the lump sum benefit described below.

Occupational Death

When an active member dies from occupational causes, a monthly survivor's pension may be paid to the spouse, unless benefits are payable under the supplemental contributions provision (see below). The pension equals 40% of the member's base salary 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 average base salary on the date of death and service, including service accumulated from the date of the member's death to the normal retirement date.

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, unless benefits are payable under the supplemental contributions provision (see below). The monthly benefit is calculated on the member's average base salary and TRS service accrued at the time of death.

Lump Sum Benefit

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, indebtedness payments, and interest earned. Any supplemental contributions will also be refunded. If the member has more than one year of TRS service or is vested, the beneficiary also receives \$1,000 and \$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 (see below) 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.

- a. **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.
- b. **Spouse's Pension:** The spouse's pension is equal to 50% of the retirement benefit that the deceased member was receiving or the unreduced retirement benefit that the deceased member would have received if retired at the time of death. The spouse's pension begins on the first of the month after the member's death or termination of the survivor's allowance.

Death After Retirement

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

Postretirement Pension Adjustments

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

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

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

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

Alaska Cost-of-Living Allowance (COLA)

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

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

Changes in Benefit Provisions Valued Since the Prior Valuation

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

Section 5.2: Description of Actuarial Methods and Valuation Procedures

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

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

Actuarial Cost Method

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

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

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

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

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

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

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

Valuation of Assets

The actuarial asset value was reinitialized to equal Fair Value of Assets as of June 30, 2014. Beginning in FY15, the asset valuation method recognizes 20% of the gain or loss each year, for a period of five years. All assets are valued at fair value. Assets are accounted for on an accrued basis and are taken directly from financial statements audited by KPMG LLP.

Changes in Methods Since the Prior Valuation

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

Valuation of Retiree Medical and Prescription Drug Benefits

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

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

Benefits

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

Administration and Data Sources

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

Claims incurred for the period from July 2020 through June 2022 (FY21 through FY22) were provided by the State of Alaska from reports extracted from their data warehouse, which separated claims by Medicare status. Monthly enrollment data for the same period was provided by Aetna.

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

Aetna provided a snapshot file as of July 1, 2022 of retirees and dependents that included a coverage level indicator. The monthly enrollment data includes double coverage participants. These are participants whereby both the retiree and spouse are retirees from the State and both are reflected with Couple coverage in the enrollment. In this case, such a couple would show up as four members in the

monthly enrollment (each would be both a retiree and a spouse). As a result, the snapshot census file was used to adjust the total member counts in the monthly enrollment reports to estimate the number of unique participants enrolled in coverage. Based on the snapshot files from the last two valuations, the total member count in the monthly enrollment reports needs to be reduced by approximately 13% to account for the number of participants with double coverage.

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

Methodology

Buck projected historical claim data to FY23 for retirees using the following summarized steps:

1. Develop historical annual incurred claim cost rates – an analysis of medical costs was completed based on claims information and enrollment data provided by the State of Alaska and Aetna for each year in the experience period of FY21 through FY22.
 - Costs for medical services and prescriptions were analyzed separately, and separate trend rates were developed to project expected future medical and prescription costs for the valuation year (e.g. from the experience period up through FY23).
 - Because the reports provided reflected incurred claims, no additional adjustment was needed to determine incurred claims to be used in the valuation.
 - An offset for costs expected to be reimbursed by Medicare was incorporated beginning at age 65. Alaska retirees who do not have 40 quarters of Medicare-covered compensation do not qualify for Medicare Part A coverage free of charge. This is a relatively small and closed group. Medicare was applied to State employment for all employees hired after March 31, 1986. For the “no-Part A” individuals who are required to enroll in Medicare Part B, the State is the primary payer for hospital bills and other Part A services. Claim experience is not available separately for participants with both Medicare Parts A and B and those with Part B only. For Medicare Part B only participants, a lower average claims cost was applied to retirees covered by both Medicare Part A and B vs. retirees covered only by Medicare Part B based upon manual rate models that estimate the Medicare covered proportion of medical costs. To the extent that no-Part A claims can be isolated and applied strictly to the appropriate closed group, actuarial accrued liability will be more accurate.
 - Based on census data received from Aetna, less than 1% of the current retiree population was identified as having coverage only under Medicare Part B. We assume that 2% of actives hired before April 1, 1986 and current retirees who are not yet Medicare eligible will not be eligible for Medicare Part A.
 - Based upon a reconciliation of valuation census data to the snapshot eligibility files provided by Aetna as of July 1, 2021, and July 1, 2022, Buck adjusted member counts used for duplicate records where participants have double coverage; i.e. primary coverage as a retiree and secondary coverage as the covered spouse of another retiree. This is to reflect the total cost per distinct individual/member which is then applied to distinct members in the valuation census.
 - Buck understands that pharmacy claims reported do not reflect rebates. Based on actual pharmacy rebate information provided by Optum, rebates were assumed to be 16.2% of pre-Medicare, and 14.3% of Medicare prescription drug claims for FY21; and 20.1% of pre-Medicare, and 13.5% of Medicare prescription drug claims for FY22.
2. Develop estimated EGWP reimbursements – Segal provided estimated 2023 EGWP subsidies, developed with the assistance of OptumRx. These amounts are applicable only to Medicare-eligible participants.

3. Adjust for claim fluctuation, anomalous experience, etc. – explicit adjustments are often made for anticipated large claims or other anomalous experience. FY21 and FY22 experience was thoroughly reviewed to assess the impact of COVID-19 and whether an adjustment to FY21 and FY22 claims was appropriate for use in the June 30, 2022 valuation. FY21 medical per capita claims were noticeably lower than expected, so a 4% load was added to the FY21 medical claims used in the per capita claims cost development to better reflect future expected long-term costs of the plan. FY22 medical per capita claims were reasonable when compared to pre-COVID levels, so no adjustments were made to the FY22 medical claims used in the per capita claims cost development. Total prescription drug claims experience for FY21 and FY22 was reasonable and consistent with FY19 and FY20 experience. Therefore, no adjustment was made to FY21 and FY22 prescription drug claims. Due to group size and demographics, we did not make any additional large claim adjustments. We do blend both Alaska plan-specific and national trend factors as described below. Buck compared data utilized to lag reports and quarterly plan experience presentations provided by the State and Aetna to assess accuracy and reasonableness of data.
4. Trend all data points to the projection period – project prior years’ experience forward to FY23 for retiree benefits on an incurred claim basis. Trend factors derived from historical Alaska-specific experience and national trend factors are shown in the table in item 5 below.
5. Apply credibility to prior experience – adjust prior year’s data by assigning weight to recent periods, as shown at the right of the table below. The Board approved a change in the weighting of experience periods beginning with the June 30, 2017 valuation as outlined below. Note also that for both years of prescription drugs we averaged projected plan costs using Alaska-specific trend factors and national trend factors, assigning 75% weight to Alaska-specific trends and 25% to national trends. For both years of medical we applied 100% weight to national trends because the Alaska-specific trends were impacted by COVID-19:

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

Trend assumptions used for rate development are assessed annually and as additional/improved reporting becomes available, we will incorporate into rate development as appropriate.

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

Healthcare Reform

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

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

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

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

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

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

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

Data

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

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

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

- All records provided with retiree medical coverage on the Aetna data were included in this valuation and we relied on the Aetna data as the source of medical coverage for current retirees and their dependents.
- Some records in the Aetna data were duplicates due to the double coverage (i.e. coverage as a retiree and as a spouse of another retiree) allowed under the plan. Records were adjusted for these members so that each member was only valued once. Any additional value of the double coverage (due to coordination of benefits) is small and reflected in the per capita costs.
- Covered children included in the Aetna data were valued until age 23, unless disabled. We assumed that those dependents over 23 were only eligible and valued due to being disabled.
- For individuals included in the pension data expecting a future pension, we valued health benefits starting at the same point that the pension benefit is assumed to start.

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

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

	Medical		Prescription Drugs (Rx)	
	Pre-Medicare	Medicare	Pre-Medicare	Medicare
A. Fiscal 2021				
1. Incurred Claims	\$ 196,566,470	\$ 86,512,435	\$ 60,691,609	\$ 207,822,858
2. Adjustments for Rx Rebates and COVID (Medical only)	<u>7,862,659</u>	<u>3,460,497</u>	<u>(9,832,041)</u>	<u>(29,718,669)</u>
3. Net incurred claims	\$ 204,429,129	\$ 89,972,933	\$ 50,859,568	\$ 178,104,189
4. Average Enrollment	18,106	47,025	18,106	47,025
5. Claim Cost Rate (3) / (4)	11,291	1,913	2,809	3,787
6. Trend to Fiscal 2023	1.161	1.107	1.183	1.183
7. Fiscal 2023 Incurred Cost Rate (5) x (6)	\$ 13,108	\$ 2,117	\$ 3,322	\$ 4,479
8. Adjustment Factor for 2022 Plan Changes	1.014	1.000	0.913	0.976
9. Adjusted Fiscal 2023 Incurred Cost Rate (7) x (8)	\$ 13,290	\$ 2,117	\$ 3,034	\$ 4,371

B. Fiscal 2022				
1. Incurred Claims	\$ 197,733,173	\$ 98,249,082	\$ 64,076,270	\$ 230,832,315
2. Adjustments for Rx Rebates	<u>0</u>	<u>0</u>	<u>(12,879,330)</u>	<u>(31,162,363)</u>
3. Net incurred claims	\$ 197,733,173	\$ 98,249,082	\$ 51,196,940	\$ 199,669,953
4. Average Enrollment	17,072	48,698	17,072	48,698
5. Claim Cost Rate (3) / (4)	11,582	2,018	2,999	4,100
6. Trend to Fiscal 2023	1.074	1.056	1.095	1.095
7. Fiscal 2023 Incurred Cost Rate (5) x (6)	\$ 12,439	\$ 2,131	\$ 3,284	\$ 4,490
8. Adjustment Factor for 2022 Plan Changes	1.007	1.000	0.957	0.988
9. Adjusted Fiscal 2023 Incurred Cost Rate (7) x (8)	\$ 12,526	\$ 2,131	\$ 3,141	\$ 4,436

	Medical		Prescription Drugs (Rx)	
	Pre-Medicare	Medicare	Pre-Medicare	Medicare
C. Adjusted Incurred Cost Rate by Fiscal Year				
1. Fiscal 2021 A.(9)	13,290	2,117	3,034	4,371
2. Fiscal 2022 B.(9)	12,526	2,131	3,141	4,436

D. Weighting by Fiscal Year				
1. Fiscal 2021	50%	50%	50%	50%
2. Fiscal 2022	50%	50%	50%	50%

E. Fiscal 2023 Incurred Cost Rate				
1. Rate at Average Age C x D	\$ 12,908	\$ 2,124	\$ 3,088	\$ 4,403
2. Average Aging Factor	0.822	1.279	0.832	1.127
3. Rate at Age 65 (1) / (2)	\$ 15,706	\$ 1,661	\$ 3,712	\$ 3,907

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)	\$ 1,625
8. Cost for those eligible for Part B only: (7) x (4)	\$ 5,363

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

Below are the results of this analysis:

**Distribution of Per Capita Claims Cost by Age
for the Period July 1, 2022 through June 30, 2023**

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

Section 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.

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: Actuarial Standard of Practice No. 51

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.

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)	June 30, 2021	June 30, 2022
1. Retiree and Beneficiary Accrued Liability	\$ 5,657,056	\$ 5,977,257
2. Total Accrued Liability	\$ 7,471,887	\$ 7,804,046
3. Ratio, (1) ÷ (2)	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)	FYE June 30, 2021	FYE June 30, 2022
1. Contributions	\$ 196,748	\$ 202,459
2. Benefit Payments	<u>501,429</u>	<u>511,762</u>
3. Cash Flow, (1) - (2)	\$ (304,681)	\$ (309,303)
4. Fair Value of Assets	\$ 6,731,481	\$ 6,026,651
5. Ratio, (3) ÷ (4)	(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)	June 30, 2021	June 30, 2022
1. Fair Value of Assets	\$ 6,731,481	\$ 6,026,651
2. DB/DCR Payroll	\$ 750,334	\$ 758,938
3. Asset to Payroll Ratio, (1) ÷ (2)	897.1%	794.1%
4. Accrued Liability	\$ 7,471,887	\$ 7,804,046
5. Liability to Payroll Ratio, (4) ÷ (2)	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%.

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.

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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

January 2023

DRAFT



January 6, 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 overall funded status is expected to remain at or above 100%.

The Board and staff of the State of Alaska may use this report for the review of the operations of TRS DCR. Use of this report for any other purpose or by anyone other than the Board or staff of the State of Alaska may not be appropriate and may result in mistaken conclusions 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.

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

Assessment of Risks

Actuarial Standard of Practice No. 51 (ASOP 51) applies to actuaries performing funding calculations related to a pension plan. ASOP 51 does not apply to actuaries performing services in connection with other post-employment benefits, such as medical benefits. Accordingly, ASOP 51 does not apply to the retiree medical portion of TRS DCR. We also believe ASOP 51 does not apply to the occupational death & 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.

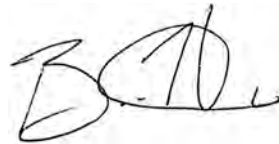
This report was prepared under the overall direction of David Kershner, who meets the Qualification Standards of the American Academy of Actuaries to render the actuarial opinions contained herein. He is a Fellow of the Society of Actuaries, an Enrolled Actuary, a Member of the American Academy of Actuaries, 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%
Total		
a. Actuarial Accrued Liability	\$ 44,601	\$ 47,996
b. Valuation Assets	<u>65,223</u>	<u>75,103</u>
c. Unfunded Actuarial Accrued Liability, (a) - (b)	\$ (20,622)	\$ (27,107)
d. Funded Ratio based on Valuation Assets, (b) ÷ (a)	146.2%	156.5%
e. Fair Value of Assets	\$ 73,901	\$ 73,466
f. Funded Ratio based on Fair Value of Assets, (e) ÷ (a)	165.7%	153.1%

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 \$10,343,000. 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 \$613,000.

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.

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 \$3,374,000.

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.

Total Employer Contribution Rate				
Valuation Date	Fiscal Year	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	Total
Retirement Experience	\$ 0	\$ 89	\$ 89
Termination Experience	(3)	2,157	2,154
Disability Experience	235	(35)	200
Active Mortality Experience	122	(60)	62
Inactive Mortality Experience	(1)	(13)	(14)
Salary Increases	(1)	N/A	(1)
New Entrants	0	(630)	(630)
Rehires	0	(2,402)	(2,402)
Benefit Payments Different than Expected	9	(17)	(8)
Per Capita Claims Cost	N/A	1,006	1,006
Miscellaneous ¹	(8)	(5)	(13)
Total	\$ 353	\$ 90	\$ 443

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		Total
Experience Study Assumption Changes	\$	0*	\$	(3,374)	\$ (3,374)

* Impact was less than \$1,000.

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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	Total
1. Total Normal Cost	\$ 348	\$ 3,107	\$ 3,455
2. DCR Plan Rate Payroll Projected for FY23	455,927	455,927	455,927
3. Employer Normal Cost Rate, (1) ÷ (2)	0.08%	0.68%	0.76%
Past Service Cost Rate			
1. Actuarial Accrued Liability	\$ 199	\$ 47,797	\$ 47,996
2. Valuation Assets	6,700	68,403	75,103
3. Unfunded Actuarial Accrued Liability, (1) - (2)	\$ (6,501)	\$ (20,606)	\$ (27,107)
4. Funded Ratio based on Valuation Assets	3,366.8%	143.1%	156.5%
5. Past Service Cost Amortization Payment	(515)	(1,300)	(1,815)
6. DCR Plan Rate Payroll Projected for FY23	455,927	455,927	455,927
7. Past Service Cost Rate, (5) ÷ (6)	(0.11%)	(0.29%)	(0.40%)
Total Employer Contribution Rate, not less than Normal Cost Rate	0.08%	0.68%	0.76%

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

Total Employer Contribution Rate as Percent of Total Payroll	Occupational Death & Disability	Retiree Medical	Total
1. Total Normal Cost	\$ 348	\$ 3,107	\$ 3,455
2. Total DB and DCR Plan Rate Payroll Projected for FY23	758,938	758,938	758,938
3. Employer Normal Cost Rate, (1) ÷ (2)	0.05%	0.41%	0.46%
4. Past Service Cost Amortization Payment	(515)	(1,300)	(1,815)
5. Past Service Cost Rate, (4) ÷ (2)	(0.07%)	(0.17%)	(0.24%)
Total Employer Contribution Rate, not less than Normal Cost Rate	0.05%	0.41%	0.46%

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.

Schedule of Past Service Cost Amortizations - Total (\$'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	\$ (223)	\$ (197)	\$ (23)
Change in Assumptions	06/30/2008	11	84	79	9
FY08 Gain	06/30/2008	11	(785)	(704)	(78)
Change in Assumptions	06/30/2009	12	(151)	(138)	(15)
FY09 Gain	06/30/2009	12	(875)	(823)	(86)
Change in Assumptions	06/30/2010	13	(7)	(8)	(1)
FY10 Gain	06/30/2010	13	(1,024)	(983)	(96)
FY11 Gain	06/30/2011	14	(654)	(637)	(59)
Change in Assumptions	06/30/2012	15	11,518	11,448	1,013
FY12 Gain	06/30/2012	15	(189)	(185)	(16)
FY13 Loss	06/30/2013	16	3,290	3,309	279
Change in Assumptions	06/30/2014	17	(9,786)	(9,898)	(802)
PRPA Modification	06/30/2014	17	(25)	(25)	(2)
FY14 Loss	06/30/2014	17	1,361	1,374	111
FY15 Gain	06/30/2015	18	(3,760)	(3,812)	(298)
EGWP Impact	06/30/2016	19	(6,400)	(6,494)	(489)
FY16 Loss	06/30/2016	19	749	761	57
Change in Assumptions	06/30/2017	20	7,645	7,739	564
FY17 Gain	06/30/2017	20	(1,702)	(1,721)	(125)
Change in Assumptions/Methods	06/30/2018	21	(9,505)	(9,577)	(677)
FY18 Loss	06/30/2018	21	2,234	2,252	160
FY19 Gain	06/30/2019	22	(5,242)	(5,287)	(363)
Change in Assumptions	06/30/2020	23	2,153	2,169	145
FY20 Gain	06/30/2020	23	(2,292)	(2,309)	(155)
Prescription Drug Plan Changes	06/30/2021	24	(528)	(530)	(35)
FY21 Gain	06/30/2021	24	(6,434)	(6,462)	(422)
Change in Assumptions	06/30/2022	25	(3,374)	(3,374)	(215)
FY22 Gain	06/30/2022	25	(3,074)	(3,074)	(196)
Total				\$ (27,107)	\$ (1,815)

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

	Occupational Death & Disability	Retiree Medical	Total
1. Expected Actuarial Accrued Liability			
a. Actuarial Accrued Liability as of June 30, 2021	\$ 205	\$ 44,396	\$ 44,601
b. Normal Cost	335	3,448	3,783
c. Interest on (a) and (b) at 7.38%	40	3,531	3,571
d. Employer Group Waiver Plan	0	18	18
e. Benefit Payments	(27)	(128)	(155)
f. Interest on (d) and (e) at 7.38%, adjusted for timing	(1)	(4)	(5)
g. Assumptions/Methods Changes	0	(3,374)	(3,374)
h. Expected Actuarial Accrued Liability as of June 30, 2022 (a) + (b) + (c) + (d) + (e) + (f) + (g)	<u>\$ 552</u>	<u>\$ 47,887</u>	<u>\$ 48,439</u>
2. Actual Actuarial Accrued Liability as of June 30, 2022	<u>199</u>	<u>47,797</u>	<u>47,996</u>
3. Liability Gain/(Loss), (1)(h) - (2)	\$ 353	\$ 90	\$ 443
4. Expected Actuarial Asset Value			
a. Actuarial Asset Value as of June 30, 2021	\$ 5,843	\$ 59,380	\$ 65,223
b. Interest on (a) at 7.38%	431	4,382	4,813
c. Employer Contributions	393	4,086	4,479
d. Employer Group Waiver Plan	0	18	18
e. Interest on (c) and (d) at 7.38%, adjusted for timing	14	149	163
f. Benefit Payments	(27)	(128)	(155)
g. Administrative Expenses	(9)	(35)	(44)
h. Interest on (f) and (g) at 7.38%, adjusted for timing	(1)	(6)	(7)
i. Expected Actuarial Asset Value as of June 30, 2022 (a) + (b) + (c) + (d) + (e) + (f) + (g) + (h)	<u>\$ 6,644</u>	<u>\$ 67,846</u>	<u>\$ 74,490</u>
5. Actuarial Asset Value as of June 30, 2022	<u>6,700</u>	<u>68,403</u>	<u>75,103</u>
6. Actuarial Asset Gain/(Loss), (5) - (4)(i)	\$ 56	\$ 557	\$ 613
7. Total Actuarial Gain/(Loss), (3) + (6)	\$ 409	\$ 647	\$ 1,056
8. Contribution Gain/(Loss)	\$ 522	\$ 1,513	\$ 2,035
9. Administrative Expense Gain/(Loss)	\$ (4)	\$ (13)	\$ (17)
10. FY22 Gain/(Loss), (7) + (8) + (9)	\$ 927	\$ 2,147	\$ 3,074

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

Valuation Date	Total Actuarial Accrued Liability	Valuation Assets	Assets as a Percent of Actuarial Accrued Liability	Unfunded Actuarial Accrued Liability (UAAL)
June 30, 2007	\$ 374	\$ 597	159.7%	\$ (223)
June 30, 2008	801	1,728	215.7%	(927)
June 30, 2009	1,460	3,424	234.5%	(1,964)
June 30, 2010	2,448	5,472	223.5%	(3,024)
June 30, 2011	3,858	7,566	196.1%	(3,708)
June 30, 2012	16,874	9,285	55.0%	7,589
June 30, 2013	22,138	11,146	50.3%	10,992
June 30, 2014	16,296	13,611	83.5%	2,685
June 30, 2015	19,797	20,847	105.3%	(1,050)
June 30, 2016	22,007	28,733	130.6%	(6,726)
June 30, 2017	33,707	34,586	102.6%	(879)
June 30, 2018	32,459	40,621	125.1%	(8,162)
June 30, 2019	33,221	46,666	140.5%	(13,445)
June 30, 2020	40,857	54,487	133.4%	(13,630)
June 30, 2021	44,601	65,223	146.2%	(20,622)
June 30, 2022	47,996	75,103	156.5%	(27,107)

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	Total	Allocation Percent
Cash and Short-Term Investments				
- Cash and Cash Equivalents	\$ 87	\$ 894	\$ 981	1.3%
- Subtotal	\$ 87	\$ 894	\$ 981	1.3%
Fixed Income Investments				
- Domestic Fixed Income Pool	\$ 1,389	\$ 14,176	\$ 15,565	21.3%
- International Fixed Income Pool	0	0	0	0.0%
- Tactical Fixed Income Pool	0	0	0	0.0%
- High Yield Pool	0	0	0	0.0%
- Treasury Inflation Protection Pool	0	0	0	0.0%
- Emerging Debt Pool	0	0	0	0.0%
- Subtotal	\$ 1,389	\$ 14,176	\$ 15,565	21.3%
Equity Investments				
- Domestic Equity Pool	\$ 1,582	\$ 16,134	\$ 17,716	24.2%
- International Equity Pool	858	8,756	9,614	13.1%
- Private Equity Pool	1,075	10,966	12,041	16.5%
- Emerging Markets Equity Pool	192	1,960	2,152	3.0%
- Alternative Equity Strategies	380	3,880	4,260	5.8%
- Subtotal	\$ 4,087	\$ 41,696	\$ 45,783	62.6%
Other Investments				
- Real Estate Pool	\$ 493	\$ 5,020	\$ 5,513	7.6%
- Other Investments Pool	471	4,800	5,271	7.2%
- Absolute Return Pool	0	0	0	0.0%
- Other Assets	0	0	0	0.0%
- Subtotal	\$ 964	\$ 9,820	\$ 10,784	14.8%
Total Cash and Investments	\$ 6,527	\$ 66,586	\$ 73,113	100.0%
Net Accrued Receivables	30	323	353	
Net Assets	\$ 6,557	\$ 66,909	\$ 73,466	

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

Fiscal Year 2022	Occupational Death & Disability	Retiree Medical	Total
1. Fair Value of Assets as of June 30, 2021	\$ 6,623	\$ 67,278	\$ 73,901
2. Additions:			
a. Member Contributions	\$ 0	\$ 0	\$ 0
b. Employer Contributions	393	4,086	4,479
c. Interest and Dividend Income	89	905	994
d. Net Appreciation/(Depreciation) in Fair Value of Investments	(494)	(5,037)	(5,531)
e. Employer Group Waiver Plan	0	18	18
f. Other	0	0	0
g. Total Additions	\$ (12)	\$ (28)	\$ (40)
3. Deductions:			
a. Medical Benefits	\$ 0	\$ 128	\$ 128
b. Death & Disability Benefits	27	0	27
c. Investment Expenses	18	178	196
d. Administrative Expenses	9	35	44
e. Total Deductions	\$ 54	\$ 341	\$ 395
4. Fair Value of Assets as of June 30, 2022	\$ 6,557	\$ 66,909	\$ 73,466
5. Approximate Fair Value Investment Return Rate during FY22 Net of Investment Expenses	(6.2%)	(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	Total
1. Investment Gain/(Loss) for FY22			
a. Fair Value as of June 30, 2021	\$ 6,623	\$ 67,278	\$ 73,901
b. Contributions	393	4,086	4,479
c. Employer Group Waiver Plan	0	18	18
d. Benefit Payments	27	128	155
e. Administrative Expenses	9	35	44
f. Actual Investment Return (net of investment expenses)	(423)	(4,310)	(4,733)
g. Expected Return Rate (net of investment expenses)	7.38%	7.38%	7.38%
h. Expected Return	502	5,108	5,610
i. Investment Gain/(Loss) for the Year (f) - (h)	(925)	(9,418)	(10,343)
2. Actuarial Value as of June 30, 2022			
a. Fair Value as of June 30, 2022	\$ 6,557	\$ 66,909	\$ 73,466
b. Deferred Investment Gain/(Loss)	(143)	(1,494)	(1,637)
c. Preliminary Actuarial Value as of June 30, 2022, (a) - (b)	6,700	68,403	75,103
d. Upper Limit: 120% of Fair Value as of June 30, 2022	7,868	80,290	88,158
e. Lower Limit: 80% of Fair Value as of June 30, 2022	5,246	53,528	58,774
f. Actuarial Value at June 30, 2022, (c) limited by (d) and (e)	6,700	68,403	75,103
3. Ratio of Actuarial Value of Assets to Fair Value of Assets			
	102.2%	102.2%	102.2%
4. Approximate Actuarial Value Investment Return Rate during FY22 Net of Investment Expenses			
	8.3%	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)

Total				
Fiscal Year Ending	Asset Gain / (Loss)	Gain / (Loss) Recognized in Prior Years	Gain / (Loss) Recognized This Year	Gain / (Loss) Deferred to Future Years
June 30, 2018	\$ (11)	\$ (8)	\$ (3)	\$ 0
June 30, 2019	(508)	(306)	(102)	(100)
June 30, 2020	(1,507)	(602)	(301)	(604)
June 30, 2021	12,235	2,447	2,447	7,341
June 30, 2022	<u>(10,343)</u>	<u>0</u>	<u>(2,069)</u>	<u>(8,274)</u>
Total	\$ (134)	\$ 1,531	\$ (28)	\$ (1,637)

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%

* Cumulative 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	0
20 - 24	103	1	0	0	0	0	0	0	0	0	104
25 - 29	463	99	0	0	0	0	0	0	0	0	562
30 - 34	442	401	52	0	0	0	0	0	0	0	895
35 - 39	358	364	362	36	0	0	0	0	0	0	1,120
40 - 44	316	288	277	82	1	0	0	0	0	0	964
45 - 49	243	214	172	64	0	0	0	0	0	0	693
50 - 54	177	180	145	48	0	0	0	0	0	0	550
55 - 59	140	132	111	32	1	0	0	0	0	0	416
60 - 64	84	79	72	27	0	0	0	0	0	0	262
65 - 69	32	34	18	10	0	0	0	0	0	0	94
70 - 74	12	5	4	0	0	0	0	0	0	0	21
75+	1	3	2	1	0	0	0	0	0	0	7
Total	2,371	1,800	1,215	300	2	0	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	
Retail Non-Formulary Brand (per 30-day fill)	25% \$25 min / \$75 max	40%
Retail Formulary Brand (per 30-day fill)	35% \$80 min / \$150 max	
Mail-Order Generic	\$20 copay	
Mail-Order Non-Formulary Brand	\$50 copay	40%
Mail-Order Formulary Brand	\$100 copay	
Pharmacy Out-of-Pocket Max (single / family)	\$1,000 / \$2,000	
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%

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.

DRAFT



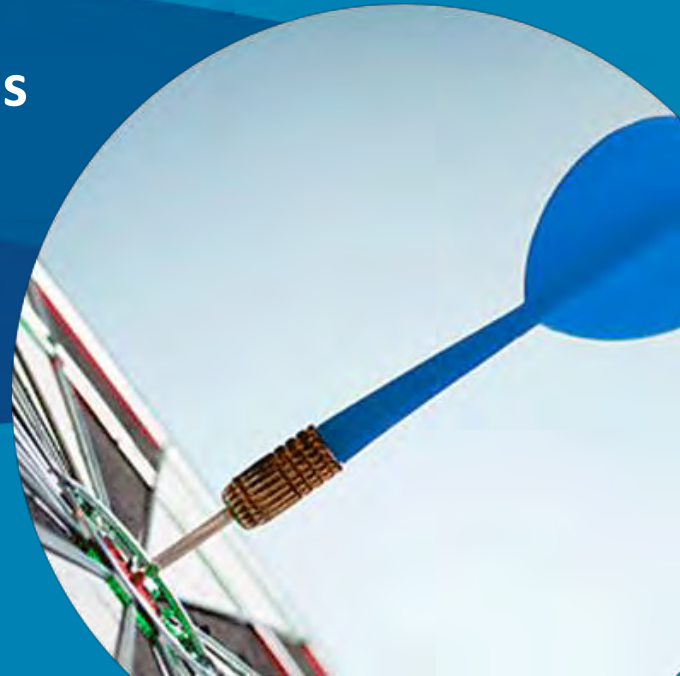
Alaska Retirement Management Board Actuarial Committee

Actuarial Review of June 30, 2022 Valuations

Paul Wood, ASA, FCA, MAAA

Bill Detweiler, ASA, EA, FCA, MAAA

March 15, 2023



Review of the June 30, 2022 Actuarial Valuation

- Claims and Enrollment Review
- Assumptions Review
- Test Life Review

Claims and Enrollment Review

- We reviewed Buck's PowerPoint that showed the development of the Per Capita Claims Costs (PCCC)
- There was favorable medical claims experience, meaning the PCCC did not increase as much as was expected
- There was unfavorable prescription drug experience, meaning the PCCC increased more than expected
- Overall, there were liability gains

Claims and Enrollment Review

PCCC Claims Development

- Overall, we found the development of the PCCC to be reasonable
- The table below shows the final PCCC used in the valuation, as confirmed through test life checking
- It also compares the PCCC used this year to those used last year

<u>Per Capita Claims Cost (Age 65)</u>						
	<u>Medical</u>			<u>Prescription Drugs</u>		
	<u>June 30, 2021</u>	<u>June 30, 2022</u>	<u>Change</u>	<u>June 30, 2021</u>	<u>June 30, 2022</u>	<u>Change</u>
	<u>Valuation</u>	<u>Valuation</u>		<u>Valuation</u>	<u>Valuation</u>	
Pre-Medicare	\$ 15,926	\$ 15,706	-1.4%	\$ 3,375	\$ 3,712	10.0%
Medicare Parts A & B	\$ 1,619	\$ 1,625	0.4%	\$ 3,474	\$ 3,907	12.5%
Medicare Part B Only	\$ 5,341	\$ 5,363	0.4%	\$ 3,474	\$ 3,907	12.5%
Medicare Part D – EGWP	N/A	N/A	N/A	\$ 1,131	\$ 1,309	15.7%

Claims and Enrollment Review

PCCC Gains and COVID-19 Experience

- Large gains six years in a row
 - This is mostly due to positive experience on the medical claims
- Last year, Buck added a 4% load to the medical claims to account for COVID-19 experience, but did not include any loads this year
 - Carefully monitor going forward to make sure claims don't swing back in the other direction as we fully enter the post-pandemic world
- Important legislative changes will soon go into effect
 - Need to carefully understand how these will impact future claims

Assumptions Review

Gains and Losses

- New assumptions!
 - Adopted by Board in 2022 and first effective with these 6/30/2022 valuations
 - As expected, liabilities and contribution rates increased
 - Primarily due to decrease in investment return assumption
- Gains and losses
 - Based on old assumption this year, so not as useful
 - Next year will give a first glimpse at how well new assumptions are working

Test Life Review

- For a sample group we examine the following:
 - Data inputs
 - Benefit amounts
 - Liability calculations
- The sample lives tell us if the assumptions are correctly employed
 - Especially important this year with newly adopted assumptions
- They tell us if the plan provisions are valued correctly

Test Life Review - Findings

- Materiality Standards
 - Actuaries look to the Actuarial Standards of Practice
 - “An item or a combination of related items is material if its omission or misstatement could influence a decision of an intended user”
 - Relies heavily on the professional judgement of the actuary

Test Life Review - Findings

- We choose test lives each year that are different and contain unique characteristics
- In years with new assumptions, we focus on making sure Buck is using the assumptions adopted by the Board
- We still fully replicate the significant benefits (retirement/withdrawal), then dive deeper into small differences on the ancillary benefits (death/disability)
- We were able to identify 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

Test Life Review - Findings

- **Finding #1 - Date of Birth**

- An active PERS DB Other member was being valued with a different date of birth that was reported from Alaska
- We recommend Buck always use the same date of births report from Alaska

- **Finding #2 - Salary Increase Rate**

- The PERS PF DCR salary increase rate at 1 year of service was using 7.50%
- Both the final experience study report and the draft 6/30/2022 valuation report listed this rate as 7.75%
- We recommend Buck make sure the salary increase rates being used are consistent with those being disclosed in reports and adopted by the Board

Test Life Review - Findings

- **Finding #3 - Marriage Assumption**
 - For TRS DB, the occupational death married benefits don't appear to be applying the marriage assumption
 - We recommend Buck apply the marriage assumption to these occupational death married benefits
- **Finding #4 - Occupational Death Lump Sum**
 - For PERS DB, the occupational death single lump sum amount appear to be including the additional lump sum piece of \$1,000 + \$100 for each year of service
 - We believe this additional lump sum piece should only be included for non-occupational death benefits
 - We recommend Buck remove this additional lump sum piece from the occupational death single lump sum amount

Test Life Review - Findings

- **Finding #5 - Alaska COLA for Disabled Members**
 - One of our prior findings was that the 10% Alaska COLA should be applied immediately to members who have retired from disability
 - It appears Buck is now applying the 10% Alaska COLA immediately for these members, but they are not applying it consistently with healthy retirees who are eligible to receive the 10% Alaska COLA immediately
 - For healthy retirees who are eligible to receive the 10% Alaska COLA immediately, Buck assumes those currently receiving it will continue to receive it, and those not currently receiving it will never receive it
 - We recommend Buck treat the 10% Alaska COLA for member who have retired from disability the same way they treat healthy retire members who are eligible to receive the 10% Alaska COLA immediately

Test Life Review – Findings

Materiality

- We believe all of these findings are immaterial according to the standard discussed earlier and, as long as Buck and the Board agree, recommend they be included in the next valuation

Test Life Review – Summary

PERS DB Pension

PERS DB - Active Test Case 1 - Others Tier 3			
<i>Basic Data:</i>	<u>Current Age</u>	<u>Credited Service</u>	<u>Gender</u>
	46.4	14.0	Female
Present Value of Benefits (PVB)	GRS	Buck	% Diff
Total Retirement PVB	249,447	249,447	0.0%
Total Withdrawal PVB	67,108	67,107	0.0%
Total Death PVB	2,614	2,617	-0.1%
Total Disability PVB	5,093	5,101	-0.1%
GRAND TOTAL PVB	324,262	324,272	0.0%

PERS DB - Active Test Case 2 - Others Tier 2			
<i>Basic Data:</i>	<u>Current Age</u>	<u>Credited Service</u>	<u>Gender</u>
	66.7	10.8	Female
Present Value of Benefits (PVB)	GRS	Buck	% Diff
Total Retirement PVB	90,243	90,243	0.0%
Total Withdrawal PVB	-	-	0.0%
Total Death PVB	604	607	-0.4%
Total Disability PVB	-	-	0.0%
GRAND TOTAL PVB	90,848	90,850	0.0%

PERS DB - Active Test Case 3 - Others Tier 1			
<i>Basic Data:</i>	<u>Current Age</u>	<u>Credited Service</u>	<u>Gender</u>
	40.5	6.4	Male
Present Value of Benefits (PVB)	GRS	Buck	% Diff
Total Retirement PVB	133,615	133,615	0.0%
Total Withdrawal PVB	25,407	25,403	0.0%
Total Death PVB	2,023	2,025	-0.1%
Total Disability PVB	1,586	1,595	-0.6%
GRAND TOTAL PVB	162,631	162,638	0.0%

PERS DB - Inactive Test Cases			
Present Value of Benefits (PVB)	GRS	Buck	% Diff
PERS Peace Officer/Firefighter - Retiree	1,282,148	1,282,148	0.0%
PERS Peace Officer/Firefighter - DV	75,997	75,972	0.0%
PERS Peace Officer/Firefighter - Disability	257,801	257,801	0.0%
PERS Others - Retiree	19,143	19,143	0.0%
PERS Others - DV	107,199	107,215	0.0%
PERS Others - Disability	610,681	610,681	0.0%



Test Life Review – Summary

TRS DB Pension

TRS DB - Active Test Case 1 - Tier 1			
<i>Basic Data:</i>	<u>Current Age</u>	<u>Credited Service</u>	<u>Gender</u>
	74.8	49.8	Female
Present Value of Benefits (PVB)	GRS	Buck	% Diff
Total Retirement PVB	1,114,366	1,114,366	0.0%
Total Withdrawal PVB	-	-	0.0%
Total Death PVB	6,724	7,291	-7.8%
Total Disability PVB	-	-	0.0%
GRAND TOTAL PVB	1,121,090	1,121,657	-0.1%

TRS DB - Active Test Case 2 - Tier 2			
<i>Basic Data:</i>	<u>Current Age</u>	<u>Credited Service</u>	<u>Gender</u>
	45.4	5.7	Female
Present Value of Benefits (PVB)	GRS	Buck	% Diff
Total Retirement PVB	133,369	133,369	0.0%
Total Withdrawal PVB	32,033	32,048	0.0%
Total Death PVB	1,018	1,115	-8.7%
Total Disability PVB	3,024	3,001	0.7%
GRAND TOTAL PVB	169,444	169,534	-0.1%

TRS DB - Active Test Case 3 - Tier 2			
<i>Basic Data:</i>	<u>Current Age</u>	<u>Credited Service</u>	<u>Gender</u>
	54.5	6.7	Male
Present Value of Benefits (PVB)	GRS	Buck	% Diff
Total Retirement PVB	205,508	205,508	0.0%
Total Withdrawal PVB	3,924	3,924	0.0%
Total Death PVB	2,149	2,262	-5.0%
Total Disability PVB	288	285	0.8%
GRAND TOTAL PVB	211,867	211,979	-0.1%

TRS DB - Inactive Test Cases			
Present Value of Benefits (PVB)	GRS	Buck	% Diff
TRS - Retiree - Male, Tier 2	802,957	802,957	0.0%
TRS - Retiree - Male, Tier 2	661,497	661,497	0.0%
TRS - Deferred Vested - Male, Tier 2	133,264	133,352	-0.1%



Test Life Review – Summary

PERS Retiree Health

Actives	Test Case 1 - Other Tier 3			Test Case 2 - Other Tier 1			Test Case 3 - Other Tier 2		
Basic Data:									
Sex	Female			Male			Female		
Current Age	66.67			40.50			46.40		
Current Credited Service	10.81			6.36			13.99		
Present Value of Benefits (PVB)	GRS*	Buck	% Diff	GRS	Buck	% Diff	GRS	Buck	% Diff
Retirement:									
Tier x <Member>	103,927	103,923	0.0%	118,134	119,576	-1.2%	85,735	85,721	0.0%
Tier x <Spouse>	43,747	43,811	-0.1%	82,386	83,078	-0.8%	34,575	32,904	5.1%
Contrib Tier x <Member>	-	-	0.0%	-	-	0.0%	(724)	(724)	0.0%
Contrib Tier x <Spouse>	-	-	0.0%	-	-	0.0%	(424)	(558)	-24.0%
Post 65 Part D Tier x <Member>	(22,864)	(22,862)	0.0%	(9,846)	(9,845)	0.0%	(11,925)	(11,923)	0.0%
Post 65 Part D Tier x <Spouse>	(9,614)	(9,625)	-0.1%	(6,003)	(5,977)	0.4%	(5,667)	(5,664)	0.0%
Total Retirement PVB	115,196	115,247	0.0%	184,670	186,833	-1.2%	101,570	99,755	1.8%

Inactives - PVB	GRS	Buck	% Diff
Retiree - P/F Tier 3 - Male	520,127	522,968	-0.5%
Disabled - P/F Tier 2 - Female	92,863	92,849	0.0%
Vested Termination - P/F Tier 3 - Male	12,826	13,057	-1.8%
Retiree - Other Tier 1 - Female	93,603	93,594	0.0%
Disabled - Other Tier 2 - Male	-	-	0.0%
Vested Termination - Other Tier 3 - Female	16,681	16,478	1.2%



Test Life Review – Summary

TRS Retiree Health

Actives	Test Case 1 - Tier 1			Test Case 2 - Tier 2			Test Case 3 - Tier 2		
<i>Basic Data:</i>									
Sex	Female			Female			Male		
Current Age	74.75			45.38			54.45		
Current Credited Service	49.80			5.70			6.70		
Present Value of Benefits (PVB)	GRS	Buck	% Diff	GRS	Buck	% Diff	GRS	Buck	% Diff
<i>Retirement:</i>									
Tier x <Member>	88,757	88,826	-0.1%	86,722	86,708	0.0%	143,201	143,177	0.0%
Tier x <Spouse>	35,969	35,636	0.9%	35,762	33,710	6.1%	106,520	103,692	2.7%
Post 65 Part D Tier x <Member>	(18,934)	(18,949)	-0.1%	(12,040)	(12,038)	0.0%	(20,244)	(20,241)	0.0%
Post 65 Part D Tier x <Spouse>	(7,620)	(7,554)	0.9%	(5,839)	(5,798)	0.7%	(12,348)	(12,228)	1.0%
Contrib <Member>	-	-	0.0%	(824)	(824)	0.0%	(1,668)	(1,667)	0.0%
Contrib <Spouse>	-	-	0.0%	(411)	(411)	0.0%	(1,003)	(1,004)	-0.1%
Total Retirement PVB	98,171	97,959	0.2%	103,369	101,346	2.0%	214,458	211,730	1.3%

Inactives - PVB	GRS	Buck	% Diff
Retiree - Male	344,154	346,477	-0.7%
Vested Termination -Male	235,390	231,520	1.7%
Retiree - Male	541,388	541,293	0.0%



Test Life Review – Summary

PERS and TRS DCR Occupational Death & Disability

DCR Active Test Case 1 PERS Others			
<u>Basic Data:</u>	<u>Current Age</u>	<u>Credited Service</u>	<u>Sex</u>
	75.82	1.56	Female
Present Value of Benefits (PVB)	GRS	Buck	% Diff
Total Disability PVB	481.49	482.14	-0.1%
Total Death PVB	705.37	705.36	0.0%
GRAND TOTAL PVB	1,186.86	1,187.50	-0.1%

DCR Active Test Case 2 PERS P/F			
<u>Basic Data:</u>	<u>Current Age</u>	<u>Credited Service</u>	<u>Sex</u>
	33.94	2.44	Male
Present Value of Benefits (PVB)	GRS	Buck	% Diff
Total Disability PVB	6,858.06	6,853.58	0.1%
Total Death PVB	2,446.24	2,446.55	0.0%
GRAND TOTAL PVB	9,304.30	9,300.13	0.0%

DCR Active Test Case 3 TRS			
<u>Basic Data:</u>	<u>Current Age</u>	<u>Credited Service</u>	<u>Sex</u>
	24.21	5.00	Female
Present Value of Benefits (PVB)	GRS	Buck	% Diff
Total Disability PVB	190.81	190.81	0.0%
Total Death PVB	35.81	35.81	0.0%
GRAND TOTAL PVB	226.62	226.63	0.0%

DCR Inactive Test Cases			
Present Value of Benefits (PVB)	GRS	Buck	% Diff
PERS Other - Disability	61,279.83	61,286.00	0.0%
PERS P/F - Disability	709,060.53	708,676.00	0.1%
TRS - Disability	174,082.23	174,180.00	-0.1%



Test Life Review – Summary

PERS and TRS DCR Retiree Health

Actives	Test Case 1 - PERS Other			Test Case 2 - PERS PF			Test Case 3 - TRS		
<u>Basic Data:</u>									
Sex	Female			Male			Female		
Current Age	75.81			33.94			24.21		
Current Credited Service	0.46			1.94			5.00		
Present Value of Benefits (PVB)	GRS	Buck	% Diff	GRS	Buck	% Diff	GRS	Buck	% Diff
<u>Retirement:</u>									
Post 65 DCR <Member>	5,647.99	5,666.61	-0.3%	6,036.50	5,940.51	1.6%	3,571.59	3,537.93	1.0%
Post 65 DCR <Spouse>	2,198.32	2,207.37	-0.4%	6,236.72	6,142.14	1.5%	1,601.94	1,578.87	1.5%
Contrib DCR <Member>	(1,694.40)	(1,699.98)	-0.3%	(691.39)	(630.55)	9.6%	(358.27)	(353.79)	1.3%
Contrib DCR <Spouse>	(659.50)	(662.21)	-0.4%	(725.55)	(656.70)	10.5%	(160.69)	(157.89)	1.8%
Post 65 Part D DCR <Member>	879.89	889.53	-1.1%	1,269.36	1,271.46	-0.2%	747.54	757.04	-1.3%
Post 65 Part D DCR <Spouse>	338.18	342.52	-1.3%	1,005.69	1,015.99	-1.0%	335.40	338.21	-0.8%
Total Retirement PVB	6,710.49	6,743.84	-0.5%	13,131.33	13,082.85	0.4%	5,737.50	5,700.37	0.7%

Inactives - PVB	GRS	Buck	% Diff
PERS Other - Disability	62,601.70	62,985.00	-0.6%
PERS P/F - Disability	90,264.57	89,268.00	1.1%
TRS - Disability	78,370.58	80,486.00	-2.6%



Summary of Recommendations

- 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

Questions?



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 6, 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 12, 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 18, 2024 (Fairbanks/ Videoconference)

1. Review contribution rate resolutions/action memos for recommendation to Board
2. Status/Follow-up from previous meetings
3. Education Topic:

December 4, 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.

APPENDIX

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.