

## **Alaska State Senate Bill 88**

### **Actuarial Analysis Report**

**Produced by Cheiron**

**May 2023**

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May 12, 2023

Senator Donny Olson  
Co-chair Senate Finance Committee  
Alaska State Legislature

**Re:   *Actuarial Cost Impact of Senate Bill 88***

Dear Senator Olson,

As requested, we have prepared actuarial cost estimates related to Senate Bill 88 (SB 88) which would provide for the reinstatement of the Defined Benefit Plan for DCR members of TRS Tier III, PERS Others Tier IV and PERS Safety Tier IV hired after June 30, 2006, under benefit provisions outlined in SB 88.

**Disclosures**

Except as noted in our report, the analysis was based on the same methods and assumptions that were used in the June 30, 2021 Buck Actuarial Valuation Reports, as modified by the Buck Actuarial Experience Study for the period July 1, 2017 to June 30, 2021, which was presented in July 2022.

In preparing our report, we relied on information (some oral and some written) supplied by Buck Consultants and other information available on the Alaska State Senate's website. This information includes, but is not limited to, the SB 88 benefit provisions and the employee data. The data used was provided to us by Buck for the 2021 valuations, including the DCR account balances as of that date. In preparing this report, we performed informal examinations of the obvious characteristics of the additional data for reasonableness and consistency in accordance with Actuarial Standard of Practice No. 23.

The purpose of this letter is to provide actuarial cost estimates for SB 88, estimating the liability and normal cost for the proposed benefit provisions, and it should not be used for any other purposes.

Future actuarial measurements may differ significantly from the current measurements in this letter due to such factors as the following: Plan experience differing from that anticipated by the economic or demographic assumptions, changes in economic or demographic assumptions, and changes in Plan provisions or applicable law. The true cost of these proposed legislative changes will therefore vary from our results provided in this letter based on the extent to which future experience deviates from the actuarial experience.

In developing these cost estimates, we used ProVal, an actuarial valuation software program leased from Winklevoss Technologies, to calculate liabilities and projected benefit payments

Senator Donny Olson

May 12, 2023

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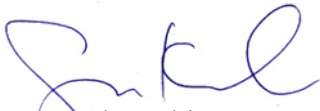
We have reviewed the underlying workings of this model to the degree feasible and consistent with Actuarial Standard of Practice No. 56 and believe them to be appropriate for the purposes of these estimates.

This letter was prepared exclusively for the Alaska State Senate for the purposes described herein. Other users of this letter are not intended users as defined in the Actuarial Standards of Practice, and Cheiron assumes no duty or liability to such other users.

This report and its contents have been prepared in accordance with generally recognized and accepted actuarial principles and practices and our understanding of the Code of Professional Conduct and applicable Actuarial Standards of Practice set out by the Actuarial Standards Board as well as applicable laws and regulations. Furthermore, as credentialed actuaries, we meet the Qualification Standards of the American Academy of Actuaries to render the opinion contained in this letter. This letter does not address any contractual or legal issues. We are not attorneys, and our firm does not provide any legal services or advice.

Please feel free to call should you have any questions.

Sincerely,  
Cheiron



Gene Kalwarski, FSA, EA, MAAA, FCA  
Principal Consulting Actuary



Michael Moehle, FSA, EA, MAAA, FCA  
Public Pension Oversight

## SECTION I- EXECUTIVE SUMMARY

Cheiron has performed an actuarial valuation of the SB 88 benefit provisions as of June 30, 2021. The purpose of this report is to disclose the following as of the valuation date:

- 1) The total liabilities and total normal cost for the SB 88 benefits;
- 2) The data used in the calculations;
- 3) The benefit provisions valued;
- 4) The actuarial assumptions and methods used in the calculations.

This report does not include calculations under GASB Statements Nos. 67 and 68.

## Valuation Basis

The valuation was based on member data provided by Buck consultants for the June 30, 2021 actuarial valuations, including the DCR account balances as of that date. A detailed list of the benefits valued can be found in Appendix A of this report. A detailed list of the assumptions can be found in Appendix B of this report. The assumptions incorporate revisions recommended by Buck Consultants in their July 2022 Experience Study Report, covering the period July 1, 2017 to June 30, 2021.

## Key Results

The following table summarizes the key results of the valuation of SB 88 with respect to the membership, liabilities and normal cost. The table shows that, given a baseline member DB contribution rate of 8%, there would be an initial savings on employer costs for TRS and PERS Other and an increase in employer costs for PERS Safety, compared to the current DCR employer contributions. These costs are based on the actuarial costs for the SB 88 Defined Benefits and do not take into account the overall required contributions required under SB 88, such as the overall 22% of pay contribution required for non-State employers.

Summary of Valuation Results Based on June 30, 2021 Census Data				
	TRS	PERS Other	PERS Safety	Total
Number of active members	5,521	21,579	2,349	29,449
Average age	41.9	41.8	36.4	41.4
Average service	6.9	5.1	5.8	5.5
Payroll	\$ 430,480,266	\$ 1,385,420,665	\$ 225,286,891	\$ 2,041,187,822
DCR Account Balance	\$ 568,339,295	\$ 1,243,179,810	\$ 228,314,522	\$ 2,039,833,628
Present value of future benefits	\$ 940,062,734	\$ 2,328,538,096	\$ 699,136,353	\$ 3,967,737,183
Actuarial liability	\$ 443,442,779	\$ 968,104,748	\$ 207,581,213	\$ 1,619,128,740
Total normal cost	\$ 56,375,163	\$ 176,972,598	\$ 35,209,942	\$ 268,557,703
DB normal cost rate	13.10%	12.77%	15.63%	13.17%
<u>Estimated FY 2024 Costs</u>				
(1) DB Gross Normal Cost Rate	13.10%	12.77%	15.63%	13.17%
(2) Assumed SB 88 Employee Rate	8.00%	8.00%	8.00%	8.00%
(3) SB 88 Employer Rate (1) - (2)	5.10%	4.77%	7.63%	5.17%
(4) DCR Employer Rate	7.00%	5.00%	5.00%	5.42%
Change in Employer Rate (3) - (4)	-1.90%	-0.23%	2.63%	-0.26%
Change in FY24 Employer Cost	\$ (8,653,904)	\$ (3,306,722)	\$ 6,252,871	\$ (5,521,910)

## SECTION II- ACTUARIAL ASSUMPTIONS AND METHODS

### Actuarial Assumptions and Methods

A detailed list of the assumptions can be found in Appendix B of this report. The assumptions incorporate revised assumptions recommended by Buck Consultants in their July 2022 Experience Study Report, covering the period July 1, 2017 to June 30, 2021.

For purposes of our analysis of SB 88, we used alternate retirement assumptions, as specified in SB 88, namely, 75% of the DCR Retirement Assumptions and 25% of the DB Retirement Assumptions.

The valuation of SB 88 benefits involves two steps, as described below:

Step 1: A valuation is performed to establish an initial SB 88 actuarial liability. This valuation assumes that all members' DCR service is converted to DB service and determines the amount of actuarial liability for each member for all DCR service. This liability is compared to each member's DCR account balance as of June 30, 2021. If the DCR account exceeds the actuarial liability, the member is assumed to purchase all of their DCR service as DB service and any excess DCR balance is assumed to stay in the DCR account. If the DCR account is less than the actuarial liability, the member is assumed to purchase only a proportionate amount of DCR service as DB service.

Step 2: A second valuation is performed in which only the service purchased in Step 1 is converted to DB service. The DCR assets used to purchase that service becomes a refundable balance for each member as of June 30, 2021. For purposes of valuing SB 88 benefits, it is presumed that actuarially reduced early retirement is available. If this is not the intent under SB 88 we may have to revise our estimates.

**Alaska State Senate Bill 88**

**APPENDIX A – SENATE BILL 88 BENEFIT PROVISIONS**

**SB 88 – Public Employee Defined Benefits Plan Reinstatement**  
**SL&C Committee Substitute Policy Proposal Summary (5/1/23 Update)**  
Version: Work Draft: 33-LS0505\D

Benefit Category	Proposed New PERS-PS (Public Safety)	Proposed New PERS-NPS (Non-PS public employees)	Proposed New TRS (Teachers)	Rationale for Policy Choice	Bill Section & Page Number Version D
<b>Employee Contribution</b>	8-12% (adjustable by ARM Board)	8-12% (adjustable by ARM Board)	8-12% (adjustable by ARM Board)	Employees share risk and liabilities, contributing more during poor market returns.	PERS: Sec. 57, p.34-35 TRS: Sec. 8, p. 7-8
<b>Employer Contribution</b>	<p>PERS employers other than the State pay the lesser of 22% or the full actuarial cost, but no less than 12%. State maintains existing liability toward past service cost above the 22%.</p> <p>When employee contribution rate rises above 8%, employer contributes equivalent amount.</p>	<p>PERS employers other than the State pay the lesser of 22% or the full actuarial cost, but no less than 12%. State maintains existing liability toward past service cost above the 22%.</p> <p>When employee contribution rate rises above 8%, employer contributes equivalent amount.</p>	<p>TRS employers other than the State pay the lesser of 12.56% or the full actuarial cost, but no less than 12%. State maintains existing liability toward past service cost above the 22%.</p> <p>When employee contribution rate rises above 8%, employer contributes equivalent amount.</p>	<p>Employer contributions align with current rates for DB and DC tiers, but when full actuarial cost falls below the maximum rates, municipalities and school districts receive financial relief; deemed best practices for rate-setting among public pension systems. The 12% hard floor for long term success of the plan.</p> <p>Employers and employees share risk and liabilities when employee contribution rate rises.</p>	PERS: Sec. 62, p.37 TRS: Sec. 10, p.8-9
<b>Employer Fee for Late Contributions Reduced to Normal Interest</b>	Current law of 1.5 times interest rate on late payments to the State of employer and employee contributions reduced to the normal interest rate.	Current law of 1.5 times interest rate on late payments to the State of employer and employee contributions reduced to the normal interest rate.	Current law of 1.5 times interest rate on late payments to the State of employer and employee contributions reduced to the normal interest rate.	Intended to provide financial relief to employers.	PERS: Sec. 77, p.45 TRS: Sec. 9, p.8

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<b>Vesting</b>	5 years	5 years	5 years	PERS is consistent with prior DB tiers. Aligns TRS with PERS vesting period. Teachers previously vested at 8 years.	PERS: Current Law (DB) & Sec. 68, p.39 TRS: Sec. 17, p.11-12; Sec. 28, p.19
<b>Qualification for Retirement</b>	50 w/ 25 years of service or 55 w/20 years of service	60 years of age or 30 years of service	60 years of age or 30 years of service	Allows PS employees to reach retirement eligibility prior to age 60. Aligns TRS with PERS qualification for retirement. PS and teachers previously qualified at any age after 20 years.	PERS: Sec. 68, p.39 TRS: Sec. 17, p.11-12
<b>Benefit Calculation Formula</b>	2.0% First 10 years 2.5% thereafter	2.0% first 10 years 2.25% next 10 years 2.5% thereafter	2.0% first 10 years 2.25% next 10 years 2.5% thereafter	PERS is consistent with prior PERS Tier III. Aligns TRS with PERS benefit calculation. Teachers previously received 2.0% for 20 years and 2.5% thereafter.	PERS-PS & PERS-NPS: Current Law (DB) TRS: Sec. 19, p.12-13
<b>Final Average Salary</b>	Highest 5 consecutive payroll years	Highest 5 consecutive payroll years	Highest 5 payroll years (includes contract addenda)	PERS-NPS consistent with prior PERS-NPS Tier III. Aligns PERS-PS with PERS-NPS final average salary calculation. PERS-PS previously based on highest 3 consecutive years. Teachers based on nonconsecutive years similarly to prior TRS Tier II highest 3 nonconsecutive years.	PERS: Current Law (DB) & Sec. 78, p.45-46 TRS: Sec. 26, p.17-18

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<b>Alaska Cost of Living Adjustment (COLA)</b>	Eliminated for new PERS-PS	Eliminated for new PERS-NPS	Eliminated for new TRS	Unlike prior DB plans, no COLA is provided for new PERS or TRS DB plans; helps to keep plan solvent.	PERS: Sec. 72, p. 40 TRS: Sec. 20, p.13
<b>Post Retirement Pension Adjustments (PRPA) (Inflation Protection)</b>	PRPA provided if new DB trust fund values are 90% funded, else ARM Board may reduce or eliminate. Nonresidents ineligible for PFD, as the qualifications read on the effective date of the Act, are subject to 50% reduction in PRPA.	PRPA provided if new DB trust fund values are 90% funded, else ARM Board may reduce or eliminate. Nonresidents ineligible for PFD, as the qualifications read on the effective date of the Act, are subject to 50% reduction in PRPA.	PRPA provided if new DB trust fund values are 90% funded, else ARM Board may reduce or eliminate. Nonresidents ineligible for PFD, as the qualifications read on the effective date of the Act, are subject to 50% reduction in PRPA.	ARM Board may reduce or eliminate PRPA as necessary to keep the plan solvent. As an incentive to retiree state residency and offset in-state expenses, nonresidents receive a 50% reduction in PRPA.	PERS: Sec. 70, p.39-40; Sec. 71, p.40 TRS: Sec. 21, p.13; Sec. 22, p.13; Sec. 23, p.14
<b>Retirement Medical Coverage</b>	Coverage consistent with PERS Tier IV (Current DC plan). Major medical as supplement to Medicare available at age 65; premiums depend on service years. Employer contributes 3% average all employee compensation to employee HRA trust; individual accounts can be used for any qualifying medical need, including insurance premiums.	Coverage consistent with PERS Tier IV (Current DC plan). Major medical as supplement to Medicare available at age 65; premiums depend on service years. Employer contributes 3% average all employee compensation to employee HRA trust; individual accounts can be used for any qualifying medical need, including insurance premiums.	Coverage consistent with TRS Tier III (Current DC plan). Major medical as supplement to Medicare available at age 65; premiums depend on service years. Employer contributes 3% average all employee compensation to employee HRA trust; individual accounts can be used for any qualifying medical need, including insurance premiums.	Medical plan is consistent with PERS Tier IV and TRS Tier III, the current DC plans, to keep the plan solvent.	PERS: Sec. 76, p.42-45; Sec. 41, p.27-28 TRS: Sec. 25, p.15-17; Sec. 41, p.27-28

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<b>Disability &amp; Death Benefits</b>	Coverage consistent with PERS Tier III. Nonoccupational disability benefit calculated as normal retirement. Occupational disability or death provides 40% of the gross monthly compensation. Nonoccupational death benefit provided under formula.	Coverage consistent with PERS Tier III. Nonoccupational disability benefit calculated as normal retirement. Occupational disability or death provides 40% of the gross monthly compensation. Nonoccupational death benefit provided under formula.	Coverage consistent with TRS Tier II. Nonoccupational and occupational disability is 50% of member's base salary immediately before disability plus 10% for each dependent child up to four. Nonoccupational death benefit for vested member either lump sum or 50% joint & survivor option. Occupational death 40% of average base salary until normal retirement, then normal retirement.	PERS is consistent with prior PERS Tier III. TRS is consistent with prior TRS Tier II. Unlike current DC plans, provides nonoccupational benefits to provide minimal protection to employees and their families when they have career ending injuries or disabilities occur off the job.	PERS: Current Law (DB) TRS: Current Law (DB)
<b>Requirement of Separate Accounting</b>	Plan administrator and ARM Board have mandate to account for and track contributions, assets, earnings, and liabilities of the members of the new PERS-PS plan.	Plan administrator and ARM Board have mandate to account for and track contributions, assets, earnings, and liabilities of the members of the new PERS-PS plan.	Plan administrator and ARM Board have mandate to account for and track contributions, assets, earnings, and liabilities of the members of the new TRS plan.	Formerly, no separate accounting for prior DB tiers, which will be necessary for the new DB plans to maintain separate attribution of risks and liabilities.	PERS & TRS: Sec. 37, p.21-24

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<b>Requirement of Sub-Trusts</b>	The ARM Board shall establish sub-trusts to hold the employer and employee contributions, assets, and earnings of the new DB plans.	The ARM Board shall establish sub-trusts to hold the employer and employee contributions, assets, and earnings of the new DB plans.	The ARM Board shall establish sub-trusts to hold the employer and employee contributions, assets, and earnings of the new DB plans.	Creation of pension and medical sub-trusts for the new DB plans, along with existing HRA sub-trusts, enable better tracking of assets and liabilities and increased protection from prior DB tier liabilities.	PERS & TRS: Sec. 37, p.21-24
<b>TRS Members with PERS Service May Add PERS Compensation to TRS for Benefit Calculation</b>	PERS DB members who are also members of a TRS DB plan can elect to have their PERS earnings included in their TRS base salary to potentially count toward their pension benefit calculation.	PERS DB members who are also members of a TRS DB plan can elect to have their PERS earnings included in their TRS base salary to potentially count toward their pension benefit calculation.	TRS DB members who are also members of a PERS DB can elect to have their PERS earnings included in their TRS base salary to potentially count toward their pension benefit calculation.	During vetting of the legislation for the SL&C CS it was observed that some teachers work in PERS service when not teaching while TRS and PERS dual membership was not addressed in law; this remedy was sought.	PERS: Not Applicable TRS: Sec. 3, p.2-3
<b>What happens to current DC employees, hired after 2006, if this became law?</b>	Current PERS Tier IV members, including previous transferors from DB Tier III, could opt to convert to the new DB plan within a four-month time window.	Current PERS Tier IV members, including previous transferors from DB Tier III, could opt to convert to the new DB plan within a four-month time window.	Current TRS Tier III members, including previous transferors from DB Tier II, could opt to convert to the new DB plan within a four-month time window.	Giving current DC employees an “opt-in” ensures that current employees can retain their DC plans or choose to opt into the new DB plan.	PERS & TRS: Sec. 89, p.48-49 (Uncodified Law)

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<b>What happens to DC employees who convert to the new DB plan if their DB service time credit is different than their service under DC?</b>	The balance of the account of a PERS Tier IV member opting into the DB plan is valued for DB service time. If the value provides fewer DB years than worked the employee may elect to accept those service years or pay up to full service time. If the value is more than full service time, the member maintains the remainder in the DC account.	The balance of the account of a PERS Tier IV member opting into the DB plan is valued for DB service time. If the value provides fewer DB years than worked the employee may elect to accept those service years or pay up to full service time. If the value is more than full service time, the member maintains the remainder in the DC account.	The balance of the account of a TRS Tier III member opting into the DB plan is valued for DB service time. If the value provides fewer DB years than worked the employee may elect to accept those service years or pay up to full service time. If the value is more than full service time, the member maintains the remainder in the DC account.	Allows DC members opting into DB plan to join without worrying about a mandatory requirement to pay up full service time. Allows DC members with account balances in excess of value necessary to pay full service time credit to maintain a DC account.	PERS & TRS: Sec. 89, p.48-49 (Uncodified Law) PERS: Sec. 55, p.31-32 TRS: Sec. 4, p.3-4
<b>What happens to new employees, hired after the bill goes into effect, if this became law?</b>	New employees would automatically be enrolled in the new DB plan.	New employees would automatically be enrolled in the new DB plan.	New employees would automatically be enrolled in the new DB plan.	Alaska's workforce challenges recruiting and retaining public workers are the primary motivation driving this legislation. Pensions remain among the best fiscal choices for the state to meet these goals.	PERS: Sec. 52, p.30 TRS: Sec. 1, p.1; Sec. 2, p.1-2

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<b>What happens to former DC employees who left their DC accounts active who are reemployed in service if this bill became law?</b>	Former PERS Tier IV members who are reemployed who kept their DC accounts active can opt to convert from the DC plan to the new DB plan within a four-month time window, regardless of when they come back.	Former PERS Tier IV members who are reemployed who kept their DC accounts active can opt to convert from the DC plan to the new DB plan within a four-month time window, regardless of when they come back.	Former TRS Tier III members who are reemployed who kept their DC accounts active can opt to convert from the DC plan to the new DB plan within a four-month time window, regardless of when they come back.	Giving former DC employees an “opt-in” ensures the employees have flexibility in their options; incentivizes return to public service and potentially increases membership of the new DB plans.	PERS: Sec. 55, p.31-32 TRS: Sec. 4, p.3-4
<b>What happens to former DC employees who did not leave their DC accounts active who are reemployed in service if this bill became law?</b>	Former PERS Tier IV members who are reemployed who did not keep their DC accounts active will become members of the new DB plan, unless their DC account was rolled over to an IRA and rolled back; then they can opt to convert from the DC plan to the new DB plan.	Former PERS Tier IV members who are reemployed who did not keep their DC accounts active will become members of the new DB plan, unless their DC account was rolled over to an IRA and rolled back; then they can opt to convert from the DC plan to the new DB plan.	Former TRS Tier III members who are reemployed who did not keep their DC accounts active will become members of the new DB plan, unless their DC account was rolled over to an IRA and rolled back; then they can opt to convert from the DC plan to the new DB plan.	Alaska’s workforce challenges recruiting and retaining public workers are the primary motivation driving this legislation. Pensions remain among the best fiscal choices for the state to meet these goals.	PERS: Sec. 52, p.30; Sec. 53, p.30-31 Sec. 55, p.31-32 TRS: Sec. 1, p.1; Sec. 2, p.1-2; Sec. 3, p.2-3; Sec. 4, p.3-4

## APPENDIX B – DETAILED ACTUARIAL ASSUMPTIONS

## 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.

**APPENDIX B – DETAILED ACTUARIAL ASSUMPTIONS****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.

## APPENDIX B – DETAILED ACTUARIAL ASSUMPTIONS

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.

## APPENDIX B – DETAILED ACTUARIAL ASSUMPTIONS

### 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.

**APPENDIX B – DETAILED ACTUARIAL ASSUMPTIONS****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.

**APPENDIX B – DETAILED ACTUARIAL ASSUMPTIONS****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.

## APPENDIX B – DETAILED ACTUARIAL ASSUMPTIONS

**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.

**APPENDIX B – DETAILED ACTUARIAL ASSUMPTIONS****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.

<b>Coverage Category</b>	<b>Calendar 2023 Annual Contribution</b>	<b>Calendar 2023 Monthly Contribution</b>	<b>Calendar 2022 Monthly Contribution</b>
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.

<b>Trend Assumptions</b>	
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).

## APPENDIX B – DETAILED ACTUARIAL ASSUMPTIONS

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%		

## APPENDIX B – DETAILED ACTUARIAL ASSUMPTIONS

**Table 2a: Turnover Rates for Peace Officer / Firefighter****Select Rates during the First 5 Years of Employment**

<b>Years of Service</b>	<b>Male</b>	<b>Female</b>
< 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**

<b>Age</b>	<b>Male</b>	<b>Female</b>
< 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%

## APPENDIX B – DETAILED ACTUARIAL ASSUMPTIONS

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%

## APPENDIX B – DETAILED ACTUARIAL ASSUMPTIONS

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%

## APPENDIX B – DETAILED ACTUARIAL ASSUMPTIONS

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%

## APPENDIX B – DETAILED ACTUARIAL ASSUMPTIONS

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%

## APPENDIX B – DETAILED ACTUARIAL ASSUMPTIONS

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%

## APPENDIX B – DETAILED ACTUARIAL ASSUMPTIONS

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%

## APPENDIX B – DETAILED ACTUARIAL ASSUMPTIONS

## 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.

## APPENDIX B – DETAILED ACTUARIAL ASSUMPTIONS

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).

## APPENDIX B – DETAILED ACTUARIAL ASSUMPTIONS

### 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.

**APPENDIX B – DETAILED ACTUARIAL ASSUMPTIONS****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.

**APPENDIX B – DETAILED ACTUARIAL ASSUMPTIONS****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.

## APPENDIX B – DETAILED ACTUARIAL ASSUMPTIONS

**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.

**APPENDIX B – DETAILED ACTUARIAL ASSUMPTIONS****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).

## APPENDIX B – DETAILED ACTUARIAL ASSUMPTIONS

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%

## APPENDIX B – DETAILED ACTUARIAL ASSUMPTIONS

**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%

## APPENDIX B – DETAILED ACTUARIAL ASSUMPTIONS

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%

## APPENDIX B – DETAILED ACTUARIAL ASSUMPTIONS

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%

## APPENDIX B – DETAILED ACTUARIAL ASSUMPTIONS

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%



*Classic Values, Innovative Advice*