

Mendocino County Employees Retirement Association

Actuarial Valuation and Review

As of June 30, 2023



This report has been prepared at the request of the Board of Retirement to assist in administering the Fund. This valuation report may not otherwise be copied or reproduced in any form without the consent of the Board of Retirement and may only be provided to other parties in its entirety, unless expressly authorized by Segal. The measurements shown in this actuarial valuation may not be applicable for other purposes.

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November 8, 2023

Board of Retirement
Mendocino County Employees Retirement Association
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Dear Board Members:

We are pleased to submit this Actuarial Valuation and Review as of June 30, 2023. It summarizes the actuarial data used in the valuation, analyzes the preceding year's experience, and establishes the funding requirements for fiscal year 2024/2025.

This report was prepared in accordance with generally accepted actuarial principles and practices at the request of the Board to assist in administering the Retirement Association. The census information and financial information on which our calculations were based was prepared by the staff of the Association. That assistance is gratefully acknowledged.

Segal does not audit the data provided. The accuracy and comprehensiveness of the data is the responsibility of those supplying the data. To the extent we can, however, Segal does review the data for reasonableness and consistency. Based on our review of the data, we have no reason to doubt the substantial accuracy of the information on which we have based this report and we have no reason to believe there are facts or circumstances that would affect the validity of these results.

The measurements shown in this actuarial valuation may not be applicable for other purposes. Future actuarial measurements may differ significantly from the current measurements presented in this report 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; 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 actuarial calculations were directed under the supervision of Andy Yeung, ASA, MAAA, FCA and Enrolled Actuary. We are members of the American Academy of Actuaries and we meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion herein. To the best of our knowledge, the information supplied in this actuarial valuation is complete and accurate. The assumptions used in this actuarial valuation were selected by the Board based upon our analysis and recommendations. In our opinion, the assumptions are reasonable and take into account the experience of the Association and reasonable expectations. In addition, in our opinion, the combined effect of these assumptions is expected to have no significant bias.

We look forward to reviewing this report at your next meeting and to answering any questions.

Sincerely,

Segal



Paul Angelo, FSA, MAAA, FCA, EA
Senior Vice President and Actuary



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Vice President and Actuary

DNA/jl

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Section 1: Actuarial Valuation Summary

Purpose and Basis

This report was prepared by Segal to present a valuation of the Mendocino County Employees Retirement Association (“the Plan”) as of June 30, 2023. The valuation was performed to determine whether the assets and contribution rates are sufficient to provide the prescribed benefits.

The contribution requirements presented in this report are based on:

- The benefit provisions of the pension plan, as administered by the Board of Retirement;
- The characteristics of covered active members, inactive vested members, and retired members and beneficiaries as of June 30, 2023, provided by the Retirement Association;
- The assets of the Plan as of June 30, 2023, provided by the Retirement Association;
- Economic assumptions regarding future salary increases and investment earnings;
- Other actuarial assumptions regarding employee terminations, retirement, death, etc. that the Board has adopted for the June 30, 2023 valuation; and
- The funding policy adopted by the Board of Retirement.

One of the general goals of an actuarial valuation is to establish contributions which fully fund the Association’s liabilities, and which, as a percentage of payroll, remain as level as possible for each generation of active members. Annual actuarial valuations measure the progress toward this goal, as well as test the adequacy of the contribution rates.

In preparing this valuation, we have employed generally accepted actuarial methods and assumptions to evaluate the Association’s liabilities and future contribution requirements. Our calculations are based upon member data and financial information provided to us by the Association’s staff. This information has not been audited by us, but it has been reviewed and found to be consistent, both internally and with prior year’s information.

Section 1: Actuarial Valuation Summary

The contribution requirements are determined as a percentage of payroll. The Association's employer rates provide for both Normal Cost and a contribution to amortize any unfunded or overfunded actuarial accrued liabilities. In this valuation, we have applied the funding policy adopted by the Board.¹ Details of the funding policy are provided in *Section 4, Exhibit 1* on page 92.

A schedule of current amortization balances and payments may be found in *Section 3, Exhibit I* on pages 75-78. A graphical projection of the Unfunded Actuarial Accrued Liability (UAAL) amortization balances and payments has been included in *Section 3, Exhibit J* on pages 79-80.

As part of the June 30, 2021 actuarial valuation, we were asked by the Board to provide alternative employer contribution rates under four scenarios such that higher employer UAAL contributions would be required in the near term in exchange for lower employer UAAL contributions in the long term. On December 15, 2021, the Board adopted Scenario 2 as shown on page 110 of the June 30, 2021 valuation report. Under Scenario 2, the amortization period for the 2012 UAAL restart layer was reduced by 3 years, from 18 years remaining as of June 30, 2021 to 15 years (13 years as of June 30, 2023). Both the June 30, 2022 and June 30, 2023 valuation results in this report reflect the Board's adoption of Scenario 2.

The rates calculated in this report may be adopted by the Board for the fiscal year that extends from July 1, 2024 through June 30, 2025.

¹ A "Statement of Actuarial Funding Policy" was adopted by the Board on April 17, 2013. Subsequently, an "Actuarial Practices and Funding Policy" was adopted by the Board on April 19, 2017, which superseded the Statement of Actuarial Funding Policy. The Board amended the Actuarial Practices and Funding Policy on February 21, 2018 and then on June 15, 2022.

Section 1: Actuarial Valuation Summary

Valuation Highlights

- Pg. 85 1. The results of this valuation reflect changes in the actuarial assumptions as recommended by Segal and adopted by the Board for the June 30, 2023 valuation. These changes were documented in our July 1, 2019 through June 30, 2022 Actuarial Experience Study report dated May 11, 2023 and are also outlined in *Section 4, Exhibit 1* of this report. The assumption changes resulted in an increase in the Actuarial Accrued Liability of \$19.0 million (or 2.1%), an increase in the average employer contribution rate of 3.70% of payroll, and an increase in the average member rate of 0.82% of payroll. These impacts also reflect refinements to the calculation of the total normal cost and member cost of living adjustment (COLA) contribution rates, consistent with the methodology changes we used in the estimated cost impact results provided in the experience study report.
- Pgs. 40-41 2. The funded ratio (the ratio of the valuation value of assets to actuarial accrued liability) is 72.4%, compared to the prior year funded ratio of 73.2%. This ratio is one measure of funding status, and its history is a measure of funding progress. The funded ratio measured on a market value basis is 71.6%, compared to 71.4% as of the prior valuation date. These measurements are not necessarily appropriate for assessing the sufficiency of Plan assets to cover the estimated cost of settling the Plan's benefit obligation or the need for, or the amount of, future contributions.
- Pgs. 31, 75-80 3. The Association's UAAL increased from \$233.9 million as of June 30, 2022 to \$255.4 million as of June 30, 2023. The increase in UAAL is primarily due to changes in actuarial assumptions and higher than expected individual salary increases for continuing General, Safety, and Probation active members. A reconciliation of the Association's UAAL is provided in *Section 2, Exhibit E*. A schedule of the current UAAL amortization amounts is provided in *Section 3, Exhibit I*. A graphical presentation of the UAAL amortization bases and payments has been provided in *Section 3, Exhibit J*.
- Pg. 25 4. The actuarial loss of \$9.6 million, or 1.0% of the Actuarial Accrued Liability, is due to an investment loss of \$1.0 million, a contribution loss of \$1.3 million, and a net experience loss from sources other than investments and contributions of \$7.4 million prior to reflection of assumption changes. This loss from sources other than investment and contribution experience was primarily due to individual salary increases higher than expected and higher than expected COLA increases for retirees and beneficiaries.
- Pg. 34 5. The aggregate employer rate calculated in this valuation has increased from 36.92% of payroll to 40.26% of payroll. This increase is primarily due to changes in actuarial assumptions, higher than expected individual salary increases for continuing General, Safety, and Probation active members, higher than expected COLA increases for retirees and beneficiaries, and lower than expected return on investments (after asset smoothing). These losses were partially offset by amortizing the prior year's UAAL over a larger than expected projected total payroll and other experience gains.

Note that the aggregate employer rate has increased by about 2% of payroll for General, about 12% of payroll for Safety, and about 4% of payroll for Probation. These increases are primarily due to different changes in actuarial assumptions for each of the three groups, combined with the different payroll bases used to amortize unfunded liabilities. For instance, total payroll used for said amortization increased by 8.5% for General, increased by 2.9% for Safety, and decreased by 9.6% for Probation, all compared to the expected

Section 1: Actuarial Valuation Summary

increase of 3.25% for each membership group. A reconciliation of the Association's aggregate employer rate is provided in Section 2, Subsection F.

Note that for the Probation group, there were other factors that led to a net experience gain for that group. Specifically, there were more terminations than expected, including three members with over 10 years of service. There were also several inactive vested Probation members who were reclassified by MCERA from reciprocal status to deferred non-reciprocal status. These events combined for a gain of about \$1.5 million. In addition, there was a slightly higher percentage of the reserves allocated to the Probation group as provided by MCERA compared to the reserves provided as of June 30, 2022, which increased the valuation value of assets for that group by about \$300 thousand. These sources of gains were offset somewhat by salary losses for continuing active members and COLA losses for payees.

- Pg. 35 6. The aggregate member rate calculated in this valuation has increased from 9.76% of payroll to 10.52% of payroll. The increase in member rate is primarily due to the impact of assumption changes, offset somewhat by changes in member demographics amongst the tiers. A reconciliation of the Association's aggregate member rate is provided in Section 2, Subsection F.

Note that earlier this year, another consulting firm was contracted by the Board to review the liabilities and contribution rates determined in our June 30, 2022 valuation for the 2023/2024 fiscal year. One of the recommendations from the other firm was that we should use the same "entry age" in the actuarial valuation that is used by MCERA to look up the individual employee contribution rates. For this June 30, 2023 valuation, MCERA provided Segal with that entry age information for about 40 active members. We will continue to work with the Association to provide Segal with the entry age information for employee contribution rates for non-CalPEPRA members in future valuations.

- Pgs. 109-119 The individual member rates have been updated to reflect the valuation as of June 30, 2023. These rates are provided in *Section 4, Exhibit 3* of this report.

- Pg. 39 7. Under the Board's funding policy, in addition to the UAAL contribution rate, a dollar amortization amount equal to the UAAL contribution rate times the covered payroll (as estimated in the actuarial valuation that establishes such UAAL contribution rate) will be calculated for each employer. The final UAAL payment by each employer will be equal to the greater of the UAAL contribution rate times the actual covered payroll or the above dollar amortization amount.

Based on information provided by MCERA, we understand that there was no shortfall in the UAAL contributions for Fiscal Year (FY) 2022/2023 for any employer.

- Pg. 26 8. The rate of return on the Market Value of Assets was 8.12% for the July 1, 2022 to June 30, 2023 plan year. The return on the Valuation Value of Assets was 6.60% for the same period after the recognition of prior years' investment gains and losses. This resulted in an actuarial loss when measured against the assumed rate of return of 6.75%. This actuarial investment loss increased the average employer contribution rate by 0.08% of pay.

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- Pg. 22 9. As indicated in Section 2, Subsection B, the total unrecognized investment loss as of June 30, 2023 is \$14.0 million (note that in the previous valuation, this amount was a deferred loss of \$21.9 million). This net investment loss will be recognized in the determination of the actuarial value of assets for funding purposes in the next few years. This implies that if the Association earns the assumed net rate of investment return of 6.50% per year on a **market value** basis, there will be investment losses on the actuarial value of assets after June 30, 2023.

The net deferred loss of \$14.0 million represents 2.1% of the market value of assets as of June 30, 2023. Unless offset by future investment gains or other favorable experience, the \$14.0 million net deferred market loss is expected to have an impact on the Association's future funded percentage and contribution rate requirements. This potential impact may be illustrated as follows.

- a. If the net deferred loss was recognized immediately, and assuming further that the balance in the Contingency Reserve would be included as valuation value of assets, the funded percentage would decrease from 72.4% to 71.6%.

For comparison purposes, if the deferred loss in the June 30, 2022 valuation and the Contingency Reserve had been recognized immediately in the June 30, 2022 valuation, the funded percentage would have decreased from 73.2% to 71.4%.

- b. If the net deferred loss was recognized immediately, and assuming further that the balance in the Contingency Reserve would be included as valuation value of assets, the aggregate employer rate would increase from 40.26% to about 40.9% of payroll.

For comparison purposes, if the net deferred loss in the June 30, 2022 valuation and the Contingency Reserve had been recognized immediately in the June 30, 2022 valuation, the aggregate employer contribution rate would have increased from 37.18% to about 38.7% of payroll.

10. It is important to note that this actuarial valuation is based on plan assets as of June 30, 2023. The Plan's funded status does not reflect short-term fluctuations of the market, but rather is based on the market values on the last day of the plan year. Moreover, this actuarial valuation does not include any possible short-term or long-term impacts on mortality of the covered population that may emerge after June 30, 2023 due to COVID-19. Segal is available to prepare projections of potential outcomes of market conditions and other demographic experience upon request.

- Pg. 23 11. The allocation of the valuation value of assets between basic and cost-of-living (COL) as of June 30, 2023 is provided in Section 2, Subsection B, and is developed based on the reserves identified as either basic or COL (at book value as of June 30, 2023) as reported by MCERA. We understand that MCERA will transition to carrying reserves on their financial statements at the actuarial valuation value after the June 30, 2023 valuation. We note that this adjustment to be made after this year's valuation does not change the total assets available to set the employer contribution rate for each of General, Safety, and Probation membership groups.

- Pg. 44 12. Actuarial Standard of Practice No. 51 (ASOP 51) requires actuaries to identify and assess risks that "may reasonably be anticipated to significantly affect the plan's future financial condition." Examples of key risks listed that are particularly relevant to MCERA are asset/liability mismatch risk, investment risk, and longevity risk. The standard also requires an actuary to consider if there is any ongoing contribution risk to the plan, however it does not require the actuary to evaluate the particular ability or willingness of contributing entities

Section 1: Actuarial Valuation Summary

to make contributions when due, nor does it require the actuary to assess the likelihood or consequences of future changes in applicable law.

The actuary's initial assessment can be strictly a qualitative discussion about potential adverse experience and the possible effect on future results, but it may also include quantitative numerical demonstrations where informative. The actuary is also encouraged to consider a recommendation as to whether a more detailed assessment or risk report would be significantly beneficial for the intended user in order to examine particular financial risks. When making that recommendation, the actuary will take into account such factors as the plan's design, risk profile, maturity, size, funded status, asset allocation, cash flow, possible insolvency and current market conditions.

Because the actuarial valuation results are dependent on a fixed set of assumptions and data as of a specific date, there is risk that emerging results may differ, perhaps significantly, as actual experience is fluid and will not exactly track current assumptions. This potential divergence may have a significant impact on the future financial condition of the plan. After the completion of the triennial experience study recommending assumptions for the June 30, 2020 valuation, we prepared a stand-alone Risk Assessment report dated July 7, 2020 by using membership and financial information as provided in the actuarial valuation as of June 30, 2019. That report includes various projections (both deterministic and stochastic) of future results under different investment return scenarios together with the assumptions adopted for the June 30, 2020 valuation. Based on our discussions with MCERA, Segal will be updating that Risk Assessment report after the June 30, 2023 valuation, using the new actuarial assumptions adopted by the Board for this valuation.

In the interim, we have included a brief discussion of key risks that may affect the Association in Section 2, Subsection J. Again, for a more detailed assessment of the risks tailored to specific interests or concerns of the Board, please refer to our Risk Assessment report dated July 7, 2020.

Note that this year the risk assessment section includes the disclosure of a "Low-Default-Risk Obligation Measure" (LDROM). This disclosure, along with commentary on the significance of the LDROM, is a new requirement under Actuarial Standard of Practice No. 4 (ASOP 4) for all pension funding actuarial valuation reports.

13. Segal strongly recommends an actuarial funding policy that targets 100% funding of the Actuarial Accrued Liability. Generally, this implies payments that are ultimately at least enough to cover Normal Cost, interest on the UAAL and the principal balance. The funding policy adopted by the Board as described in Section 4, Exhibit 1 meets this standard.
14. This report constitutes an actuarial valuation for the purpose of determining the actuarially determined contribution (ADC) under the Association's funding policy and measuring the progress of that funding policy. The Net Pension Liability (NPL) and Pension Expense under Governmental Accounting Standards Board (GASB) Statements No. 67 and No. 68, for inclusion in the plan and employer's financial statements as of June 30, 2023, will be provided separately. The accounting disclosures will utilize different methodologies from those employed in the funding valuation, as required by GASB. However, the ADC in this valuation is expected to be used as the ADC for GASB financial reporting.

Section 1: Actuarial Valuation Summary

Summary of Key Valuation Results

		June 30, 2023		June 30, 2022	
		Total Rate	Estimated Annual Dollar Amount ¹	Total Rate	Estimated Annual Dollar Amount ¹
Employer Contribution Rates: (payable at the end of each pay period)	• General Tier 1	43.62%	\$46,000	39.97%	\$42,000
	• General Tier 2/Tier 3	37.51%	9,522,000	34.64%	8,794,000
	• General Tier 4	32.98%	16,370,000	31.60%	15,685,000
	• Safety Tier 1		Not Calculated ²		
	• Safety Tier 2	83.92%	5,366,000	70.30%	4,495,000
	• Safety Tier 3	70.70%	4,203,000	60.63%	3,604,000
	• Probation Tier 1		Not Calculated ²		
	• Probation Tier 2	34.94%	617,000	29.22%	516,000
	• Probation Tier 3	26.77%	404,000	24.24%	366,000
	All Categories Combined	40.26%	\$36,528,000	36.92%	\$33,502,000
Average Member Contribution Rates:	• General Tier 1 ³	0.00%	\$0	0.00%	\$0
	• General Tier 2/Tier 3	11.31%	2,871,000	11.09%	2,815,000
	• General Tier 4	9.13%	4,532,000	8.25%	4,095,000
	• Safety Tier 1		Not Calculated ²		
	• Safety Tier 2	13.55%	866,000	12.18%	779,000
	• Safety Tier 3	13.69%	814,000	12.11%	720,000
	• Probation Tier 1		Not Calculated ²		
	• Probation Tier 2	15.04%	265,000	14.57%	257,000
	• Probation Tier 3	13.40%	202,000	12.52%	189,000
	All Categories Combined	10.52%	\$9,550,000	9.76%	\$8,855,000

¹ Based on June 30, 2023 projected compensation.

² There were no Safety Tier 1 or Probation Tier 1 active members reported for the June 30, 2023 and June 30, 2022 valuations.

³ The General Tier 1 member is exempt from employee contributions (i.e., they have a 0.00% member contribution rate because they have 30 or more years of service).

Section 1: Actuarial Valuation Summary

Summary of Key Valuation Results (continued)

		June 30, 2023	June 30, 2022
Actuarial Accrued Liability as of June 30:	- Retired members and beneficiaries - Inactive vested members - Active members - Total Actuarial Accrued Liability - Normal Cost for plan year beginning June 30	\$616,487,951 33,837,153 276,305,899 926,631,003 20,689,000	\$573,324,047 43,199,486 255,067,201 871,590,734 17,540,000
Assets as of June 30:	- Market Value of Assets (MVA) - Actuarial Value of Assets (AVA) - AVA as a percentage of MVA - Valuation Value of Assets (VVA)¹	\$663,909,608 677,876,651 102.1% \$671,244,999	\$621,934,385 643,850,234 103.5% \$637,645,858
Funded status as of June 30:	- Unfunded Actuarial Accrued Liability on MVA basis - Funded percentage on MVA basis - Unfunded Actuarial Accrued Liability on VVA basis - Funded percentage on VVA basis	\$262,721,395 71.6% \$255,386,004 72.4%	\$249,656,349 71.4% \$233,944,876 73.2%
Key assumptions:	- Net investment return - Inflation rate - Real across-the-board salary increase - Payroll growth - COLA assumption for tiers providing a COLA - Amortization period on VVA basis²	6.50% 2.50% 0.50% 3.00% 2.75% 18 years	6.75% 2.75% 0.50% 3.25% 2.75% 18 years

¹ Excludes Contingency Reserve.

² Changes in UAAL as a result of gains or losses for each valuation are amortized over separate 18-year periods. Details on the funding policy are provided in *Section 4, Exhibit 1*.

Section 1: Actuarial Valuation Summary

Summary of Key Valuation Results (continued)

	June 30, 2023	June 30, 2022	Change From Prior Year
Demographic data as of June 30:			
Active Members:			
• Number of members	1,150	1,123	2.4%
• Average age	45.3	45.7	-0.4
• Average service ¹	8.8	8.5	0.3
• Total projected compensation ²	\$90,739,475	\$84,828,649	7.0%
• Average projected compensation	\$78,904	\$75,538	4.5%
Retired Members and Beneficiaries:			
• Number of members:			
– Service retired	1,309	1,290	1.5%
– Disability retired	172	175	-1.7%
– Beneficiaries	197	185	6.5%
– Total	1,678	1,650	1.7%
• Average age	71.3	70.8	0.5
• Average monthly benefit	\$2,259	\$2,161	4.5%
Inactive Vested Members:			
• Number of members ³	879	923	-4.8%
• Average Age	48.0	48.9	-0.9
Total Members:	3,707	3,696	0.3%

¹ Eligibility service, starting with the June 30, 2023 valuation, which includes incoming reciprocal service for some active members.

² For June 30, 2023 (June 30, 2022), total projected compensation represents the annualized actual pensionable compensation earned during the 2022/2023 (2021/2022) fiscal year, but limited to the annualized biweekly pay rate plus other annual pensionable pay as of the measurement date, and projected to account for expected salary increases for the following fiscal year based on the actuarial assumptions.

³ Includes inactive members due a refund of member contributions.

Section 1: Actuarial Valuation Summary

Important Information About Actuarial Valuations

An actuarial valuation is a budgeting tool with respect to the financing of future projected obligations of a pension plan. It is an estimated forecast – the actual long-term cost of the plan will be determined by the actual benefits and expenses paid and the actual investment experience of the plan.

In order to prepare a valuation, Segal relies on a number of input items. These include:

Plan provisions	Plan provisions define the rules that will be used to determine benefit payments, and those rules, or the interpretation of them, may change over time. Even where they appear precise, outside factors may change how they operate. It is important to keep Segal informed with respect to plan provisions and administrative procedures, and to review the plan summary included in our report to confirm that Segal has correctly interpreted the plan of benefits.
Participant information	An actuarial valuation for a plan is based on data provided to the actuary by the Association. Segal does not audit such data for completeness or accuracy, other than reviewing it for obvious inconsistencies compared to prior data and other information that appears unreasonable. It is important for Segal to receive the best possible data and to be informed about any known incomplete or inaccurate data.
Financial information	Part of the cost of a plan will be paid from existing assets – the balance will need to come from future contributions and investment income. The valuation is based on the asset values as of the valuation date, typically reported by the Association. A snapshot as of a single date may not be an appropriate value for determining a single year's contribution requirement, especially in volatile markets. Plan sponsors often use an "actuarial value of assets" that differs from market value to gradually reflect year-to-year changes in the market value of assets in determining the contribution requirements.
Actuarial assumptions	In preparing an actuarial valuation, Segal starts by developing a forecast of the benefits to be paid to existing plan participants for the rest of their lives and the lives of their beneficiaries. This requires actuarial assumptions as to the probability of death, disability, withdrawal, and retirement of participants in each year, as well as forecasts of the plan's benefits for each of those events. In addition, the benefits forecasted for each of those events in each future year reflect actuarial assumptions as to salary increases and cost-of-living adjustments. The forecasted benefits are then discounted to a present value, typically based on an estimate of the rate of return that will be achieved on the plan's assets. All of these factors are uncertain and unknowable. Thus, there is a range of reasonable assumptions, and the results may vary materially based on which assumptions are selected within that range. That is, there is no right answer (except with hindsight). It is important for any user of an actuarial valuation to understand and accept this constraint. The actuarial model may use approximations and estimates that will have an immaterial impact on our results. In addition, the actuarial assumptions may change over time, and while this can have a significant impact on the reported results, it does not mean that the previous assumptions or results were unreasonable or wrong.

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Models

Segal valuation results are based on proprietary actuarial modeling software. The actuarial valuation models generate a comprehensive set of liability and cost calculations that are presented to meet regulatory, legislative and client requirements. Our Actuarial Technology and Systems unit, comprised of both actuaries and programmers, is responsible for the initial development and maintenance of these models. The models have a modular structure that allows for a high degree of accuracy, flexibility and user control. The client team programs the assumptions and the plan provisions, validates the models, and reviews test lives and results, under the supervision of the responsible actuary.

The user of Segal's actuarial valuation (or other actuarial calculations) should keep the following in mind:

The actuarial valuation is prepared at the request of the Board. Segal is not responsible for the use or misuse of its report, particularly by any other party.

An actuarial valuation is a measurement at a specific date — it is not a prediction of a plan's future financial condition. Accordingly, Segal did not perform an analysis of the potential range of financial measurements, except where otherwise noted.

If the Association is aware of any event or trend that was not considered in this valuation that may materially change the results of the valuation, Segal should be advised, so that we can evaluate it.

Segal does not provide investment, legal, accounting, or tax advice. Segal's valuation is based on our understanding of applicable guidance in these areas and of the plan's provisions, but they may be subject to alternative interpretations. The Association should look to their other advisors for expertise in these areas.

While Segal maintains extensive quality assurance procedures, an actuarial valuation involves complex computer models and numerous inputs. In the event that an inaccuracy is discovered after presentation of Segal's valuation, Segal may revise that valuation or make an appropriate adjustment in the next valuation.

Segal's report shall be deemed to be final and accepted by the Association upon delivery and review. The Association should notify Segal immediately of any questions or concerns about the final content.

As Segal has no discretionary authority with respect to the management or assets of the Retirement Association, it is not a fiduciary in its capacity as actuaries and consultants with respect to the Retirement Association.

Section 2: Actuarial Valuation Results

A. Member Data

The Actuarial Valuation and Review considers the number and demographic characteristics of covered members, including active members, inactive vested members, retired members and beneficiaries.

This section presents a summary of significant statistical data on these member groups.

More detailed information for this valuation year and the preceding valuation can be found in *Section 3, Exhibits A - E*.

Member Population: 2014 – 2023

Year Ended June 30	Active Members	Inactive Vested Members ¹	Retired Members and Beneficiaries	Total Non-Actives	Ratio of Non-Actives to Actives	Ratio of Retired Members and Beneficiaries to Actives
2014	1,081	394	1,328	1,722	1.59	1.23
2015	1,107	414	1,379	1,793	1.62	1.25
2016	1,123	428	1,416	1,844	1.64	1.26
2017	1,123	479	1,462	1,941	1.73	1.30
2018	1,162	497	1,490	1,987	1.71	1.28
2019	1,151	515	1,552	2,067	1.80	1.35
2020	1,140	546	1,587	2,133	1.87	1.39
2021	1,142	577	1,615	2,192	1.92	1.41
2022	1,123	923 ²	1,650	2,573	2.29	1.47
2023	1,150	879	1,678	2,557	2.22	1.46

¹ Includes terminated members due a refund of member contributions.

² There was an increase of about 309 inactive members due a pending refund of member contributions because MCERA had not credited all required interest to those members before they were refunded in prior years.

Section 2: Actuarial Valuation Results

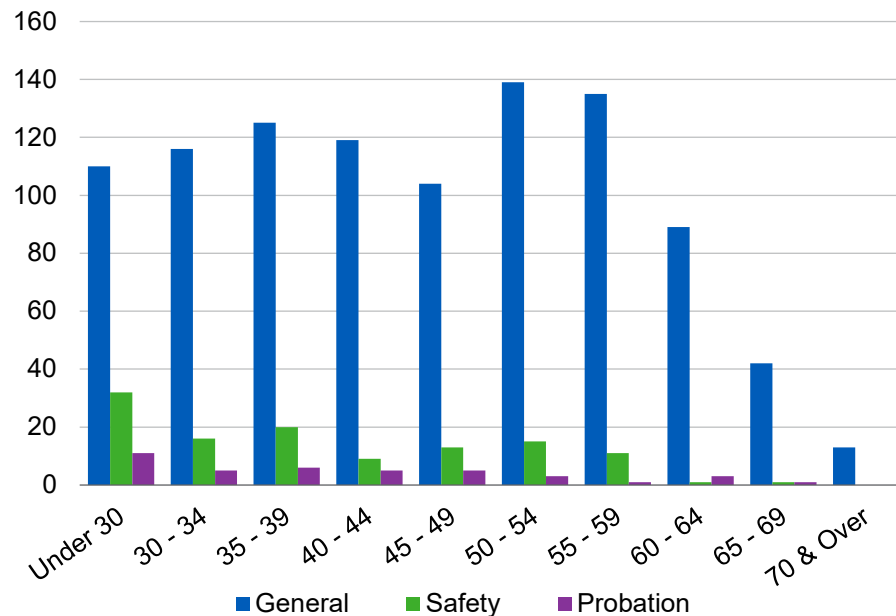
Active Members

Plan costs are affected by the age, years of service and compensation of active members. In this year's valuation, there were 1,150 active members with an average age of 45.3, average years of service of 8.8 years and average compensation of \$78,904. The 1,123 active members in the prior valuation had an average age of 45.7, average service of 8.5 years and average compensation of \$75,538.

Among the active members, there were none with unknown age information.

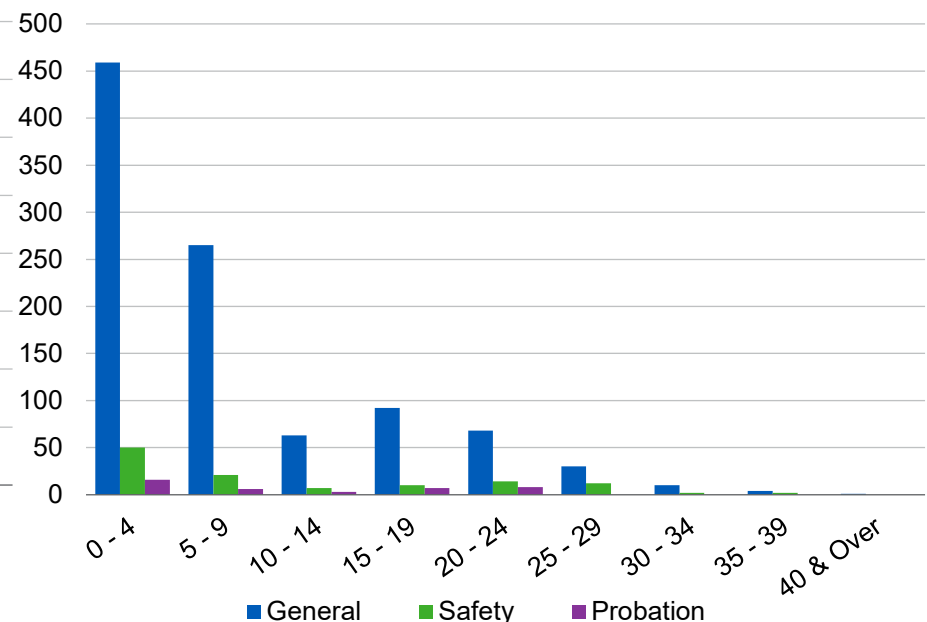
Distribution of Active Members as of June 30, 2023

Actives by Age



Average age	45.3
Prior year average age	45.7
Difference	-0.4

Actives by Years of Service



Average years of service	8.8
Prior year average years of service	8.5
Difference	0.3

Inactive Members

In this year's valuation, there were 879 members with a vested right to a deferred or immediate vested benefit or entitled to a return of their member contributions versus 923 in the prior valuation.

Section 2: Actuarial Valuation Results

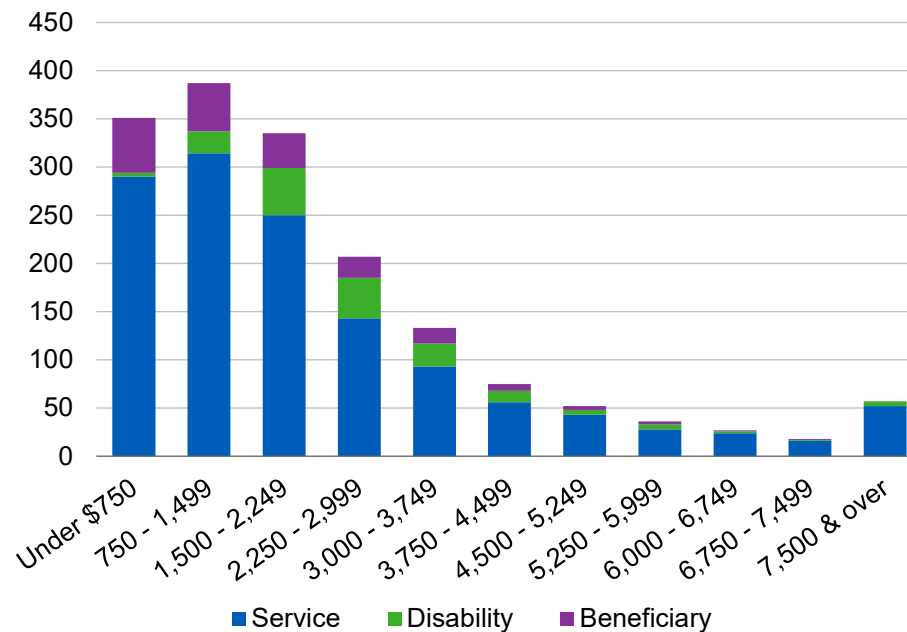
Retired Members and Beneficiaries

As of June 30, 2023, 1,481 retired members and 197 beneficiaries were receiving total monthly benefits of \$3,791,359. For comparison, in the previous valuation, there were 1,465 retired members and 185 beneficiaries receiving monthly benefits of \$3,565,948.

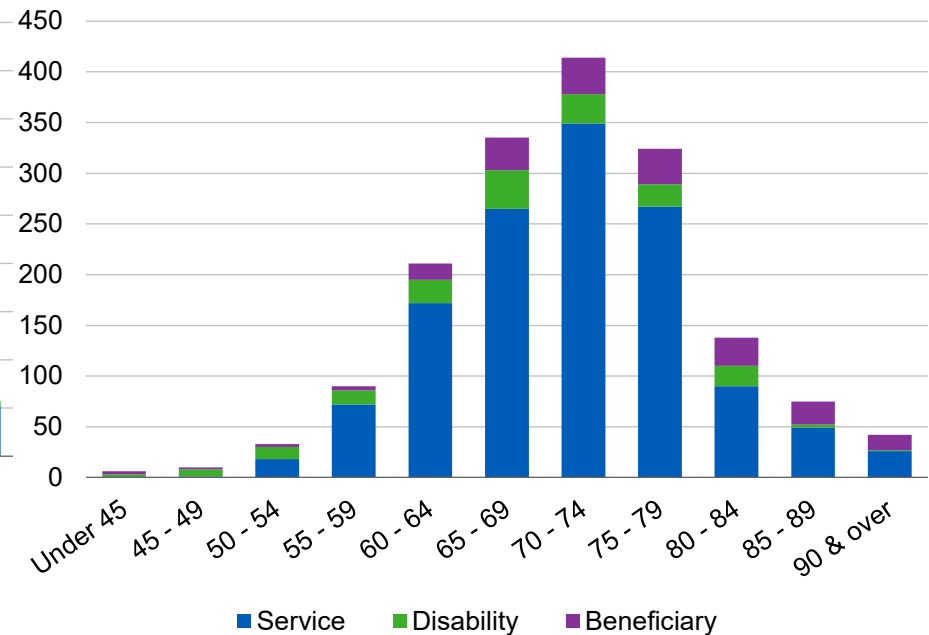
As of June 30, 2023, the average monthly benefit for retired members and beneficiaries is \$2,259, compared to \$2,161 in the previous valuation. The average age for retired members and beneficiaries is 71.3 in the current valuation, compared with 70.8 in the prior valuation.

Distribution of Retired Members and Beneficiaries as of June 30, 2023

Retired Members and Beneficiaries
by Type and Monthly Amount



Retired Members and Beneficiaries
by Type and Age



Section 2: Actuarial Valuation Results

Historical Plan Population

The chart below demonstrates the progression of the active population over the last ten years. The chart also shows the growth among the retired population over the same time period.

Member Data Statistics: 2014 – 2023

Year Ended June 30	Active Members			Retired Members and Beneficiaries		
	Count	Average Age	Average Service	Count	Average Age	Average Monthly Amount
2014	1,081	47.3	9.8	1,328	68.3	\$1,708
2015	1,107	47.2	9.4	1,379	68.6	1,768
2016	1,123	47.0	9.1	1,416	68.8	1,822
2017	1,123	46.7	9.1	1,462	69.1	1,846
2018	1,162	46.5	8.8	1,490	69.3	1,919
2019	1,151	45.9	8.6	1,552	69.5	1,979
2020	1,140	46.2	8.7	1,587	70.0	2,047
2021	1,142	46.1	8.8	1,615	70.5	2,059
2022	1,123	45.7	8.5	1,650	70.8	2,161
2023	1,150	45.3	8.8	1,678	71.3	2,259

Section 2: Actuarial Valuation Results

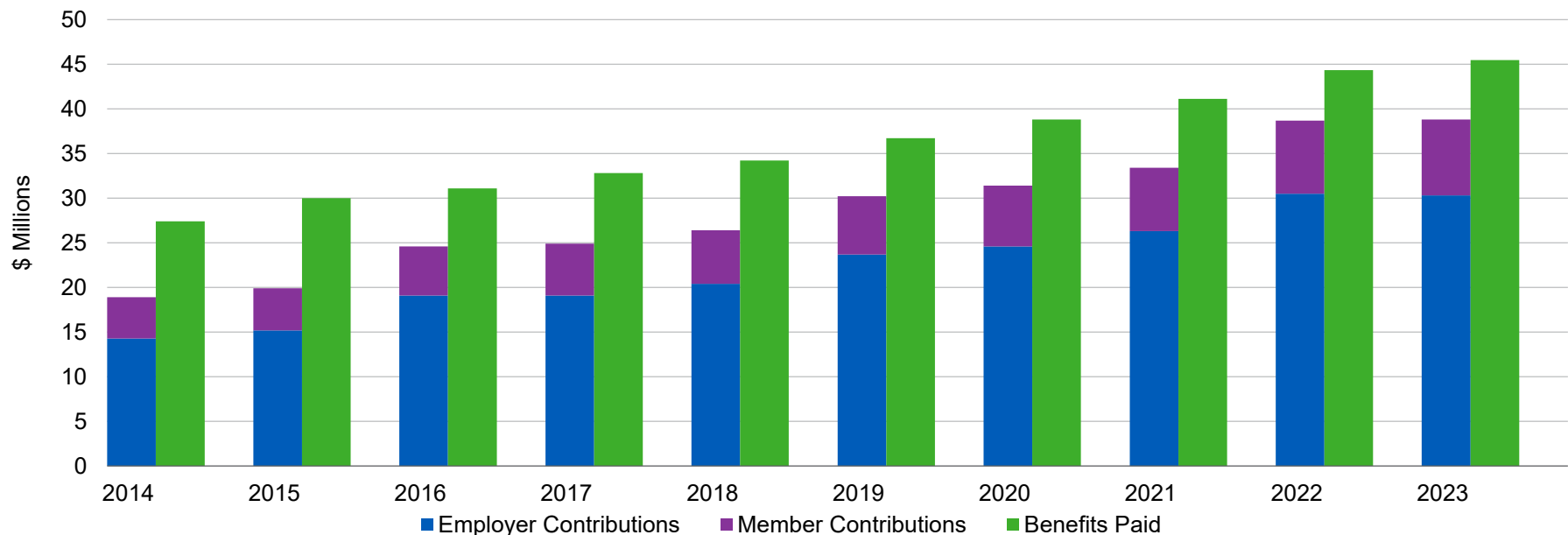
B. Financial Information

Retirement plan funding anticipates that, over the long term, both contributions and investment earnings (less investment fees and administrative expenses) will be needed to cover benefit payments. Retirement plan assets change as a result of the net impact of these income and expense components.

Additional financial information, including a summary of transactions for the valuation year, is presented in *Section 3, Exhibits F, G, and H*.

It is desirable to have level and predictable plan costs from one year to the next. For this reason, the Board has approved an asset valuation method that gradually adjusts to market value. Under this valuation method, the full value of market fluctuations is not recognized in a single year and, as a result, the asset value and the plan costs are more stable. The amount of the adjustment to recognize market value is treated as income, which may be positive or negative. Realized and unrealized gains and losses are treated equally and, therefore, the sale of assets has no immediate effect on the actuarial value.

Comparison of Contributions Made with Benefits for Years Ended June 30, 2014 – 2023



Section 2: Actuarial Valuation Results

Determination of Actuarial Value of Assets for Year Ended June 30, 2023

1	Market Value of Assets					\$663,909,608
		Actual Return	Expected Return¹	Investment Gain/(Loss)	Percent Deferred	Deferred Return
2	Calculation of deferred return					
a.	Year ended June 30, 2020	\$14,798,654	\$36,992,115	\$(22,193,461)	20%	\$(4,438,692)
b.	Year ended June 30, 2021	166,513,422	36,075,952	130,437,470	40%	52,174,988
c.	Year ended June 30, 2022	(67,368,382)	46,768,862	(114,137,244)	60%	(68,482,346)
d.	Year ended June 30, 2023	50,177,503	41,703,744	8,473,759	80%	<u>6,779,007</u>
e.	Total deferred return ¹					\$(13,967,043)
3	Preliminary Actuarial Value of Assets (1) - (2e)					\$677,876,651
4	Adjustment to be within 25% corridor					0
5	Final Actuarial Value of Assets 3 + 4					\$677,876,651
6	Actuarial Value of Assets as a percentage of Market Value of Assets 5 ÷ 1					102.1%
7	Non-valuation reserves and designations:					
	Contingency Reserve					\$6,631,652
8	Final Valuation Value of Assets² (5) – (7)					\$671,244,999

¹ Deferred return as of June 30, 2023 to be recognized in each of the next four years (amounts may not total properly due to rounding):

a.	Amount recognized on June 30, 2024	\$516,105
b.	Amount recognized on June 30, 2025	4,954,797
c.	Amount recognized on June 30, 2026	(21,132,697)
d.	Amount recognized on June 30, 2027	<u>1,694,752</u>
e.	Total unrecognized return as of June 30, 2023	\$(13,967,043)

² Note that the valuation value of assets for each of the General, Safety, and Probation membership groups has generally been calculated in proportion to the book value reserves maintained by MCERA for those three membership groups. The allocation of the valuation value of assets between the three membership groups is provided in the chart on the next page.

Section 2: Actuarial Valuation Results

The allocation of the valuation value of assets as of June 30, 2023 by membership group was determined as follows:

Allocation of the Valuation Value of Assets as of June 30, 2023

	<u>Account ID</u>	<u>General</u>	<u>Safety</u>	<u>Probation</u>	<u>Total</u>
BASIC					
<u>Reserves at Book Value (Provided by MCERA)</u>					
Employee Contributions with Interest ⁽¹⁾	4000, 4001 & 4002	\$49,789,738	\$8,199,377	\$3,878,241	\$61,867,356
County Advance Reserve (Basic)	4501, 4502, 4503, 4510, 4511, 4512, 4513, 4520, 4521, & 4522	-47,437,437	-14,983,193	3,898,731	-58,521,899
Retirees Annuity Reserve	4110, 4111, 4120, 4121, 4122, 4123, 4130, 4131, & 4132	70,720,033	10,642,748	3,342,630	84,705,411
Retirees Current Service Reserve	4210, 4211, 4220, 4221, 4222, 4223, 4230, 4231, & 4232	169,581,173	66,560,620	9,848,616	245,990,408
Survivors Death Benefit Reserve	4310, 4311, 4312, 4320, 4321, 4322, 4323, 4330, & 4331	<u>7,133,750</u>	<u>2,058,962</u>	<u>159,914</u>	<u>9,352,627</u>
Subtotal		\$249,787,258	\$72,478,514	\$21,128,132	\$343,393,903
<i>Valuation Value of Assets (VVA; Calculated by Segal)</i> ⁽²⁾		\$283,777,473	\$82,341,147	\$24,003,177	\$390,121,797
COL					
<u>Reserves at Book Value (Provided by MCERA)</u>					
Employee Contributions with Interest ⁽¹⁾	4003 & 4004	\$11,482,898	\$3,387,719	\$1,472,378	\$16,342,994
County Advance Reserve (COLA)	4514, 4515, & 4523	-9,919,802	-721,856	1,076,723	-9,564,934
Retirees COLA Reserve	4410, 4411, 4420, 4421, 4422, 4423, 4430, 4431, & 4432	<u>168,475,936</u>	<u>61,879,848</u>	<u>10,317,065</u>	<u>240,672,850</u>
Subtotal		\$170,039,032	\$64,545,712	\$12,866,166	\$247,450,910
<i>Valuation Value of Assets (Calculated by Segal)</i> ⁽³⁾		\$193,177,375	\$73,328,876	\$14,616,951	\$281,123,202
TOTAL					
<i>Reserves at Book Value (Provided by MCERA)</i>		\$419,826,289	\$137,024,225	\$33,994,298	\$590,844,813
<i>Valuation Value of Assets (Calculated by Segal)</i>		476,954,848	155,670,023	38,620,128	671,244,999

⁽¹⁾ Breakdown of total amount is allocated by Segal based on proportion of member contribution account balances of active and inactive vested members included in the valuation.

⁽²⁾ The total basic VVA is allocated by Segal based on the proportion of total basic reserves to total basic and COL reserves provided by MCERA. The breakdown of the basic VVA between groups is allocated based on the subtotal basic reserves.

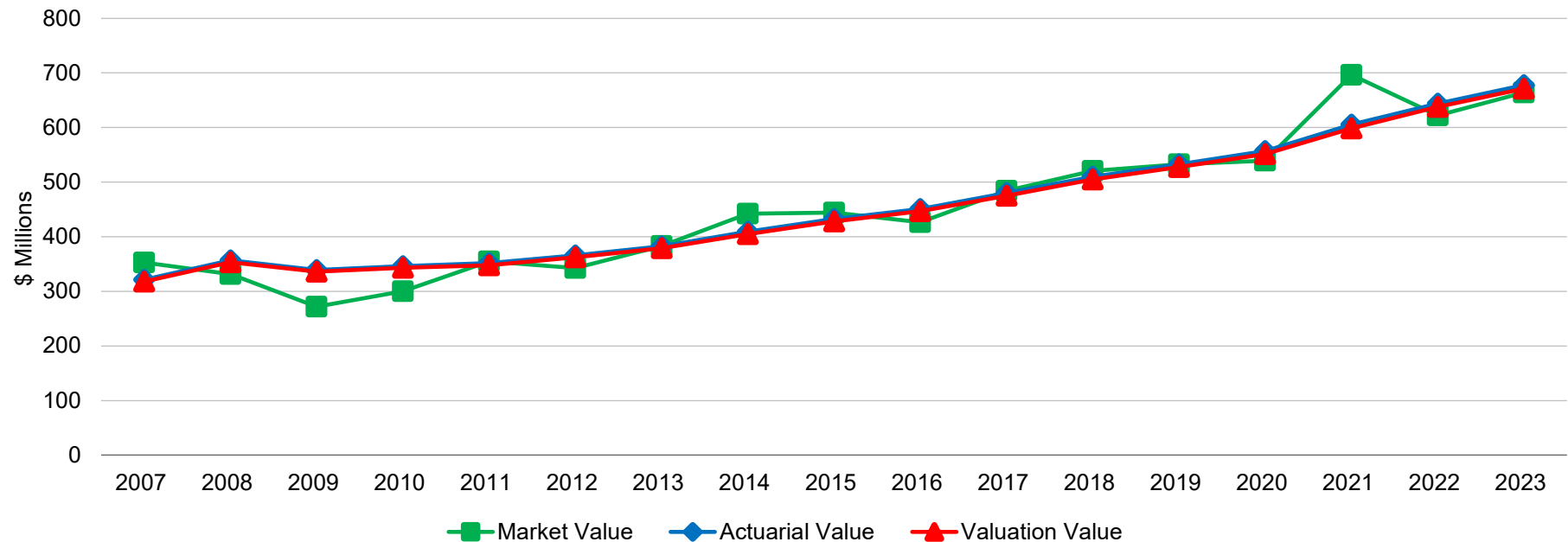
⁽³⁾ The total COL VVA is allocated by Segal based on the proportion of total COL reserves to total basic and COL reserves provided by MCERA. The breakdown of the COL VVA between groups is allocated based on the subtotal COL reserves.

Note: Results may be slightly off due to rounding.

Section 2: Actuarial Valuation Results

The Market Value, Actuarial Value, and Valuation Value of Assets are representations of the Plan's financial status. As investment gains and losses are gradually taken into account, the Actuarial Value of Assets tracks the Market Value of Assets. The Valuation Value of Assets is the actuarial value, excluding any non-valuation reserves. The Valuation Value of Assets is significant because the Plan's liabilities are compared to these assets to determine what portion, if any, remains unfunded. Amortization of the Unfunded Actuarial Accrued Liability is an important element in determining the contribution requirement.

Market Value, Actuarial Value, and Valuation Value of Assets as of June 30, 2007 – 2023



Section 2: Actuarial Valuation Results

C. Actuarial Experience

To calculate any actuarially determined contribution, assumptions are made about future events that affect the amount and timing of benefits to be paid and assets to be accumulated. Each year actual experience is measured against the assumptions. If overall experience is more favorable than anticipated (an actuarial gain), the actuarially determined contribution will decrease from the previous year. On the other hand, the actuarially determined contribution will increase if overall actuarial experience is less favorable than expected (an actuarial loss).

Taking account of experience gains or losses in one year without making a change in assumptions reflects the belief that the single year's experience was a short-term development and that, over the long term, experience will return to the original assumptions. For contribution requirements to remain stable, assumptions should approximate experience.

If assumptions are changed, the contribution requirement is adjusted to take into account a change in experience anticipated for all future years. There are no changes in actuarial assumptions reflected in this valuation.

The total loss is \$9.6 million, which includes \$1.0 million from investment losses, a loss of \$1.3 million from contribution experience and \$7.4 million in losses from all other sources. The net experience variation from individual sources other than investments was 0.8% of the Actuarial Accrued Liability. A discussion of the major components of the actuarial experience is on the following pages.

Actuarial Experience for Year Ended June 30, 2023

1	Net loss from investments ¹	\$(962,847)
2	Net loss from contribution experience	(1,268,768)
3	Net loss from other experience ²	<u>(7,417,326)</u>
4	Net experience loss: 1 + 2 + 3	\$(9,648,941)

¹ Details on next page.

² See Subsection E for further details. Does not include the effect of plan or assumption changes, if any.

Section 2: Actuarial Valuation Results

Investment Experience

A major component of projected asset growth is the assumed rate of return. The assumed return should represent the expected long-term rate of return, based on the Plan's investment policy. The rate of return on the Market Value of Assets was 8.12% for the year ended June 30, 2023.

For valuation purposes, the assumed rate of return on the Valuation Value of Assets was 6.75% for the June 30, 2022 valuation. The actual rate of return on a valuation basis for the 2022/2023 plan year was 6.60%. Since the actual return for the year was less than the assumed return, the Plan experienced an actuarial loss during the year ended June 30, 2023 with regard to its investments.

Investment Experience for Year Ended June 30, 2023

	Market Value	Actuarial Value	Valuation Value
1 Net investment income	\$50,177,503	\$42,228,697	\$41,801,421
2 Average value of assets	617,833,245	639,749,094	633,544,718
3 Rate of return: 1 ÷ 2	8.12%	6.60%	6.60%
4 Assumed rate of return	6.75%	6.75%	6.75%
5 Expected investment income: 2 x 4	\$41,703,744	\$43,183,064	\$42,764,268
6 Actuarial gain/(loss): 1 - 5	\$8,473,759	\$(954,367)	\$(962,847)

Section 2: Actuarial Valuation Results

Because actuarial planning is long term, it is useful to see how the assumed investment rate of return has followed actual experience over time. The chart below shows the rate of return on an actuarial and valuation basis compared to the actual market value investment return for the last ten years, including averages over select time periods.

Investment Return – Market Value, Actuarial Value and Valuation Value: 2014 – 2023

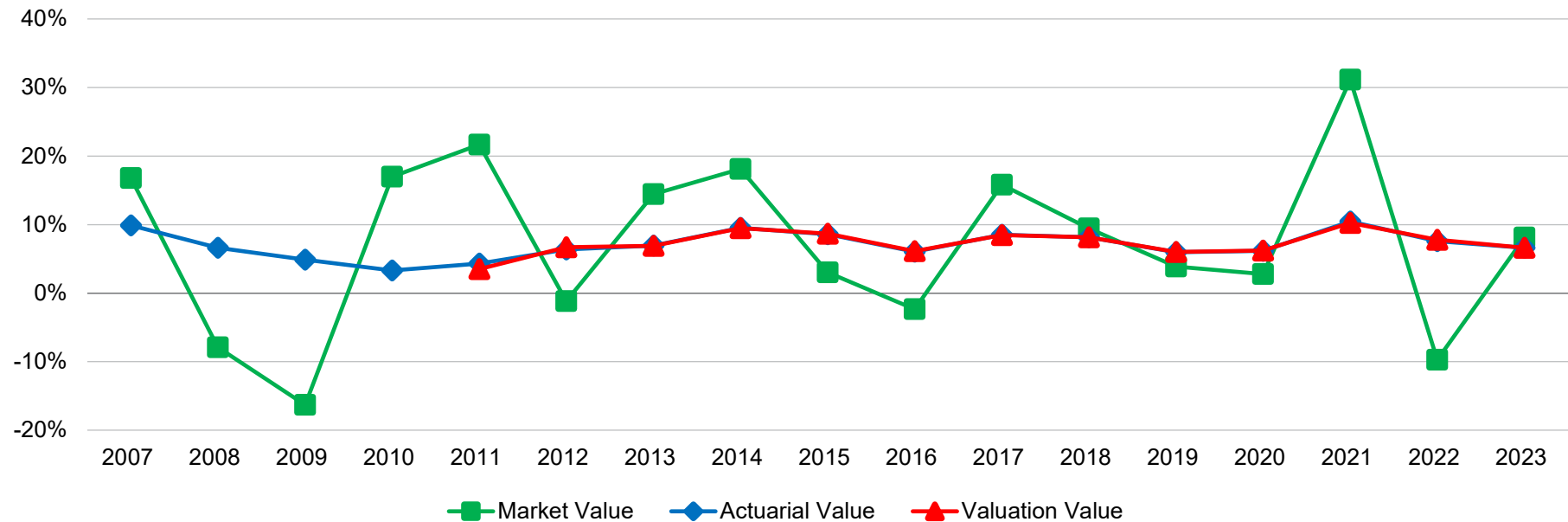
Year Ended June 30	Market Value Investment Return ¹		Actuarial Value Investment Return		Valuation Value Investment Return	
	Amount	Percent	Amount	Percent	Amount	Percent
2014	\$68,494,950	18.10%	\$36,055,066	9.54%	\$35,462,137	9.48%
2015	13,201,309	3.02%	34,687,586	8.59%	34,665,488	8.68%
2016	(10,352,325)	(2.35)%	25,892,595	6.04%	26,071,363	6.14%
2017	66,669,864	15.80%	38,015,912	8.51%	37,432,810	8.46%
2018	45,271,985	9.44%	38,812,527	8.16%	38,447,528	8.17%
2019	19,959,119	3.86%	30,330,266	5.99%	30,225,827	6.03%
2020	14,798,654	2.80%	32,562,271	6.16%	32,501,119	6.21%
2021	166,513,422	31.16%	57,733,602	10.46%	56,157,522	10.27%
2022	(67,368,382)	(9.72)%	45,599,062	7.58%	46,356,068	7.79%
2023	50,177,503	8.12%	42,228,697	6.60%	41,801,421	6.60%
Most recent five-year average return		6.45%	7.35%		7.37%	
Most recent ten-year average return		7.48%	7.75%		7.77%	

¹ The rates of return have been calculated on a dollar-weighted basis. It is our understanding that MCERA's investment consultant calculates rates of return on a time-weighted basis, which can produce different results.

Section 2: Actuarial Valuation Results

Section 2, Subsection B described the actuarial asset valuation method that gradually recognizes fluctuations in the market value rate of return. The goal of this is to stabilize the actuarial rate of return and to produce more level pension plan costs.

Market, Actuarial and Valuation Rates of Return for Years Ended June 30, 2007 – 2023



Section 2: Actuarial Valuation Results

Contributions

Employer contributions for the year ended June 30, 2023, when adjusted for timing, totaled \$31.3 million, compared to the projected amount of \$32.6 million (also adjusted for timing). This resulted in a loss of \$1.3 million for the year.

Non-Investment Experience

There are other differences between the expected and the actual experience that appear when the new valuation is compared with the projections from the previous valuation. These include:

- the extent of turnover among participants,
- retirement experience (earlier or later than projected),
- mortality (more or fewer deaths than projected),
- the number of disability retirements (more or fewer than projected),
- salary increases (greater or smaller than projected), and
- COLAs higher or lower than anticipated.

The net loss from this other experience for the year ended June 30, 2023 amounted to \$7.4 million, which is 0.8% of the Actuarial Accrued Liability. This loss was mainly due to higher than expected individual salary increases for actives and higher than expected COLA increases for retirees and beneficiaries, offset by other gains. See Subsection E for a detailed development of the Unfunded Actuarial Accrued Liability.

Section 2: Actuarial Valuation Results

D. Other Changes in the Actuarial Accrued Liability

Actuarial Assumptions

The results of this valuation reflect changes in the actuarial assumptions as recommended by Segal and adopted by the Board for the June 30, 2023 valuation. The assumption changes resulted in an increase in the Actuarial Accrued Liability of \$19.0 million (or by 2.1%), an increase in the average employer contribution rate of 3.70% of payroll, and an increase in the average member rate of 0.82% of payroll.

Details on actuarial assumptions and methods are in *Section 4, Exhibit 1*.

Plan Provisions

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

A summary of plan provisions is in *Section 4, Exhibit 2*.

Section 2: Actuarial Valuation Results

E. Development of Unfunded Actuarial Accrued Liability

Development for Year Ended June 30, 2023

1	Unfunded actuarial accrued liability at beginning of year	\$233,944,876
2	Normal cost at middle of year	17,540,000
3	Expected employer and member contributions	(39,859,745)
4	Interest	<u>15,112,880</u>
5	Expected unfunded actuarial accrued liability at end of year	\$226,738,011
6	Changes due to:	
	a. Investment return lower than expected (after asset smoothing)	\$962,847
	b. Contribution loss due to one-year delay in implementing employer contribution rates in the June 30, 2022 valuation ¹	1,268,768
	c. Individual salary increases higher than expected for continuing General, Safety, and Probation active members	9,846,854
	d. 2023 COLA increases higher than expected ²	2,219,718
	e. Other experience gains	(4,649,246)
	f. Changes in actuarial assumptions	<u>18,999,052</u>
	Total changes	\$28,647,993
7	Unfunded actuarial accrued liability at end of year	\$255,386,004

Note: The sum of items 6c through 6e equals the “Net loss from other experience” shown in Section 2, Subsection C.

¹ The increase in employer contribution rate attributable to this loss was included in the employer rate determined in the June 30, 2022 valuation.

² The rounded Consumer Price Index (CPI) based on a ratio of the December 2022 CPI to the December 2021 CPI for the West Region was 6.00%, which increased the April 1, 2023 COLA banks for all Legacy members retired on or before April 1, 2023 by 3.00% as of April 1, 2023. These COLA banks can be used in the future to grant COLA increases above MCERA's cost of living adjustment assumption of 2.75%, which was taken into account in determining the magnitude of this COLA loss.

Section 2: Actuarial Valuation Results

F. Recommended Contribution

The recommended contribution is equal to the employer Normal Cost payment and a payment on the Unfunded Actuarial Accrued Liability. As of June 30, 2023, the average recommended employer contribution is 40.26% of compensation.

The Board sets the funding policy used to calculate the recommended contribution based on layered 18-year¹ amortization periods as a level percentage of payroll. See *Section 4, Exhibit 1* for further details on the funding policy. Based on this policy, there is no negative amortization and each amortization layer is fully funded in 18 years. As shown in the graphical projection of the UAAL amortization balances and payments found in *Section 3, Exhibit I*, because there is a combination of charge and credit amortization layers, the UAAL of the Plan is expected to be fully amortized by 2041, assuming all assumptions are realized and contributions are made in accordance with the funding policy.

The contribution requirement as of June 30, 2023 is based on the data previously described, the actuarial assumptions and Plan provisions described in Section 4, including all changes affecting future costs adopted at the time of the actuarial valuation, actuarial gains and losses, and changes in the actuarial assumptions.

The current funding policy is intended to fully fund the cost of the benefits and to allocate the cost of benefits reasonably and equitably over time while minimizing the volatility of employer contributions. The recommended contribution is expected to remain level as a percent of payroll, except when any current amortization layer is fully amortized, assuming there are no future actuarial gains or losses. Furthermore, the funded ratio is expected to increase as the UAAL is methodically funded by employer contributions.

¹ Changes in Unfunded Actuarial Accrued Liability as a result of gains or losses or as a result of changes in actuarial assumptions or methods for each valuation are amortized over separate 18-year periods. Changes in Unfunded Actuarial Accrued Liability as a result of plan amendments are generally amortized over separate 15-year periods.

Section 2: Actuarial Valuation Results

Recommended Contribution (continued)

Average Recommended Employer Contribution for Year Ended June 30

	2023		2022	
	Amount	% of Projected Compensation	Amount	% of Projected Compensation
1 Total Normal Cost	\$20,689,000	22.80%	\$17,540,000	20.68%
2 Expected member Normal Cost contributions	<u>9,550,000</u>	<u>10.52%</u>	<u>8,406,000</u>	<u>9.91%</u>
3 Employer Normal Cost: 1 - 2	\$11,139,000	12.28%	\$9,134,000	10.77%
4 Actuarial Accrued Liability	926,631,003		871,590,734	
5 Valuation Value of Assets	<u>671,244,999</u>		<u>637,645,858</u>	
6 Unfunded Actuarial Accrued Liability: 4 - 5	\$255,386,004		\$233,944,876	
7 Payment on Unfunded Actuarial Accrued Liability	\$25,389,000 ¹	27.98%	\$22,405,000	26.41%
8 Total average recommended employer contribution: 3 + 7	<u>\$36,528,000</u>	<u>40.26%</u>	<u>\$31,539,000</u>	<u>37.18%</u>
9 Projected compensation	\$90,739,475		\$84,828,649	

Note: Contributions are assumed to be paid at the end of each pay period.

¹ Based on the total annual payment in *Section 3, Exhibit I* plus an amount associated with the anticipated contribution rate impact resulting from the 12-month lag between the date of the valuation and the date of the contribution rate implementation.

Section 2: Actuarial Valuation Results

Reconciliation of Average Recommended Employer Contribution Rate

The chart below details the changes in the average recommended employer contribution rate from the prior valuation to the current year's valuation.

Reconciliation from June 30, 2022 to June 30, 2023

	Contribution Rate	Estimated Annual Dollar Amount ¹
Average Recommended Employer Contribution as of June 30, 2022	36.92%	\$33,502,000
1 Effect of change in membership demographics	(0.17)%	(154,000)
2 Effect of anticipated one-year delay in implementing the lower aggregate employer contribution rate developed in the June 30, 2023 valuation until fiscal year 2024/2025 ²	(0.02)%	(18,000)
3 Effect of investment return lower than expected (after asset smoothing)	0.08%	73,000
4 Effect of individual salary increases higher than expected for continuing General, Safety, and Probation active members	0.82%	744,000
5 Effect of amortizing prior year's UAAL over a larger than expected projected total payroll	(0.97)%	(880,000)
6 Effect of higher than expected COLA increases ³	0.18%	163,000
7 Effect of other experience gain	(0.28)%	(259,000)
8 Effect of changes in actuarial assumptions	<u>3.70%</u>	<u>3,357,000</u>
Total change	3.34%	\$3,026,000
Average Recommended Employer Contribution as of June 30, 2023	40.26%	\$36,528,000

¹ Based on June 30, 2023 projected compensation.

² Before reflecting the changes in actuarial assumptions.

³ The rounded Consumer Price Index (CPI) based on a ratio of the December 2022 CPI to the December 2021 CPI for the West Region was 6.00%, which increased the April 1, 2023 COLA banks for all Legacy members retired on or before April 1, 2023 by 3.00% as of April 1, 2023. These COLA banks can be used in the future to grant COLA increases above MCERA's inflation assumption of 2.75%, which was taken into account in determining the magnitude of this COLA loss.

Section 2: Actuarial Valuation Results

Reconciliation of Average Recommended Member Contribution Rate

The chart below details the changes in the average recommended member contribution rate from the prior valuation to the current year's valuation.

Reconciliation from June 30, 2022 to June 30, 2023

	Contribution Rate	Estimated Annual Dollar Amount ¹
Average Recommended Member Contribution as of June 30, 2022	9.76%	\$8,855,000
1 Effect of changes in member demographics	(0.06)%	\$(49,000)
2 Effect of changes in actuarial assumptions	<u>0.82%</u>	<u>744,000</u>
Total changes	0.76%	\$695,000
Average Recommended Member Contribution as of June 30, 2023	10.52%	\$9,550,000

¹ Based on June 30, 2023 projected compensation.

Section 2: Actuarial Valuation Results

Recommended Employer Contribution Rate

	June 30, 2023 Actuarial Valuation				June 30, 2022 Actuarial Valuation			
	Basic Rate	COLA Rate	Total Rate	Estimated Annual Dollar Amount ¹ (in \$000's)	Basic Rate	COLA Rate	Total Rate	Estimated Annual Dollar Amount ¹ (in \$000's)
General Tier 1 Members								
Normal Cost	14.91%	4.86%	19.77%	\$21	12.78%	3.84%	16.62%	\$17
UAAL	<u>19.34%</u>	<u>4.51%</u>	<u>23.85%</u>	<u>25</u>	<u>19.20%</u>	<u>4.15%</u>	<u>23.35%</u>	<u>25</u>
Total Contribution	34.25%	9.37%	43.62%	\$46	31.98%	7.99%	39.97%	\$42
General Tier 2 / Tier 3 Members								
Normal Cost	10.46%	3.20%	13.66%	\$3,468	8.69%	2.60%	11.29%	\$2,866
UAAL	<u>19.34%</u>	<u>4.51%</u>	<u>23.85%</u>	<u>6,054</u>	<u>19.20%</u>	<u>4.15%</u>	<u>23.35%</u>	<u>5,928</u>
Total Contribution	29.80%	7.71%	37.51%	\$9,522	27.89%	6.75%	34.64%	\$8,794
General Tier 4 Members								
Normal Cost	9.13%	0.00%	9.13%	\$4,532	8.25%	0.00%	8.25%	\$4,095
UAAL	<u>19.34%</u>	<u>4.51%</u>	<u>23.85%</u>	<u>11,838</u>	<u>19.20%</u>	<u>4.15%</u>	<u>23.35%</u>	<u>11,590</u>
Total Contribution	28.47%	4.51%	32.98%	\$16,370	27.45%	4.15%	31.60%	\$15,685
Safety Tier 1 Members								
Normal Cost	Not Calculated ²							
UAAL								
Total Contribution								
Safety Tier 2 Members								
Normal Cost	19.13%	7.78%	26.91%	\$1,721	15.41%	6.37%	21.78%	\$1,393
UAAL	<u>44.26%</u>	<u>12.75%</u>	<u>57.01%</u>	<u>3,645</u>	<u>39.12%</u>	<u>9.40%</u>	<u>48.52%</u>	<u>3,102</u>
Total Contribution	63.39%	20.53%	83.92%	\$5,366	54.53%	15.77%	70.30%	\$4,495

Section 2: Actuarial Valuation Results

Recommended Employer Contribution Rate (continued)

	June 30, 2023 Actuarial Valuation				June 30, 2022 Actuarial Valuation			
	Basic Rate	COLA Rate	Total Rate	Estimated Annual Dollar Amount ¹ (in \$000's)	Basic Rate	COLA Rate	Total Rate	Estimated Annual Dollar Amount ¹ (in \$000's)
Safety Tier 3 Members								
Normal Cost	13.69%	0.00%	13.69%	\$814	12.11%	0.00%	12.11%	\$720
UAAL	<u>44.26%</u>	<u>12.75%</u>	<u>57.01%</u>	<u>3,389</u>	<u>39.12%</u>	<u>9.40%</u>	<u>48.52%</u>	<u>2,884</u>
Total Contribution	57.95%	12.75%	70.70%	\$4,203	51.23%	9.40%	60.63%	\$3,604
Probation Tier 1 Members								
Normal Cost	Not Calculated ²							
UAAL								
Total Contribution								
Probation Tier 2 Members								
Normal Cost	16.06%	5.51%	21.57%	\$381	13.04%	4.46%	17.50%	\$309
UAAL	<u>10.97%</u>	<u>2.40%</u>	<u>13.37%</u>	<u>236</u>	<u>10.26%</u>	<u>1.46%</u>	<u>11.72%</u>	<u>207</u>
Total Contribution	27.03%	7.91%	34.94%	\$617	23.30%	5.92%	29.22%	\$516
Probation Tier 3 Members								
Normal Cost	13.40%	0.00%	13.40%	\$202	12.52%	0.00%	12.52%	\$189
UAAL	<u>10.97%</u>	<u>2.40%</u>	<u>13.37%</u>	<u>202</u>	<u>10.26%</u>	<u>1.46%</u>	<u>11.72%</u>	<u>177</u>
Total Contribution	24.37%	2.40%	26.77%	\$404	22.78%	1.46%	24.24%	\$366

Section 2: Actuarial Valuation Results

Recommended Employer Contribution Rate (continued)

	June 30, 2023 Actuarial Valuation				June 30, 2022 Actuarial Valuation			
	Basic Rate	COLA Rate	Total Rate	Estimated Annual Dollar Amount ¹ (in \$000's)	Basic Rate	COLA Rate	Total Rate	Estimated Annual Dollar Amount ¹ (in \$000's)
All Members Combined								
Normal Cost	10.72%	1.56%	12.28%	\$11,139	9.30%	1.27%	10.57%	\$9,589
UAAL	<u>22.42%</u>	<u>5.56%</u>	<u>27.98%</u>	<u>25,389</u>	<u>21.59%</u>	<u>4.76%</u>	<u>26.35%</u>	<u>23,913</u>
Total Contribution	33.14%	7.12%	40.26%	\$36,528	30.89%	6.03%	36.92%	\$33,502

Note: A breakdown of the employer minimum dollar contribution to amortize the UAAL by membership group (General/Safety/Probation) and employer (County of Mendocino/Mendocino County Superior Court/Russian River Cemetery District) is provided on the next page.

¹ Amounts are based on the following June 30, 2023 projected annual compensation:

General Tier 1	\$104,881
General Tier 2 / Tier 3	25,385,536
General Tier 4	49,636,221
Safety Tier 1	0
Safety Tier 2	6,393,637
Safety Tier 3	5,945,035
Probation Tier 1	0
Probation Tier 2	1,764,956
Probation Tier 3	<u>1,509,209</u>
Total	\$90,739,475

² There were no Safety Tier 1 or Probation Tier 1 active members reported for the June 30, 2023 valuation.

Section 2: Actuarial Valuation Results

Recommended Minimum Dollar Employer Contribution to Amortize the UAAL

	June 30, 2023 Estimated UAAL Annual Amounts ¹ (in \$000's)		
	Basic	COLA	Total
General Members			
County	\$13,701	\$3,195	\$16,896
Courts	779	182	961
Cemetery District	<u>49</u>	<u>11</u>	<u>60</u>
Total	\$14,529	\$3,388	\$17,917
Safety Members			
County	<u>\$5,461</u>	<u>\$1,573</u>	<u>\$7,034</u>
Total	\$5,461	\$1,573	\$7,034
Probation Members			
County	<u>\$360</u>	<u>\$78</u>	<u>\$438</u>
Total	\$360	\$78	\$438
All Members Combined			
County	\$19,522	\$4,846	\$24,368
Courts	779	182	961
Cemetery District	<u>49</u>	<u>11</u>	<u>60</u>
Total	\$20,350	\$5,039	\$25,389

¹ Amounts are based on the following June 30, 2023 projected annual compensation:

General County	\$70,845,887
General Courts	4,029,343
General Cemetery District	251,408
Safety County	12,338,672
Probation County	<u>3,274,165</u>
Total	\$90,739,475

Section 2: Actuarial Valuation Results

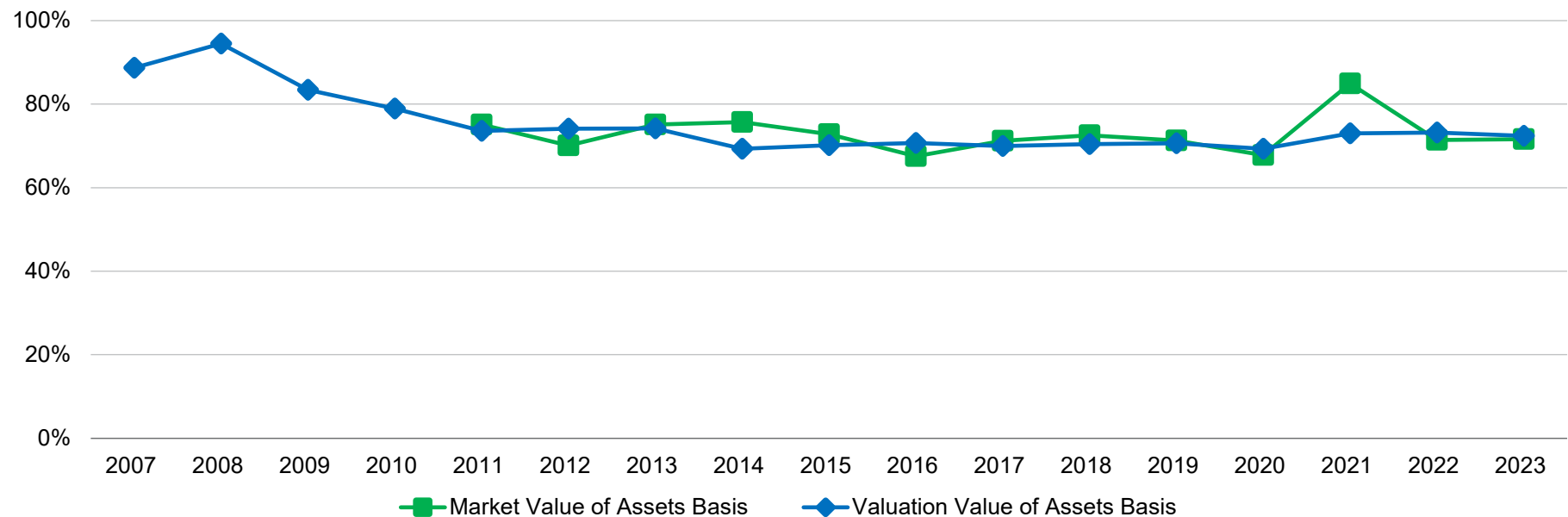
G. Funded Status

A commonly reported piece of information regarding the Plan's financial status is the funded ratio. These ratios compare the Market and Valuation Value of Assets to the Actuarial Accrued Liability of the Plan. Higher ratios indicate a relatively well-funded plan while lower ratios may indicate recent changes to actuarial assumptions, funding of the plan below actuarial requirements, poor asset performance, or a variety of other causes.

The chart below depicts a history of the funded ratio for the Plan. The chart on the next page shows the Plan's schedule of funding progress for the last ten years.

The funded status measures shown in this valuation are appropriate for assessing the need for or amount of future contributions. However, they are not necessarily appropriate for assessing the sufficiency of Plan assets to cover the estimated cost of settling the Plan's benefit obligations. As the chart below shows, the measures are different depending on whether the Market Value or Valuation Value of Assets is used.

Funded Ratio for Years Ended June 30, 2007 – 2023



Section 2: Actuarial Valuation Results

Schedule of Funding Progress for Years Ended June 30, 2014 – 2023

Actuarial Valuation Date as of June 30	Valuation Value of Assets ¹ (a)	Actuarial Accrued Liability (AAL) (b)	Unfunded AAL (UAAL) (b) - (a)	Funded Ratio (%) (a) / (b)	Projected Covered Payroll ² (c)	UAAL as a Percentage of Projected Covered Payroll (%) [(b) - (a)] / (c)
2014	\$404,855,842	\$584,428,884	\$179,573,042	69.3%	\$55,876,248	321.4%
2015	428,228,929	610,381,849	182,152,920	70.2	58,106,396	313.5
2016	446,773,272	632,057,539	185,284,267	70.7	61,214,954	302.7
2017	475,224,924	679,565,362	204,340,438	69.9	62,335,605	327.8
2018	504,803,711	717,461,993	212,658,282	70.4	67,955,820	312.9
2019	527,367,477	747,065,374	219,697,897	70.6	71,124,175	308.9
2020	551,332,136	795,398,180	244,066,044	69.3	75,316,869	324.1
2021	598,428,325	819,983,481	221,555,156	73.0	80,908,634	273.8
2022	637,645,858	871,590,734	233,944,876	73.2	84,828,649	275.8
2023	671,244,999	926,631,003	255,386,004	72.4	90,739,475	281.4

¹ Excludes assets for non-valuation reserves.

² Payroll includes a projection for expected salary increases during the year following the valuation date under the actuarial assumptions used in the valuation.

Section 2: Actuarial Valuation Results

H. Actuarial Balance Sheet

An overview of the Plan's funding is given by an Actuarial Balance Sheet. In this approach, first the amount and timing of all future payments that will be made by the Plan for current participants is determined. Then these payments are discounted at the valuation interest rate to the date of the valuation, thereby determining the present value, referred to as the actuarial present value of future benefits of the Plan.

Second, this actuarial present value of future benefits is compared to the assets. The "assets" for this purpose include the net amount of assets already accumulated by the Plan, the present value of future member contributions, the present value of future employer normal cost contributions, and the present value of future employer amortization payments for the unfunded actuarial accrued liability.

Actuarial Balance Sheet for Year Ended June 30, 2023

	Basic	COLA	Total
Actuarial present value of future benefits			
• Present value of benefits for retired members and beneficiaries	\$346,838,862	\$269,649,089	\$616,487,951
• Present value of benefits for inactive vested members	26,663,012	7,174,141	33,837,153
• Present value of benefits for active members	<u>325,504,576</u>	<u>74,233,304</u>	<u>399,737,880</u>
Total actuarial present value of future benefits	\$699,006,450	\$351,056,534	\$1,050,062,984
Current and future assets			
• Total Valuation Value of Assets	\$390,121,797	\$281,123,202	\$671,244,999
• Present value of future contributions by members	50,499,810	5,176,835	55,676,645
• Present value of future employer contributions for:			
• Entry age normal cost	60,544,453	7,210,883	67,755,336
• Unfunded actuarial accrued liability	<u>197,840,390</u>	<u>57,545,614</u>	<u>255,386,004</u>
Total of current and future assets	\$699,006,450	\$351,056,534	\$1,050,062,984

Section 2: Actuarial Valuation Results

I. Volatility Ratios

Retirement plans are subject to volatility in the level of required contributions. This volatility tends to increase as retirement plans become more mature.

The Asset Volatility Ratio (AVR), which is equal to the Market Value of Assets divided by total payroll, provides an indication of the potential contribution volatility for any given level of investment volatility. A higher AVR indicates that the plan is subject to a greater level of contribution volatility. This is a current measurement since it is based on the current level of assets.

The current AVR is about 7.3. This means that a 1% asset gain or loss (relative to the assumed investment return) translates to about 7.3% of one-year's payroll. Since actuarial gains and losses are amortized over 18 years, there would be a 0.6% of payroll decrease/(increase) in the required contribution for each 1% asset gain/(loss).

The Liability Volatility Ratio (LVR), which is equal to the Actuarial Accrued Liability divided by payroll, provides an indication of the longer-term potential for contribution volatility for any given level of investment volatility. This is because, over an extended period of time, the plan's assets should track the plan's liabilities.

The LVR also indicates how volatile contributions will be in response to changes in the Actuarial Accrued Liability due to actual experience or to changes in actuarial assumptions. The current total plan LVR is about 10.2, but is 8.8 for General, 18.3 for Safety, and 12.9 for Probation. This means that assumption changes will have the greatest impact on employer contribution rates for Safety, followed by Probation and then General.

Volatility Ratios for Years Ended June 30, 2014 – 2023

Year Ended June 30	Asset Volatility Ratio				Liability Volatility Ratio			
	General	Safety	Probation	Total	General	Safety	Probation	Total
2014	7.4	10.6	7.9	7.9	9.7	14.6	9.6	10.5
2015	7.1	10.4	8.2	7.6	9.6	15.2	10.3	10.5
2016	6.4	9.8	7.8	7.0	9.4	15.4	10.5	10.3
2017	7.1	10.9	8.4	7.8	9.9	16.2	10.7	10.9
2018	6.9	11.1	9.4	7.7	9.5	16.1	11.6	10.6
2019	6.7	10.9	10.3	7.5	9.4	15.6	13.0	10.5
2020	6.3	11.0	9.3	7.2	9.4	16.6	12.1	10.6
2021	7.5	13.7	12.1	8.6	8.9	16.4	11.9	10.1
2022	6.4	12.0	9.8	7.3	9.0	17.3	11.2	10.3
2023	6.3	12.5	11.7	7.3	8.8	18.3	12.9	10.2

Section 2: Actuarial Valuation Results

J. Risk Assessment

Since the actuarial valuation results are dependent on a fixed set of assumptions and data as of a specific date, there is risk that emerging results may differ, perhaps significantly, as actual experience is fluid and will not exactly track current assumptions. This potential divergence may have a significant impact on the future financial condition of the plan.

This report does not contain a detailed analysis of the potential range of future measurements, but does include a concise discussion of some of the primary risks that may affect the Plan's future financial condition. Following the completion of the triennial experience study recommending assumptions for the June 30, 2020 valuation, we prepared a stand-alone Risk Assessment report dated July 7, 2020 by using membership and financial information as provided in the actuarial valuation as of June 30, 2019. That report includes various projections (both deterministic and stochastic) of future results under different investment return scenarios together with the assumptions adopted for the June 30, 2020 valuation. Following discussions we had with MCERA, Segal is planning on updating that report after the June 30, 2023 valuation which uses the new assumptions that the Board has approved for this valuation.

This section provides descriptions and basic assessments of the primary risks that are likely to have an ongoing influence on the Plan's financial health, as well as a discussion of historical trends and maturity measures:

Risk Assessments

- Asset/Liability Mismatch Risk (the potential that future plan experience does not affect asset and liability values in the same way, causing them to diverge)

The most significant asset/liability mismatch risk to the Plan is investment risk, as discussed below. In fact, investment risk has the potential to impact asset/liability mismatch in two ways. The first mismatch is evident in annual valuations: when asset values deviate from assumptions they are typically independent from liability changes. The second mismatch can be caused when systemic asset deviations from assumptions may signal the need for an assumption change, which causes liability values and contribution rates to move in the opposite direction from any change in the expected experience of asset growth rates.

Asset/liability mismatch can also be caused by demographic assumption risk such as longevity, which affects liabilities but have no impact on asset levels. This risk is also discussed below.

- Investment Risk (the risk that investment returns will be different than expected)

The investment return assumption is a long-term, static assumption for valuation purposes even though in reality market experience can be quite volatile in any given year. That volatility can cause significant changes in the financial condition of the Plan, affecting both funded status and contribution rates. The inherent year-to-year volatility is reduced by smoothing through the Actuarial Value of Assets, however investment experience can still have a sizable impact. As discussed in *Section 2, Subsection I, Volatility Ratios*, on page 43, a

Section 2: Actuarial Valuation Results

1% asset gain or loss (relative to the assumed investment return) translates to about 7.3% of one-year's payroll. Since actuarial gains and losses are amortized over 18 years, there would be a 0.6% of payroll decrease/(increase) in the required contribution for each 1% asset gain/(loss).

The year-by-year market value rate of return over the last 10 years has ranged from a low of -9.72% to a high of 31.16%.

- Longevity Risk (the risk that mortality experience will be different than expected)

The actuarial valuation includes current life expectancy assumptions and an expectation of future improvement in life expectancy, which are significant assumptions given the relatively long duration of liabilities for pension plans. Emerging plan experience that does not match these expectations will result in increases or decreases in the actuarially determined contribution over time. This risk can be reduced by using tables appropriate for the Plan (public experience tables) that are weighted by benefit levels, and by using generational mortality projections. Effective with the June 30, 2020 valuation, the Board has adopted benefit weighted mortality tables with the generational mortality projections.

- Other Risks

In addition to longevity, the valuation includes a variety of other assumptions that are unlikely to match future experience exactly. One example is projected salary scales over time. As salary is central to the determination of benefits paid in retirement, deviations from the projected salary scales could have a material impact on the benefits anticipated for each member. Examples of demographic assumptions include retirement, termination and disability assumptions, and will likely vary in significance for different groups (for example, disability assumptions are typically more significant for Safety groups).

Some plans also carry significant contribution risk, defined as the potential for actual future contributions deviating from expected future contributions. However, the employer has a proven track-record of making the Actuarially Determined Contributions based on the Board's Actuarial Funding Policy, so contribution risk is minimal.

Evaluation of Historical Trends

Past experience can help demonstrate the sensitivity of key results to the Plan's actual experience.

- Over the past ten years, the funded percentage on the Valuation Value of Assets basis has increased from 69.3% to 72.4%. For a more detailed history see *Section 2, Subsection G, Funded Status* starting on page 40.
- The average geometric investment return on the Valuation Value of Assets over the last 10 years was 7.77%. This includes a high of a 10.27% return and a low of 6.03%. The average over the last 5 years was 7.37%. For more details see the Investment Return table in *Section 2, Subsection B* on page 27.

Section 2: Actuarial Valuation Results

- The primary source of new UAAL was the strengthening of assumptions through multiple assumption changes. For example, the assumption change in 2023 changed the discount rate from 6.75% to 6.50% and updated mortality tables, adding \$19 million in unfunded liability. The assumption change in 2020 changed the discount rate from 7.00% to 6.75% and updated mortality tables, adding \$16 million in unfunded liability. The assumption change in 2017 changed the discount rate from 7.25% to 7.00% and updated mortality tables, adding \$28 million in unfunded liability. For more details on the unfunded liability changes see *Section 3, Exhibit I, Table of Amortization Bases* starting on page 75.
- The plan's funding policy effectively deals with these unfunded liabilities over time. This can be seen most clearly in *Section 3, Exhibit J, Projection of UAAL Balances and Payments* provided on pages 79 and 80.

Maturity Measures

In the last 10 years the ratio of members in pay status to active participants has increased from 1.23 to 1.46. An increased ratio indicates that the plan has grown in maturity over time. This is to be expected, but is also informative for understanding plan sensitivity to particular risks. For more details see *Section 2, Subsection A, Member Data* on page 17.

As pension plans mature, the cash needed to fulfill benefit obligations will increase over time. Therefore, cash flow projections and analysis should be performed to assure that the Plan's asset allocation is aligned to meet emerging pension liabilities. For the prior year benefits paid were \$7 million more than contributions received. Plans with high levels of negative cash flows may have a need for a larger allocation to income generating assets, which can create a drag on investment return. However, this plan currently has relatively low levels of negative cash flows. For more details on historical cash flows see the Comparison of Contributions with Benefits in *Section 2, Subsection B, Financial Information* on page 21.

A further discussion of plan maturity measures and how they relate to changes in assets and liabilities is included in *Section 2, Subsection I, Volatility Ratios* starting on page 43.

Low-Default-Risk Obligation Measure (LDROM)

In December 2021, the Actuarial Standards Board issued a revision of Actuarial Standard of Practice No. 4 (ASOP 4) *Measuring Pension Obligations and Determining Pension Plan Costs or Contributions*. One of the revisions to ASOP 4 requires the disclosure of a Low-Default-Risk Obligation Measure (LDROM) when performing a funding valuation. The LDROM presented in this report is calculated using the same methodology and assumptions used to determine the Actuarial Accrued Liability (AAL) used for funding, except for the discount rate. The LDROM is required to be calculated using "a discount rate...derived from low-default-risk fixed income securities whose cash flows are reasonably consistent with the pattern of benefits expected to be paid in the future."

Section 2: Actuarial Valuation Results

The LDROM is a calculation assuming a plan's assets are invested in an all-bond portfolio, generally lowering expected long-term investment returns. The discount rate selected and used for this purpose is the Bond Buyer General Obligation 20-year Municipal Bond Index Rate, published at the end of each week. The last published rate in June of the measurement period, by The Bond Buyer, is 3.65% for use effective June 30, 2023. This is the rate used to determine the discount rate for valuing reported public pension plan liabilities in accordance with Governmental Accounting Standards when plan assets are projected to be insufficient to make projected benefit payments, and the 20-year period reasonably approximates the duration of public pension plan liabilities. The LDROM is not used to determine a plan's funded status or Actuarially Determined Contribution Rate. The plan's expected return on assets, currently 6.50%, is used for these calculations.

As of June 30, 2023, the LDROM for the System is \$1,349 million. The difference between the Association's AAL of \$927 million and the LDROM can be thought of as the increase in the AAL if the entire portfolio were invested in low-default-risk securities. Alternatively, this difference could also be viewed as representing the expected savings from investing in the plan's diversified portfolio compared to investing only in low-default-risk securities.

ASOP 4 requires commentary to help the intended user understand the significance of the LDROM with respect to the funded status of the plan, plan contributions, and the security of participant benefits. In general, if plan assets were invested exclusively in low-default-risk securities, the funded status would be lower and the Actuarially Determined Contribution would be higher. While investing in a portfolio with low-default-risk securities may be more likely to reduce investment volatility and the volatility of employer contributions, it also may be more likely to result in higher employer contributions or lower benefits.

Section 3: Supplemental Information

Exhibit A: Table of Plan Coverage

Total Plan

Category	Year Ended June 30		Change From Prior Year
	2023	2022	
Active members in valuation:			
• Number	1,150	1,123	2.4%
• Average age	45.3	45.7	-0.4
• Average years of service	8.8	8.5	0.3
• Total projected compensation	\$90,739,475	\$84,828,649	7.0%
• Average projected compensation	\$78,904	\$75,538	4.5%
• Account balances	\$62,779,119	\$60,350,307	4.0%
• Total active vested members	653	615	6.2%
Inactive vested members:			
• Number ¹	879	923	-4.8%
• Average Age	48.0	48.9	-0.9
Retired members:			
• Number in pay status	1,309	1,290	1.5%
• Average age	71.3	70.8	0.5
• Average monthly benefit	\$2,268	\$2,177	4.2%
Disabled members:			
• Number in pay status	172	175	-1.7%
• Average age	67.5	67.3	0.2
• Average monthly benefit	\$2,836	\$2,712	4.6%
Beneficiaries:			
• Number in pay status	197	185	6.5%
• Average age	74.4	73.9	0.5
• Average monthly benefit	\$1,701	\$1,532	11.0%

¹ Includes inactive members due a refund of member contributions.

Section 3: Supplemental Information

Exhibit A: Table of Plan Coverage (continued)

General Tier 1

Category	Year Ended June 30		Change From Prior Year
	2023	2022	
Active members in valuation:			
• Number	1	1	0.0%
• Average age	68.8	67.8	1.0
• Average years of service	42.5	41.5	1.0
• Total projected compensation	\$104,881	\$100,754	4.1%
• Average projected compensation	\$104,881	\$100,754	4.1%
• Account balances	\$367,778	\$359,014	2.4%
• Total active vested members	1	1	0.0%
Inactive vested members:			
• Number	2	2	0.0%
• Average Age	56.8	55.8	1.0
Retired members:			
• Number in pay status	238	248	-4.0%
• Average age	78.0	77.4	0.6
• Average monthly benefit	\$3,334	\$3,221	3.5%
Disabled members:			
• Number in pay status	20	21	-4.8%
• Average age	74.3	74.4	-0.1
• Average monthly benefit	\$2,339	\$2,297	1.8%
Beneficiaries:			
• Number in pay status	68	65	4.6%
• Average age	80.1	80.1	0.0
• Average monthly benefit	\$2,099	\$1,770	18.6%

Section 3: Supplemental Information

Exhibit A: Table of Plan Coverage (continued)

General Tiers 2 and 3

Category	Year Ended June 30		Change From Prior Year
	2023	2022	
Active members in valuation:			
• Number	273	298	-8.4%
• Average age	53.6	53.3	0.3
• Average years of service	19.4	17.6	1.8
• Total projected compensation	\$25,385,536	\$25,455,762	-0.3%
• Average projected compensation	\$92,987	\$85,422	8.9%
• Account balances	\$34,526,322	\$34,722,859	-0.6%
• Total active vested members	272	286	-4.9%
Inactive vested members:			
• Number	374	448	-16.5%
• Average Age	54.8	55.2	-0.4
Retired members:			
• Number in pay status	878	864	1.6%
• Average age	70.4	69.8	0.6
• Average monthly benefit	\$1,760	\$1,663	5.8%
Disabled members:			
• Number in pay status	82	86	-4.7%
• Average age	66.6	66.4	0.2
• Average monthly benefit	\$2,036	\$1,943	4.8%
Beneficiaries:			
• Number in pay status	88	79	11.4%
• Average age	71.8	70.7	1.1
• Average monthly benefit	\$1,241	\$1,098	13.0%

Section 3: Supplemental Information

Exhibit A: Table of Plan Coverage (continued)

General Tier 4

Category	Year Ended June 30		Change From Prior Year
	2023	2022	
Active members in valuation:			
• Number	718	660	8.8%
• Average age	43.3	43.5	-0.2
• Average years of service	4.2	3.8	0.4
• Total projected compensation	\$49,636,221	\$43,655,550	13.7%
• Average projected compensation	\$69,131	\$66,145	4.5%
• Account balances	\$13,952,653	\$11,370,639	22.7%
• Total active vested members	280	224	25.0%
Inactive vested members:			
• Number	378	364	3.8%
• Average Age	43.8	43.5	0.3
Retired members:			
• Number in pay status	31	22	40.9%
• Average age	66.4	67.2	-0.8
• Average monthly benefit	\$617	\$595	3.7%
Disabled members:			
• Number in pay status	1	1	0.0%
• Average age	55.3	54.3	1.0
• Average monthly benefit	\$896	\$896	0.0%
Beneficiaries:			
• Number in pay status	1	0	N/A
• Average age	77.8	N/A	N/A
• Average monthly benefit	\$454	N/A	N/A

Section 3: Supplemental Information

Exhibit A: Table of Plan Coverage (continued)

Safety Tiers 1 and 2

Category	Year Ended June 30		Change From Prior Year
	2023	2022	
Active members in valuation:			
• Number	47	53	-11.3%
• Average age	49.7	48.9	0.8
• Average years of service	22.3	20.5	1.8
• Total projected compensation	\$6,393,637	\$6,643,120	-3.8%
• Average projected compensation	\$136,035	\$125,342	8.5%
• Account balances	\$7,694,495	\$7,825,516	-1.7%
• Total active vested members	47	50	-6.0%
Inactive vested members:			
• Number	43	45	-4.4%
• Average Age	46.7	46.8	-0.1
Retired members:			
• Number in pay status	119	114	4.4%
• Average age	66.9	66.2	0.7
• Average monthly benefit	\$4,060	\$3,825	6.1%
Disabled members:			
• Number in pay status	64	62	3.2%
• Average age	67.3	67.0	0.3
• Average monthly benefit	\$4,080	\$3,979	2.5%
Beneficiaries:			
• Number in pay status	35	36	-2.8%
• Average age	69.9	70.1	-0.2
• Average monthly benefit	\$2,081	\$2,003	3.9%

Section 3: Supplemental Information

Exhibit A: Table of Plan Coverage (continued)

Safety Tier 3

Category	Year Ended June 30		Change From Prior Year
	2023	2022	
Active members in valuation:			
• Number	71	64	10.9%
• Average age	32.6	33.6	-1.0
• Average years of service	4.3	4.2	0.1
• Total projected compensation	\$5,945,035	\$5,352,051	11.1%
• Average projected compensation	\$83,733	\$83,626	0.1%
• Account balances	\$2,349,016	\$2,177,951	7.9%
• Total active vested members	28	25	12.0%
Inactive vested members:			
• Number	41	33	24.2%
• Average Age	34.3	33.7	0.6
Retired members:			
• Number in pay status	2	1	100.0%
• Average age	58.3	58.7	-0.4
• Average monthly benefit	\$942	\$888	6.1%
Disabled members:			
• Number in pay status	1	1	0.0%
• Average age	41.2	40.2	1.0
• Average monthly benefit	\$2,566	\$2,566	0.0%
Beneficiaries:			
• Number in pay status	0	0	N/A
• Average age	N/A	N/A	N/A
• Average monthly benefit	N/A	N/A	N/A

Section 3: Supplemental Information

Exhibit A: Table of Plan Coverage (continued)

Probation Tiers 1 and 2

Category	Year Ended June 30		Change From Prior Year
	2023	2022	
Active members in valuation:			
• Number	17	20	-15.0%
• Average age	50.2	48.4	1.8
• Average years of service	20.6	17.3	3.3
• Total projected compensation	\$1,764,956	\$1,868,868	-5.6%
• Average projected compensation	\$103,821	\$93,443	11.1%
• Account balances	\$3,275,965	\$3,240,436	1.1%
• Total active vested members	17	20	-15.0%
Inactive vested members:			
• Number	17	14	21.4%
• Average Age	44.2	45.0	-0.8
Retired members:			
• Number in pay status	41	41	0.0%
• Average age	68.2	67.2	1.0
• Average monthly benefit	\$3,066	\$2,976	3.0%
Disabled members:			
• Number in pay status	4	4	0.0%
• Average age	64.4	63.4	1.0
• Average monthly benefit	\$2,365	\$2,297	3.0%
Beneficiaries:			
• Number in pay status	5	5	0.0%
• Average age	74.6	73.6	1.0
• Average monthly benefit	\$1,972	\$1,915	3.0%

Section 3: Supplemental Information

Exhibit A: Table of Plan Coverage (continued)

Probation Tier 3

Category	Year Ended June 30		Change From Prior Year
	2023	2022	
Active members in valuation:			
• Number	23	27	-14.8%
• Average age	32.1	34.0	-1.9
• Average years of service	4.1	3.7	0.4
• Total projected compensation	\$1,509,209	\$1,752,544	-13.9%
• Average projected compensation	\$65,618	\$64,909	1.1%
• Account balances	\$612,890	\$653,892	-6.3%
• Total active vested members	8	9	-11.1%
Inactive vested members:			
• Number	24	17	41.2%
• Average Age	36.4	36.2	0.2
Retired members:			
• Number in pay status	0	0	N/A
• Average age	N/A	N/A	N/A
• Average monthly benefit	N/A	N/A	N/A
Disabled members:			
• Number in pay status	0	0	N/A
• Average age	N/A	N/A	N/A
• Average monthly benefit	N/A	N/A	N/A
Beneficiaries:			
• Number in pay status	0	0	N/A
• Average age	N/A	N/A	N/A
• Average monthly benefit	N/A	N/A	N/A

Section 3: Supplemental Information

Exhibit B: Members in Active Service as of June 30, 2023 by Age, Years of Service, and Average Projected Compensation

Total Plan

Age	Years of Service ¹									
	Total	0 – 4	5 – 9	10 – 14	15 – 19	20 – 24	25 – 29	30 – 34	35 – 39	40 & over
Under 25	47	46	1	—	—	—	—	—	—	—
	\$54,401	\$53,935	\$75,852	—	—	—	—	—	—	—
25 – 29	106	88	17	1	—	—	—	—	—	—
	63,731	61,701	74,724	\$55,499	—	—	—	—	—	—
30 – 34	137	90	45	2	—	—	—	—	—	—
	68,554	64,860	75,504	78,412	—	—	—	—	—	—
35 – 39	151	81	44	14	12	—	—	—	—	—
	76,832	69,384	80,202	87,645	\$102,138	—	—	—	—	—
40 – 44	133	55	41	10	20	6	1	—	—	—
	81,492	68,591	80,521	89,409	108,767	\$99,750	\$96,727	—	—	—
45 – 49	122	37	32	9	16	22	6	—	—	—
	89,465	65,976	77,909	89,860	115,496	110,926	147,241	—	—	—
50 – 54	157	51	34	11	18	26	12	5	—	—
	83,647	69,813	74,865	92,757	92,892	98,509	93,237	\$130,846	—	—
55 – 59	147	39	35	13	19	19	14	6	2	—
	85,567	67,328	83,863	87,353	88,114	92,851	108,316	117,461	\$111,080	—
60 – 64	93	24	32	7	10	11	8	—	1	—
	81,978	69,592	76,053	86,782	73,935	113,477	98,332	—	138,359	—
65 – 69	44	10	7	6	10	5	1	1	3	1
	94,099	97,660	78,574	115,433	83,153	107,344	82,923	84,263	93,606	\$104,881
70 & over	13	4	4	—	4	1	—	—	—	—
	92,711	103,339	97,797	—	86,264	55,639	—	—	—	—
Total	1,150	525	292	73	109	90	42	12	6	1
	\$78,904	\$66,339	\$78,502	\$90,386	\$96,432	\$102,276	\$106,786	\$120,272	\$106,889	\$104,881

¹ Excludes incoming reciprocal service, if any.

Section 3: Supplemental Information

Exhibit B: Members in Active Service as of June 30, 2023 by Age, Years of Service, and Average Projected Compensation (continued)

General Tier 1

Age	Years of Service ¹									
	Total	0 – 4	5 – 9	10 – 14	15 – 19	20 – 24	25 – 29	30 – 34	35 – 39	40 & over
Under 25	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—
25 – 29	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—
30 – 34	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—
35 – 39	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—
40 – 44	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—
45 – 49	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—
50 – 54	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—
55 – 59	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—
60 – 64	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—
65 – 69	1	—	—	—	—	—	—	—	—	1
	\$104,881	—	—	—	—	—	—	—	—	\$104,881
70 & over	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—
Total	1	—	—	—	—	—	—	—	—	1
	\$104,881	—	—	—	—	—	—	—	—	\$104,881

¹ Excludes incoming reciprocal service, if any.

Section 3: Supplemental Information

Exhibit B: Members in Active Service as of June 30, 2023 by Age, Years of Service, and Average Projected Compensation (continued)

General Tiers 2 and 3

Age	Years of Service ¹									
	Total	0 – 4	5 – 9	10 – 14	15 – 19	20 – 24	25 – 29	30 – 34	35 – 39	40 & over
Under 25	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—
25 – 29	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—
30 – 34	2	—	1	1	—	—	—	—	—	—
	\$62,568	—	\$42,927	\$82,208	—	—	—	—	—	—
35 – 39	19	2	3	6	8	—	—	—	—	—
	87,436	\$89,419	81,656	78,607	\$95,730	—	—	—	—	—
40 – 44	30	1	1	8	14	5	1	—	—	—
	98,221	82,256	154,658	87,460	101,122	\$99,524	\$96,727	—	—	—
45 – 49	40	2	1	6	14	14	3	—	—	—
	99,336	56,988	76,933	89,092	110,431	96,542	116,779	—	—	—
50 – 54	54	1	2	7	15	18	7	4	—	—
	90,321	104,848	103,320	97,529	87,783	89,757	71,393	\$112,756	—	—
55 – 59	66	2	4	10	18	16	10	5	1	—
	89,957	88,083	88,326	88,045	85,831	87,904	98,882	105,119	\$61,433	—
60 – 64	34	—	3	4	9	9	8	—	1	—
	94,539	—	83,389	78,461	72,855	118,845	98,332	—	138,359	—
65 – 69	23	—	1	3	10	5	1	1	2	—
	97,806	—	88,461	155,256	83,153	107,344	82,923	84,263	79,936	—
70 & over	5	—	—	—	4	1	—	—	—	—
	80,139	—	—	—	86,264	55,639	—	—	—	—
Total	273	8	16	45	92	68	30	10	4	—
	\$92,987	\$82,010	\$88,628	\$91,797	\$91,539	\$96,077	\$93,507	\$106,088	\$89,916	—

¹ Excludes incoming reciprocal service, if any.

Section 3: Supplemental Information

Exhibit B: Members in Active Service as of June 30, 2023 by Age, Years of Service, and Average Projected Compensation (continued)

General Tier 4

Age	Years of Service ¹									
	Total	0 – 4	5 – 9	10 – 14	15 – 19	20 – 24	25 – 29	30 – 34	35 – 39	40 & over
Under 25	33	32	1	—	—	—	—	—	—	—
	\$50,193	\$49,391	\$75,852	—	—	—	—	—	—	—
25 – 29	77	65	11	1	—	—	—	—	—	—
	60,546	60,092	63,683	\$55,499	—	—	—	—	—	—
30 – 34	114	79	35	—	—	—	—	—	—	—
	65,895	63,127	72,144	—	—	—	—	—	—	—
35 – 39	106	66	37	3	—	—	—	—	—	—
	69,845	65,426	78,108	65,140	—	—	—	—	—	—
40 – 44	89	52	36	1	—	—	—	—	—	—
	71,509	67,120	77,752	75,035	—	—	—	—	—	—
45 – 49	64	34	28	2	—	—	—	—	—	—
	70,807	65,792	77,611	60,795	—	—	—	—	—	—
50 – 54	85	49	32	4	—	—	—	—	—	—
	70,894	68,360	73,086	84,406	—	—	—	—	—	—
55 – 59	69	36	30	3	—	—	—	—	—	—
	73,410	64,692	82,708	85,048	—	—	—	—	—	—
60 – 64	55	24	29	2	—	—	—	—	—	—
	73,238	69,592	75,294	87,196	—	—	—	—	—	—
65 – 69	18	10	6	2	—	—	—	—	—	—
	87,908	97,660	76,927	72,091	—	—	—	—	—	—
70 & over	8	4	4	—	—	—	—	—	—	—
	100,568	103,339	97,797	—	—	—	—	—	—	—
Total	718	451	249	18	—	—	—	—	—	—
	\$69,131	\$64,873	\$76,385	\$75,494	—	—	—	—	—	—

¹ Excludes incoming reciprocal service, if any.

Section 3: Supplemental Information

Exhibit B: Members in Active Service as of June 30, 2023 by Age, Years of Service, and Average Projected Compensation (continued)

Safety Tiers 1 and 2

Age	Years of Service ¹									
	Total	0 – 4	5 – 9	10 – 14	15 – 19	20 – 24	25 – 29	30 – 34	35 – 39	40 & over
Under 25	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—
25 – 29	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—
30 – 34	1	—	1	—	—	—	—	—	—	—
	\$116,552	—	\$116,552	—	—	—	—	—	—	—
35 – 39	5	1	—	2	2	—	—	—	—	—
	132,323	\$110,606	—	\$135,475	\$140,029	—	—	—	—	—
40 – 44	5	—	—	1	4	—	—	—	—	—
	125,344	—	—	119,381	126,835	—	—	—	—	—
45 – 49	11	—	—	1	1	6	3	—	—	—
	158,007	—	—	152,596	163,481	\$148,149	\$177,702	—	—	—
50 – 54	14	—	—	—	2	6	5	1	—	—
	125,508	—	—	—	110,318	119,030	123,819	\$203,208	—	—
55 – 59	10	1	—	—	1	2	4	1	1	—
	137,261	120,731	—	—	129,224	127,572	131,904	179,173	\$160,726	—
60 – 64	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—
65 – 69	1	—	—	—	—	—	—	—	1	—
	120,945	—	—	—	—	—	—	—	120,945	—
70 & over	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—
Total	47	2	1	4	10	14	12	2	2	—
	\$136,035	\$115,669	\$116,552	\$135,732	\$130,074	\$132,730	\$139,985	\$191,191	\$140,836	—

¹ Excludes incoming reciprocal service, if any.

Section 3: Supplemental Information

Exhibit B: Members in Active Service as of June 30, 2023 by Age, Years of Service, and Average Projected Compensation (continued)

Safety Tier 3

Age	Years of Service ¹									
	Total	0 – 4	5 – 9	10 – 14	15 – 19	20 – 24	25 – 29	30 – 34	35 – 39	40 & over
Under 25	11	11	—	—	—	—	—	—	—	—
	\$66,223	\$66,223	—	—	—	—	—	—	—	—
25 – 29	21	16	5	—	—	—	—	—	—	—
	76,090	68,824	\$99,340	—	—	—	—	—	—	—
30 – 34	15	8	7	—	—	—	—	—	—	—
	86,232	82,342	90,678	—	—	—	—	—	—	—
35 – 39	15	10	3	2	—	—	—	—	—	—
	93,695	86,877	109,243	\$104,462	—	—	—	—	—	—
40 – 44	4	1	3	—	—	—	—	—	—	—
	99,006	124,677	90,449	—	—	—	—	—	—	—
45 – 49	2	1	1	—	—	—	—	—	—	—
	98,932	90,213	107,651	—	—	—	—	—	—	—
50 – 54	1	1	—	—	—	—	—	—	—	—
	105,981	105,981	—	—	—	—	—	—	—	—
55 – 59	1	—	1	—	—	—	—	—	—	—
	100,677	—	100,677	—	—	—	—	—	—	—
60 – 64	1	—	—	1	—	—	—	—	—	—
	119,241	—	—	119,241	—	—	—	—	—	—
65 – 69	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—
70 & over	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—
Total	71	48	20	3	—	—	—	—	—	—
	\$83,733	\$76,625	\$96,942	\$109,388	—	—	—	—	—	—

¹ Excludes incoming reciprocal service, if any.

Section 3: Supplemental Information

Exhibit B: Members in Active Service as of June 30, 2023 by Age, Years of Service, and Average Projected Compensation (continued)

Probation Tiers 1 and 2

Age	Years of Service ¹									
	Total	0 – 4	5 – 9	10 – 14	15 – 19	20 – 24	25 – 29	30 – 34	35 – 39	40 & over
Under 25	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—
25 – 29	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—
30 – 34	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—
35 – 39	3	—	—	1	2	—	—	—	—	—
	\$86,618	—	—	\$80,101	\$89,877	—	—	—	—	—
40 – 44	3	—	—	—	2	1	—	—	—	—
	117,728	—	—	—	126,152	\$100,879	—	—	—	—
45 – 49	3	—	—	—	1	2	—	—	—	—
	112,770	—	—	—	138,415	99,948	—	—	—	—
50 – 54	3	—	—	—	1	2	—	—	—	—
	122,036	—	—	—	134,681	115,714	—	—	—	—
55 – 59	1	—	—	—	—	1	—	—	—	—
	102,559	—	—	—	—	102,559	—	—	—	—
60 – 64	3	—	—	—	1	2	—	—	—	—
	87,433	—	—	—	83,653	89,323	—	—	—	—
65 – 69	1	—	—	1	—	—	—	—	—	—
	82,643	—	—	82,643	—	—	—	—	—	—
70 & over	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—
Total	17	—	—	2	7	8	—	—	—	—
	\$103,821	—	—	\$81,372	\$112,687	\$101,676	—	—	—	—

¹ Excludes incoming reciprocal service, if any.

Section 3: Supplemental Information

Exhibit B: Members in Active Service as of June 30, 2023 by Age, Years of Service, and Average Projected Compensation (continued)

Probation Tier 3

Age	Years of Service ¹									
	Total	0 – 4	5 – 9	10 – 14	15 – 19	20 – 24	25 – 29	30 – 34	35 – 39	40 & over
Under 25	3	3	—	—	—	—	—	—	—	—
	\$57,346	\$57,346	—	—	—	—	—	—	—	—
25 – 29	8	7	1	—	—	—	—	—	—	—
	61,944	60,350	\$73,098	—	—	—	—	—	—	—
30 – 34	5	3	1	1	—	—	—	—	—	—
	68,930	63,879	78,399	\$74,615	—	—	—	—	—	—
35 – 39	3	2	1	—	—	—	—	—	—	—
	69,985	71,872	66,212	—	—	—	—	—	—	—
40 – 44	2	1	1	—	—	—	—	—	—	—
	75,800	75,324	76,275	—	—	—	—	—	—	—
45 – 49	2	—	2	—	—	—	—	—	—	—
	67,707	—	67,707	—	—	—	—	—	—	—
50 – 54	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—
55 – 59	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—
60 – 64	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—
65 – 69	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—
70 & over	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—
Total	23	16	6	1	—	—	—	—	—	—
	\$65,618	\$62,825	\$71,566	\$74,615	—	—	—	—	—	—

¹ Excludes incoming reciprocal service, if any.

Section 3: Supplemental Information

Exhibit C: Schedule of Average Benefit Payment Amounts

	Number of Years Since Retirement ¹						
	0 - 4	5 - 9	10 - 14	15 - 19	20 - 24	25 - 29	30 & Over
Valuation date: 6/30/2014							
Average monthly benefit of retirees	\$1,928	\$1,916	\$1,433	\$1,575	\$1,668	\$1,517	\$1,481
Number of retirees	411	318	155	112	90	50	48
Average monthly benefit of beneficiaries	\$1,265	\$1,228	\$1,064	\$954	\$1,786	\$1,300	\$699
Number of beneficiaries	41	39	22	19	8	9	6
Valuation date: 6/30/2015							
Average monthly benefit of retirees	\$1,986	\$2,006	\$1,587	\$1,570	\$1,753	\$1,457	\$1,610
Number of retirees	391	329	200	110	94	51	52
Average monthly benefit of beneficiaries	\$1,308	\$1,208	\$1,184	\$961	\$1,654	\$1,226	\$1,091
Number of beneficiaries	46	40	23	16	12	8	7
Valuation date: 6/30/2016							
Average monthly benefit of retirees	\$1,987	\$2,057	\$1,831	\$1,596	\$1,553	\$1,742	\$1,711
Number of retirees	388	337	222	118	92	53	52
Average monthly benefit of beneficiaries	\$1,484	\$1,181	\$1,134	\$843	\$1,484	\$1,576	\$1,136
Number of beneficiaries	50	41	23	14	11	8	7
Valuation date: 6/30/2017							
Average monthly benefit of retirees	\$1,986	\$2,057	\$1,942	\$1,603	\$1,468	\$1,787	\$1,670
Number of retirees	368	366	256	117	81	61	60
Average monthly benefit of beneficiaries	\$1,461	\$1,300	\$1,236	\$917	\$1,381	\$1,534	\$1,280
Number of beneficiaries	46	39	28	13	12	7	8

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Exhibit C: Schedule of Average Benefit Payment Amounts (continued)

	Number of Years Since Retirement ¹						
	0 - 4	5 - 9	10 - 14	15 - 19	20 - 24	25 - 29	30 & Over
Valuation date: 6/30/2018							
Average monthly benefit of retirees	\$2,065	\$2,115	\$2,111	\$1,560	\$1,510	\$1,866	\$1,766
Number of retirees	333	392	284	127	81	62	58
Average monthly benefit of beneficiaries	\$1,344	\$1,445	\$1,330	\$875	\$1,342	\$1,708	\$1,224
Number of beneficiaries	47	38	27	13	14	6	8
Valuation date: 6/30/2019							
Average monthly benefit of retirees	\$2,096	\$2,213	\$2,172	\$1,615	\$1,697	\$1,826	\$1,825
Number of retirees	352	387	298	139	88	74	58
Average monthly benefit of beneficiaries	\$1,293	\$1,571	\$1,381	\$1,058	\$1,186	\$1,978	\$1,478
Number of beneficiaries	50	37	29	12	14	6	8
Valuation date: 6/30/2020							
Average monthly benefit of retirees	\$2,161	\$2,264	\$2,293	\$1,810	\$1,731	\$1,905	\$1,759
Number of retirees	333	383	303	182	89	76	61
Average monthly benefit of beneficiaries	\$1,485	\$1,530	\$1,335	\$1,263	\$1,232	\$1,749	\$1,524
Number of beneficiaries	52	38	30	12	11	8	9
Valuation date: 6/30/2021							
Average monthly benefit of retirees	\$2,162	\$2,233	\$2,289	\$2,040	\$1,720	\$1,789	\$1,909
Number of retirees	317	382	313	202	98	75	58
Average monthly benefit of beneficiaries	\$1,325	\$1,683	\$1,359	\$1,409	\$1,086	\$1,356	\$1,779
Number of beneficiaries	58	42	28	13	10	9	10

Section 3: Supplemental Information

Exhibit C: Schedule of Average Benefit Payment Amounts (continued)

	Number of Years Since Retirement ¹						
	0 - 4	5 - 9	10 - 14	15 - 19	20 - 24	25 - 29	30 & Over
Valuation date: 6/30/2022							
Average monthly benefit of retirees	\$2,438	\$2,246	\$2,346	\$2,202	\$1,805	\$1,732	\$1,998
Number of retirees	315	357	337	229	100	62	65
Average monthly benefit of beneficiaries	\$1,505	\$1,636	\$1,622	\$1,444	\$1,154	\$1,361	\$1,717
Number of beneficiaries	72	38	29	16	11	7	12
Valuation date: 6/30/2023							
Average monthly benefit of retirees	\$2,536	\$2,345	\$2,418	\$2,417	\$1,747	\$1,835	\$2,046
Number of retirees	306	324	357	253	110	67	64
Average monthly benefit of beneficiaries	\$1,902	\$1,497	\$1,871	\$1,521	\$1,130	\$1,262	\$1,769
Number of beneficiaries	79	41	28	17	9	11	12

¹ For beneficiaries, number of years since benefit commencement.

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Exhibit D: Average Annual Benefit of Retired Members and Beneficiaries by Age, Years in Retirement as of June 30, 2023

Total Plan

Age	Years in Retirement ¹							
	Total	0 - 4	5 - 9	10 - 14	15 - 19	20 - 24	25 - 29	30 & over
Under 45	6	3	3	—	—	—	—	—
	\$32,104	\$44,333	\$19,875	—	—	—	—	—
45 - 49	12	6	3	1	2	—	—	—
	28,601	24,086	30,310	\$38,648	\$34,559	—	—	—
50 - 54	36	24	7	2	2	1	—	—
	18,281	13,574	26,883	37,144	24,364	\$21,141	—	—
55 - 59	96	53	38	3	—	—	2	—
	30,751	39,759	19,264	20,454	—	—	\$25,737	—
60 - 64	231	84	66	63	8	4	4	2
	26,374	31,184	27,337	19,830	22,258	24,574	24,260	\$23,040
65 - 69	337	105	92	79	51	5	3	2
	26,470	28,342	28,658	28,248	16,430	27,226	23,988	15,210
70 - 74	422	61	109	116	91	28	12	5
	28,894	25,257	30,027	34,777	28,478	10,547	26,801	27,433
75 - 79	305	25	35	85	89	45	15	11
	27,198	24,308	23,325	28,276	32,763	21,752	15,172	31,403
80 - 84	124	12	4	25	21	21	22	19
	27,806	33,496	10,901	27,991	42,106	26,914	20,470	21,206
85 & over	109	12	8	11	6	15	20	37
	22,025	21,437	25,978	17,729	20,252	22,228	21,094	23,348
Total	1,678	385	365	385	270	119	78	76
	\$27,113	\$28,866	\$26,993	\$28,539	\$28,322	\$20,406	\$21,050	\$24,025

¹ For beneficiaries, number of years since benefit commencement.

Section 3: Supplemental Information

Exhibit D: Average Annual Benefit of Retired Members and Beneficiaries by Age, Years in Retirement as of June 30, 2023 (continued)

General

Age	Years in Retirement ¹							
	Total	0 - 4	5 - 9	10 - 14	15 - 19	20 - 24	25 - 29	30 & over
Under 45	1	—	1	—	—	—	—	—
	\$5,017	—	\$5,017	—	—	—	—	—
45 - 49	5	4	1	—	—	—	—	—
	18,087	\$16,341	25,068	—	—	—	—	—
50 - 54	21	17	2	1	—	1	—	—
	14,955	13,178	21,757	\$25,385	—	\$21,141	—	—
55 - 59	52	30	18	3	—	—	1	—
	17,150	17,525	15,692	20,454	—	—	\$22,262	—
60 - 64	188	78	50	45	7	3	3	2
	21,184	27,229	18,266	14,188	\$18,594	21,888	21,682	\$23,040
65 - 69	297	97	81	67	44	4	2	2
	23,347	28,264	25,159	19,574	14,854	29,442	20,608	15,210
70 - 74	378	56	101	110	78	25	6	2
	27,356	24,854	28,906	34,955	21,891	10,000	27,654	30,423
75 - 79	264	24	35	80	77	32	12	4
	24,959	22,706	23,325	28,312	29,859	14,124	9,578	24,215
80 - 84	100	9	4	25	17	18	16	11
	26,147	33,661	10,901	27,991	38,552	27,834	15,700	14,617
85 & over	101	12	7	11	4	15	19	33
	21,141	21,437	25,547	17,729	17,158	22,228	19,628	22,096
Total	1,407	327	300	342	227	98	59	54
	\$24,092	\$25,008	\$24,218	\$26,437	\$24,292	\$17,765	\$17,517	\$20,818

¹ For beneficiaries, number of years since benefit commencement.

Section 3: Supplemental Information

Exhibit D: Average Annual Benefit of Retired Members and Beneficiaries by Age, Years in Retirement as of June 30, 2023 (continued)

Safety

Age	Years in Retirement ¹							
	Total	0 - 4	5 - 9	10 - 14	15 - 19	20 - 24	25 - 29	30 & over
Under 45	5	3	2	—	—	—	—	—
	\$37,522	\$44,333	\$27,304	—	—	—	—	—
45 - 49	6	2	2	1	1	—	—	—
	36,519	39,576	32,931	\$38,648	\$35,451	—	—	—
50 - 54	12	4	5	1	2	—	—	—
	24,771	13,738	28,934	48,902	24,364	—	—	—
55 - 59	42	23	18	—	—	—	1	—
	47,995	68,760	22,506	—	—	—	\$29,212	—
60 - 64	33	5	12	13	1	1	1	—
	54,909	93,513	61,943	37,584	47,909	\$32,631	31,992	—
65 - 69	29	5	8	8	6	1	1	—
	53,025	33,433	59,160	85,269	27,668	18,359	30,748	—
70 - 74	29	3	5	1	8	3	6	3
	47,184	39,094	41,626	38,505	90,888	15,100	25,948	\$25,440
75 - 79	35	—	—	4	8	13	3	7
	38,933	—	—	27,705	45,471	40,527	37,548	35,510
80 - 84	22	2	—	—	3	3	6	8
	36,020	44,132	—	—	66,247	21,391	33,190	30,266
85 & over	8	—	1	—	2	—	1	4
	33,189	—	28,998	—	26,438	—	48,939	33,676
Total	221	47	53	28	31	21	19	22
	\$44,608	\$57,210	\$40,075	\$50,272	\$52,922	\$32,729	\$32,019	\$31,896

¹ For beneficiaries, number of years since benefit commencement.

Section 3: Supplemental Information

Exhibit D: Average Annual Benefit of Retired Members and Beneficiaries by Age, Years in Retirement as of June 30, 2023 (continued)

Probation

Age	Years in Retirement ¹							
	Total	0 - 4	5 - 9	10 - 14	15 - 19	20 - 24	25 - 29	30 & over
Under 45	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—
45 - 49	1	—	—	—	1	—	—	—
	\$33,667	—	—	—	\$33,667	—	—	—
50 - 54	3	3	—	—	—	—	—	—
	15,600	\$15,600	—	—	—	—	—	—
55 - 59	2	—	2	—	—	—	—	—
	22,234	—	\$22,234	—	—	—	—	—
60 - 64	10	1	4	5	—	—	—	—
	29,779	27,988	36,898	\$24,441	—	—	—	—
65 - 69	11	3	3	4	1	—	—	—
	40,802	22,358	41,808	59,503	18,312	—	—	—
70 - 74	15	2	3	5	5	—	—	—
	32,291	15,799	48,432	30,121	31,374	—	—	—
75 - 79	6	1	—	1	4	—	—	—
	57,240	62,746	—	27,660	63,259	—	—	—
80 - 84	2	1	—	—	1	—	—	—
	20,418	10,735	—	—	30,102	—	—	—
85 & over	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—
Total	50	11	12	15	12	—	—	—
	\$34,804	\$22,449	\$38,565	\$35,899	\$40,999	—	—	—

¹ For beneficiaries, number of years since benefit commencement.

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Exhibit E: Reconciliation of Member Data

	Active Members	Inactive Vested Members	Retired Members	Disabled Members	Beneficiaries	Total
Number as of June 30, 2022	1,123	923	1,290	175	185	3,696
• New members	177	0	0	0	21	198
• Terminations – with vested rights	-82	82	0	0	0	0
• Contribution refunds	-39	-113	0	0	0	-152
• Retirements	-35	-18	53	0	0	0
• New disabilities	-2	-1	-1	4	0	0
• Return to work	11	-8	-3	0	0	0
• Died with or without beneficiary	-3	-7	-30	-7	-8	-55
• Data adjustments	0	21 ¹	0	0	-1	20
Number as of June 30, 2023	1,150	879	1,309	172	197	3,707

¹ Includes 20 members who entered (or were late reported) and terminated employment after June 30, 2022.

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Exhibit F: Summary Statement of Income and Expenses on a Market Value Basis

	Year Ended June 30, 2023	Year Ended June 30, 2022
Net assets at market value at the beginning of the year	\$621,934,385	\$696,441,302
Contribution income:		
• Employer contributions	\$30,309,355	\$30,485,006
• Member contributions	<u>8,492,670</u>	<u>8,185,773</u>
<i>Net contribution income</i>	<i>\$38,802,025</i>	<i>\$38,670,779</i>
Investment income:		
• Interest, dividends and other income	\$14,448,390	\$14,297,098
• Asset appreciation	37,224,908	(80,472,109)
• Less investment expenses	<u>(1,495,795)</u>	<u>(1,193,371)</u>
<i>Net investment income</i>	<i><u>\$50,177,503</u></i>	<i><u>\$(67,368,382)</u></i>
Total income available for benefits	\$88,979,528	\$(28,697,603)
Less benefit payments:		
• Benefit payments and refunds	\$(45,454,533)	\$(44,346,543)
• Administrative expenses	<u>(1,549,772)</u>	<u>(1,462,771)</u>
<i>Net benefit payments</i>	<i><u>\$(47,004,305)</u></i>	<i><u>\$(45,809,314)</u></i>
Change in net assets at market value	\$41,975,223	\$(74,506,917)
Net assets at market value at the end of the year	\$663,909,608	\$621,934,385

Note: Results may be slightly off due to rounding.

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Exhibit G: Summary Statement of Plan Assets

	June 30, 2023	June 30, 2022
<i>Cash equivalents</i>	\$677,082	\$1,614,712
Accounts receivable:		
• Member contributions	\$190,056	\$121,031
• Employer contributions	716,757	521,591
• Other	<u>667,439</u>	<u>499,414</u>
<i>Total accounts receivable</i>	<i>\$1,574,252</i>	<i>\$1,142,036</i>
Investments:		
• Fixed income	\$129,681,011	\$125,692,476
• Equities	400,368,296	364,293,692
• Infrastructure, real estate and real estate partnerships	<u>133,115,903</u>	<u>130,451,382</u>
<i>Total investments at market value</i>	<i>\$663,165,210</i>	<i>\$620,437,550</i>
Equipment	<u>79,383</u>	<u>158,766</u>
Total assets	\$665,495,927	\$623,353,064
Accounts payable:		
• Accounts payable	\$(392,592)	\$(279,460)
• Accrued expenses and other liabilities	<u>(1,193,727)</u>	<u>(1,139,219)</u>
Total accounts payable	\$(1,586,319)	\$(1,418,679)
Net assets at market value	\$663,909,608	\$621,934,385
Net assets at actuarial value	\$677,876,651	\$643,850,234
Net assets at valuation value	\$671,244,999	\$637,645,858

Note: Results may be slightly off due to rounding.

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Exhibit H: Development of the Fund through June 30, 2023

Year Ended June 30	Employer Contributions	Member Contributions	Net Investment Return ¹	Benefit Payments	Market Value of Assets at Year-End	Actuarial Value of Assets at Year-End	Actuarial Value as a Percent of Market Value
2014	\$14,324,752	\$4,575,895	\$67,564,513	\$27,353,529	\$442,308,448	\$409,284,122	92.5%
2015	15,164,044	4,651,960	12,142,037	30,049,133	444,217,356	432,679,307	97.4%
2016	19,129,191	5,544,925	(11,494,818)	31,058,643	426,338,011	451,044,882	105.8%
2017	19,116,426	5,753,907	65,583,775	32,765,402	484,026,717	480,079,636	99.2%
2018	20,430,644	5,996,462	44,129,810	34,153,672	520,429,961	510,023,422	98.0%
2019	23,702,064	6,544,192	18,725,703	36,674,901	532,727,019	532,691,627	100.0%
2020	24,647,132	6,820,687	13,572,162	38,777,787	538,989,213	556,717,438	103.3%
2021	26,333,815	7,053,907	165,141,008	41,076,641	696,441,302	605,389,707	86.9%
2022	30,485,006	8,185,773	(68,831,153)	44,346,543	621,934,385	643,850,234	103.5%
2023	30,309,355	8,492,670	48,627,731	45,454,533	663,909,608	677,876,651	102.1%

¹ On a market value basis, net of investment fees and administrative expenses.

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Exhibit I: Table of Amortization Bases

Type	Date Established	Initial Amount	Initial Period	Outstanding Balance	Years Remaining	Annual Payment
General						
Combined base	June 30, 2012	\$96,509,955	27	\$96,787,958	13 ¹	\$9,340,562
Experience loss	June 30, 2013	1,308,206	18	962,488	8	139,520
Experience gain	June 30, 2014	(10,922,004)	18	(8,548,332)	9	(1,119,137)
Change in assumptions/methods	June 30, 2014	41,158,191	18	32,213,307	9	4,217,325
Experience gain	June 30, 2015	(2,476,999)	18	(2,043,835)	10	(244,660)
Experience loss	June 30, 2016	1,249,423	18	1,076,082	11	118,960
Experience gain	June 30, 2017	(6,932,729)	18	(6,181,462)	12	(636,286)
Change in assumptions	June 30, 2017	21,071,591	18	18,788,163	12	1,933,952
Experience loss	June 30, 2018	5,742,836	18	5,277,300	13	509,288
Experience loss	June 30, 2019	8,521,818	18	8,023,767	14	730,227
Experience loss	June 30, 2020	8,846,883	18	8,492,100	15	732,494
Change in assumptions	June 30, 2020	10,455,368	18	10,036,081	15	865,671
Experience gain	June 30, 2021	(11,508,189)	18	(11,239,635)	16	(922,879)
Experience loss	June 30, 2022	12,306,002	18	12,182,109	17	955,826
Experience loss	June 30, 2023	4,964,608	18	4,964,608	18	373,483
Change in assumptions	June 30, 2023	10,951,559	18	<u>10,951,559</u>	18	<u>823,876</u>
Subtotal				\$181,742,258		\$17,818,222

¹ On December 15, 2021, the Board adopted Scenario 2 as shown on page 110 of the June 30, 2021 valuation report. Under Scenario 2, the amortization period for the 2012 UAAL restart layer was reduced by 3 years, from 18 years remaining as of June 30, 2021 to 15 years (13 years as of June 30, 2023).

Section 3: Supplemental Information

Exhibit I: Table of Amortization Bases (continued)

Type	Date Established	Initial Amount	Initial Period	Outstanding Balance	Years Remaining	Annual Payment
Safety						
Combined base	June 30, 2012	\$24,941,466	27	\$25,013,310	13 ¹	\$2,413,920
Experience loss	June 30, 2013	2,713,369	18	1,996,310	8	289,380
Experience gain	June 30, 2014	(489,900)	18	(383,431)	9	(50,198)
Change in assumptions/methods	June 30, 2014	13,983,439	18	10,944,428	9	1,432,831
Experience loss	June 30, 2015	4,163,162	18	3,435,132	10	411,207
Experience loss	June 30, 2016	1,209,820	18	1,041,972	11	115,190
Experience gain	June 30, 2017	(1,978,056)	18	(1,763,703)	12	(181,546)
Change in assumptions	June 30, 2017	5,932,121	18	5,289,285	12	544,450
Experience loss	June 30, 2018	3,402,016	18	3,126,236	13	301,699
Experience gain	June 30, 2019	(612,075)	18	(576,302)	14	(52,448)
Experience loss	June 30, 2020	2,322,959	18	2,229,803	15	192,334
Change in assumptions	June 30, 2020	4,684,408	18	4,496,551	15	387,854
Experience gain	June 30, 2021	(4,509,695)	18	(4,404,457)	16	(361,647)
Experience loss	June 30, 2022	6,647,794	18	6,580,866	17	516,344
Experience loss	June 30, 2023	5,617,136	18	5,617,136	18	422,572
Change in assumptions	June 30, 2023	7,337,447	18	<u>7,337,447</u>	18	<u>551,989</u>
Subtotal				\$69,980,583		\$6,933,931

¹ On December 15, 2021, the Board adopted Scenario 2 as shown on page 110 of the June 30, 2021 valuation report. Under Scenario 2, the amortization period for the 2012 UAAL restart layer was reduced by 3 years, from 18 years remaining as of June 30, 2021 to 15 years (13 years as of June 30, 2023).

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Exhibit I: Table of Amortization Bases (continued)

Type	Date Established	Initial Amount	Initial Period	Outstanding Balance	Years Remaining	Annual Payment
Probation						
Combined base	June 30, 2012	\$5,075,598	27	\$5,090,218	13 ¹	\$491,234
Experience gain	June 30, 2013	(964,299)	18	(709,465)	8	(102,842)
Experience gain	June 30, 2014	(834,449)	18	(653,098)	9	(85,503)
Change in assumptions/methods	June 30, 2014	3,045,283	18	2,383,454	9	312,039
Experience gain	June 30, 2015	(194,174)	18	(160,219)	10	(19,179)
Experience gain	June 30, 2016	(39,275)	18	(33,825)	11	(3,739)
Experience gain	June 30, 2017	(535,517)	18	(477,486)	12	(49,150)
Change in assumptions	June 30, 2017	1,217,274	18	1,085,364	12	111,721
Experience gain	June 30, 2018	(50,151)	18	(46,086)	13	(4,448)
Experience loss	June 30, 2019	558,987	18	526,317	14	47,899
Experience gain	June 30, 2020	(378,068)	18	(362,907)	15	(31,303)
Change in assumptions	June 30, 2020	602,011	18	577,868	15	49,845
Experience gain	June 30, 2021	(2,783,416)	18	(2,718,462)	16	(223,211)
Experience gain	June 30, 2022	(622,015)	18	(615,753)	17	(48,313)
Experience gain	June 30, 2023	(932,803)	18	(932,803)	18	(70,174)
Change in assumptions	June 30, 2023	710,046	18	<u>710,046</u>	18	<u>53,416</u>
Subtotal				\$3,663,163		\$428,292

¹ On December 15, 2021, the Board adopted Scenario 2 as shown on page 110 of the June 30, 2021 valuation report. Under Scenario 2, the amortization period for the 2012 UAAL restart layer was reduced by 3 years, from 18 years remaining as of June 30, 2021 to 15 years (13 years as of June 30, 2023).

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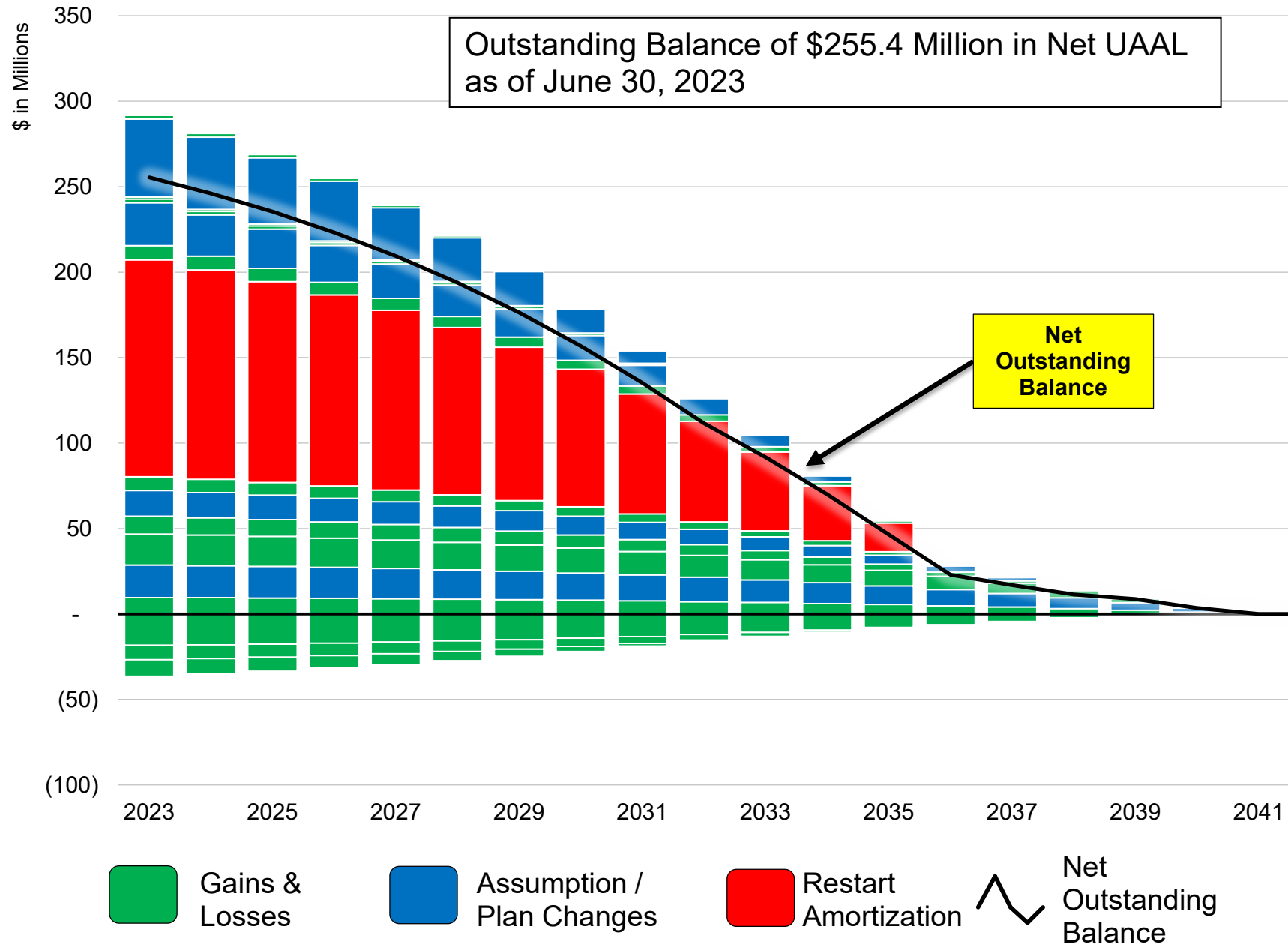
Exhibit I: Table of Amortization Bases (continued)

Type	Date Established	Initial Amount	Initial Period	Outstanding Balance	Years Remaining	Annual Payment
Total						
Combined base	June 30, 2012	\$126,527,019	27	\$126,891,486	13 ¹	\$12,245,716
Experience loss	June 30, 2013	3,057,276	18	2,249,333	8	326,058
Experience gain	June 30, 2014	(12,246,353)	18	(9,584,861)	9	(1,254,838)
Change in assumptions/methods	June 30, 2014	58,186,913	18	45,541,189	9	5,962,195
Experience loss	June 30, 2015	1,491,989	18	1,231,078	10	147,368
Experience loss	June 30, 2016	2,419,968	18	2,084,229	11	230,411
Experience gain	June 30, 2017	(9,446,302)	18	(8,422,651)	12	(866,982)
Change in assumptions	June 30, 2017	28,220,986	18	25,162,812	12	2,590,123
Experience loss	June 30, 2018	9,094,701	18	8,357,450	13	806,539
Experience loss	June 30, 2019	8,468,730	18	7,973,782	14	725,678
Experience loss	June 30, 2020	10,791,774	18	10,358,996	15	893,525
Change in assumptions	June 30, 2020	15,741,787	18	15,110,500	15	1,303,370
Experience gain	June 30, 2021	(18,801,300)	18	(18,362,554)	16	(1,507,737)
Experience loss	June 30, 2022	18,331,781	18	18,147,222	17	1,423,857
Experience loss	June 30, 2023	9,648,941	18	9,648,941	18	725,881
Change in assumptions	June 30, 2023	18,999,052	18	<u>18,999,052</u>	18	<u>1,429,281</u>
Total				\$255,386,004		\$25,180,445

¹ On December 15, 2021, the Board adopted Scenario 2 as shown on page 110 of the June 30, 2021 valuation report. Under Scenario 2, the amortization period for the 2012 UAAL restart layer was reduced by 3 years, from 18 years remaining as of June 30, 2021 to 15 years (13 years as of June 30, 2023).

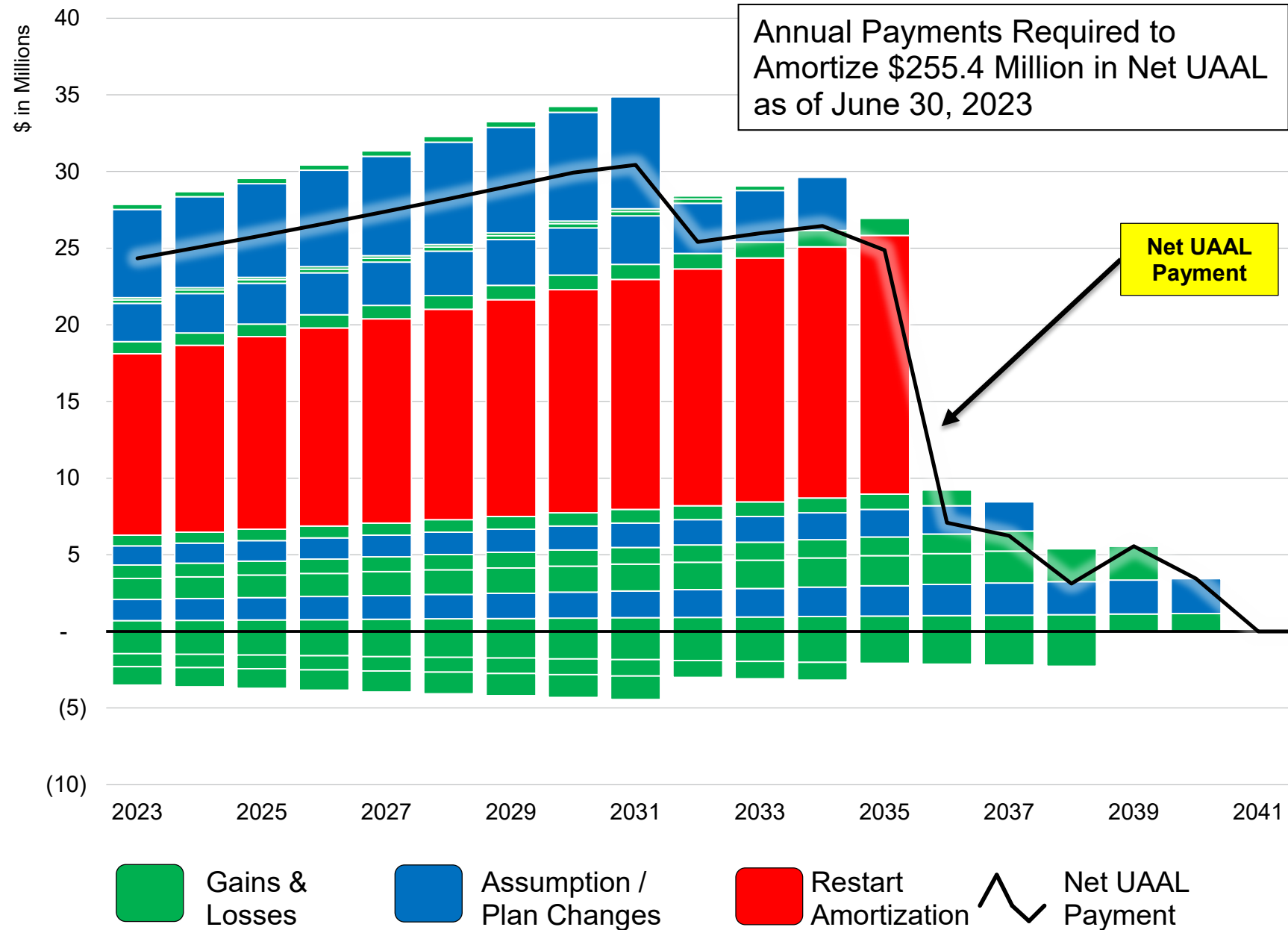
Section 3: Supplemental Information

Exhibit J: Projection of UAAL Balances and Payments



Section 3: Supplemental Information

Exhibit J: Projection of UAAL Balances and Payments (continued)



Section 3: Supplemental Information

Exhibit K: Definition of Pension Terms

The following list defines certain technical terms for the convenience of the reader:

Actuarial Accrued Liability for Actives:	The equivalent of the accumulated normal costs allocated to the years before the valuation date.
Actuarial Accrued Liability for Pensioners and Beneficiaries:	Actuarial Present Value of lifetime benefits to existing pensioners and beneficiaries. This sum takes account of life expectancies appropriate to the ages of the annuitants and the interest that the sum is expected to earn before it is entirely paid out in benefits.
Actuarial Cost Method:	A procedure allocating the Actuarial Present Value of Future Benefits to various time periods; a method used to determine the Normal Cost and the Actuarial Accrued Liability that are used to determine the actuarially determined contribution.
Actuarial Gain or Loss:	A measure of the difference between actual experience and that expected based upon a set of Actuarial Assumptions, during the period between two Actuarial Valuation dates. To the extent that actual experience differs from that assumed, Actuarial Accrued Liabilities emerge which may be the same as forecasted, or may be larger or smaller than projected. Actuarial gains are due to favorable experience, e.g., assets earn more than projected, salary increases are less than assumed, members retire later than assumed, etc. Favorable experience means actual results produce actuarial liabilities not as large as projected by the actuarial assumptions. On the other hand, actuarial losses are the result of unfavorable experience, i.e., actual results yield actuarial liabilities that are larger than projected.
Actuarially Equivalent:	Of equal Actuarial Present Value, determined as of a given date and based on a given set of Actuarial Assumptions.
Actuarial Present Value (APV):	The value of an amount or series of amounts payable or receivable at various times, determined as of a given date by the application of a particular set of Actuarial Assumptions. Each such amount or series of amounts is: Adjusted for the probable financial effect of certain intervening events (such as changes in compensation levels, marital status, etc.) Multiplied by the probability of the occurrence of an event (such as survival, death, disability, withdrawal, etc.) on which the payment is conditioned, and Discounted according to an assumed rate (or rates) of return to reflect the time value of money.

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Actuarial Present Value of Future Plan Benefits:	The Actuarial Present Value of benefit amounts expected to be paid at various future times under a particular set of Actuarial Assumptions, taking into account such items as the effect of advancement in age, anticipated future compensation, and future service credits. The Actuarial Present Value of Future Plan Benefits includes the liabilities for active members, retired members, beneficiaries receiving benefits, and inactive members entitled to either a refund or a future retirement benefit. Expressed another way, it is the value that would have to be invested on the valuation date so that the amount invested plus investment earnings would provide sufficient assets to pay all projected benefits and expenses when due.
Actuarial Valuation:	The determination, as of a valuation date, of the Normal Cost, Actuarial Accrued Liability, Actuarial Value of Assets, and related Actuarial Present Values for a plan. An Actuarial Valuation for a governmental retirement system typically also includes calculations of items needed for compliance with GASB, such as the Actuarially Determined Contribution and the Net Pension Liability (NPL).
Actuarial Value of Assets (AVA):	The value of the Plan's assets as of a given date, used by the actuary for valuation purposes. This may be the market or fair value of plan assets, but commonly plans use a smoothed value in order to reduce the year-to-year volatility of calculated results, such as the funded ratio and the Actuarially Determined Contribution.
Actuarially Determined:	Values that have been determined utilizing the principles of actuarial science. An actuarially determined value is derived by application of the appropriate actuarial assumptions to specified values determined by provisions of the law.
Actuarially Determined Contribution (ADC):	The employer's periodic required contributions, expressed as a dollar amount or a percentage of covered plan compensation, determined under the Plan's funding policy. The ADC consists of the Employer Normal Cost and the Amortization Payment.
Amortization Method:	A method for determining the Amortization Payment. The most common methods used are level dollar and level percentage of payroll. Under the Level Dollar method, the Amortization Payment is one of a stream of payments, all equal, whose Actuarial Present Value is equal to the Unfunded Actuarial Accrued Liability. Under the Level Percentage of Pay method, the Amortization Payment is one of a stream of increasing payments, whose Actuarial Present Value is equal to the Unfunded Actuarial Accrued Liability. Under the Level Percentage of Pay method, the stream of payments increases at the assumed rate at which total covered payroll of all active members will increase.
Amortization Payment:	The portion of the pension plan contribution, or ADC, that is intended to pay off the Unfunded Actuarial Accrued Liability.

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Assumptions or Actuarial Assumptions:	The estimates upon which the cost of the Plan is calculated, including: <u>Investment return</u> - the rate of investment yield that the Plan will earn over the long-term future; <u>Mortality rates</u> - the rate or probability of death at a given age for employees and pensioners; <u>Retirement rates</u> - the rate or probability of retirement at a given age or service; <u>Disability rates</u> - the rate or probability of disability retirement at a given age; <u>Withdrawal rates</u> - the rate or probability at which employees of various ages are expected to leave employment for reasons other than death, disability, or retirement; <u>Salary increase rates</u> - the rates of salary increase due to inflation, real wage growth and merit and promotion increases.
Closed Amortization Period:	A specific number of years that is counted down by one each year, and therefore declines to zero with the passage of time. For example, if the amortization period is initially set at 20 years, it is 19 years at the end of one year, 18 years at the end of two years, etc. See Open Amortization Period.
Decrements:	Those causes/events due to which a member's status (active-inactive-retiree-beneficiary) changes, that is: death, retirement, disability, or withdrawal.
Defined Benefit Plan:	A retirement plan in which benefits are defined by a formula applied to the member's compensation and/or years of service.
Defined Contribution Plan:	A retirement plan, such as a 401(k) plan, a 403(b) plan, or a 457 plan, in which the contributions to the plan are assigned to an account for each member, the plan's earnings are allocated to each account, and each member's benefits are a direct function of the account balance.
Employer Normal Cost:	The portion of the Normal Cost to be paid by the employer. This is equal to the Normal Cost less expected member contributions.
Experience Study:	A periodic review and analysis of the actual experience of the Fund that may lead to a revision of one or more actuarial assumptions. Actual rates of decrement and salary increases are compared to the actuarially assumed values and modified as deemed appropriate by the Actuary.
Funded Ratio:	The ratio of the Valuation Value of Assets (VVA) to the Actuarial Accrued Liability (AAL). Plans sometimes also calculate a market funded ratio, using the Market Value of Assets (MVA), rather than the VVA.
Investment Return:	The rate of earnings of the Plan from its investments, including interest, dividends and capital gain and loss adjustments, computed as a percentage of the average value of the fund. For actuarial purposes, the investment return often reflects a smoothing of the capital gains and losses to avoid significant swings in the value of assets from one year to the next.

Section 3: Supplemental Information

Normal Cost:	The portion of the Actuarial Present Value of Future Benefits allocated to a valuation year by the Actuarial Cost Method. Any payment with respect to an Unfunded Actuarial Accrued Liability is not part of the Normal Cost (see Amortization Payment). For pension plan benefits that are provided in part by employee contributions, Normal Cost refers to the total of member contributions and employer Normal Cost unless otherwise specifically stated.
Open Amortization Period:	An open amortization period is one which is used to determine the Amortization Payment but which does not change over time. If the initial period is set as 30 years, the same 30-year period is used in each future year in determining the Amortization Period.
Unfunded Actuarial Accrued Liability:	The excess of the Actuarial Accrued Liability over the Valuation Value of Assets. This value may be negative, in which case it may be expressed as a negative Unfunded Actuarial Accrued Liability, also called the Funding Surplus or an Overfunded Actuarial Accrued Liability.
Valuation Date or Actuarial Valuation Date:	The date as of which the value of assets is determined and as of which the Actuarial Present Value of Future Plan Benefits is determined. The expected benefits to be paid in the future are discounted to this date.
Valuation Value of Assets:	The Actuarial Value of Assets reduced by the value of non-valuation reserves.

Section 4: Actuarial Valuation Basis

Exhibit 1: Actuarial Assumptions and Methods

Rationale for Assumptions:	The information and analysis used in selecting each assumption that has a significant effect on this actuarial valuation is shown in the July 1, 2019 through June 30, 2022 Actuarial Experience Study report dated May 11, 2023. Unless otherwise noted, all actuarial assumptions and methods shown below apply to all membership groups (i.e., General, Safety, and Probation) and tiers. These assumptions were adopted by the Board.
<u>Economic Assumptions</u>	
Net Investment Return:	6.50%; net of administrative and investment expenses. Based on the Actuarial Experience Study referenced above, expected administrative and investment expenses represent about 0.30% of the Actuarial Value of Assets.
Employee Contribution Crediting Rate:	6.50%, compounded semi-annually.
Cost of Living Adjustment:	Retiree benefits for General Tiers 1, 2, and 3, Safety Tiers 1 and 2, and Probation Tiers 1 and 2 are assumed to increase at 2.75% per year (for non-CalPEPRA members with a sufficient COLA bank, withdrawals from the bank can be made to increase the retiree COLA up to 3% per year). No COLA increases for General Tier 4, Safety Tier 3, and Probation Tier 3.
Payroll Growth:	Inflation of 2.50% per year plus real “across the board” salary increases of 0.50% per year, used to amortize the Unfunded Actuarial Accrued Liability as a level percentage of payroll.
Increase in Internal Revenue Code Section 401(a)(17) Compensation Limit:	Increase of 2.50% per year from the valuation date.
Increase in Section 7522.10 Compensation Limit:	Increase of 2.50% per year from the valuation date.

Section 4: Actuarial Valuation Basis

Salary Increases:

The annual rate of compensation increase includes:

- Inflation at 2.50%, plus
- “Across the board” salary increases of 0.50% per year, plus
- The following merit and promotion increases:

Years of Service	Rate (%)	
	General	Safety and Probation
Less than 1	5.00	5.25
1 – 2	4.75	5.00
2 – 3	4.50	4.50
3 – 4	4.25	3.25
4 – 5	3.50	3.00
5 – 6	2.75	2.25
6 – 7	2.25	2.00
7 – 8	1.75	1.50
8 – 9	1.50	1.25
9 – 10	1.00	1.25
10 – 11	1.00	1.25
11 – 12	1.00	1.25
12 & Over	1.00	1.00

Demographic Assumptions:

Post-Retirement Mortality Rates:

Healthy

- **General Members:** Pub-2010 General Healthy Retiree Amount-Weighted Mortality Tables (separate tables for males and females) with rates decreased by 5% for males and increased by 5% for females, projected generationally with the two-dimensional mortality improvement scale MP-2021.
- **Safety and Probation Members:** Pub-2010 Safety Healthy Retiree Amount-Weighted Mortality Tables (separate tables for males and females), projected generationally with the two-dimensional mortality improvement scale MP-2021.

Disabled

- **General Members:** Pub-2010 Non-Safety Disabled Retiree Amount-Weighted Mortality Tables (separate tables for males and females) with rates decreased by 5%, projected generationally with the two-dimensional mortality improvement scale MP-2021.
- **Safety and Probation Members:** Pub-2010 Safety Disabled Retiree Amount-Weighted Mortality Tables (separate tables for males and females), projected generationally with the two-dimensional mortality improvement scale MP-2021.

Section 4: Actuarial Valuation Basis

Post-Retirement Mortality Rates (continued):

Beneficiaries

- **Beneficiaries not currently in Pay Status:** Pub-2010 General Healthy Retiree Amount-Weighted Mortality Tables (separate tables for males and females) with rates decreased by 5% for males and increased by 5% for females, projected generationally with the two-dimensional mortality improvement scale MP-2021.
- **Beneficiaries currently in Pay Status:** Pub-2010 Contingent Survivor Amount-Weighted Mortality Tables (separate tables for males and females) with rates increased by 5%, projected generationally with the two-dimensional mortality improvement scale MP-2021.

The Pub-2010 mortality tables and adjustments as shown above reasonably reflect the mortality experience as of the measurement date. These mortality tables were adjusted to future years using the generational projection to reflect future mortality improvement between the measurement date and those years.

Pre-Retirement Mortality Rates:

- **General Members:** Pub-2010 General Employee Amount-Weighted Mortality Tables (separate tables for males and females), projected generationally with the two-dimensional mortality improvement scale MP-2021.
- **Safety and Probation Members:** Pub-2010 Safety Employee Amount-Weighted Mortality Tables (separate tables for males and females), projected generationally with the two-dimensional mortality improvement scale MP-2021.

Age	Rate (%)			
	General		Safety and Probation	
	Male	Female	Male	Female
25	0.03	0.01	0.04	0.02
30	0.04	0.02	0.04	0.03
35	0.05	0.02	0.05	0.04
40	0.07	0.04	0.06	0.05
45	0.10	0.06	0.08	0.07
50	0.15	0.08	0.12	0.09
55	0.22	0.12	0.18	0.12
60	0.32	0.19	0.26	0.17
65	0.47	0.30	0.41	0.23
70	0.70	0.49	0.77	0.45

Note that generational projections beyond the base year (2010) are not reflected in the above mortality rates. All General pre-retirement deaths are assumed to be non-service connected deaths. All Safety and Probation pre-retirement deaths are assumed to be service connected deaths.

Section 4: Actuarial Valuation Basis

Mortality Rates for Member Contributions:

- **General Members:** Pub-2010 General Healthy Retiree Amount-Weighted Mortality Tables (separate tables for males and females) with rates decreased by 5% for males and increased by 5% for females, projected 30 years (from 2010) with the two-dimensional mortality improvement scale MP-2021, weighted 30% male and 70% female.
- **Safety and Probation Members:** Pub-2010 Safety Healthy Retiree Amount-Weighted Mortality Tables (separate tables for males and females), projected 30 years (from 2010) with the two-dimensional mortality improvement scale MP-2021, weighted 80% male and 20% female.

Disability Incidence:

Age	Rate (%)		
	General	Safety	Probation
20	0.01	0.10	0.10
25	0.01	0.13	0.13
30	0.01	0.18	0.18
35	0.02	0.98	0.98
40	0.13	1.68	1.68
45	0.26	1.80	1.80
50	0.42	2.37	2.37
55	0.50	2.75	2.75
60	0.56	3.20	3.20
65	0.60	0.00	0.00

60% of General disabilities are assumed to be service connected disabilities. The other 40% are assumed to be non-service connected disabilities.

95% of Safety and Probation disabilities are assumed to be service connected disabilities. The other 5% are assumed to be non-service connected disabilities.

Section 4: Actuarial Valuation Basis

Termination:

Years of Service	Rate (%)		
	General	Safety	Probation
Less than 1	23.00	16.00	16.00
1 – 2	19.00	15.00	15.00
2 – 3	14.00	14.00	14.00
3 – 4	12.00	13.00	13.00
4 – 5	9.00	12.00	12.00
5 – 6	8.00	7.00	7.00
6 – 7	7.00	6.00	6.00
7 – 8	7.00	5.00	5.00
8 – 9	7.00	5.00	5.00
9 – 10	6.50	4.00	4.00
10 – 11	6.50	2.50	2.50
11 – 12	6.50	2.50	2.50
12 – 13	6.50	2.50	2.50
13 – 14	6.50	2.50	2.50
14 – 15	6.50	2.00	2.00
15 – 16	6.50	2.00	2.00
16 – 17	6.50	1.50	1.50
17 – 18	6.50	1.50	1.50
18 – 19	6.50	1.50	1.50
19 – 20	6.50	1.50	1.50
20 & Over	6.50	1.50	1.50

90% of all terminated members with less than 5 years of service are assumed to choose a refund of contributions. The other 10% are assumed to choose a deferred vested benefit.

20% of all terminated members with 5 or more years of service are assumed to choose a refund of contributions. The other 80% are assumed to choose a deferred vested benefit.

No termination is assumed after a member is eligible for retirement (as long as a retirement rate is present).

Section 4: Actuarial Valuation Basis

Retirement Rates:

Age	Rate (%)		
	General Tiers 1, 2, & 3		
	Less than 30 Years of Service	30 or More Years of Service	General Tier 4
50	5.00	5.00	0.00
51	5.00	5.00	0.00
52	5.00	5.00	6.00
53	5.00	5.00	3.00
54	5.00	5.00	3.00
55	5.00	5.00	5.00
56	5.00	5.00	5.00
57	10.00	15.00	6.00
58	10.00	15.00	6.00
59	10.00	15.00	6.00
60	12.00	25.00	6.00
61	14.00	25.00	10.00
62	22.00	35.00	12.00
63	20.00	25.00	14.00
64	20.00	25.00	12.00
65	40.00	45.00	30.00
66	40.00	45.00	30.00
67	40.00	45.00	30.00
68	40.00	45.00	30.00
69	40.00	45.00	30.00
70	50.00	50.00	50.00
71	50.00	50.00	50.00
72	50.00	50.00	50.00
73	50.00	50.00	50.00
74	50.00	50.00	50.00
75	100.00	100.00	100.00

The retirement rates only apply to members who are eligible to retire at the age shown.

Section 4: Actuarial Valuation Basis

Retirement Rates (continued):	Rate (%)				
	Safety Tiers 1 & 2		Safety Tier 3	Probation Tiers 1 & 2	Probation Tier 3
	Age	Less than 25 Years of Service	25 or More Years of Service		
	50	6.00	15.00	3.00	4.00
	51	6.00	15.00	3.00	4.00
	52	6.00	15.00	3.00	4.00
	53	8.00	20.00	3.00	4.00
	54	12.00	30.00	4.00	4.00
	55	15.00	35.00	6.00	20.00
	56	20.00	45.00	12.00	21.00
	57	25.00	45.00	15.00	21.00
	58	30.00	45.00	18.00	21.00
	59	40.00	45.00	40.00	21.00
	60	50.00	50.00	50.00	50.00
	61	50.00	50.00	50.00	50.00
	62	50.00	50.00	50.00	50.00
	63	50.00	50.00	50.00	50.00
	64	50.00	50.00	50.00	50.00
	65	100.00	100.00	100.00	100.00
The retirement rates only apply to members who are eligible to retire at the age shown.					
Retirement Age and Benefit for Deferred Vested Members:	For current and future deferred vested members, retirement age assumptions are as follows: • General Retirement Age: 61 • Safety and Probation Retirement Age: 54 Deferred vested members who terminate with less than five years of service and are not vested are assumed to retire at age 70 if they decide to leave their contributions on deposit. 65% of future deferred vested members are assumed to continue to work for a reciprocal employer. For reciprocals, 4.00% compensation increases are assumed per annum.				
Future Benefit Accruals:	1.0 year of service per year of employment, plus 0.017 years of additional service to anticipate conversion of unused sick leave for each year of employment, for members expected to retire directly from active employment and to receive a service retirement benefit.				

Section 4: Actuarial Valuation Basis

Unknown Data for Members:	Same as those exhibited by members with similar known characteristics. If not specified, members are assumed to be male.
Inclusion of Deferred Vested Members:	All deferred vested members are included in the valuation.
Form of Payment:	All active and inactive members are assumed to elect the unmodified option at retirement.
Percent Married:	For all active and inactive members, 70% of male members and 50% of female members are assumed to be married at pre-retirement death or retirement.
Age and Gender of Spouse:	For all active and inactive members, male members are assumed to have a female spouse who is 2 years younger than the member and female members are assumed to have a male spouse who is 2 years older than the member.
<u>Actuarial Funding Policy</u>	
Actuarial Cost Method:	Entry Age Cost Method. Entry Age is the age on the valuation date minus years of service rounded down. Normal Cost and Actuarial Accrued Liability are calculated on an individual basis and are based on costs allocated as a level percentage of compensation, as if the current benefit formula for each individual has always been in effect (i.e., "replacement life within a tier").
Actuarial Value of Assets:	Market Value of Assets (MVA) less unrecognized returns in each of the last five years. Unrecognized return is equal to the difference between the actual market return adjusted for investment expenses only ¹ and the expected return on the valuation value and is recognized over a five-year period. The Actuarial Value of Assets (AVA) is limited by a 25% corridor; the AVA cannot be less than 75% of MVA, nor greater than 125% of MVA.
Valuation Value of Assets:	The Actuarial Value of Assets reduced by the value of the non-valuation reserves.
Amortization Policy:	Prior to July 1, 2012, the total UAAL was amortized on a 30-year decreasing period, with 27 years remaining as of June 30, 2012. On December 15, 2021, the Board reduced the amortization period for the 2012 UAAL restart layer by 3 years, from 18 years remaining as of June 30, 2021 to 15 years (13 years as of June 30, 2023). On or after July 1, 2012, any new UAAL resulting from plan amendments are amortized over separate decreasing 15-year periods; early retirement incentive programs (ERIPs) are amortized over separate decreasing 5-year periods; assumption and method changes are amortized over separate decreasing 18-year periods; and experience gains/losses are also amortized over separate decreasing 18-year periods.

¹ Based on past practice, administrative expenses are included with benefit payments and are not subject to five-year asset smoothing.

Section 4: Actuarial Valuation Basis

Other Actuarial Methods

Employer Contributions:

Employer contributions consist of two components:

Normal Cost

The annual contribution rate that, if paid annually from a member's first year of membership through the year of retirement, would accumulate to the amount necessary to fully fund the member's retirement-related benefits. Accumulation includes annual crediting of interest at the assumed investment earnings rate. The contribution rate is expressed as a level percentage of the member's compensation.

Contribution to the Unfunded Actuarial Accrued Liability (UAAL)

The annual contribution rate that, if paid annually over the UAAL amortization period, would accumulate to the amount necessary to fully fund the UAAL. Accumulation includes annual crediting of interest at the assumed investment earnings rate. The contribution (or rate credit in the case of a negative UAAL) is calculated to remain as a level percentage of future active member payroll (including payroll for new members as they enter the Association) assuming a constant number of active members. In order to remain as a level percentage of payroll, amortization payments (credits) are scheduled to increase at the annual rate of 3.00% (i.e., 2.50% inflation plus 0.50% across-the-board salary increase).

The amortization policy is described on the previous page.

Also, under the Board's funding policy adopted on April 17, 2013, in addition to the UAAL contribution rate, an amortization amount equal to the UAAL contribution rate times the covered payroll (as estimated in the actuarial valuation that establishes such UAAL contribution rate) will be calculated for each employer. The final UAAL payment by each employer will be equal to the UAAL contribution rate times the actual covered payroll or the above amortization amount, if greater. This means that UAAL contribution amounts will be equal to the greater of the UAAL contribution rates developed in Section 2, Subsection F of this valuation times the actual fiscal year 2024/2025 payroll, or the estimated UAAL annual contribution amounts also provided in Section 2, Subsection F of this valuation. To facilitate the calculation of the minimum UAAL dollar contribution amount, we have provided in Section 2, Subsection F a breakdown of the estimated UAAL annual contribution amounts by employer (i.e., County of Mendocino, Mendocino County Superior Court, and Russian River Cemetery District).

On June 19, 2013 the Board adopted an additional change to the actuarial funding policy to anticipate the contribution rate impact that would result from the lag between the date of the actuarial valuation and the date of the contribution rate implementation. In general, the contribution rates determined in an actuarial valuation will apply to the fiscal year beginning 12 months after the valuation date. In compliance with the change in the funding policy, the employer contribution rates developed in this valuation have been adjusted to anticipate the delay in implementing the change in the employer contribution rates determined as of June 30, 2023 for the fiscal year 2024/2025. This adjustment is reflected in the UAAL portion of the June 30, 2023 employer rates.

The recommended employer contributions are provided in Section 2, Subsection F. The minimum amounts required from each employer to amortize their UAAL are also provided in Section 2, Subsection F.

Section 4: Actuarial Valuation Basis

Member Contributions:

General Tiers 1, 2, and 3, Safety Tiers 1 and 2, and Probation Tiers 1 and 2

Articles 6 and 6.8 of the 1937 Act define the methodology to be used in the calculation of member basic contribution rates for General Tier 1-3 members and for Safety and Probation Tier 1-2 members, respectively. The basic contribution rate is determined so that the accumulation of a member's basic contributions made in a given year until a certain age will be sufficient to fund an annuity at that age that is equal to 1/100 of Final Average Salary. That age is 60 for General members and 50 for Safety and Probation members. It is assumed that contributions are made annually at the same rate, starting at entry age. In addition to the basic contributions, members pay one-half of the total normal cost necessary to fund cost-of-living benefits. Following practices established by the Association's previous actuary prior to the June 30, 2011 valuation, we have also included a 1.63% of pay offset to the Safety member rates, which is picked up by the County. No other subsidies have been reflected in the member contribution rates.

General Tier 4, Safety Tier 3, and Probation Tier 3

Pursuant to Section 7522.30(a) of the Government Code, General Tier 4, Safety Tier 3, and Probation Tier 3 members are required to contribute at least 50% of the Normal Cost rate. In addition, there are certain additional requirements that would have to be met such as requiring the new employees to pay the contribution rate of "similarly situated employees", if it is greater. (reference: Section 7522.30(c)). We further understand that different rules may have to be applied for collectively bargained employees, non-represented, managerial or other supervisory employees (reference: Section 7522.30(e)). In preparing the Normal Cost rates in this report, we have assumed that exactly 50% of the Normal Cost would be paid by the new members and we have taken into account in this valuation only the requirements of Section 7522.30(c), but not the requirements of Section 7522.30(e).

Accumulation for all members includes semi-annual crediting of interest at the assumed investment earnings rate.

The member contribution rates for all members are provided in *Section 4, Exhibit 3*.

Section 4: Actuarial Valuation Basis

Internal Revenue Code Section 415:	Section 415 of the Internal Revenue Code (IRC) specifies the maximum benefits that may be paid to an individual from a defined benefit plan and the maximum amounts that may be allocated each year to an individual's account in a defined contribution plan. A qualified pension plan may not pay benefits in excess of the Section 415 limits. The ultimate penalty for non-compliance is disqualification: active participants could be taxed on their vested benefits and the IRS may seek to tax the income earned on the plan's assets. In particular, Section 415(b) of the IRC limits the maximum annual benefit payable at the Normal Retirement Age to a dollar limit of \$160,000 indexed for inflation. That limit is \$265,000 for 2023. Normal Retirement Age for these purposes is age 62. These are the limits in simplified terms. They must be adjusted based on each participant's circumstances, for such things as age at retirement, form of benefits chosen and after tax contributions. Benefits for members in non-CalPEPRA tiers in excess of the limits may be paid through a qualified governmental excess plan that meets the requirements of Section 415(m). Legal Counsel's review and interpretation of the law and regulations should be sought on any questions in this regard. Contribution rates determined in this valuation have not been reduced for the Section 415 limitations. Actual limitations will result in gains as they occur.
Change in Actuarial Assumptions and Methods:	Based on the Actuarial Experience Study, the following assumptions were changed. Previously, these assumptions and methods were as follows:
<i>Net Investment Return:</i>	6.75%; net of administrative and investment expenses. Expected administrative and investment expenses represent about 0.40% of the Market Value of Assets.
<i>Employee Contribution Crediting Rate:</i>	6.75%, compounded semi-annually.
<i>Payroll Growth:</i>	Inflation of 2.75% per year plus real "across the board" salary increases of 0.50% per year, used to amortize the Unfunded Actuarial Accrued Liability as a level percentage of payroll.
<i>Increase in Internal Revenue Code Section 401(a)(17) Compensation Limit:</i>	Increase of 2.75% per year from the valuation date.
<i>Increase in Section 7522.10 Compensation Limit:</i>	Increase of 2.75% per year from the valuation date.

Section 4: Actuarial Valuation Basis

Prior Actuarial Assumptions (continued):

Salary Increases:

The annual rate of compensation increase includes: inflation at 2.75%, plus “across the board” salary increases of 0.50% per year, plus the following merit and promotion increases:

Merit and Promotion Increases		
Years of Service	Rate (%)	
	General	Safety and Probation
Less than 1	5.00	5.00
1 – 2	4.50	4.25
2 – 3	4.00	3.75
3 – 4	3.25	3.25
4 – 5	2.75	2.50
5 – 6	2.25	2.00
6 – 7	2.00	1.75
7 – 8	1.75	1.25
8 – 9	1.25	1.00
9 – 10	1.00	1.00
10 & Over	1.00	1.00

Post-Retirement Mortality Rates:

Healthy

- **General Members:** Pub-2010 General Healthy Retiree Amount-Weighted Mortality Tables (separate tables for males and females) with rates decreased by 5% for males and increased by 5% for females, projected generationally with the two-dimensional mortality improvement scale MP-2019
- **Safety and Probation Members:** Pub-2010 Safety Healthy Retiree Amount-Weighted Mortality Tables (separate tables for males and females), projected generationally with the two-dimensional mortality improvement scale MP-2019

Disabled

- **General Members:** Pub-2010 Non-Safety Disabled Retiree Amount-Weighted Mortality Tables (separate tables for males and females) with rates decreased by 5%, projected generationally with the two-dimensional mortality improvement scale MP-2019
- **Safety and Probation Members:** Pub-2010 Safety Disabled Retiree Amount-Weighted Mortality Tables (separate tables for males and females), projected generationally with the two-dimensional mortality improvement scale MP-2019

Beneficiaries

All Beneficiaries: Pub-2010 Contingent Survivor Amount-Weighted Mortality Tables (separate tables for males and females) with rates increased by 5%, projected generationally with the two-dimensional mortality improvement scale MP-2019

Section 4: Actuarial Valuation Basis

Prior Actuarial Assumptions (continued):

Pre-Retirement Mortality Rates:

- **General Members:** Pub-2010 General Employee Amount-Weighted Mortality Tables (separate tables for males and females), projected generationally with the two-dimensional mortality improvement scale MP-2019
- **Safety and Probation Members:** Pub-2010 Safety Employee Amount-Weighted Mortality Tables (separate tables for males and females), projected generationally with the two-dimensional mortality improvement scale MP-2019

Age	Rate (%)			
	General		Safety and Probation	
	Male	Female	Male	Female
25	0.03	0.01	0.04	0.02
30	0.04	0.02	0.04	0.03
35	0.05	0.02	0.05	0.04
40	0.07	0.04	0.06	0.05
45	0.10	0.06	0.08	0.07
50	0.15	0.08	0.12	0.09
55	0.22	0.12	0.18	0.12
60	0.32	0.19	0.26	0.17
65	0.47	0.30	0.41	0.23
70	0.70	0.49	0.77	0.45

Note that generational projections beyond the base year (2010) are not reflected in the above mortality rates. All General pre-retirement deaths are assumed to be non-service connected deaths. All Safety and Probation pre-retirement deaths are assumed to be service connected deaths.

Mortality Rates for Member Contributions:

- **General Members:** Pub-2010 General Healthy Retiree Amount-Weighted Mortality Tables (separate tables for males and females) with rates decreased by 5% for males and increased by 5% for females, projected 30 years (from 2010) with the two-dimensional mortality improvement scale MP-2019, weighted 30% male and 70% female
- **Safety and Probation Members:** Pub-2010 Safety Healthy Retiree Amount-Weighted Mortality Tables (separate tables for males and females), projected 30 years (from 2010) with the two-dimensional mortality improvement scale MP-2019, weighted 80% male and 20% female.

Section 4: Actuarial Valuation Basis

Prior Actuarial Assumptions (continued):

Disability Incidence:

Age	Rate (%)		
	General	Safety	Probation
20	0.01	0.10	0.10
25	0.01	0.13	0.13
30	0.01	0.18	0.18
35	0.02	0.98	0.98
40	0.13	1.68	1.68
45	0.29	1.80	1.80
50	0.44	2.37	2.37
55	0.50	2.75	2.75
60	0.56	0.00	0.00
65	0.63	0.00	0.00

50% of General disabilities are assumed to be service connected disabilities. The other 50% are assumed to be non-service connected disabilities.

90% of Safety and Probation disabilities are assumed to be service connected disabilities. The other 10% are assumed to be non-service connected disabilities.

Section 4: Actuarial Valuation Basis

Prior Actuarial Assumptions (continued):

Termination:

Less Than Five Years of Service

Years of Service	Rate (%)		
	General	Safety	Probation
Less than 1	24.00	14.00	14.00
1 – 2	16.00	13.00	13.00
2 – 3	14.00	12.00	12.00
3 – 4	12.00	10.00	10.00
4 – 5	11.00	8.00	8.00

85% of all terminated members with less than 5 years of service are assumed to choose a refund of contributions. The other 15% are assumed to choose a deferred vested benefit. No termination is assumed after a member is eligible for retirement (as long as a retirement rate is present).

Five or More Years of Service

Age	Rate (%)		
	General	Safety	Probation
20	8.00	7.00	7.00
25	8.00	7.00	7.00
30	8.00	6.40	6.40
35	8.00	6.00	6.00
40	8.00	4.80	4.80
45	6.80	3.40	3.40
50	6.00	1.80	1.80
55	6.00	0.40	0.40
60	5.40	0.00	0.00
65	4.40	0.00	0.00

25% of all terminated members with 5 or more years of service are assumed to choose a refund of contributions. The other 75% are assumed to choose a deferred vested benefit. No termination is assumed after a member is eligible for retirement (as long as a retirement rate is present).

Section 4: Actuarial Valuation Basis

Prior Actuarial Assumptions (continued):

Retirement Rates:

Age	Rate (%)					
	General Tiers 1, 2, & 3	General Tier 4	Safety Tiers 1 & 2	Safety Tier 3	Probation Tiers 1 & 2	Probation Tier 3
50	5.00	0.00	8.00	3.00	5.00	4.00
51	5.00	0.00	8.00	3.00	5.00	4.00
52	5.00	6.00	8.00	3.00	5.00	4.00
53	5.00	3.00	8.00	3.00	5.00	4.00
54	5.00	3.00	8.00	3.00	5.00	4.00
55	10.00	5.00	10.00	4.00	23.00	13.00
56	10.00	5.00	15.00	10.00	23.00	24.00
57	10.00	5.00	20.00	12.00	23.00	24.00
58	10.00	5.00	25.00	15.00	23.00	24.00
59	10.00	5.00	30.00	30.00	23.00	24.00
60	12.00	6.00	100.00	100.00	100.00	100.00
61	15.00	9.00	100.00	100.00	100.00	100.00
62	25.00	12.00	100.00	100.00	100.00	100.00
63	20.00	14.00	100.00	100.00	100.00	100.00
64	20.00	12.00	100.00	100.00	100.00	100.00
65	45.00	32.00	100.00	100.00	100.00	100.00
66	45.00	32.00	100.00	100.00	100.00	100.00
67	45.00	32.00	100.00	100.00	100.00	100.00
68	45.00	32.00	100.00	100.00	100.00	100.00
69	45.00	32.00	100.00	100.00	100.00	100.00
70 & Over	100.00	100.00	100.00	100.00	100.00	100.00

The retirement rates only apply to members that are eligible to retire at the age shown.

Retirement Age and Benefit for Deferred Vested Members:

For current and future deferred vested members, retirement age assumptions are as follows:

General Retirement Age: 60

Safety and Probation Retirement Age: 54

Deferred vested members who terminate with less than five years of service and are not vested are assumed to retire at age 70 if they decide to leave their contributions on deposit.

65% of future deferred vested members are assumed to continue to work for a reciprocal employer. For reciprocals, 4.25% compensation increases are assumed per annum.

Section 4: Actuarial Valuation Basis

Prior Actuarial Assumptions (continued):	
<i>Actuarial Cost Method:</i>	Entry Age Cost Method. Entry Age is the age on the valuation date minus years of service. Normal Cost and Actuarial Accrued Liability are calculated on an individual basis and are based on costs allocated as a level percentage of compensation, as if the current benefit formula for each individual has always been in effect (i.e., “replacement life within a tier”).

Section 4: Actuarial Valuation Basis

Exhibit 2: Summary of Plan Provisions

This exhibit summarizes the major provisions of the Plan included in the valuation. It is not intended to be, nor should it be interpreted as, a complete statement of all plan provisions.

Plan Year:	July 1 through June 30
Membership Eligibility:	Membership with MCERA usually begins with the first day of the pay period following the date of entrance into service.
<i>General Tier 1</i>	All General members appointed to a permanent position of four-fifths time, or more, in service of the County of Mendocino or in the service of a participating District, who were hired prior to July 1, 1984.
<i>General Tier 2</i>	General Tier 2 has been replaced by General Tier 3.
<i>General Tier 3</i>	All General members appointed to a permanent position of four-fifths time, or more, in service of the County of Mendocino or in the service of a participating District, who were hired on or after July 1, 1984 and prior to January 1, 2013.
<i>General Tier 4</i>	All General members appointed to a permanent position of four-fifths time, or more, in service of the County of Mendocino or in the service of a participating District, who were hired on or after January 1, 2013.
<i>Safety Tier 1</i>	All employees appointed to a position in active law enforcement who were hired prior to June 1, 1982.
<i>Safety Tier 2</i>	All employees appointed to a position in active law enforcement who were hired on or after June 1, 1982 and prior to January 1, 2013.
<i>Safety Tier 3</i>	All employees appointed to a position in active law enforcement who were hired on or after January 1, 2013.
<i>Probation Tier 1</i>	All employees appointed to positions with specific job classifications within the Departments of Probation, Juvenile Hall, and Social Services who were hired prior to July 1, 1984.
<i>Probation Tier 2</i>	All employees appointed to positions with specific job classifications within the Departments of Probation, Juvenile Hall, and Social Services who were hired on or after July 1, 1984 and prior to January 1, 2013.
<i>Probation Tier 3</i>	All employees appointed to positions with specific job classifications within the Departments of Probation, Juvenile Hall, and Social Services who were hired on or after January 1, 2013.

Section 4: Actuarial Valuation Basis

Final Compensation for Benefit Determination:	
<i>General Tier 1, Safety Tier 1, and Probation Tier 1</i>	Highest consecutive twelve months of compensation earnable (§31462.1) (FAS1).
<i>General Tiers 2 and 3, Safety Tier 2, and Probation Tier 2</i>	Highest consecutive thirty-six months of compensation earnable (§31462) (FAS3).
<i>General Tier 4, Safety Tier 3, and Probation Tier 3</i>	Highest consecutive thirty-six months of pensionable compensation (§7522.10(c), §7522.32, §7522.34) (FAS3).
Compensation Limit:	
<i>General Tiers 1, 2, and 3, Safety Tiers 1 and 2, and Probation Tiers 1 and 2</i>	For members with membership dates on or after July 1, 1996, compensation earnable is limited by Internal Revenue Code Section 401(a)(17). The limit for 2023 is \$330,000. The limit is indexed for inflation on an annual basis.
<i>General Tier 4, Safety Tier 3, and Probation Tier 3</i>	Pensionable compensation is limited to \$146,042 for 2023 for an employer that is enrolled in Social Security. For an employer that is not enrolled in Social Security, the maximum amount for 2023 is 120% of \$146,042, or \$175,250. (reference: Section 7522.10) These amounts should be adjusted for changes to the Consumer Price Index for All Urban Consumers after 2023. (reference: Section 7522.10(d))
Service:	Years of service (Yrs) is based on the number of pay periods in which contributions are received (1 year of service equals 26 biweekly pay periods).
Service Retirement Eligibility:	
<i>General Tiers 1, 2, and 3</i>	Age 50 with 5 years of service and 10 years of membership, or age 70, or after 30 years of service regardless of age (§31672).
<i>General Tier 4</i>	Age 52 with 5 years of service, or age 70 (§7522.20(a)).
<i>Safety and Probation Tiers 1 and 2</i>	Age 50 with 5 years of service and 10 years of membership, or age 70, or after 20 years of service regardless of age (§31663.25).
<i>Safety and Probation Tier 3</i>	Age 50 with 5 years of service, or age 70 (§7522.25(d)).

Section 4: Actuarial Valuation Basis

Benefit Formula:

General Tier 1 (§31676.12)*

Retirement Age	Benefit Formula
50	$(1.34\% \times \text{FAS1} - 1/3 \times 1.34\% \times \$350 \times 12) \times \text{Yrs}$
55	$(1.77\% \times \text{FAS1} - 1/3 \times 1.77\% \times \$350 \times 12) \times \text{Yrs}$
60	$(2.34\% \times \text{FAS1} - 1/3 \times 2.34\% \times \$350 \times 12) \times \text{Yrs}$
62 and over	$(2.62\% \times \text{FAS1} - 1/3 \times 2.62\% \times \$350 \times 12) \times \text{Yrs}$

General Tier 2 and General Tier 3 (§31676.12)*

Retirement Age	Benefit Formula
50	$(1.34\% \times \text{FAS3} - 1/3 \times 1.34\% \times \$350 \times 12) \times \text{Yrs}$
55	$(1.77\% \times \text{FAS3} - 1/3 \times 1.77\% \times \$350 \times 12) \times \text{Yrs}$
60	$(2.34\% \times \text{FAS3} - 1/3 \times 2.34\% \times \$350 \times 12) \times \text{Yrs}$
62 and over	$(2.62\% \times \text{FAS3} - 1/3 \times 2.62\% \times \$350 \times 12) \times \text{Yrs}$

* For members in Bargaining Groups 01 and 101 who have service prior to October 1, 2003 and who have not purchased this service to be covered under Section 31676.12, their prior service will be covered under Section 31676.11 for Tier 1 and Tier 2 and Section 31676.1 for Tier 3. For all other Bargaining Groups, the prior service date is January 1, 2002 (instead of October 1, 2003).

General Tier 4 (§7522.20(a))

Retirement Age	Benefit Formula
52	$1.00\% \times \text{FAS3} \times \text{Yrs}$
55	$1.30\% \times \text{FAS3} \times \text{Yrs}$
60	$1.80\% \times \text{FAS3} \times \text{Yrs}$
62	$2.00\% \times \text{FAS3} \times \text{Yrs}$
65	$2.30\% \times \text{FAS3} \times \text{Yrs}$
67 and over	$2.50\% \times \text{FAS3} \times \text{Yrs}$

Safety Tier 1 (§31664.2)

Retirement Age	Benefit Formula
50	$(2.29\% \times \text{FAS1} - 1/3 \times 2.29\% \times \$350 \times 12) \times \text{Yrs}$
55 and over	$(3.00\% \times \text{FAS1} - 1/3 \times 3.00\% \times \$350 \times 12) \times \text{Yrs}$

Safety Tier 2 (§31664.2)

Retirement Age	Benefit Formula
50	$(2.29\% \times \text{FAS3} - 1/3 \times 2.29\% \times \$350 \times 12) \times \text{Yrs}$
55 and over	$(3.00\% \times \text{FAS3} - 1/3 \times 3.00\% \times \$350 \times 12) \times \text{Yrs}$

Section 4: Actuarial Valuation Basis

Benefit Formula: (continued)		
Safety Tier 3 (§7522.25(d))	Retirement Age	Benefit Formula
	50	2.00% x FAS3 x Yrs
	55	2.50% x FAS3 x Yrs
	57 and over	2.70% x FAS3 x Yrs
Probation Tier 1 (§31664)	Retirement Age	Benefit Formula
	50	(2.00% x FAS1 – 1/3 x 2.00% x \$350 x 12) x Yrs
	55 and over	(2.62% x FAS1 – 1/3 x 2.62% x \$350 x 12) x Yrs
Probation Tier 2 (§31664)	Retirement Age	Benefit Formula
	50	(2.00% x FAS3 – 1/3 x 2.00% x \$350 x 12) x Yrs
	55 and over	(2.62% x FAS3 – 1/3 x 2.62% x \$350 x 12) x Yrs
Probation Tier 3 (§7522.25(d))	Retirement Age	Benefit Formula
	50	2.00% x FAS3 x Yrs
	55	2.50% x FAS3 x Yrs
	57 and over	2.70% x FAS3 x Yrs
Maximum Benefit:		
General Tiers 1, 2, and 3, Safety Tiers 1 and 2, and Probation Tiers 1 and 2	100% of Highest Average Compensation (§31676.12, §31664.2, and §31664).	
General Tier 4, Safety Tier 3, and Probation Tier 3	None (§7522.20(a) and §7522.25(d)).	
Non-Service Connected Disability:		
All Members		
Eligibility	Five years of service (§31720).	
Benefit Formula	1.8% of Final Compensation per year of service. If the benefit does not exceed one-third of Final Compensation, the service is projected to 62 for General members and to age 55 for Safety and Probation members, but the total benefit cannot be more than one-third of Final Compensation (§31727.1 and §31727.2).	

Section 4: Actuarial Valuation Basis

Service Connected Disability:	
<i>All Members</i>	
<i>Eligibility</i>	No age or service requirements (§31720).
<i>Benefit Formula</i>	50% of the Final Compensation or 100% of Service Retirement benefit, if greater (§31727.4).
Pre-Retirement Death:	
<i>All Members</i>	
<i>Eligibility</i>	None.
<i>Basic Lump Sum Benefit</i>	Refund of employee contributions with interest, plus one month's compensation for each year of service, to a maximum of six month's compensation (§31781).
<i>Service Connected Death</i>	50% of Final Compensation or 100% of Service Retirement benefit, if greater, payable to spouse* or minor children (§31787). * <i>In this summary, the continuance benefit payable to the spouse is also available to the eligible domestic partner.</i>
<i>Vested Members</i>	
<i>Eligibility</i>	Five years of service.
<i>Basic Benefit</i>	60% of the greater of Service or Non-Service Connected Disability Retirement benefit payable to surviving eligible spouse (§31765.1, §31781.1), in lieu of the basic lump sum benefit above.
<i>Service Connected Death</i>	50% of Final Compensation or 100% of Service Retirement benefit, if greater, payable to spouse or minor children (§31787).
Death After Retirement:	
<i>All Members</i>	
<i>Lump Sum Death Benefit</i>	\$1,000 lump sum death benefit paid to the estate or designated beneficiary (§31789, §31789.13).
<i>Service Retirement or Non-Service Connected Disability Retirement</i>	Unless another option was selected at retirement, 60% of member's unmodified allowance continues to eligible spouse (§31760.1).* An eligible spouse is a surviving spouse who was married to the member at least one year prior to the date of retirement (§31760.1).
<i>Service Connected Disability Retirement</i>	Unless another option was selected at retirement, 100% of member's allowance continued to eligible spouse (§31786). * <i>100% of the COLA benefit is continued to the survivor upon the member's death for a member who retired prior to September 17, 2014 for service or non-service connected disability and chose the unmodified option at retirement.</i>

Section 4: Actuarial Valuation Basis

Withdrawal Benefits:	
<i>Less than Five Years of Service</i>	Refund of accumulated employee contributions with interest (§31628).
<i>Five or More Years of Service</i>	If contributions left on deposit, entitled to earned benefits commencing at any time after eligible to retire (§31700).
Post-retirement Cost-of-Living Benefits:	
<i>General Tiers 1, 2, and 3, Safety Tiers 1 and 2, and Probation Tiers 1 and 2</i>	Annual adjustment based on Consumer Price Index to a maximum of 3% per year; excess “banked” (§31870.1).
<i>General Tier 4, Safety Tier 3, and Probation Tier 3</i>	None.
Member Contributions:	
<i>General Tier 1</i>	Please refer to Section 4, Exhibit 3 for specific rates.
<i>Basic</i>	Entry-age based rates that provide for an annuity at age 60 equal to 1/100 of FAS1 (§31621.2).
<i>Cost-of-Living</i>	Entry-age based rates that provide for one-half of future Cost-of-Living costs.
<i>General Tier 2 and General Tier 3</i>	
<i>Basic</i>	Entry-age based rates that provide for an annuity at age 60 equal to 1/100 of FAS3 (§31621.2).
<i>Cost-of-Living</i>	Entry-age based rates that provide for one-half of future Cost-of-Living costs.
<i>General Tier 4</i>	50% of the total Normal Cost rate.
<i>Safety Tier 1 and Probation Tier 1</i>	
<i>Basic</i>	Entry-age based rates that provide for an annuity at age 50 equal to 1/100 of FAS1 (§31639.25).
<i>Cost-of-Living</i>	Entry-age based rates that provide for one-half of future Cost-of-Living costs. Safety Tier 1 Cost-of-Living member rates are offset by 1.63% of pay, which is picked up by the County.
<i>Safety Tier 2 and Probation Tier 2</i>	
<i>Basic</i>	Entry-age based rates that provide for an annuity at age 50 equal to 1/100 of FAS3 (§31639.25).
<i>Cost-of-Living</i>	Entry-age based rates that provide for one-half of future Cost-of-Living costs. Safety Tier 2 Cost-of-Living member rates are offset by 1.63% of pay, which is picked up by the County.
<i>Safety Tier 3 and Probation Tier 3</i>	50% of the total Normal Cost rate.

Section 4: Actuarial Valuation Basis

Other Information:	All non-CalPEPRA members with 30 or more years of service are exempt from paying member contributions.
Changes in Plan Provisions:	There have been no changes in plan provisions since the last valuation.

Note: The summary of major plan provisions is designed to outline principal plan benefits as interpreted for purposes of the actuarial valuation. If the Association should find the plan summary not in accordance with the actual provisions, the Association should alert the actuary so they can both be sure the proper provisions are valued.

Section 4: Actuarial Valuation Basis

Exhibit 3: Member Contribution Rates

General Tier 1 Members' Contribution Rate Based on the June 30, 2023 Actuarial Valuation¹
(as a % of biweekly payroll)

Entry Age	General Tier 1					
	Basic		COLA		Total	
	First \$161.54	Over \$161.54	First \$161.54	Over \$161.54	First \$161.54	Over \$161.54
15	4.76%	7.14%	1.76%	2.64%	6.52%	9.78%
16	4.76%	7.14%	1.76%	2.64%	6.52%	9.78%
17	4.83%	7.24%	1.79%	2.68%	6.62%	9.92%
18	4.89%	7.34%	1.81%	2.72%	6.70%	10.06%
19	4.97%	7.45%	1.84%	2.76%	6.81%	10.21%
20	5.03%	7.55%	1.86%	2.79%	6.89%	10.34%
21	5.11%	7.66%	1.89%	2.83%	7.00%	10.49%
22	5.18%	7.77%	1.92%	2.88%	7.10%	10.65%
23	5.25%	7.88%	1.95%	2.92%	7.20%	10.80%
24	5.33%	7.99%	1.97%	2.96%	7.30%	10.95%
25	5.40%	8.10%	2.00%	3.00%	7.40%	11.10%
26	5.48%	8.22%	2.03%	3.04%	7.51%	11.26%
27	5.55%	8.33%	2.05%	3.08%	7.60%	11.41%
28	5.63%	8.45%	2.09%	3.13%	7.72%	11.58%
29	5.71%	8.57%	2.11%	3.17%	7.82%	11.74%
30	5.79%	8.69%	2.15%	3.22%	7.94%	11.91%
31	5.87%	8.81%	2.17%	3.26%	8.04%	12.07%
32	5.96%	8.94%	2.21%	3.31%	8.17%	12.25%
33	6.04%	9.06%	2.23%	3.35%	8.27%	12.41%
34	6.13%	9.19%	2.27%	3.40%	8.40%	12.59%
35	6.21%	9.32%	2.30%	3.45%	8.51%	12.77%
36	6.31%	9.46%	2.33%	3.50%	8.64%	12.96%
37	6.39%	9.59%	2.37%	3.55%	8.76%	13.14%
38	6.49%	9.73%	2.40%	3.60%	8.89%	13.33%
39	6.58%	9.87%	2.43%	3.65%	9.01%	13.52%

¹ Provided for informational purposes only, as all of the General Tier 1 members in the June 30, 2023 valuation data had more than 30 years of service and are exempt from paying member contributions.

Section 4: Actuarial Valuation Basis

Exhibit 3: Member Contribution Rates (continued)

General Tier 1 Members' Contribution Rates Based on the June 30, 2023 Actuarial Valuation¹
(as a % of biweekly payroll) (continued)

General Tier 1 (continued)						
Entry Age	Basic		COLA		Total	
	First \$161.54	Over \$161.54	First \$161.54	Over \$161.54	First \$161.54	Over \$161.54
40	6.67%	10.01%	2.47%	3.70%	9.14%	13.71%
41	6.77%	10.16%	2.51%	3.76%	9.28%	13.92%
42	6.87%	10.31%	2.55%	3.82%	9.42%	14.13%
43	6.97%	10.46%	2.58%	3.87%	9.55%	14.33%
44	7.08%	10.62%	2.62%	3.93%	9.70%	14.55%
45	7.19%	10.79%	2.66%	3.99%	9.85%	14.78%
46	7.31%	10.96%	2.71%	4.06%	10.02%	15.02%
47	7.43%	11.14%	2.75%	4.12%	10.18%	15.26%
48	7.55%	11.33%	2.79%	4.19%	10.34%	15.52%
49	7.69%	11.53%	2.85%	4.27%	10.54%	15.80%
50	7.83%	11.75%	2.90%	4.35%	10.73%	16.10%
51	7.95%	11.93%	2.95%	4.42%	10.90%	16.35%
52	8.07%	12.10%	2.99%	4.48%	11.06%	16.58%
53	8.16%	12.24%	3.02%	4.53%	11.18%	16.77%
54	8.23%	12.34%	3.05%	4.57%	11.28%	16.91%
55	8.25%	12.38%	3.05%	4.58%	11.30%	16.96%
56	8.23%	12.35%	3.05%	4.57%	11.28%	16.92%
57	8.20%	12.30%	3.03%	4.55%	11.23%	16.85%
58	8.15%	12.23%	3.02%	4.53%	11.17%	16.76%
59 & Over	8.10%	12.15%	3.00%	4.50%	11.10%	16.65%

Interest: 6.50% per annum

COLA: 2.75%

Mortality: See Section 4, Exhibit 1

Salary Increase: Inflation (2.50%) + Across-the-Board Increase (0.50%) + Merit/Promotion (See Section 4, Exhibit 1)

COLA Loading Factor: 37.01%

¹ Provided for informational purposes only, as all of the General Tier 1 members in the June 30, 2023 valuation data had more than 30 years of service and are exempt from paying member contributions.

Section 4: Actuarial Valuation Basis

Exhibit 3: Member Contribution Rates (continued)

General Tier 2 and Tier 3 Members' Contribution Rates Based on the June 30, 2023 Actuarial Valuation
(as a % of biweekly payroll)

Entry Age	General Tier 2 and 3					
	Basic		COLA		Total	
	First \$161.54	Over \$161.54	First \$161.54	Over \$161.54	First \$161.54	Over \$161.54
15	4.58%	6.87%	1.69%	2.54%	6.27%	9.41%
16	4.58%	6.87%	1.69%	2.54%	6.27%	9.41%
17	4.64%	6.96%	1.72%	2.58%	6.36%	9.54%
18	4.71%	7.06%	1.74%	2.61%	6.45%	9.67%
19	4.78%	7.17%	1.77%	2.65%	6.55%	9.82%
20	4.85%	7.27%	1.79%	2.69%	6.64%	9.96%
21	4.91%	7.37%	1.82%	2.73%	6.73%	10.10%
22	4.98%	7.47%	1.84%	2.76%	6.82%	10.23%
23	5.05%	7.58%	1.87%	2.81%	6.92%	10.39%
24	5.13%	7.69%	1.90%	2.85%	7.03%	10.54%
25	5.20%	7.80%	1.93%	2.89%	7.13%	10.69%
26	5.27%	7.91%	1.95%	2.93%	7.22%	10.84%
27	5.35%	8.02%	1.98%	2.97%	7.33%	10.99%
28	5.42%	8.13%	2.01%	3.01%	7.43%	11.14%
29	5.50%	8.25%	2.03%	3.05%	7.53%	11.30%
30	5.57%	8.36%	2.06%	3.09%	7.63%	11.45%
31	5.65%	8.48%	2.09%	3.14%	7.74%	11.62%
32	5.73%	8.60%	2.12%	3.18%	7.85%	11.78%
33	5.81%	8.72%	2.15%	3.23%	7.96%	11.95%
34	5.89%	8.84%	2.18%	3.27%	8.07%	12.11%
35	5.98%	8.97%	2.21%	3.32%	8.19%	12.29%
36	6.07%	9.10%	2.25%	3.37%	8.32%	12.47%
37	6.15%	9.23%	2.28%	3.42%	8.43%	12.65%
38	6.24%	9.36%	2.31%	3.46%	8.55%	12.82%
39	6.33%	9.49%	2.34%	3.51%	8.67%	13.00%

Section 4: Actuarial Valuation Basis

Exhibit 3: Member Contribution Rates (continued)

General Tier 2 and Tier 3 Members' Contribution Rates Based on the June 30, 2023 Actuarial Valuation
(as a % of biweekly payroll) (continued)

General Tier 2 and 3 (continued)						
Entry Age	Basic		COLA		Total	
	First \$161.54	Over \$161.54	First \$161.54	Over \$161.54	First \$161.54	Over \$161.54
40	6.42%	9.63%	2.37%	3.56%	8.79%	13.19%
41	6.51%	9.77%	2.41%	3.62%	8.92%	13.39%
42	6.61%	9.92%	2.45%	3.67%	9.06%	13.59%
43	6.71%	10.07%	2.49%	3.73%	9.20%	13.80%
44	6.81%	10.22%	2.52%	3.78%	9.33%	14.00%
45	6.92%	10.38%	2.56%	3.84%	9.48%	14.22%
46	7.03%	10.54%	2.60%	3.90%	9.63%	14.44%
47	7.15%	10.72%	2.65%	3.97%	9.80%	14.69%
48	7.27%	10.90%	2.69%	4.03%	9.96%	14.93%
49	7.38%	11.07%	2.73%	4.10%	10.11%	15.17%
50	7.49%	11.24%	2.77%	4.16%	10.26%	15.40%
51	7.59%	11.38%	2.81%	4.21%	10.40%	15.59%
52	7.66%	11.49%	2.83%	4.25%	10.49%	15.74%
53	7.71%	11.56%	2.85%	4.28%	10.56%	15.84%
54	7.71%	11.57%	2.85%	4.28%	10.56%	15.85%
55	7.70%	11.55%	2.85%	4.27%	10.55%	15.82%
56	7.67%	11.50%	2.84%	4.26%	10.51%	15.76%
57	7.62%	11.43%	2.82%	4.23%	10.44%	15.66%
58	7.85%	11.78%	2.91%	4.36%	10.76%	16.14%
59 & Over	8.10%	12.15%	3.00%	4.50%	11.10%	16.65%

Interest: 6.50% per annum

COLA: 2.75%

Mortality: See Section 4, Exhibit 1

Salary Increase: Inflation (2.50%) + Across-the-Board Increase (0.50%) + Merit/Promotion (See Section 4, Exhibit 1)

COLA Loading Factor: 37.01%

Section 4: Actuarial Valuation Basis

Exhibit 3: Member Contribution Rates (continued)

General Tier 4 Members' Contribution Rates Based on the June 30, 2023 Actuarial Valuation
(as a % of eligible payroll)¹

Entry Age	General Tier 4	
	Eligible Pay	
	Basic	Total
All Ages	9.13%	9.13%

Interest:	6.50% per annum
COLA:	0%
Mortality:	See Section 4, Exhibit 1
Salary Increase:	Inflation (2.50%) + Across-the-Board Increase (0.50%) + Merit/Promotion (See Section 4, Exhibit 1)
COLA Loading Factor:	0%

¹ It is our understanding that in the determination of pension benefits under the CalPEPRA formulas, the compensation that can be taken into account for 2023 is equal to \$146,042. (For an employer that is not enrolled in Social Security, the maximum amount is 120% of \$146,042, or \$175,250). (reference: Section 7522.10). These amounts should be adjusted for changes to the Consumer Price Index for All Urban Consumers after 2023. (reference: Section 7522.10(d))

Section 4: Actuarial Valuation Basis

Exhibit 3: Member Contribution Rates (continued)

Safety Tier 2 Members' Contribution Rates Based on the June 30, 2023 Actuarial Valuation
(as a % of biweekly payroll)

Entry Age	Safety Tier 2					
	Basic		COLA ¹		Total	
	First \$161.54	Over \$161.54	First \$161.54	Over \$161.54	First \$161.54	Over \$161.54
15	5.76%	8.64%	1.95%	3.74%	7.71%	12.38%
16	5.76%	8.64%	1.95%	3.74%	7.71%	12.38%
17	5.84%	8.76%	2.00%	3.82%	7.84%	12.58%
18	5.92%	8.88%	2.05%	3.89%	7.97%	12.77%
19	6.00%	9.00%	2.10%	3.97%	8.10%	12.97%
20	6.09%	9.13%	2.16%	4.05%	8.25%	13.18%
21	6.17%	9.26%	2.21%	4.13%	8.38%	13.39%
22	6.26%	9.39%	2.26%	4.21%	8.52%	13.60%
23	6.35%	9.52%	2.32%	4.29%	8.67%	13.81%
24	6.44%	9.66%	2.38%	4.38%	8.82%	14.04%
25	6.53%	9.79%	2.43%	4.46%	8.96%	14.25%
26	6.62%	9.93%	2.49%	4.55%	9.11%	14.48%
27	6.71%	10.07%	2.54%	4.63%	9.25%	14.70%
28	6.81%	10.21%	2.61%	4.72%	9.42%	14.93%
29	6.91%	10.36%	2.67%	4.81%	9.58%	15.17%
30	7.01%	10.51%	2.73%	4.91%	9.74%	15.42%
31	7.11%	10.66%	2.79%	5.00%	9.90%	15.66%
32	7.21%	10.82%	2.85%	5.10%	10.06%	15.92%
33	7.32%	10.98%	2.92%	5.20%	10.24%	16.18%
34	7.43%	11.14%	2.99%	5.30%	10.42%	16.44%
35	7.54%	11.31%	3.06%	5.40%	10.60%	16.71%
36	7.65%	11.48%	3.13%	5.51%	10.78%	16.99%
37	7.77%	11.65%	3.20%	5.62%	10.97%	17.27%
38	7.87%	11.81%	3.26%	5.71%	11.13%	17.52%
39	7.99%	11.99%	3.34%	5.83%	11.33%	17.82%

¹ COLA rate is offset by 1.63%, which is picked up by the County.

Section 4: Actuarial Valuation Basis

Exhibit 3: Member Contribution Rates (continued)

Safety Tier 2 Members' Contribution Rates Based on the June 30, 2023 Actuarial Valuation
(as a % of biweekly payroll) (continued)

Safety Tier 2 (continued)						
Entry Age	Basic		COLA ¹		Total	
	First \$161.54	Over \$161.54	First \$161.54	Over \$161.54	First \$161.54	Over \$161.54
40	8.11%	12.16%	3.41%	5.93%	11.52%	18.09%
41	8.21%	12.32%	3.48%	6.03%	11.69%	18.35%
42	8.31%	12.46%	3.54%	6.12%	11.85%	18.58%
43	8.37%	12.56%	3.58%	6.18%	11.95%	18.74%
44	8.42%	12.63%	3.61%	6.22%	12.03%	18.85%
45	8.43%	12.64%	3.61%	6.23%	12.04%	18.87%
46	8.40%	12.60%	3.59%	6.21%	11.99%	18.81%
47	8.34%	12.51%	3.56%	6.15%	11.90%	18.66%
48	8.60%	12.90%	3.72%	6.39%	12.32%	19.29%
49 & Over	8.87%	13.30%	3.89%	6.64%	12.76%	19.94%

Interest: 6.50% per annum

COLA: 2.75%

Mortality: See Section 4, Exhibit 1

Salary Increase: Inflation (2.50%) + Across-the-Board Increase (0.50%) + Merit/Promotion (See Section 4, Exhibit 1)

COLA Loading Factor: 62.19%

¹ COLA rate is offset by 1.63%, which is picked up by the County.

Section 4: Actuarial Valuation Basis

Exhibit 3: Member Contribution Rates (continued)

Safety Tier 3 Members' Contribution Rates Based on the June 30, 2023 Actuarial Valuation
(as a % of eligible payroll)¹

Entry Age	Safety Tier 3	
	Eligible Pay	
	Basic	Total
All Ages	13.69%	13.69%

Interest:	6.50% per annum
COLA:	0%
Mortality:	See Section 4, Exhibit 1
Salary Increase:	Inflation (2.50%) + Across-the-Board Increase (0.50%) + Merit/Promotion (See Section 4, Exhibit 1)
COLA Loading Factor:	0%

¹ It is our understanding that in the determination of pension benefits under the CalPEPRA formulas, the compensation that can be taken into account for 2023 is equal to \$146,042. (For an employer that is not enrolled in Social Security, the maximum amount is 120% of \$146,042, or \$175,250). (reference: Section 7522.10). These amounts should be adjusted for changes to the Consumer Price Index for All Urban Consumers after 2023. (reference: Section 7522.10(d))

Section 4: Actuarial Valuation Basis

Exhibit 3: Member Contribution Rates (continued)

Probation Tier 2 Members' Contribution Rates Based on the June 30, 2023 Actuarial Valuation
(as a % of biweekly payroll)

Entry Age	Probation Tier 2					
	Basic		COLA		Total	
	First \$161.54	Over \$161.54	First \$161.54	Over \$161.54	First \$161.54	Over \$161.54
15	5.76%	8.64%	3.05%	4.57%	8.81%	13.21%
16	5.76%	8.64%	3.05%	4.57%	8.81%	13.21%
17	5.84%	8.76%	3.09%	4.63%	8.93%	13.39%
18	5.92%	8.88%	3.13%	4.70%	9.05%	13.58%
19	6.00%	9.00%	3.17%	4.76%	9.17%	13.76%
20	6.09%	9.13%	3.22%	4.83%	9.31%	13.96%
21	6.17%	9.26%	3.27%	4.90%	9.44%	14.16%
22	6.26%	9.39%	3.31%	4.97%	9.57%	14.36%
23	6.35%	9.52%	3.36%	5.04%	9.71%	14.56%
24	6.44%	9.66%	3.41%	5.11%	9.85%	14.77%
25	6.53%	9.79%	3.45%	5.18%	9.98%	14.97%
26	6.62%	9.93%	3.50%	5.25%	10.12%	15.18%
27	6.71%	10.07%	3.55%	5.33%	10.26%	15.40%
28	6.81%	10.21%	3.60%	5.40%	10.41%	15.61%
29	6.91%	10.36%	3.65%	5.48%	10.56%	15.84%
30	7.01%	10.51%	3.71%	5.56%	10.72%	16.07%
31	7.11%	10.66%	3.76%	5.64%	10.87%	16.30%
32	7.21%	10.82%	3.81%	5.72%	11.02%	16.54%
33	7.32%	10.98%	3.87%	5.81%	11.19%	16.79%
34	7.43%	11.14%	3.93%	5.89%	11.36%	17.03%
35	7.54%	11.31%	3.99%	5.98%	11.53%	17.29%
36	7.65%	11.48%	4.05%	6.07%	11.70%	17.55%
37	7.77%	11.65%	4.11%	6.16%	11.88%	17.81%
38	7.87%	11.81%	4.17%	6.25%	12.04%	18.06%
39	7.99%	11.99%	4.23%	6.34%	12.22%	18.33%

Section 4: Actuarial Valuation Basis

Exhibit 3: Member Contribution Rates (continued)

Probation Tier 2 Members' Contribution Rates Based on the June 30, 2023 Actuarial Valuation
(as a % of biweekly payroll) (continued)

Probation Tier 2 (continued)						
Entry Age	Basic		COLA		Total	
	First \$161.54	Over \$161.54	First \$161.54	Over \$161.54	First \$161.54	Over \$161.54
40	8.11%	12.16%	4.29%	6.43%	12.40%	18.59%
41	8.21%	12.32%	4.35%	6.52%	12.56%	18.84%
42	8.31%	12.46%	4.39%	6.59%	12.70%	19.05%
43	8.37%	12.56%	4.43%	6.65%	12.80%	19.21%
44	8.42%	12.63%	4.45%	6.68%	12.87%	19.31%
45	8.43%	12.64%	4.46%	6.69%	12.89%	19.33%
46	8.40%	12.60%	4.45%	6.67%	12.85%	19.27%
47	8.34%	12.51%	4.41%	6.62%	12.75%	19.13%
48	8.60%	12.90%	4.55%	6.83%	13.15%	19.73%
49 & Over	8.87%	13.30%	4.69%	7.04%	13.56%	20.34%

Interest: 6.50% per annum

COLA: 2.75%

Mortality: See Section 4, Exhibit 1

Salary Increase: Inflation (2.50%) + Across-the-Board Increase (0.50%) + Merit/Promotion (See Section 4, Exhibit 1)

COLA Loading Factor: 52.91%

Section 4: Actuarial Valuation Basis

Exhibit 3: Member Contribution Rates (continued)

Probation Tier 3 Members' Contribution Rates Based on the June 30, 2023 Actuarial Valuation
(as a % of eligible payroll)¹

Entry Age	Probation Tier 3	
	Eligible Pay	
	Basic	Total
All Ages	13.40%	13.40%

Interest: 6.50% per annum
COLA: 0%
Mortality: See Section 4, Exhibit 1
Salary Increase: Inflation (2.50%) + Across-the-Board Increase (0.50%) + Merit/Promotion (See Section 4, Exhibit 1)
COLA Loading Factor: 0%

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¹ It is our understanding that in the determination of pension benefits under the CalPEPRA formulas, the compensation that can be taken into account for 2023 is equal to \$146,042. (For an employer that is not enrolled in Social Security, the maximum amount is 120% of \$146,042, or \$175,250). (reference: Section 7522.10). These amounts should be adjusted for changes to the Consumer Price Index for All Urban Consumers after 2023. (reference: Section 7522.10(d))