

San Diego County Employees Retirement Association (SDCERA)

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 1, 2023

Board of Retirement
San Diego 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 July 1, 2024 to June 30, 2025 (FY 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, 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 Plan and reasonable expectations. In addition, in our opinion, the combined effect of these assumptions is expected to have no significant bias.

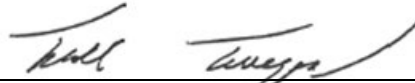
We look forward to reviewing this report at your next meeting and to answering any questions.

Sincerely,

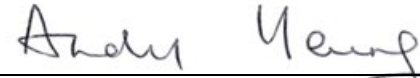
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Section 1: Actuarial Valuation Summary

Purpose and Basis

This report was prepared by Segal to present a valuation of the San Diego County Employees Retirement Association (“SDCERA” or “the Association”) 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 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 SDCERA;
- The assets of the Plan as of June 30, 2023, provided by SDCERA;
- Economic assumptions regarding future salary increases and investment earnings adopted by the Board of Retirement for the June 30, 2023 valuation;
- Other actuarial assumptions regarding employee terminations, retirement, death, etc. adopted by the Board of Retirement 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.

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 last reviewed by the Board in 2021. Details of the funding policy are provided in *Section 4, Exhibit 1* starting on page 92.

Section 1: Actuarial Valuation Summary

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

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.

Section 1: Actuarial Valuation Summary

Valuation Highlights

- Pg. 84
1. The ratio of the Valuation Value of Assets to Actuarial Accrued Liability decreased slightly from 76.7% to 76.3%. This ratio is one measure of funding status, and its history is a measure of funding progress. The ratio of the Market Value of Assets (net of the Health Benefits 401(h) Account) to Actuarial Accrued Liability increased from 70.6% to 72.9%. 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.
 2. This valuation reflects three minor actuarial methodology refinements as follows:
 - a. applying the new actual entry age provided by SDCERA to determine the member contribution rates for legacy members;
 - b. applying beginning of year timing of decrements for exiting from active membership status in calculating the normal cost rate; and
 - c. aligning the application of the CalPEPRA limit on pensionable compensation in calculating normal cost rates for active members enrolled in the CalPEPRA tiers.

The refinements result in a net decrease of 0.10% in the average employer rate and a net decrease of 0.02% in the average member contribution rate.

- Pg. 32
3. The Association's UAAL (which is based on the Valuation Value of Assets) has increased from \$4,777 million to \$5,116 million. The increase in UAAL is primarily due to individual salary increases greater than expected for active members, investment return (after smoothing) less than the 6.50% assumed rate, COLA increases greater than expected for retirees and beneficiaries, and actual contributions less than expected due to the scheduled one-year delay in implementing contributions rates determined in the last valuation. A complete reconciliation of the Association's UAAL is provided in *Section 2, Subsection E*.
- Pg. 26
4. The actuarial loss of \$592.4 million, or 2.7% of the Actuarial Accrued Liability, is due to an investment loss (after smoothing) of \$150.8 million, a net contribution loss of \$123.8 million (including a gain of \$8.8 million from additional Safety UAAL contributions from the County plus \$0.2 million in interest on those contributions after adjustment of timing and a loss of \$132.7 million due to the scheduled one-year delay in implementing contribution rates determined in the last valuation), and a net experience loss from sources other than investments and contribution experiences of \$317.8 million. This loss from sources other than investment and contribution experience was primarily due to individual salary increases greater than expected for active members and COLA increases greater than expected for retirees and beneficiaries.
- Pg. 35
5. The average employer contribution rate calculated in this valuation decreased slightly from 50.18% to 50.17% of payroll. This decrease is primarily due to amortizing prior year's UAAL over a larger than expected total salary, offset by individual salary increases greater than expected for active members, investment return (after smoothing) less than the 6.50% assumed rate, COLA increases greater than expected for retirees and beneficiaries, and actual contributions less than expected. A complete reconciliation of the Association's average employer rate is provided in *Section 2, Subsection F*.

Section 1: Actuarial Valuation Summary

- Pg. 36 6. The average member rate calculated in this valuation has decreased slightly from 11.94% of payroll to 11.92% of payroll. This change was primarily due to changes in active member demographics among tiers together with the actuarial method refinements described above. A complete reconciliation of the Association's average member rate is provided in *Section 2, Subsection F*.
7. This report reflects the \$8.8 million in additional Safety contributions made by the County towards their UAAL. The \$8.8 million of additional contributions made by County has been amortized as a level percent of payroll over a period of twenty years in the June 30, 2023 valuation to reduce their Safety UAAL rate for FY 2025.
- Pg. 28 8. The rate of return on the Market Value of Assets was 9.61% for FY 2023. The return on the Valuation Value of Assets was 5.54% for the same period after considering the gradual recognition of current and prior years' investment gains and losses. This resulted in an actuarial loss when measured against the assumed rate of return of 6.50%. This actuarial investment loss increased the average employer contribution rate by 0.63% of payroll.
- Pg. 22 9. The total unrecognized net investment loss as of June 30, 2023 is about \$742 million as compared to an unrecognized net investment loss of \$1,405 million in the previous valuation. This deferred investment loss of \$742 million will be recognized in the determination of the Actuarial Value of Assets for funding purposes in the next few years as shown in *Section 2, Subsection B*.

The net deferred losses of \$742 million represent about 4.7% of the Market Value of Assets. Unless offset by future investment gains or other favorable experience, the recognition of the \$742 million market losses is expected to have an impact on the Association's future funded ratio and contribution rate requirements. This potential impact may be illustrated as follows:

- a. If the net deferred losses in this year's valuation were recognized immediately and entirely, and assuming further that the balance in the Contingency Reserve, if any, would be included as part of the Valuation Value of Assets, the funded ratio would decrease from 76.3% to 72.9%.

For comparison purposes, if all the net deferred losses in the June 30, 2022 valuation had been recognized immediately, and assuming further that the balance in the Contingency Reserve would be included as part of the Valuation Value of Assets in the June 30, 2022 valuation, the funded ratio in last year's valuation would have decreased from 76.7% to 70.6%.

- b. If the net deferred losses in this year's valuation were recognized immediately and entirely, and assuming further that the balance in the Contingency Reserve, if any, would be included as part of the Valuation Value of Assets, the average employer contribution rate would increase from 50.17% to 53.25% of payroll.

For comparison purposes, if all the net deferred losses in the June 30, 2022 valuation had been recognized immediately, and assuming further that the balance in the Contingency Reserve would be included as part of the Valuation Value of Assets in the June 30, 2022 valuation, the average employer contribution rate in last year's valuation would have increased from 51.37% to 57.21% of payroll.

Section 1: Actuarial Valuation Summary

10. The actuarial valuation report as of June 30, 2023 is based on financial information as of that date. Changes in the value of assets subsequent to that date are not reflected. Declines in asset values will increase the actuarial cost of the plan, while increases will decrease the actuarial cost of the plan.

Pg. 43 11. The Actuarial Standards Board approved Actuarial Standard of Practice No. 51 (ASOP 51) regarding risk assessment, which was first effective with SDCERA's June 30, 2019 actuarial valuation. 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 SDCERA 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 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. A copy of the risk assessment report including the analysis recommended by Segal in consultation with SDCERA staff will be provided in a separate stand-alone report at a later date. In the interim, we have included a brief discussion of key risks that may affect the Association in *Section 2, Subsection J*.

Pg. 46 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.

12. 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.

13. This report constitutes an actuarial valuation for the purpose of determining the actuarially determined contribution (ADC) under the plan'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

Section 1: Actuarial Valuation Summary

employed in the funding valuation, as required by the GASB. However, the ADC in this valuation is expected to be used as the ADC for GASB financial reporting.

14. 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.

Section 1: Actuarial Valuation Summary

Summary of Key Valuation Results

		June 30, 2023		June 30, 2022	
		Total Rate	Estimated Annual Dollar Amount ¹ (\$ in '000s)	Total Rate	Estimated Annual Dollar Amount ¹ (\$ in '000s)
Employer Contribution Rates:	• General, other than Tier C and Tier D	47.87%	\$285,973	49.05%	\$293,019
	• General Tier C (CalPEPRA)	41.01%	128,305	41.90%	131,089
	• General Tier D (CalPEPRA)	38.29%	165,804	39.02%	168,965
	• General Combined	43.18%	580,082	44.15%	593,073
	• Safety, other than Tier C and Tier D	82.01%	158,147	78.18%	150,763
	• Safety Tier C (CalPEPRA)	72.93%	73,352	69.25%	69,651
	• Safety Tier D (CalPEPRA)	72.28%	31,205	68.25%	29,465
	• Safety Combined	78.05%	262,704	74.24%	249,879
	All Categories Combined	50.17%	\$842,786	50.18%	\$842,952
Average Member Contribution Rates:	• General Tier 1	12.42%	\$130	12.90%	\$135
	• General Tier A	14.21%	67,080	14.29%	67,458
	• General Tier B	11.34%	14,094	11.70%	14,541
	• General Tier C	10.04%	31,411	9.97%	31,192
	• General Tier D	7.32%	31,697	7.09%	30,701
	• Safety Tier A	17.78%	25,334	17.85%	25,434
	• Safety Tier B	14.47%	7,286	15.18%	7,644
	• Safety Tier C	16.37%	16,465	16.58%	16,676
	• Safety Tier D	15.72%	<u>6,787</u>	15.58%	<u>6,726</u>
All Categories Combined	11.92%	\$200,284	11.94%	\$200,507	

¹ Based on June 30, 2023 projected annual compensation.

Section 1: Actuarial Valuation Summary

Summary of Key Valuation Results (continued)

		June 30, 2023 (\$ in '000s)	June 30, 2022 (\$ in '000s)
Actuarial	• Retired members and beneficiaries	\$14,060,066	\$13,267,475
Accrued	• Inactive vested members ¹	649,023	618,440
Liability as of	• Active members	6,919,651	6,655,373
June 30:	• Total Actuarial Accrued Liability	21,628,740	20,541,288
	• Normal Cost for plan year beginning June 30	436,681	411,136
Assets as of	• Market Value of Assets (MVA), Net of Health Benefits 401(h) Account	\$15,771,333	\$14,503,991
June 30:	• Valuation Value of Assets (VVA)	16,513,041	15,763,835
Funded status	• Unfunded Actuarial Accrued Liability on Market Value of Assets basis	\$5,857,407	\$6,037,297
as of	• Funded percentage on MVA basis	72.92%	70.61%
June 30:	• Unfunded Actuarial Accrued Liability on Valuation Value of Assets basis	\$5,115,699	\$4,777,453
	• Funded percentage on VVA basis	76.35%	76.74%
Key assumptions:	• Net investment return	6.50%	6.50%
	• Price inflation	2.50%	2.50%
	• Payroll growth increase	3.00%	3.00%
	• Cost of living adjustments		
	– Tiers with 3% COLA	2.75%	2.75%
	– Tiers with 2% COLA	2.00%	2.00%

¹ Includes inactive members who choose to leave member contributions on deposit with less than five years of service.

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	19,098	18,138	5.3%
	• Average age	43.3	43.5	-0.2
	• Average service	9.8	10.2	-0.4
	• Total projected compensation	\$1,679,866,544	\$1,504,227,792	11.7%
	• Average projected compensation	\$87,960	\$82,932	6.1%
	Retired Members and Beneficiaries:			
	• Number of members:			
	– Service retired	17,590	17,227	2.1%
	– Disability retired	1,644	1,664	-1.2%
	– Beneficiaries	2,641	2,600	1.6%
	– Total	21,875	21,491	1.8%
	• Average age	70.4	70.2	0.2
	• Average monthly benefit	\$3,777	\$3,645	3.6%
	Inactive Vested Members:			
	• Number of members ¹	8,337	7,588	9.9%
	• Average age	44.5	44.8	-0.3
	Total Members:	49,310	47,217	4.4%

¹ Includes inactive members who choose to leave member contributions on deposit with less than five years of service.

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 will be 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.
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

Section 1: Actuarial Valuation Summary

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 Association. 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, except where otherwise noted, Segal did not perform an analysis of the potential range of future financial measures. 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. Future contribution requirements may differ from those determined in the valuation because of:

- Differences between actual experience and anticipated experience;
- Changes in actuarial assumptions or methods;
- Changes in statutory provisions; and
- Differences between the contribution rates determined by the valuation and those adopted by the Board.¹

Some actuarial results in this report are not rounded, but that does not imply precision.

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 Plan, it is not a fiduciary in its capacity as actuaries and consultants with respect to the Plan.

¹ SDCERA has a proven track record of adopting the Actuarially Determined Contributions as determined by the valuation and based on the Board's Actuarial Funding Policy.

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, B, and C.*

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	17,466	5,091	16,373	21,464	1.23	0.94
2015	17,656	5,274	17,186	22,460	1.27	0.97
2016	17,768	5,413	17,734	23,147	1.30	1.00
2017	17,994	5,659	18,247	23,906	1.33	1.01
2018	17,869	5,928	19,028	24,956	1.40	1.06
2019	18,173	6,151	19,706	25,857	1.42	1.08
2020	18,451	6,410	20,296	26,706	1.45	1.10
2021	18,200	6,804	20,700	27,504	1.51	1.14
2022	18,138	7,588	21,491	29,079	1.60	1.18
2023	19,098	8,337	21,875	30,212	1.58	1.15

¹ Includes inactive members who choose to leave member contributions on deposit with less than five years of service.

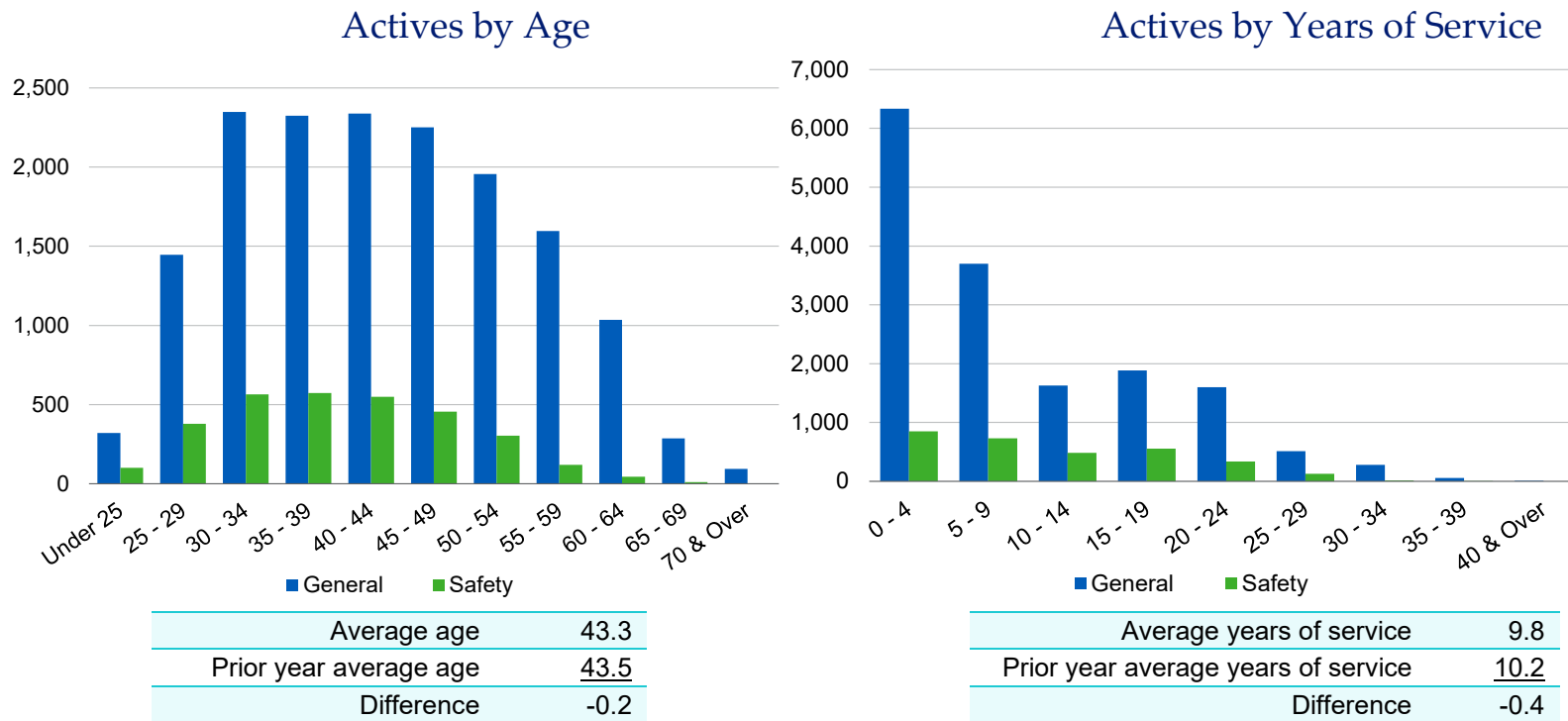
Section 2: Actuarial Valuation Results

Active Members

Plan costs are affected by the age, years of service and compensation of active members. In this year's valuation, there were 19,098 active members with an average age of 43.3, average years of service of 9.8 years and average compensation of \$87,960. The 18,138 active members in the prior valuation had an average age of 43.5, average service of 10.2 years and average compensation of \$82,932.

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

Distribution of Active Members as of June 30, 2023



Inactive Members

In this year's valuation, there were 8,337 members with a vested right to a deferred or immediate vested benefit or entitled to a return of their member contributions versus 7,588 in the prior valuation.

Section 2: Actuarial Valuation Results

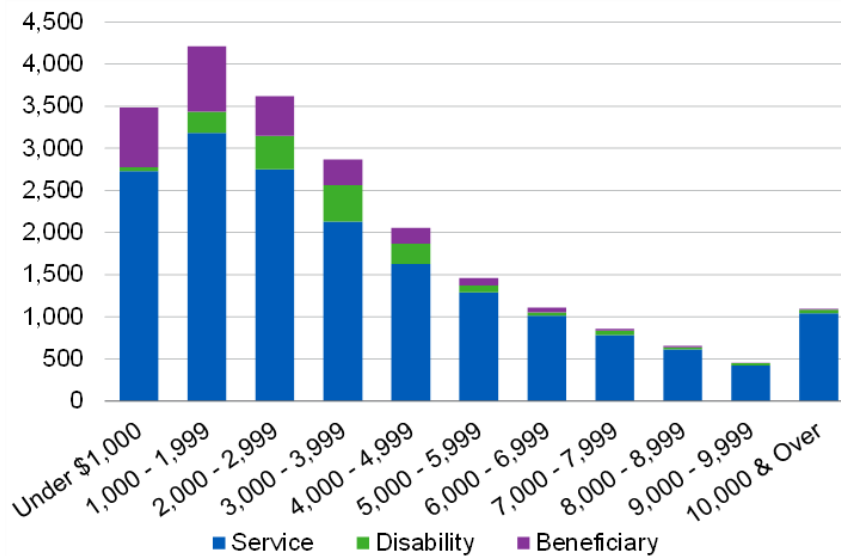
Retired Members and Beneficiaries

As of June 30, 2023, 19,234 retired members and 2,641 beneficiaries were receiving total monthly benefits of \$82,629,195. For comparison, in the previous valuation, there were 18,891 retired members and 2,600 beneficiaries receiving monthly benefits of \$78,333,163.

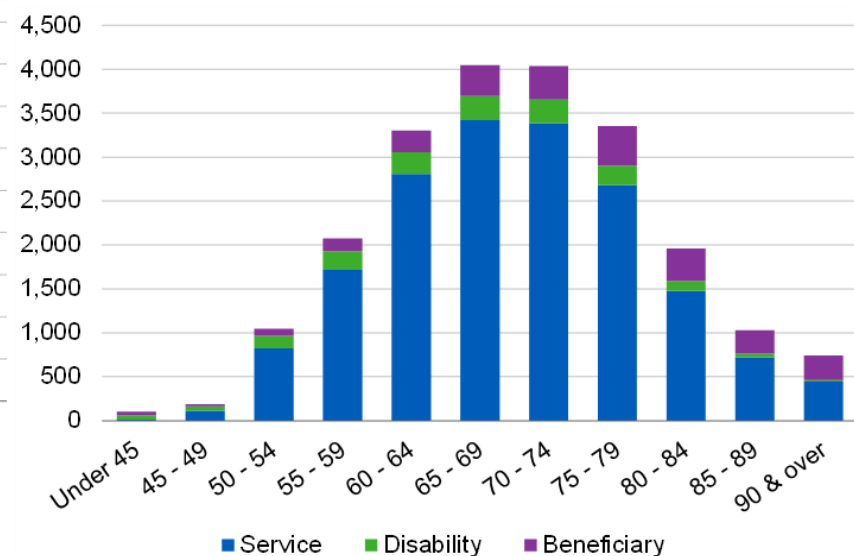
As of June 30, 2023, the average monthly benefit for retired members and beneficiaries is \$3,777, compared to \$3,645 in the previous valuation. The average age for retired members and beneficiaries is 70.4 in the current valuation, compared with 70.2 in the prior valuation.

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	17,466	44.8	11.2	16,373	69.1	\$2,859
2015	17,656	44.7	11.2	17,186	69.1	2,905
2016	17,768	44.6	11.2	17,734	69.2	2,963
2017	17,994	44.4	11.1	18,247	69.5	3,041
2018	17,869	44.1	11.0	19,028	69.5	3,170
2019	18,173	43.9	10.7	19,706	69.8	3,280
2020	18,451	43.7	10.5	20,296	70.0	3,390
2021	18,200	43.8	10.7	20,700	70.2	3,486
2022	18,138	43.5	10.2	21,491	70.2	3,645
2023	19,098	43.3	9.8	21,875	70.4	3,777

Section 2: Actuarial Valuation Results

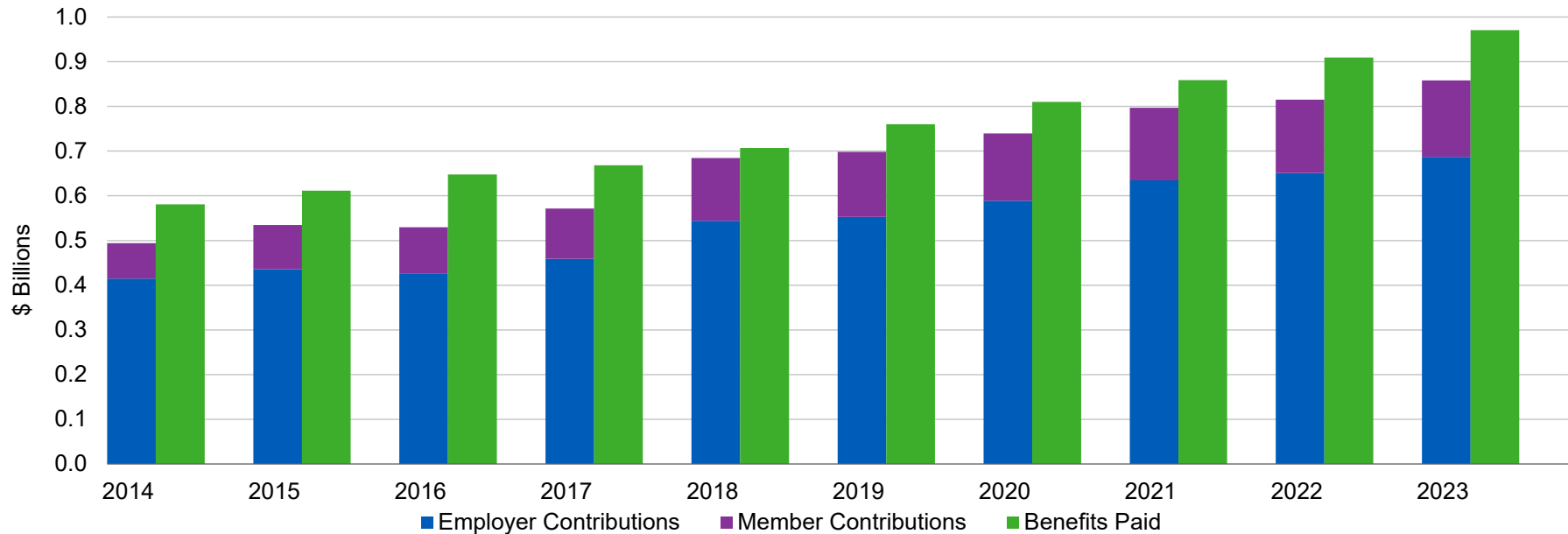
B. Financial Information

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 D, E, F and G.*

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 Assets¹						\$15,819,290,327
		Actual	Expected	Investment	Percent	Unrecognized
2 Calculation of unrecognized return²		Return	Return	Gain/(Loss)	Deferred	Amount
a.	June 30, 2019 Combined net deferred loss ^{3,4}			\$(69,322,281)	11.11%	\$(7,702,476)
b.	Six months ended December 31, 2019	\$736,715,261	\$450,722,262	285,992,999	20	57,198,600
c.	Six months ended June 30, 2020	(615,653,608)	475,178,239	(1,090,831,847)	30	(327,249,554)
d.	Six months ended December 31, 2020	2,043,942,561	452,765,992	1,591,176,568	40	636,470,627
e.	Six months ended June 30, 2021	1,246,043,509	522,960,394	723,083,115	50	361,541,558
f.	Six months ended December 31, 2021	596,981,163	565,430,044	31,551,119	60	18,930,671
g.	Six months ended June 30, 2022	(2,123,446,387)	584,582,744	(2,708,029,132)	70	(1,895,620,392)
h.	Six months ended December 31, 2022	290,305,755	471,782,584	(181,476,829)	80	(145,181,463)
i.	Six months ended June 30, 2023	1,101,467,381	479,339,722	622,127,659	90	<u>559,904,474⁵</u>
j.	Total unrecognized return ⁶					\$(741,707,955)
3 Actuarial Value of Assets 1 - 2j						\$16,560,998,282
4	Actuarial Value of Assets as a percentage of Market Value of Assets 3 / 1					104.7%
5	Non-valuation reserves and other adjustments:					
a.	STAR COLA Reserve					\$0
b.	Supplemental Pension Benefit Reserve					0
c.	Health Benefits 401(h) Account					47,957,415
d.	Disability Supplemental Pension Benefit Reserve					0
e.	Contingency Reserve					0
f.	Undistributed Excess Earnings Reserve					0
g.	Subtotal					\$47,957,415
6 Valuation Value of Assets 3 – 5g						\$16,513,040,867

¹ The market value of assets net of Health Benefits 401(h) Account is \$15,771,332,912

² Recognition at 10% per six-month period over 5 years.

³ Net deferred loss as of June 30, 2019 was combined and will be recognized over 4.5 years as of June 30, 2019.

⁴ See next page for the individual six-month periods that were combined.

⁵ Includes an adjustment that decreases the unrecognized deferred gains by \$10,419 for the valuation value of assets to match the valuation reserves.

⁶ Deferred return as of June 30, 2023 recognized in each of the next five years:

a.	Amount recognized on June 30, 2024	\$(152,986,061)
b.	Amount recognized on June 30, 2025	(93,399,000)
c.	Amount recognized on June 30, 2026	(374,859,440)
d.	Amount recognized on June 30, 2027	(182,675,063)
e.	Amount recognized on June 30, 2028	<u>62,211,608</u>
f.	Subtotal	\$(741,707,955)

Section 2: Actuarial Valuation Results

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

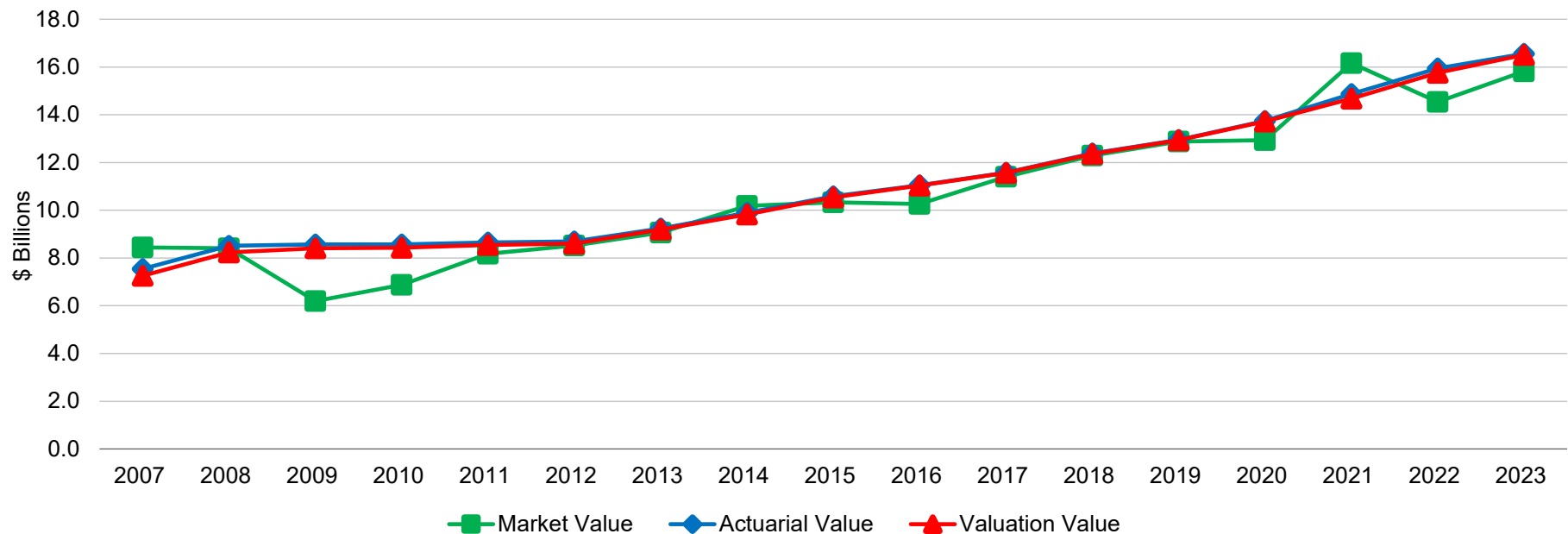
Deferred Gains and Losses that were combined as of June 30, 2019		Actual Return	Expected Return	Investment Gain/(Loss)	Percent Deferred	Unrecognized Amount
Calculation of unrecognized return						
a.	Six months ended December 31, 2014	\$119,504,895	\$394,295,090	\$(274,790,196)	0%	\$0
b.	Six months ended June 30, 2015	109,066,220	397,349,983	(288,283,763)	10	(28,828,376)
c.	Six months ended December 31, 2015	(191,207,912)	386,704,127	(577,912,039)	20	(115,582,408)
d.	Six months ended June 30, 2016	240,985,994	377,344,430	(136,358,436)	30	(40,907,531)
e.	Six months ended December 31, 2016	428,031,532	371,539,799	56,491,733	40	22,596,693
f.	Six months ended June 30, 2017	807,091,824	385,289,150	421,802,674	50	210,901,337
g.	Six months ended December 31, 2017	904,963,814	413,919,909	491,043,905	60	294,626,343
h.	Six months ended June 30, 2018	(1,761,593)	446,336,489	(448,098,082)	70	(313,668,657)
i.	Six months ended December 31, 2018	(508,675,405)	445,128,409	(953,803,815)	80	(763,043,052)
j.	Six months ended June 30, 2019	1,163,828,252	425,402,285	738,425,967	90	664,583,370
Combined net deferred loss as of June 30, 2019						\$(69,322,281)

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

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

	Allocated Assets for Funding		
	General	Safety	Total
1 Beginning of Year Asset Allocation	\$10,958,264,632	\$4,805,570,676	\$15,763,835,308
2 Percentage of Total Employee Contributions Excluding Pickups	71.84%	28.16%	100.00%
3 Member Contributions ¹	\$122,858,573	\$48,159,297	\$171,017,870
4 Employer Contributions Including Pickups ¹	470,723,516	198,307,383	669,030,899
5 Projected Annual Allowances for Retired Members (From Last Year's Valuation Results)	663,036,051	274,928,706	937,964,757
6 Benefit Payments Allocated in Proportion to (5)	673,783,851	279,385,295	953,169,146
7 Refunds, Allocated in Proportion to (2)	5,372,128	2,105,778	7,477,906
8 Subtotal (Items 1 + 3 + 4 - 6 - 7)	\$10,872,690,742	\$4,770,546,283	\$15,643,237,025
9 Total Valuation Value of Assets			16,513,040,867
10 Residual to Allocate = (Items 9 - 8)			869,803,842
11 Allocate Residual in Proportion to (8)	604,549,312	265,254,530	869,803,842
12 End of Year Asset Allocation (Items 8 + 11)	\$11,477,240,054	\$5,035,800,813	\$16,513,040,867

Note: Results may be slightly off due to rounding

¹ The breakdown between General and Safety was provided by SDCERA.

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 net total loss is \$592.4 million, which includes \$150.8 million from investment losses, a net loss of \$123.8 million from contribution experience (including a gain of \$8.8 million from additional Safety UAAL contributions from the County plus \$0.2 million in interest on those contributions after adjustment of timing and a loss of \$132.7 million from all other contribution experience) and \$317.8 million in losses from all other sources. The net experience variation from individual sources other than investments and contributions was 1.5% 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	\$150,808,000
2	Net loss from contribution experience ²	123,767,000
3	Net loss from other experience ²	<u>317,849,000</u>
4	Net experience loss: 1 + 2 + 3	\$592,424,000

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 9.61% for the year ended June 30, 2023.

For valuation purposes, the assumed rate of return on the Valuation Value of Assets is 6.50% (based on the June 30, 2022 actuarial valuation). The actual rate of return on a valuation basis for the 2023 plan year was 5.54%. 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 ¹	Actuarial Value ¹	Valuation Value ²
1 Net investment income	\$1,391,593,000	\$728,054,000	\$869,804,000
2 Average value of assets	14,482,197,000	15,887,445,000	15,701,716,000
3 Rate of return: 1 ÷ 2	9.61% ³	4.58%	5.54%
4 Assumed rate of return	6.50%	6.50%	6.50%
5 Expected investment income: 2 x 4	\$941,343,000	\$1,032,684,000	\$1,020,612,000
6 Actuarial gain/(loss): 1 - 5	\$450,250,000	\$(304,630,000)	\$(150,808,000)

¹ Includes values of assets for both Retirement Plan and Health Benefits 401(h) Account.

² Includes value of assets for Retirement Plan Only.

³ The rates of return have been calculated on a dollar-weighted basis. It is our understanding that SDCERA's investment consultant calculates rates of return on a time-weighted basis, which can produce different results.

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 ^{1,2}		Actuarial Value Investment Return ^{1,2}		Valuation Value Investment Return ³	
	Amount	Percent	Amount	Percent	Amount	Percent
2014	\$1,208,144,000	13.39%	\$744,721,000	8.10%	\$711,249,000	7.77%
2015	228,595,000	2.25%	763,461,000	7.74%	774,537,000	7.91%
2016	49,754,000	0.48%	577,770,000	5.49%	597,709,000	5.70%
2017	1,235,025,000	12.08%	629,271,000	5.72%	630,967,000	5.74%
2018	903,528,000	7.93%	823,054,000	7.11%	822,352,000	7.12%
2019	654,315,000	5.34%	632,458,000	5.12%	632,297,000	5.12%
2020	121,065,000	0.94%	858,615,000	6.65%	858,111,000	6.65%
2021	3,289,986,000	25.50%	1,189,897,000	8.68%	1,022,037,000	7.47%
2022	(1,526,465,000)	(9.47%)	1,171,999,000	7.91%	1,192,598,000	8.16%
2023	1,391,593,000	9.61%	728,054,000	4.58%	869,804,000	5.54%
Most recent five-year geometric average return		5.77%	6.58%		6.58%	
Most recent ten-year geometric average return		6.44%	6.70%		6.71%	

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

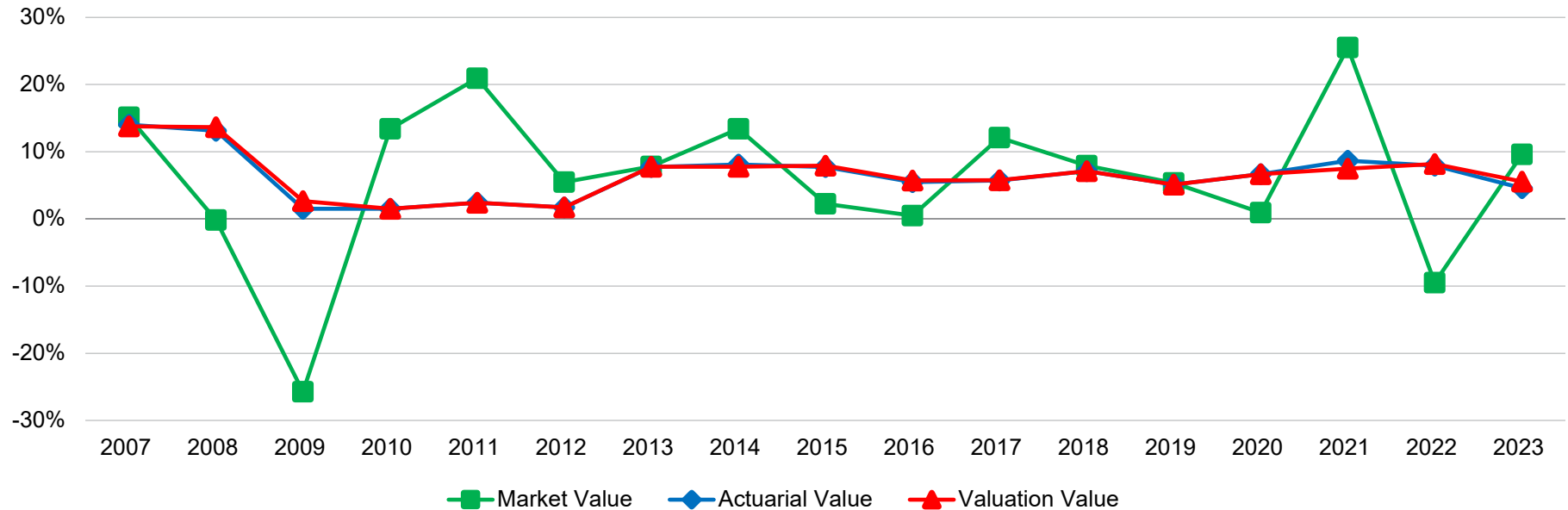
² Includes values of assets for both Retirement Plan and Health Benefits 401(h) Account.

³ Includes value of assets for Retirement Plan Only.

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

Contributions for the year ended June 30, 2023 totaled \$840.0 million (which includes the \$8.8 million additional Safety UAAL contributions from the County), compared to the projected amount of \$959.8 million. This resulted in a net loss of \$123.7 million from contribution experience for the year, when adjusted for timing due to the scheduled one-year delay in implementing the contribution rates determined in the last valuation.

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
- cost-of-living adjustments (COLAs) higher or lower than anticipated.

The net loss from this other experience for the year ended June 30, 2023 amounted to \$317.8 million, which is 1.5% of the Actuarial Accrued Liability. 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

The Actuarial Accrued Liability as of June 30, 2023 is \$21.6 billion, an increase of \$1.1 billion, or 5.3%, from the Actuarial Accrued Liability as of the prior valuation date. The liability is expected to grow each year with Normal Cost and interest, and to decline due to benefit payments made. Additional fluctuations can occur due to actual experience that differs from expected (as discussed in the previous subsection).

Actuarial Assumptions and Methods

This valuation reflects three minor actuarial methodology refinements as follows:

- a. applying the new actual entry age provided by SDCERA to determine the member contribution rates for legacy members;
- b. applying beginning of year timing of decrements for exiting from active membership status in calculating the normal cost rate; and
- c. aligning the application of the CalPEPRA limit on pensionable compensation in calculating normal cost rates for active members enrolled in the CalPEPRA tiers.

The refinements result in a net decrease of 0.10% in the average employer rate and a net decrease of 0.02% in the average member contribution rate.

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 (\$ in '000s)

1	Unfunded Actuarial Accrued Liability at beginning of year	\$4,777,453
2	Total Normal Cost at middle of year	411,136
3	Expected employer and member contributions	(959,806)
4	Interest	<u>294,492</u>
5	Expected Unfunded Actuarial Accrued Liability at end of year	\$4,523,275
6	Changes due to:	
	a. Investment return less than expected (after “smoothing”)	\$150,808
	b. Actual contributions less than expected in item 3 ¹	132,733
	c. Additional Safety UAAL contributions from County ²	(8,966)
	d. Individual salary increases greater than expected	161,443
	e. COLA increases greater than expected	139,947
	f. Other experience losses ³	<u>16,459</u>
	Total changes	\$592,424
7	Unfunded Actuarial Accrued Liability at end of year	\$5,115,699

Notes: The sum of items 6d through 6f equals the “Net loss from other experience” shown in Subsection C.

¹ The actual contributions of \$831,250,562 (excluding contributions toward Health Benefits 401(h) Account and additional Safety UAAL contributions from County) were less than expected primarily due to the scheduled one-year delay in implementing the contribution determined in the June 30, 2022 valuation. The difference between this amount and item 3 above, when adjusted with interest, is equal to the amount shown in item 6b.

² \$8.8 million in additional contribution adjusted with \$0.2 million in interest to the end of the fiscal year.

³ Other differences in actual versus expected experience including (but not limited to) mortality, retirement, disability, and termination experiences. This also includes the impact of the actuarial methodology refinements as detailed on page 31 that reduced the UAAL by \$12.2 million.

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 30.22% of compensation.

The Board sets the funding policy used to calculate the recommended contribution based on layered 20-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 20 years. As shown in the graphical projection of the UAAL amortization balances and payments found in *Section 3, Exhibit 1*, before taking into consideration the deferred investment gains/losses that will be recognized in the next several valuations, the UAAL of the Plan is expected to be fully amortized by 2043, assuming all assumptions are realized and contribution 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 UAAL as a result of actuarial gains or losses or as a result of changes in actuarial assumptions or methods for each valuation are amortized over separate 20-year periods. Changes in UAAL as a result of plan amendments are generally amortized over separate 15-year periods.

Section 2: Actuarial Valuation Results

Average Recommended Employer Contribution for Year Ended June 30

	2023		2022	
	Amount (\$ in '000s)	% of Projected Compensation	Amount (\$ in '000s)	% of Projected Compensation
1 Total Normal Cost	\$436,681	25.99%	\$411,136	27.34%
2 Expected member contributions	<u>200,284</u>	<u>11.92%</u>	<u>187,077</u>	<u>12.44%</u>
3 Employer Normal Cost: 1 – 2	\$236,397	14.07%	\$224,059	14.90%
4 Actuarial Accrued Liability	21,628,740		20,541,288	
5 Valuation Value of Assets	<u>16,513,041</u>		<u>15,763,835</u>	
6 Unfunded Actuarial Accrued Liability: 4 – 5	\$5,115,699		\$4,777,453	
7 Payment on Unfunded Actuarial Accrued Liability	\$606,389	36.10%	\$548,669	36.47%
8 Total average recommended employer contribution: 3 + 7	\$842,786	50.17%	\$772,728	51.37%
9 Projected compensation	\$1,679,867		\$1,504,228	

Note: Contributions are assumed to be paid at the middle of the year.

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 (\$ in '000s)
1 Average Recommended Employer Contribution as of June 30, 2022	50.18% ²	\$842,952
2 Effect of investment return less than expected (after "smoothing")	0.63%	\$10,583
3 Effect of actual contributions less than expected ³	0.55%	9,239
4 Effect of additional Safety UAAL contributions from County	(0.04%)	(672)
5 Effect of individual salary increases greater than expected	0.67%	11,255
6 Effect of amortizing prior year's UAAL over a larger than expected projected total payroll ⁴	(2.45%)	(41,214)
7 Effect of COLA increases greater than expected	0.58%	9,743
8 Effect of changes in active member demographics among tiers	(0.02%)	(336)
9 Effect of other experience losses ⁵	<u>0.07%</u>	<u>1,236</u>
10 Total change	(0.01%)	\$(166)
11 Average Recommended Employer Contribution as of June 30, 2023	50.17%	\$842,786

¹ Based on June 30, 2023 projected annual compensation of \$1,679,867,000.

² The average recommended employer contribution rate as of June 30, 2022 has been recalculated based on the June 30, 2023 projected annual compensation for each membership class. The average employer contribution rate as of June 30, 2022 calculated based on the June 30, 2022 projected annual compensation was 51.37% as shown in the June 30, 2022 report.

³ The actual contributions (excluding employer contributions toward Health Benefits 401(h) Account) were less than expected primarily due to the scheduled one-year delay in implementing the contribution rates determined in the June 30, 2022 valuation.

⁴ The projected payroll for General tiers is greater than expected while the projected payroll for Safety tiers is smaller than expected. This has the effect of decreasing the General tier contribution rate by 3.17% and increasing the Safety tier contribution rate by 0.46%.

⁵ Other differences in actual versus expected experience including (but not limited to) mortality, retirement, disability, and termination experiences. This also includes the impact of the actuarial methodology refinements as detailed on page 31 [can we quantify this as we did for UAAL on p. 32?].

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 (\$ in '000s)
1 Average Recommended Member Contribution as of June 30, 2022	11.94%²	\$200,507
2 Effect of changes in active member demographic among tiers, including the actuarial methodology refinements	<u>(0.02%)</u>	<u>\$(223)</u>
3 Total change	(0.02%)	\$(223)
4 Average Recommended Member Contribution as of June 30, 2023	11.92%	\$200,284

¹ Based on June 30, 2023 projected annual compensation of \$1,679,867,000.

² The average recommended member contribution rate as of June 30, 2022 has been recalculated based on the June 30, 2023 projected annual compensation for each membership class. The average member contribution rate as of June 30, 2022 calculated based on the June 30, 2022 projected annual compensation was 12.44% as provided in the June 30, 2022 report.

Section 2: Actuarial Valuation Results

Recommended Employer Contribution Rate

	June 30, 2023 Actuarial Valuation Recommended Rates for FY 2025		June 30, 2022 Actuarial Valuation Recommended Rates for FY 2024	
	Contribution Rate	Estimated Annual Dollar Amount ¹ (\$ in '000s)	Contribution Rate	Estimated Annual Dollar Amount ¹ (\$ in '000s)
General Non-CalPEPRA Tiers				
Normal Cost ²	16.90%	\$100,961	17.12%	\$102,273
UAAL ²	<u>30.97%</u>	<u>185,012</u>	<u>31.93%</u>	<u>190,746</u>
Total Contributions	47.87%	\$285,973	49.05%	\$293,019
General Tier C (CalPEPRA)				
Normal Cost ²	10.04%	\$31,411	9.97%	\$31,192
UAAL ²	<u>30.97%</u>	<u>96,894</u>	<u>31.93%</u>	<u>99,897</u>
Total Contributions	41.01%	\$128,305	41.90%	\$131,089
General Tier D (CalPEPRA)				
Normal Cost ²	7.32%	\$31,697	7.09%	\$30,701
UAAL ²	<u>30.97%</u>	<u>134,107</u>	<u>31.93%</u>	<u>138,264</u>
Total Contributions	38.29%	\$165,804	39.02%	\$168,965
General Tiers Combined				
Normal Cost ²	12.21%	\$164,069	12.22%	\$164,166
UAAL ²	<u>30.97%</u>	<u>416,013</u>	<u>31.93%</u>	<u>428,907</u>
Total Contributions	43.18%	\$580,082	44.15%	\$593,073

¹ Amounts are in thousands and are based on June 30, 2023 projected annual payroll (also in thousands):

General Tier 1	\$1,047
General Tier A	472,062
General Tier B	124,282
General Tier C	312,863
General Tier D	<u>433,022</u>
General Subtotal	\$1,343,276

² A breakdown of the employer's total Normal Cost and UAAL to fund for each type of benefit is provided on page 39.

Section 2: Actuarial Valuation Results

Recommended Employer Contribution Rate (continued)

	June 30, 2023 Actuarial Valuation Recommended Rates for FY 2025		June 30, 2022 Actuarial Valuation Recommended Rates for FY 2024	
	Contribution Rate	Estimated Annual Dollar Amount ¹ (\$ in '000s)	Contribution Rate	Estimated Annual Dollar Amount ¹ (\$ in '000s)
Safety Non-CalPEPRA Tiers				
Normal Cost ²	25.45%	\$49,076	25.51%	\$49,194
UAAL ²	56.56%	109,071	52.67%	101,569
Total Contributions	82.01%	\$158,147	78.18%	\$150,763
Safety Tier C (CalPEPRA)				
Normal Cost ²	16.37%	\$16,465	16.58%	\$16,676
UAAL ²	56.56%	56,887	52.67%	52,975
Total Contributions	72.93%	\$73,352	69.25%	\$69,651
Safety Tier D (CalPEPRA)				
Normal Cost ²	15.72%	\$6,787	15.58%	\$6,726
UAAL ²	56.56%	24,418	52.67%	22,739
Total Contributions	72.28%	\$31,205	68.25%	\$29,465
Safety Tiers Combined				
Normal Cost ²	21.49%	\$72,328	21.57%	\$72,596
UAAL ²	56.56%	190,376	52.67%	177,283
Total Contributions	78.05%	\$262,704	74.24%	\$249,879
All Categories Combined				
Normal Cost ²	14.07%	\$236,397	14.09%	\$236,762
UAAL ²	36.10%	606,389	36.09%	606,190
Total Contributions	50.17%	\$842,786	50.18%	\$842,952

¹ Amounts are in thousands and are based on June 30, 2023 projected annual payroll (also in thousands):

Safety Tier A	\$142,485
Safety Tier B	50,355
Safety Tier C	100,579
Safety Tier D	43,172
Safety Subtotal	\$336,591
General & Safety Total	\$1,679,867

² A breakdown of the employer's total Normal Cost and UAAL to fund for each type of benefit is provided on page 39

Section 2: Actuarial Valuation Results

Breakdown of Total Normal Cost for Each Type of Benefit

Breakdown of the Employer's Normal Cost and UAAL Contributions to Fund for Each Type of Benefit
(% of Payroll)

Normal Cost	Elements of Normal Cost		
	General	Safety	Total
Service Retirement ¹	7.93%	12.25%	8.80%
Vested Termination and Refunds	2.77%	2.98%	2.81%
Non Service and Service Connected Disability	1.27%	5.72%	2.16%
Non Service and Service Connected Death	<u>0.24%</u>	<u>0.54%</u>	<u>0.30%</u>
Total Employer Normal Cost	12.21%	21.49%	14.07%
Total Member Normal Cost ¹	<u>10.75%</u>	<u>16.60%</u>	<u>11.92%</u>
Employer Plus Member Normal Cost	22.96%	38.09%	25.99%

Unfunded Actuarial Accrued Liability ²	Elements of UAAL		
	General	Safety	Total
Service retirement	30.20%	52.00%	34.57%
Vested termination and refunds ³	(0.07%)	(0.24%)	(0.10%)
Non service and service connected disability	0.67%	4.51%	1.44%
Non service and service connected death	<u>0.17%</u>	<u>0.29%</u>	<u>0.19%</u>
Total Employer Unfunded Actuarial Accrued Liability	30.97%	56.56%	36.10%

¹ Assuming that member normal cost is only used to fund service retirement benefit.

² Assuming that the liability for all inactive members is fully funded.

³ AAL which is used in the calculation of UAAL is negative when the present value of future benefit is less than the present value of future Normal Cost.

Section 2: Actuarial Valuation Results

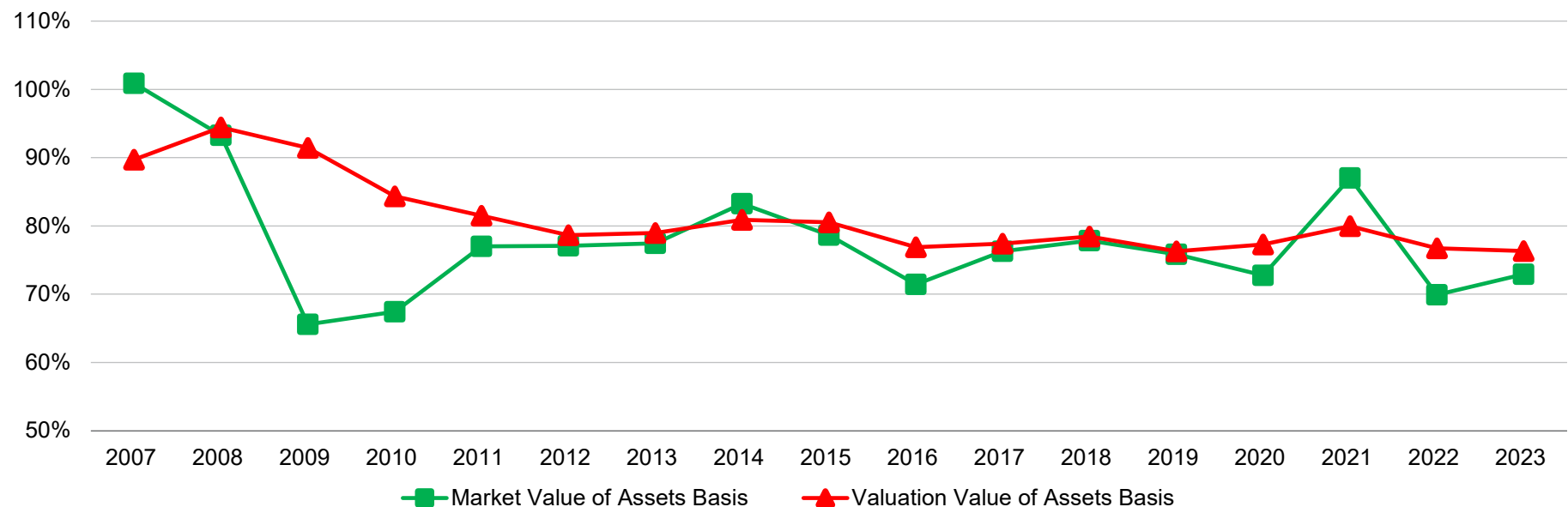
G. Funded Status

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 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) ² (b)	Unfunded AAL (UAAL) (b) - (a)	Funded Ratio (%) (a) / (b)	Projected Covered Payroll (c)	UAAL as a Percentage of Projected Covered Payroll (%) [(b) - (a)] / (c)
2014	\$9,824,431,000	\$12,141,149,000	\$2,316,718,000	80.92%	\$1,122,864,000	206.32%
2015	10,535,337,000	13,080,080,000	2,544,743,000	80.54%	1,163,363,000	218.74%
2016	11,030,635,000	14,349,090,000	3,318,455,000	76.87%	1,206,941,000	274.95%
2017	11,566,927,000	14,937,873,000	3,370,946,000	77.43%	1,253,222,000	268.98%
2018	12,365,656,000	15,763,237,000	3,397,581,000	78.45%	1,290,950,000	263.18%
2019	12,932,244,000	16,955,112,000	4,022,868,000	76.27%	1,359,312,000	295.95%
2020	13,715,875,000	17,741,219,000	4,025,344,000	77.31%	1,431,142,000	281.27%
2021	14,671,508,000	18,339,923,000	3,668,415,000	80.00%	1,463,345,000	250.69%
2022	15,763,835,000	20,541,288,000	4,777,453,000	76.74%	1,504,228,000	317.60%
2023	16,513,041,000	21,628,740,000	5,115,699,000	76.35%	1,679,867,000	304.53%

¹ Excludes assets for Supplemental Benefit Reserve and Health Benefits 401(h) Account.

² Excludes liabilities held for Supplemental Benefit Reserve and Health Benefits 401(h) Account.

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

	General (\$ in '000s)	Safety (\$ in '000s)	Total (\$ in '000s)
Actuarial present value of future benefits			
• Present value of benefits for retired members and beneficiaries	\$9,314,339	\$4,745,727	\$14,060,066
• Present value of benefits for inactive vested members ¹	544,555	104,468	649,023
• Present value of benefits for active members	<u>7,708,021</u>	<u>2,936,556</u>	<u>10,644,577</u>
Total actuarial present value of future benefits	\$17,566,915	\$7,786,751	\$25,353,666
Current and future assets			
• Total Valuation Value of Assets	\$11,477,240	\$5,035,801	\$16,513,041
• Present value of future contributions by members	1,200,971	480,100	1,681,071
• Present value of future employer contributions for:			
• Entry age normal cost	1,436,220	607,635	2,043,855
• Unfunded actuarial accrued liability	<u>3,452,484</u>	<u>1,663,215</u>	<u>5,115,699</u>
Total of current and future assets	\$17,566,915	\$7,786,751	\$25,353,666

¹ Includes inactive members who choose to leave member contributions on deposit with less than five years of service.

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 9.4. This means that a 1% asset gain or loss (relative to the assumed investment return) translates to about 9.4% of one year's payroll. Since actuarial gains and losses are amortized over 20 years, there would be a 0.7% 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 12.9, but is 11.1 for General compared to 19.9 for Safety. This means, for example, that assumption changes will have a greater impact on employer contribution rates for Safety than for General.

Volatility Ratios for Years Ended 2014 – 2023

Year Ended June 30	Asset Volatility Ratio			Liability Volatility Ratio		
	General	Safety	Total	General	Safety	Total
2014	8.6	10.7	9.1	10.2	12.6	10.8
2015	8.4	10.4	8.9	10.7	13.0	11.2
2016	8.0	10.1	8.5	11.1	14.4	11.9
2017	8.5	10.9	9.1	11.1	14.6	11.9
2018	8.8	11.7	9.5	11.2	15.3	12.2
2019	8.8	11.8	9.5	11.5	15.5	12.5
2020	8.3	11.5	9.0	11.3	15.9	12.4
2021	10.0	14.5	11.0	11.3	16.6	12.5
2022	8.6	13.4	9.7	12.1	19.4	13.7
2023	8.2	14.3	9.4	11.1	19.9	12.9

Section 2: Actuarial Valuation Results

J. Risk Assessment

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.

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. A more detailed assessment of the risks tailored to specific interests or concerns of the Board would provide the Board with a better understanding of the inherent risks in the plan that can inform both financial preparation and future decision-making. This assessment would enable us to work with the Board to highlight and illustrate particular risks or potential future outcomes they may be interested in discussing and could include scenario testing, sensitivity testing, stress testing and stochastic modeling. As noted in the valuation highlights section of this report the results of our more detailed risk assessment will be provided in a separate stand-alone report. We will include within that report investment scenarios that demonstrate the effects of short-term market volatility on funded status and contribution rates, which may aid in illustrating the effect on the Plan of market volatility.

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

Section 2: Actuarial Valuation Results

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 1% asset gain or loss (relative to the assumed investment return) translates to about 9.4% of one-year's payroll. Since actuarial gains and losses are amortized over 20 years, there would be a 0.7% of payroll decrease/(increase) in the required contribution for each 1% asset gain or loss.

The single year market value rate of return over the last 10 years has ranged from a low of -9.47%% to a high of 25.50%.

- 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, 2019 valuation, the Board has adopted benefit weighted 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 decreased from 80.9% to 76.3%. This is primarily due to the adoption of more conservative investment, mortality, and retirement assumptions throughout this time period offset to some extent by the contributions made to amortize the UAAL. For a more detailed history see *Section 2, Subsection G, Funded Status* starting on page 40.

Section 2: Actuarial Valuation Results

- The average geometric investment return on the Valuation Value of Assets over the last 10 years was 6.71%. This includes a high of an 8.16% return and a low of 5.12%. The average over the last 5 years was 6.58%. For more details see the Investment Return table in *Section 2, Subsection C* on page 28.
- The primary source of new UAAL was the strengthening of assumptions through multiple assumption changes. For example, the assumption changes in 2016 reduced the discount rate from 7.50% to 7.25% and updated mortality tables, adding \$772 million in unfunded liability. The assumption changes in 2019 reduced the discount rate from 7.25% to 7.00% and again updated mortality tables, adding \$435 million in unfunded liability. The assumption changes in 2022 reduced the discount rate from 7.00% to 6.50% with other demographic assumption changes, adding \$1,104 million in unfunded liability. For more details on the unfunded liability changes see *Section 3, Exhibit H, 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 I, Projection of UAAL Balances and Payments* provided starting on page 78.

Maturity Measures

In the last 10 years the ratio of members in pay status to active participants has increased from 0.94 to 1.15. 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 \$112.6 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 (LDRM)

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 (LDRM) when performing a funding valuation. The LDRM presented in this report is calculated using the same

Section 2: Actuarial Valuation Results

methodology and assumptions used to determine the Actuarial Accrued Liability (AAL) used for funding, except for the discount rate. The LDRM 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.”

The LDRM 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 LDRM 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 LDRM for the Plan is \$32.44 billion. The difference between the plan’s AAL of \$21.63 billion and the LDRM 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 LDRM 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	19,098	18,138	5.3%
• Average age	43.3	43.5	-0.2
• Average years of service	9.8	10.2	-0.4
• Total projected compensation	\$1,679,866,544	\$1,504,227,792	11.7%
• Average projected compensation	\$87,960	\$82,932	6.1%
• Account balances	\$1,474,123,289	\$1,364,643,224	8.0%
• Total active vested members	11,931	11,855	0.6%
Inactive vested members:			
• Number	8,337	7,588	9.9%
• Average Age	44.5	44.8	-0.3
Retired members:			
• Number in pay status	17,590	17,227	2.1%
• Average age	70.1	69.9	0.2
• Average monthly benefit	\$4,009	\$3,873	3.5%
Disabled members:			
• Number in pay status	1,644	1,664	-1.2%
• Average age	66.6	66.2	0.4
• Average monthly benefit	\$3,740	\$3,590	4.2%
Beneficiaries:			
• Number in pay status	2,641	2,600	1.6%
• Average age	74.7	74.8	-0.1
• Average monthly benefit	\$2,258	\$2,169	4.1%

Section 3: Supplemental Information

Exhibit A: Table of Plan Coverage (continued)

General Total

Category	Year Ended June 30		Change From Prior Year
	2023	2022	
Active members in valuation:			
• Number	15,996	15,019	6.5%
• Average age	43.9	44.2	-0.3
• Average years of service	9.6	10.0	-0.4
• Total projected compensation	\$1,343,275,670	\$1,174,575,247	14.4%
• Average projected compensation	\$83,976	\$78,206	7.4%
• Account balances	\$1,069,472,301	\$979,399,672	9.2%
• Total active vested members	9,679	9,528	1.6%
Inactive vested members:			
• Number	7,471	6,799	9.9%
• Average Age	44.9	45.2	-0.3
Retired members:			
• Number in pay status	14,622	14,428	1.3%
• Average age	71.3	71.1	0.2
• Average monthly benefit	\$3,525	\$3,412	3.3%
Disabled members:			
• Number in pay status	858	881	-2.6%
• Average age	68.9	68.4	0.5
• Average monthly benefit	\$2,718	\$2,604	4.4%
Beneficiaries:			
• Number in pay status	2,058	2,045	0.6%
• Average age	76.5	76.6	-0.1
• Average monthly benefit	\$2,004	\$1,915	4.6%

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	11	13	-15.4%
• Average age	53.3	55.0	-1.7
• Average years of service	22.9	21.7	1.2
• Total projected compensation	\$1,047,048	\$1,082,761	-3.3%
• Average projected compensation	\$95,186	\$83,289	14.3%
• Account balances	\$1,367,893	\$1,415,674	-3.4%
• Total active vested members	11	13	-15.4%
Inactive vested members:			
• Number	723	803	-10.0%
• Average Age	58.4	57.7	0.7
Retired members:			
• Number in pay status	3,210	3,309	-3.0%
• Average age	75.3	75.2	0.1
• Average monthly benefit	\$1,797	\$1,830	-1.8%
Disabled members:			
• Number in pay status	111	120	-7.5%
• Average age	77.8	77.4	0.4
• Average monthly benefit	\$2,620	\$2,609	0.4%
Beneficiaries:			
• Number in pay status	914	961	-4.9%
• Average age	81.9	82.2	-0.3
• Average monthly benefit	\$2,070	\$1,992	3.9%

Section 3: Supplemental Information

Exhibit A: Table of Plan Coverage (continued)

General Tier A

Category	Year Ended June 30		Change From Prior Year
	2023	2022	
Active members in valuation:			
• Number	4,802	5,205	-7.7%
• Average age	52.4	51.9	0.5
• Average years of service	20.6	19.9	0.7
• Total projected compensation	\$472,061,364	\$473,047,533	-0.2%
• Average projected compensation	\$98,305	\$90,883	8.2%
• Account balances	\$742,500,974	\$709,786,851	4.6%
• Total active vested members	4,782	5,187	-7.8%
Inactive vested members:			
• Number	2,194	2,274	-3.5%
• Average Age	49.7	49.0	0.7
Retired members:			
• Number in pay status	11,099	10,895	1.9%
• Average age	70.4	69.9	0.5
• Average monthly benefit	\$4,090	\$3,938	3.9%
Disabled members:			
• Number in pay status	735	750	-2.0%
• Average age	67.8	67.2	0.6
• Average monthly benefit	\$2,744	\$2,614	5.0%
Beneficiaries:			
• Number in pay status	1,132	1,075	5.3%
• Average age	72.4	71.7	0.7
• Average monthly benefit	\$1,966	\$1,859	5.8%

Section 3: Supplemental Information

Exhibit A: Table of Plan Coverage (continued)

General Tier B

Category	Year Ended June 30		Change From Prior Year
	2023	2022	
Active members in valuation:			
• Number	1,251	1,294	-3.3%
• Average age	46.4	45.5	0.9
• Average years of service	10.2	9.5	0.7
• Total projected compensation	\$124,282,225	\$117,216,675	6.0%
• Average projected compensation	\$99,346	\$90,585	9.7%
• Account balances	\$96,868,447	\$85,725,452	13.0%
• Total active vested members	1,132	1,182	-4.2%
Inactive vested members:			
• Number	687	664	3.5%
• Average Age	44.8	44.4	0.4
Retired members:			
• Number in pay status	171	131	30.5%
• Average age	65.8	65.6	0.2
• Average monthly benefit	\$1,523	\$1,537	-0.9%
Disabled members:			
• Number in pay status	9	8	12.5%
• Average age	53.3	53.9	-0.6
• Average monthly benefit	\$2,199	\$2,016	9.1%
Beneficiaries:			
• Number in pay status	7	5	40.0%
• Average age	56.9	59.3	-2.4
• Average monthly benefit	\$671	\$364	84.4%

Section 3: Supplemental Information

Exhibit A: Table of Plan Coverage (continued)

General Tier C

Category	Year Ended June 30		Change From Prior Year
	2023	2022	
Active members in valuation:			
• Number	3,852	4,072	-5.4%
• Average age	42.3	41.5	0.8
• Average years of service	7.4	6.5	0.9
• Total projected compensation	\$312,862,881	\$295,919,178	5.7%
• Average projected compensation	\$81,221	\$72,672	11.8%
• Account balances	\$178,062,463	\$151,847,641	17.3%
• Total active vested members	3,686	3,116	18.3%
Inactive vested members:			
• Number	1,831	1,741	5.2%
• Average Age	41.2	40.3	0.9
Retired members:			
• Number in pay status	137	90	52.2%
• Average age	66.2	65.9	0.3
• Average monthly benefit	\$849	\$783	8.4%
Disabled members:			
• Number in pay status	3	3	0.0%
• Average age	54.7	53.7	1.0
• Average monthly benefit	\$1,539	\$1,509	2.0%
Beneficiaries:			
• Number in pay status	4	4	0.0%
• Average age	59.7	58.7	1.0
• Average monthly benefit	\$582	\$570	2.1%

Section 3: Supplemental Information

Exhibit A: Table of Plan Coverage (continued)

General Tier D

Category	Year Ended June 30		Change From Prior Year
	2023	2022	
Active members in valuation:			
• Number	6,080	4,435	37.1%
• Average age	37.7	37.2	0.5
• Average years of service	2.0	1.8	0.2
• Total projected compensation	\$433,022,153	\$287,309,099	50.7%
• Average projected compensation	\$71,221	\$64,782	9.9%
• Account balances	\$50,672,524	\$30,624,053	65.5%
• Total active vested members	68	30	126.7%
Inactive vested members:			
• Number	2,036	1,317	54.6%
• Average Age	38.3	37.7	0.6
Retired members:			
• Number in pay status	5	3	66.7%
• Average age	69.5	68.3	1.2
• Average monthly benefit	\$161	\$36	347.2%
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	1	0	N/A
• Average age	12.2	N/A	N/A
• Average monthly benefit	\$214	N/A	N/A

Section 3: Supplemental Information

Exhibit A: Table of Plan Coverage (continued)

Safety Total

Category	Year Ended June 30		Change From Prior Year
	2023	2022	
Active members in valuation:			
• Number	3,102	3,119	-0.5%
• Average age	40.0	40.4	-0.4
• Average years of service	11.0	11.4	-0.4
• Total projected compensation	\$336,590,874	\$329,652,545	2.1%
• Average projected compensation	\$108,508	\$105,692	2.7%
• Account balances	\$404,650,989	\$385,243,553	5.0%
• Total active vested members	2,252	2,327	-3.2%
Inactive vested members:			
• Number	866	789	9.8%
• Average Age	40.8	41.5	-0.7
Retired members:			
• Number in pay status	2,968	2,799	6.0%
• Average age	64.0	63.9	0.1
• Average monthly benefit	\$6,393	\$6,249	2.3%
Disabled members:			
• Number in pay status	786	783	0.4%
• Average age	64.1	63.7	0.4
• Average monthly benefit	\$4,856	\$4,698	3.4%
Beneficiaries:			
• Number in pay status	583	555	5.0%
• Average age	68.1	68.2	-0.1
• Average monthly benefit	\$3,152	\$3,104	1.5%

Section 3: Supplemental Information

Exhibit A: Table of Plan Coverage (continued)

Safety Tier A

Category	Year Ended June 30		Change From Prior Year
	2023	2022	
Active members in valuation:			
• Number	1,130	1,290	-12.4%
• Average age	47.1	46.7	0.4
• Average years of service	19.5	19.0	0.5
• Total projected compensation	\$142,484,412	\$157,633,103	-9.6%
• Average projected compensation	\$126,092	\$122,196	3.2%
• Account balances	\$260,083,249	\$262,942,940	-1.1%
• Total active vested members	1,125	1,284	-12.4%
Inactive vested members:¹			
• Number	372	389	-4.4%
• Average Age	48.3	47.4	0.9
Retired members:¹			
• Number in pay status	2,887	2,754	4.8%
• Average age	64.1	64.0	0.1
• Average monthly benefit	\$6,518	\$6,320	3.1%
Disabled members:¹			
• Number in pay status	766	767	-0.1%
• Average age	64.6	64.1	0.5
• Average monthly benefit	\$4,891	\$4,731	3.4%
Beneficiaries:¹			
• Number in pay status	579	552	4.9%
• Average age	68.3	68.3	0.0
• Average monthly benefit	\$3,163	\$3,111	1.7%

¹ Includes members from Safety Tier 1, Safety Tier 2 and Safety Tier A.

Section 3: Supplemental Information

Exhibit A: Table of Plan Coverage (continued)

Safety Tier B

Category	Year Ended June 30		Change From Prior Year
	2023	2022	
Active members in valuation:			
• Number	408	414	-1.4%
• Average age	41.0	40.2	0.8
• Average years of service	10.4	9.8	0.6
• Total projected compensation	\$50,355,073	\$49,434,222	1.9%
• Average projected compensation	\$123,419	\$119,406	3.4%
• Account balances	\$47,546,811	\$42,018,133	13.2%
• Total active vested members	367	379	-3.2%
Inactive vested members:			
• Number	121	123	-1.6%
• Average Age	39.2	39.8	-0.6
Retired members:			
• Number in pay status	39	21	85.7%
• Average age	60.2	60.4	-0.2
• Average monthly benefit	\$2,323	\$2,367	-1.9%
Disabled members:			
• Number in pay status	12	10	20.0%
• Average age	45.5	45.3	0.2
• Average monthly benefit	\$3,897	\$3,547	9.9%
Beneficiaries:			
• Number in pay status	4	3	33.3%
• Average age	42.9	37.7	5.2
• Average monthly benefit	\$1,581	\$1,886	-16.2%

Section 3: Supplemental Information

Exhibit A: Table of Plan Coverage (continued)

Safety Tier C

Category	Year Ended June 30		Change From Prior Year
	2023	2022	
Active members in valuation:			
• Number	1,018	1,107	-8.0%
• Average age	36.5	35.8	0.7
• Average years of service	6.9	5.9	1.0
• Total projected compensation	\$100,579,158	\$101,104,096	-0.5%
• Average projected compensation	\$98,801	\$91,332	8.2%
• Account balances	\$90,340,457	\$77,520,275	16.5%
• Total active vested members	746	655	13.9%
Inactive vested members:			
• Number	285	244	16.8%
• Average Age	35.4	34.9	0.5
Retired members:			
• Number in pay status	42	24	75.0%
• Average age	60.5	60.4	0.1
• Average monthly benefit	\$1,590	\$1,570	1.3%
Disabled members:			
• Number in pay status	8	6	33.3%
• Average age	45.8	42.9	2.9
• Average monthly benefit	\$2,926	\$2,447	19.6%
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)

Safety Tier D

Category	Year Ended June 30		Change From Prior Year
	2023	2022	
Active members in valuation:			
• Number	546	308	77.3%
• Average age	31.1	30.8	0.3
• Average years of service	1.6	1.3	0.3
• Total projected compensation	\$43,172,231	\$21,481,125	101.0%
• Average projected compensation	\$79,070	\$69,744	13.4%
• Account balances	\$6,680,472	\$2,762,204	141.9%
• Total active vested members	14	9	55.6%
Inactive vested members:			
• Number	88	33	166.7%
• Average Age	29.2	27.5	1.7
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									
	Total	0 – 4	5 – 9	10 – 14	15 – 19	20 – 24	25 – 29	30 – 34	35 – 39	40 & over
Under 25	421	420	1	—	—	—	—	—	—	—
	\$60,531	\$60,563	\$47,230	—	—	—	—	—	—	—
25 – 29	1,825	1,616	209	—	—	—	—	—	—	—
	\$69,891	\$68,828	\$78,105	—	—	—	—	—	—	—
30 – 34	2,912	1,673	1,068	168	3	—	—	—	—	—
	\$78,941	\$72,790	\$84,647	\$103,537	\$100,333	—	—	—	—	—
35 – 39	2,897	1,108	1,034	557	195	3	—	—	—	—
	\$88,762	\$77,603	\$89,561	\$103,702	\$105,024	\$103,875	—	—	—	—
40 – 44	2,887	774	754	470	714	175	—	—	—	—
	\$94,646	\$79,018	\$86,811	\$105,520	\$109,934	\$105,951	—	—	—	—
45 – 49	2,707	561	484	341	594	636	91	—	—	—
	\$96,870	\$79,175	\$88,546	\$100,191	\$103,389	\$107,123	\$123,563	—	—	—
50 – 54	2,259	447	342	235	387	538	245	63	2	—
	\$97,987	\$78,067	\$84,303	\$96,138	\$102,409	\$108,352	\$123,621	\$105,910	\$73,643	—
55 – 59	1,715	351	263	147	312	313	173	132	23	1
	\$92,377	\$72,600	\$88,525	\$95,085	\$95,269	\$98,021	\$109,150	\$107,215	\$93,495	\$94,660
60 – 64	1,081	168	195	135	178	194	105	76	27	3
	\$85,060	\$73,885	\$81,168	\$88,773	\$87,047	\$84,645	\$88,814	\$101,117	\$95,724	\$71,652
65 – 69	298	53	58	48	38	59	17	15	9	1
	\$84,747	\$77,091	\$84,650	\$86,114	\$72,720	\$88,897	\$90,093	\$83,748	\$137,641	\$90,706
70 & over	96	11	20	9	19	18	8	5	3	3
	\$76,644	\$72,247	\$75,180	\$71,617	\$88,376	\$73,887	\$91,667	\$60,655	\$60,356	\$62,723
Total	19,098	7,182	4,428	2,110	2,440	1,936	639	291	64	8
	\$87,960	\$73,471	\$86,280	\$100,592	\$102,451	\$102,765	\$112,684	\$103,330	\$98,470	\$73,561

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									
	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	2	—	—	—	—	2	—	—	—	—
	\$100,240	—	—	—	—	\$100,240	—	—	—	—
50 – 54	5	—	—	—	—	5	—	—	—	—
	\$111,498	—	—	—	—	\$111,498	—	—	—	—
55 – 59	3	—	—	—	—	2	1	—	—	—
	\$66,189	—	—	—	—	\$63,449	\$71,670	—	—	—
60 – 64	1	—	—	—	—	1	—	—	—	—
	\$90,511	—	—	—	—	\$90,511	—	—	—	—
65 – 69	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—
70 & over	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—
Total	11	—	—	—	—	10	1	—	—	—
	\$95,186	—	—	—	—	\$97,538	\$71,670	—	—	—

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 A

Age	Years of Service									
	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	—	—	—	—	—
	\$86,727	—	—	\$101,095	\$72,358	—	—	—	—	—
35 – 39	157	1	1	46	106	3	—	—	—	—
	\$87,368	\$67,854	\$69,336	\$86,082	\$87,813	\$103,875	—	—	—	—
40 – 44	701	5	7	106	458	125	—	—	—	—
	\$103,018	\$72,445	\$101,194	\$106,354	\$103,854	\$98,449	—	—	—	—
45 – 49	1,106	4	7	109	470	465	51	—	—	—
	\$100,367	\$101,842	\$67,982	\$101,107	\$99,854	\$100,207	\$109,307	—	—	—
50 – 54	1,094	4	12	64	328	452	174	58	2	—
	\$103,548	\$130,184	\$90,956	\$91,145	\$99,546	\$105,950	\$112,108	\$97,270	\$73,643	—
55 – 59	932	4	15	38	282	284	158	129	21	1
	\$98,334	\$82,616	\$90,519	\$103,463	\$93,826	\$95,696	\$105,910	\$106,419	\$87,333	\$94,660
60 – 64	602	—	4	36	173	187	102	72	25	3
	\$87,146	—	\$109,711	\$88,333	\$86,165	\$83,832	\$86,992	\$98,055	\$84,482	\$71,652
65 – 69	149	2	2	11	38	56	17	14	8	1
	\$85,936	\$73,658	\$97,208	\$88,408	\$72,720	\$87,378	\$90,093	\$79,623	\$137,093	\$90,706
70 & over	59	—	2	3	19	16	8	5	3	3
	\$80,586	—	\$136,824	\$88,460	\$88,376	\$70,658	\$91,667	\$60,655	\$60,356	\$62,723
Total	4,802	20	50	414	1,875	1,588	510	278	59	8
	\$98,305	\$91,798	\$92,195	\$97,917	\$97,246	\$98,225	\$103,830	\$100,171	\$91,036	\$73,561

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 B

Age	Years of Service									
	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	54	2	4	48	—	—	—	—	—	—
	\$87,553	\$115,369	\$75,829	\$87,371	—	—	—	—	—	—
35 – 39	311	25	42	243	1	—	—	—	—	—
	\$102,596	\$105,194	\$109,370	\$101,249	\$80,355	—	—	—	—	—
40 – 44	296	22	50	224	—	—	—	—	—	—
	\$103,220	\$127,157	\$93,851	\$102,961	—	—	—	—	—	—
45 – 49	196	26	31	135	4	—	—	—	—	—
	\$100,574	\$106,774	\$112,788	\$96,057	\$118,083	—	—	—	—	—
50 – 54	158	17	28	109	3	1	—	—	—	—
	\$97,941	\$104,563	\$111,153	\$94,425	\$76,879	\$61,861	—	—	—	—
55 – 59	109	15	12	82	—	—	—	—	—	—
	\$98,656	\$115,440	\$124,640	\$91,783	—	—	—	—	—	—
60 – 64	88	5	10	72	1	—	—	—	—	—
	\$89,384	\$78,445	\$112,829	\$87,205	\$66,591	—	—	—	—	—
65 – 69	33	7	1	25	—	—	—	—	—	—
	\$89,017	\$109,787	\$137,890	\$81,246	—	—	—	—	—	—
70 & over	6	1	1	4	—	—	—	—	—	—
	\$58,304	\$42,917	\$66,579	\$60,081	—	—	—	—	—	—
Total	1,251	120	179	942	9	1	—	—	—	—
	\$99,346	\$109,558	\$106,294	\$96,812	\$94,435	\$61,861	—	—	—	—

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 C

Age	Years of Service									
	Total	0 – 4	5 – 9	10 – 14	15 – 19	20 – 24	25 – 29	30 – 34	35 – 39	40 & over
Under 25	1	—	1	—	—	—	—	—	—	—
	\$47,230	—	\$47,230	—	—	—	—	—	—	—
25 – 29	143	20	123	—	—	—	—	—	—	—
	\$68,654	\$60,956	\$69,906	—	—	—	—	—	—	—
30 – 34	863	54	780	29	—	—	—	—	—	—
	\$79,537	\$74,386	\$79,563	\$88,442	—	—	—	—	—	—
35 – 39	907	35	798	74	—	—	—	—	—	—
	\$85,223	\$79,172	\$85,202	\$88,306	—	—	—	—	—	—
40 – 44	672	22	609	41	—	—	—	—	—	—
	\$83,402	\$82,829	\$83,046	\$89,004	—	—	—	—	—	—
45 – 49	457	16	394	47	—	—	—	—	—	—
	\$84,149	\$68,219	\$84,332	\$88,043	—	—	—	—	—	—
50 – 54	314	11	271	32	—	—	—	—	—	—
	\$77,916	\$81,669	\$77,271	\$82,087	—	—	—	—	—	—
55 – 59	230	3	207	20	—	—	—	—	—	—
	\$79,977	\$54,153	\$80,145	\$82,118	—	—	—	—	—	—
60 – 64	186	4	166	16	—	—	—	—	—	—
	\$73,179	\$54,607	\$74,046	\$68,823	—	—	—	—	—	—
65 – 69	60	1	49	10	—	—	—	—	—	—
	\$79,730	\$146,042	\$77,811	\$82,501	—	—	—	—	—	—
70 & over	19	—	17	2	—	—	—	—	—	—
	\$68,539	—	\$68,434	\$69,425	—	—	—	—	—	—
Total	3,852	166	3,415	271	—	—	—	—	—	—
	\$81,221	\$74,374	\$81,199	\$85,686	—	—	—	—	—	—

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 D

Age	Years of Service									
	Total	0 – 4	5 – 9	10 – 14	15 – 19	20 – 24	25 – 29	30 – 34	35 – 39	40 & over
Under 25	319	319	—	—	—	—	—	—	—	—
	\$56,313	\$56,313	—	—	—	—	—	—	—	—
25 – 29	1,303	1,294	9	—	—	—	—	—	—	—
	\$66,919	\$66,856	\$76,032	—	—	—	—	—	—	—
30 – 34	1,429	1,411	18	—	—	—	—	—	—	—
	\$71,808	\$71,589	\$88,973	—	—	—	—	—	—	—
35 – 39	949	941	8	—	—	—	—	—	—	—
	\$75,323	\$75,156	\$94,968	—	—	—	—	—	—	—
40 – 44	669	664	5	—	—	—	—	—	—	—
	\$75,553	\$75,387	\$97,701	—	—	—	—	—	—	—
45 – 49	490	486	4	—	—	—	—	—	—	—
	\$76,419	\$76,248	\$97,217	—	—	—	—	—	—	—
50 – 54	385	381	4	—	—	—	—	—	—	—
	\$72,612	\$72,325	\$99,969	—	—	—	—	—	—	—
55 – 59	322	320	2	—	—	—	—	—	—	—
	\$68,921	\$68,965	\$61,840	—	—	—	—	—	—	—
60 – 64	159	157	2	—	—	—	—	—	—	—
	\$73,250	\$73,357	\$64,837	—	—	—	—	—	—	—
65 – 69	45	43	2	—	—	—	—	—	—	—
	\$71,772	\$70,324	\$102,896	—	—	—	—	—	—	—
70 & over	10	10	—	—	—	—	—	—	—	—
	\$75,180	\$75,180	—	—	—	—	—	—	—	—
Total	6,080	6,026	54	—	—	—	—	—	—	—
	\$71,221	\$71,065	\$88,554	—	—	—	—	—	—	—

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 A

Age	Years of Service									
	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	3	—	—	1	2	—	—	—	—	—
	\$117,980	—	—	\$125,298	\$114,321	—	—	—	—	—
35 – 39	118	—	—	32	86	—	—	—	—	—
	\$125,271	—	—	\$121,137	\$126,810	—	—	—	—	—
40 – 44	330	1	2	27	254	46	—	—	—	—
	\$121,240	\$148,860	\$144,816	\$110,773	\$120,895	\$127,662	—	—	—	—
45 – 49	351	2	4	18	118	169	40	—	—	—
	\$125,348	\$157,561	\$146,399	\$124,142	\$117,447	\$126,234	\$141,739	—	—	—
50 – 54	221	2	—	10	55	79	70	5	—	—
	\$134,251	\$133,100	—	\$132,528	\$121,110	\$122,731	\$152,723	\$206,143	—	—
55 – 59	79	—	1	2	30	27	14	3	2	—
	\$125,100	—	\$109,634	\$156,919	\$108,836	\$125,036	\$148,397	\$141,464	\$158,201	—
60 – 64	21	—	—	2	4	6	3	4	2	—
	\$140,703	—	—	\$114,942	\$130,309	\$108,991	\$150,770	\$156,221	\$236,252	—
65 – 69	5	—	—	—	—	3	—	1	1	—
	\$127,057	—	—	—	—	\$117,253	—	\$141,498	\$142,028	—
70 & over	2	—	—	—	—	2	—	—	—	—
	\$99,726	—	—	—	—	\$99,726	—	—	—	—
Total	1,130	5	7	92	549	332	127	13	5	—
	\$126,092	\$146,036	\$140,695	\$120,610	\$120,488	\$124,949	\$148,740	\$170,884	\$186,186	—

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 B

Age	Years of Service									
	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	72	2	6	64	—	—	—	—	—	—
	\$120,045	\$137,731	\$130,915	\$118,473	—	—	—	—	—	—
35 – 39	144	13	10	119	2	—	—	—	—	—
	\$120,817	\$145,323	\$117,633	\$118,880	\$92,690	—	—	—	—	—
40 – 44	105	18	18	63	2	4	—	—	—	—
	\$125,933	\$144,191	\$132,869	\$121,469	\$110,199	\$90,720	—	—	—	—
45 – 49	44	5	13	24	2	—	—	—	—	—
	\$127,754	\$178,038	\$124,021	\$123,672	\$75,295	—	—	—	—	—
50 – 54	27	2	6	16	1	1	1	—	—	—
	\$124,036	\$103,905	\$146,296	\$124,653	\$89,777	\$89,339	\$89,808	—	—	—
55 – 59	4	1	1	2	—	—	—	—	—	—
	\$124,059	\$143,389	\$165,495	\$93,675	—	—	—	—	—	—
60 – 64	9	—	1	8	—	—	—	—	—	—
	\$131,743	—	\$129,681	\$132,000	—	—	—	—	—	—
65 – 69	3	—	1	2	—	—	—	—	—	—
	\$146,404	—	\$134,401	\$152,406	—	—	—	—	—	—
70 & over	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—
Total	408	41	56	298	7	5	1	—	—	—
	\$123,419	\$146,378	\$129,877	\$120,444	\$92,306	\$90,444	\$89,808	—	—	—

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 C

Age	Years of Service									
	Total	0 – 4	5 – 9	10 – 14	15 – 19	20 – 24	25 – 29	30 – 34	35 – 39	40 & over
Under 25	6	6	—	—	—	—	—	—	—	—
	\$75,662	\$75,662	—	—	—	—	—	—	—	—
25 – 29	176	100	76	—	—	—	—	—	—	—
	\$85,521	\$80,760	\$91,786	—	—	—	—	—	—	—
30 – 34	363	85	253	25	—	—	—	—	—	—
	\$96,574	\$83,197	\$99,438	\$113,078	—	—	—	—	—	—
35 – 39	248	32	173	43	—	—	—	—	—	—
	\$101,568	\$83,756	\$103,280	\$107,937	—	—	—	—	—	—
40 – 44	87	17	61	9	—	—	—	—	—	—
	\$98,461	\$83,290	\$101,395	\$107,230	—	—	—	—	—	—
45 – 49	50	11	31	8	—	—	—	—	—	—
	\$95,807	\$80,334	\$99,052	\$104,506	—	—	—	—	—	—
50 – 54	39	16	19	4	—	—	—	—	—	—
	\$119,582	\$116,005	\$120,388	\$130,066	—	—	—	—	—	—
55 – 59	32	4	25	3	—	—	—	—	—	—
	\$136,982	\$141,832	\$137,596	\$125,398	—	—	—	—	—	—
60 – 64	14	1	12	1	—	—	—	—	—	—
	\$142,870	\$151,952	\$142,469	\$138,601	—	—	—	—	—	—
65 – 69	3	—	3	—	—	—	—	—	—	—
	\$141,477	—	\$141,477	—	—	—	—	—	—	—
70 & over	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—
Total	1,018	272	653	93	—	—	—	—	—	—
	\$98,801	\$85,136	\$102,784	\$110,800	—	—	—	—	—	—

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 D

Age	Years of Service									
	Total	0 – 4	5 – 9	10 – 14	15 – 19	20 – 24	25 – 29	30 – 34	35 – 39	40 & over
Under 25	95	95	—	—	—	—	—	—	—	—
	\$73,878	\$73,878	—	—	—	—	—	—	—	—
25 – 29	203	202	1	—	—	—	—	—	—	—
	\$76,280	\$76,333	\$65,480	—	—	—	—	—	—	—
30 – 34	126	119	7	—	—	—	—	—	—	—
	\$76,716	\$77,058	\$70,901	—	—	—	—	—	—	—
35 – 39	63	61	2	—	—	—	—	—	—	—
	\$85,287	\$85,646	\$74,349	—	—	—	—	—	—	—
40 – 44	27	25	2	—	—	—	—	—	—	—
	\$77,257	\$78,442	\$62,437	—	—	—	—	—	—	—
45 – 49	11	11	—	—	—	—	—	—	—	—
	\$90,606	\$90,606	—	—	—	—	—	—	—	—
50 – 54	16	14	2	—	—	—	—	—	—	—
	\$120,976	\$129,511	\$61,236	—	—	—	—	—	—	—
55 – 59	4	4	—	—	—	—	—	—	—	—
	\$119,626	\$119,626	—	—	—	—	—	—	—	—
60 – 64	1	1	—	—	—	—	—	—	—	—
	\$132,984	\$132,984	—	—	—	—	—	—	—	—
65 – 69	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—
70 & over	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—
Total	546	532	14	—	—	—	—	—	—	—
	\$79,070	\$79,350	\$68,416	—	—	—	—	—	—	—

Section 3: Supplemental Information

Exhibit C: Reconciliation of Member Data

	Active Members	Inactive Vested Members ¹	Retired Members	Disabled Members	Beneficiaries	Total
Number as of June 30, 2022	18,138	7,588	17,227	1,664	2,600	47,217
• New members	2,423	434	N/A	N/A	196	3,053
• Terminations – with vested rights	(804)	804	N/A	N/A	N/A	0
• Contribution refunds	(139)	(132)	N/A	N/A	N/A	(271)
• Retirements	(603)	(198)	801	N/A	N/A	0
• New disabilities	(11)	(5)	(8)	24	N/A	0
• Return to work	120	(116)	(4)	0	N/A	0
• Died with or without beneficiary	(25)	(22)	(419)	(44)	(163)	(673)
• Data adjustments	(1)	(16)	(7)	0	8	(16)
Number as of June 30, 2023	19,098	8,337	17,590	1,644	2,641	49,310

¹ Includes inactive members who choose to leave member contributions on deposit with less than five years of service.

Section 3: Supplemental Information

Exhibit D: 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	\$14,540,337,181	\$16,161,531,988
Contribution income:		
• Employer contributions	\$687,085,339	\$650,975,758
• Member contributions	<u>171,017,870</u>	<u>164,088,914</u>
Net contribution income	\$858,103,209	\$815,064,672
Investment income:		
• Interest, dividends, asset appreciation and other income	\$1,442,476,153	\$(1,445,467,809)
• Less investment and administrative fees	<u>(50,882,904)</u>	<u>(80,997,417)</u>
Net investment income	<u>\$1,391,593,250</u>	<u>\$(1,526,465,226)</u>
Total income available for benefits	\$2,249,696,459	\$(711,400,554)
Less benefit payments:		
• Service retirement and disability benefits	\$(950,682,438)	\$(887,268,483)
• Death benefits	(2,486,708)	(2,026,851)
• Health benefits	(10,096,261)	(12,839,493)
• Supplemental retirement benefits	0	0
• Member refunds	<u>(7,477,906)</u>	<u>(7,659,426)</u>
Net benefit payments	<u>\$(970,743,313)</u>	<u>\$(909,794,253)</u>
Change in net assets at market value	\$1,278,953,146	\$(1,621,194,807)
Net assets at market value at the end of the year	\$15,819,290,327	\$14,540,337,181

Note: Results may be slightly off due to rounding.

Section 3: Supplemental Information

Exhibit E: Summary Statement of Plan Assets

	June 30, 2023	June 30, 2022
Cash equivalents	\$2,392,247,031	\$2,342,018,186
Accounts receivable:		
• Contributions	\$8,989,218	\$7,529,731
• Accrued interest and dividends	43,887,509	37,642,125
• Settlement of investments sold	<u>1,088,268,538</u>	<u>1,359,395,355</u>
Total accounts receivable	\$1,141,145,265	\$1,404,567,211
Investments:		
• Domestic equity securities	\$3,322,875,877	\$2,141,004,560
• International equity securities	723,864,617	1,203,863,944
• Bonds	7,138,350,146	6,850,814,213
• Securities lending collateral	97,301,952	71,341,005
• Real estate	1,395,511,242	1,370,363,418
• Private equity	476,202,521	576,343,228
• Private real assets	420,900,399	467,379,639
• Cash and securities for swaps	122,955,872	(336,637,266)
• Other investments	<u>3,495,308</u>	<u>3,871,998</u>
Total investments at market value	<u>\$13,701,457,934</u>	<u>\$12,348,344,739</u>
Total assets	\$17,234,850,230	\$16,094,930,136
Accounts payable:		
• Securities lending & settlement of securities purchased	\$(1,357,066,371)	\$(1,503,737,871)
• Professional service	(12,872,911)	(12,376,482)
• Others	<u>(45,620,621)</u>	<u>(38,478,602)</u>
Total accounts payable	<u>\$(1,415,559,903)</u>	<u>\$(1,554,592,955)</u>
Net assets at market value	\$15,819,290,327	\$14,540,337,181
Net assets at actuarial value	\$16,560,998,282	\$15,945,584,534
Net assets at valuation value	\$16,513,040,867	\$15,763,835,308

Note: Results may be slightly off due to rounding.

Section 3: Supplemental Information

Exhibit F: Summary of Reported Reserve Information as of June 30, 2023

	June 30, 2023 (\$ in '000s)	June 30, 2022 (\$ in '000s)
Used in Development of Valuation Value of Assets:		
• Member contribution reserve	\$1,662,931	\$1,532,062
• Employer contribution reserve	834,233	676,538
• Retirement allowance reserve	12,819,072	12,421,148
• Smoothed market value transition reserve	<u>1,196,805</u>	<u>1,134,087</u>
Subtotal: Valuation Value of Assets	\$16,513,041	\$15,763,835
Not Used in Development of Valuation Value of Assets:		
• Supplemental pension benefit, disability supplemental pension benefit and STAR COLA reserves	\$0	\$0
• Health benefits 401(h) account	47,957	36,346
• Undistributed excess earnings reserve	0	0
• Contingency reserve	<u>0</u>	<u>145,403</u>
Subtotal	\$47,957	\$181,749
Subtotal: Actuarial Value of Assets	\$16,560,998	\$15,945,584
• Net deferred gains (losses)	<u>(741,708)</u>	<u>(1,405,247)</u>
Total: Gross Market Value of Assets	\$15,819,290	\$14,540,337

Note: Results may be slightly off due to rounding.

Section 3: Supplemental Information

Exhibit G: 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	Valuation Value of Assets at Year-End	Valuation Value as a Percent of Market Value
2014	\$414,906,000	\$78,920,000	\$1,208,144,000	\$580,726,000	\$10,185,438,000	\$9,824,431,000	96.46%
2015	435,882,000	98,590,000	228,595,000	611,605,000	10,336,900,000	10,535,337,000	101.92%
2016	425,306,000	104,636,000	49,754,000	647,538,000	10,269,058,000	11,030,635,000	107.42%
2017	459,236,000	112,579,000	1,235,025,000	668,220,000	11,407,678,000	11,566,927,000	101.40%
2018	544,124,000	140,401,000	903,528,000	706,816,000	12,288,915,000	12,365,656,000	100.62%
2019	552,718,000	145,746,000	655,179,000	760,024,000	12,882,534,000	12,932,244,000	100.39%
2020	589,203,000	150,682,000	121,065,000	810,128,000	12,933,356,000	13,715,875,000	106.05%
2021	634,558,000	162,740,000	3,289,986,000	859,108,000	16,161,532,000	14,671,508,000	90.78%
2022	650,976,000	164,089,000	(1,526,465,000)	909,794,000	14,540,337,000	15,763,835,000	108.41%
2023	687,085,000	171,018,000	1,391,593,000	970,743,000	15,819,290,000	16,513,041,000	104.39%

Note: Results may be slightly off due to rounding.

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

Section 3: Supplemental Information

Exhibit H: Table of Amortization Bases

General

Type	Date Established	Initial Amount (\$ in '000s)	Initial Period	Outstanding Balance (\$ in '000s)	Years Remaining	Annual Payment (\$ in '000s)
Reamortize UAAL	June 30, 2004	\$898,323	20	\$211,215	2 ¹	\$111,092
Actuarial loss	June 30, 2005	128,924	20	34,319	2 ¹	18,051
Actuarial gain	June 30, 2006	(122,837)	20	(35,943)	2 ¹	(18,905)
Actuarial gain	June 30, 2007	(319,377)	20	(100,640)	2 ¹	(52,933)
Actuarial gain	June 30, 2008	(252,322)	20	(84,296)	2 ¹	(44,337)
Actuarial loss	June 30, 2009	229,764	20	80,384	2 ¹	42,279
Actuarial loss	June 30, 2010	275,738	20	100,027	2 ¹	52,611
Assumption change	June 30, 2010	273,446	20	188,984	7	30,810
Actuarial loss	June 30, 2011	272,855	20	203,267	8	29,464
Actuarial loss	June 30, 2012	331,062	20	261,716	9	34,262
Assumption change	June 30, 2012	(23,270)	20	(18,397)	9	(2,409)
Actuarial gain	June 30, 2013	(111,526)	20	(92,413)	10	(11,062)
Assumption change	June 30, 2013	284,375	20	235,640	10	28,207
Actuarial gain	June 30, 2014	(92,909)	20	(80,088)	11	(8,853)
Actuarial gain	June 30, 2015	(25,009)	20	(22,244)	12	(2,290)
Assumption change	June 30, 2015	221,787	20	197,253	12	20,303
Actuarial loss	June 30, 2016	39,919	20	36,467	13	3,519
Assumption change	June 30, 2016	445,570	20	407,041	13	39,280
Actuarial loss	June 30, 2017	90,516	20	84,643	14	7,703
Actuarial loss	June 30, 2018	84,518	20	80,496	15	6,943
Actuarial loss	June 30, 2019	208,437	20	201,312	16	16,529
Assumption change	June 30, 2019	379,718	20	366,736	16	30,111
Actuarial loss	June 30, 2020	94,910	20	92,823	17	7,283
Actuarial gain	June 30, 2021	(148,732)	20	(146,806)	18	(11,044)
Actuarial loss	June 30, 2022	94,887	20	94,241	19	6,818
Assumption change	June 30, 2022	734,927	20	729,925	19	52,806
Actuarial loss	June 30, 2023	426,822	20	426,822	20	29,775
General Subtotal				\$3,452,484		\$416,013

¹ Reflects the adjustment to UAAL amortization periods made in 2019.

Section 3: Supplemental Information

Exhibit H: Table of Amortization Bases (continued)

Safety

Type	Date Established	Initial Amount (\$ in '000s)	Initial Period	Outstanding Balance (\$ in '000s)	Years Remaining	Annual Payment (\$ in '000s)
Reamortize UAAL	June 30, 2004	\$304,408	20	\$71,573	2 ¹	\$37,645
Actuarial loss	June 30, 2005	40,271	20	10,720	2 ¹	5,638
Actuarial gain	June 30, 2006	(29,564)	20	(8,651)	2 ¹	(4,550)
Actuarial gain	June 30, 2007	(81,955)	20	(25,824)	2 ¹	(13,583)
Actuarial gain	June 30, 2008	(88,653)	20	(29,618)	2 ¹	(15,578)
Actuarial loss	June 30, 2009	82,198	20	28,757	2 ¹	15,125
Actuarial loss	June 30, 2010	103,299	20	37,474	2 ¹	19,710
Assumption change	June 30, 2010	140,579	20	97,159	7	15,840
Actuarial loss	June 30, 2011	114,781	20	85,506	8	12,394
Actuarial loss	June 30, 2012	98,453	20	77,830	9	10,189
Assumption change	June 30, 2012	6,803	20	5,377	9	704
Actuarial gain	June 30, 2013	(18,694)	20	(15,490)	10	(1,854)
Assumption change	June 30, 2013	(20,621)	20	(17,087)	10	(2,045)
Actuarial loss	June 30, 2014	4,218	20	3,636	11	402
Actuarial gain	June 30, 2015	(14,992)	20	(13,333)	12	(1,372)
Assumption change	June 30, 2015	98,607	20	87,700	12	9,027
Actuarial loss	June 30, 2016	32,578	20	29,760	13	2,872
Assumption change	June 30, 2016	326,213	20	298,006	13	28,758
Actuarial loss	June 30, 2017	54,268	20	50,746	14	4,618
Actuarial loss	June 30, 2018	52,916	20	50,398	15	4,347
Actuarial loss	June 30, 2019	113,295	20	109,422	16	8,984
Assumption change	June 30, 2019	55,257	20	53,367	16	4,382
Actuarial loss	June 30, 2020	60,340	20	59,013	17	4,630
Actuarial gain	June 30, 2021	(30,068)	20	(29,678)	18	(2,233)
Actuarial loss	June 30, 2022	115,196	20	114,412	19	8,277
Assumption change	June 30, 2022	368,948	20	366,438	19	26,510
Actuarial loss	June 30, 2023	165,602	20	165,602	20	11,552
Safety Subtotal				\$1,663,215		\$190,389

¹ Reflects the adjustment to UAAL amortization periods made in 2019.

Section 3: Supplemental Information

Exhibit H: Table of Amortization Bases (continued)

Total

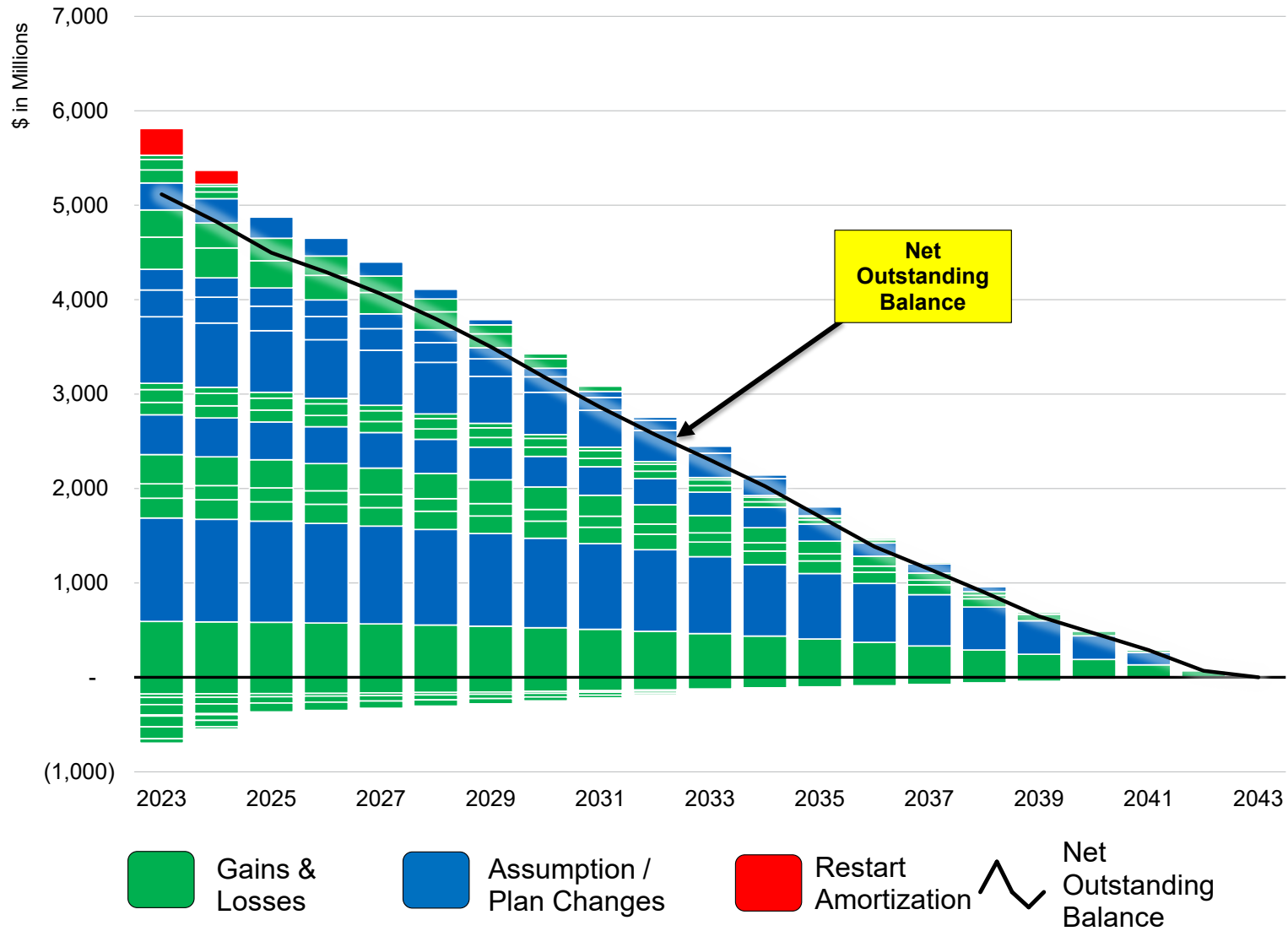
Type	Date Established	Initial Amount (\$ in '000s)	Initial Period	Outstanding Balance (\$ in '000s)	Years Remaining	Annual Payment (\$ in '000s)
Reamortize UAAL	June 30, 2004	\$1,202,731	20	\$282,788	2 ¹	\$148,737
Actuarial loss	June 30, 2005	169,195	20	45,039	2 ¹	23,689
Actuarial gain	June 30, 2006	(152,401)	20	(44,594)	2 ¹	(23,455)
Actuarial gain	June 30, 2007	(401,332)	20	(126,464)	2 ¹	(66,516)
Actuarial gain	June 30, 2008	(340,975)	20	(113,914)	2 ¹	(59,915)
Actuarial loss	June 30, 2009	311,962	20	109,141	2 ¹	57,404
Actuarial loss	June 30, 2010	379,037	20	137,501	2 ¹	72,321
Assumption change	June 30, 2010	414,025	20	286,143	7	46,650
Actuarial loss	June 30, 2011	387,636	20	288,773	8	41,858
Actuarial loss	June 30, 2012	429,515	20	339,546	9	44,451
Assumption change	June 30, 2012	(16,467)	20	(13,020)	9	(1,705)
Actuarial gain	June 30, 2013	(130,220)	20	(107,903)	10	(12,916)
Assumption change	June 30, 2013	263,754	20	218,553	10	26,162
Actuarial gain	June 30, 2014	(88,691)	20	(76,452)	11	(8,451)
Actuarial gain	June 30, 2015	(40,001)	20	(35,577)	12	(3,662)
Assumption change	June 30, 2015	320,394	20	284,953	12	29,330
Actuarial loss	June 30, 2016	72,497	20	66,227	13	6,391
Assumption change	June 30, 2016	771,783	20	705,047	13	68,038
Actuarial loss	June 30, 2017	144,784	20	135,389	14	12,321
Actuarial loss	June 30, 2018	137,434	20	130,894	15	11,290
Actuarial loss	June 30, 2019	321,732	20	310,734	16	25,513
Assumption change	June 30, 2019	434,975	20	420,103	16	34,493
Actuarial loss	June 30, 2020	155,250	20	151,836	17	11,913
Actuarial gain	June 30, 2021	(178,800)	20	(176,484)	18	(13,277)
Actuarial loss	June 30, 2022	210,083	20	208,653	19	15,095
Assumption change	June 30, 2022	1,103,875	20	1,096,363	19	79,316
Actuarial loss	June 30, 2023	592,424	20	592,424	20	41,327
Total				\$5,115,699		\$606,402

¹ Reflects the adjustment to UAAL amortization periods made in 2019.

Section 3: Supplemental Information

Exhibit I: Projection of UAAL Balances and Payments

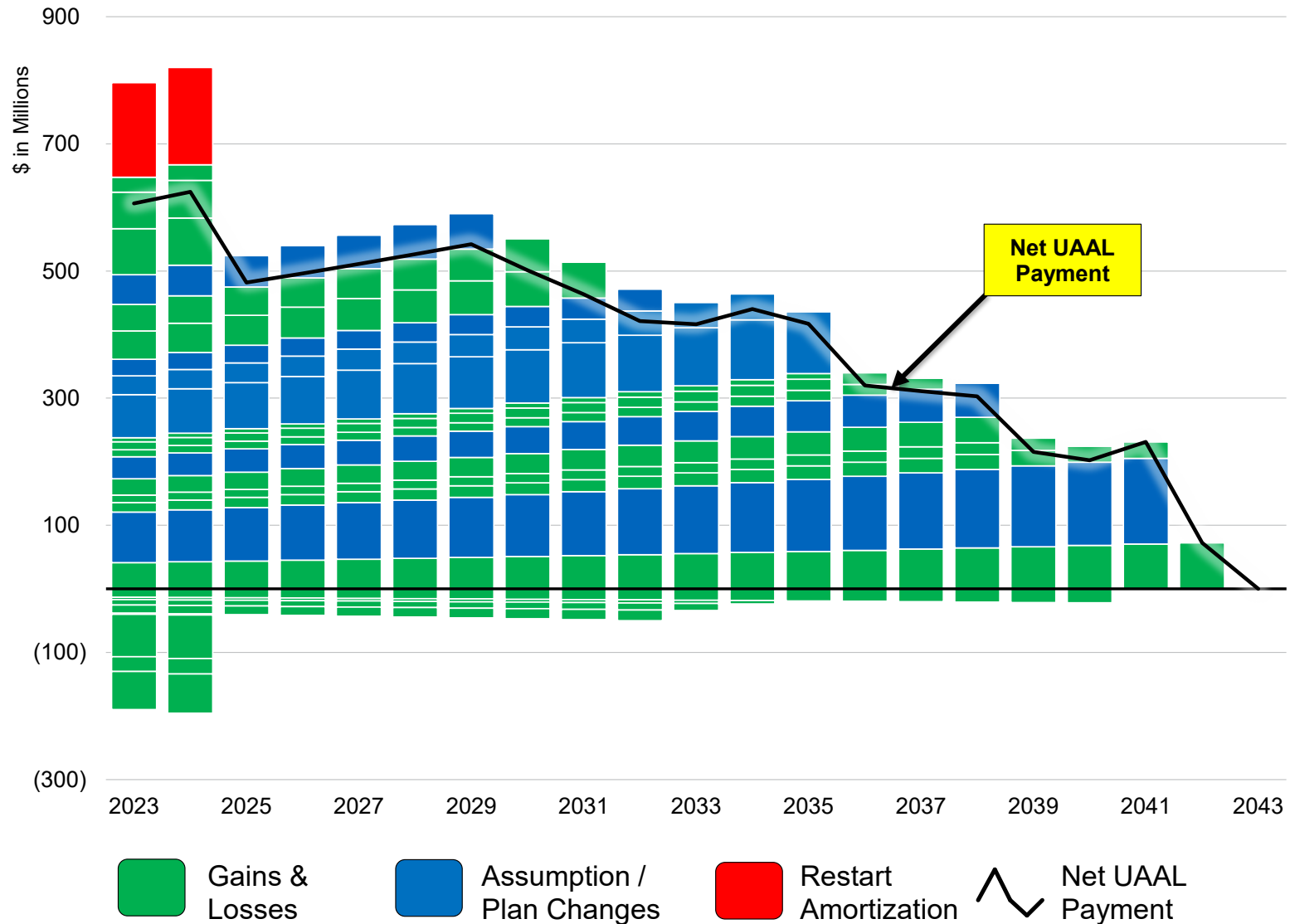
Outstanding Balance of \$5,116 Million in Net UAAL as of June 30, 2023



Section 3: Supplemental Information

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

Annual Payments Required to Amortize \$5,116 Million in Net UAAL as of June 30, 2023



Section 3: Supplemental Information

Exhibit J: 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:	The single-sum 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. Through the actuarial assumptions, rates of decrements, rates of salary increases, and rates of fund earnings have been forecasted. 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 in actuarial liabilities that are larger than projected. Actuarial gains will shorten the time required for funding of the actuarial balance sheet deficiency while actuarial losses will lengthen the funding period.
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):	<p>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:</p> <p>Adjusted for the probable financial effect of certain intervening events (such as changes in compensation levels, marital status, etc.)</p> <p>Multiplied by the probability of the occurrence of an event (such as survival, death, disability, termination, etc.) on which the payment is conditioned, and</p> <p>Discounted according to an assumed rate (or rates) of return to reflect the time value of money.</p>

Section 3: Supplemental Information

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 (ADC) and the Net Pension Liability (NPL).
Actuarial Value of Assets (AVA):	The value of the Fund'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 ADC.
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 UAAL. 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 UAAL. 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 designed to pay interest on and to amortize the Unfunded Actuarial Accrued Liability.

Section 3: Supplemental Information

Assumptions or Actuarial Assumptions:	<p>The estimates upon which the cost of the Fund is calculated, including:</p> <p><u>Investment return</u> - the rate of investment yield that the Fund will earn over the long-term future;</p> <p><u>Mortality rates</u> - the death rates of employees and pensioners; life expectancy is based on these rates;</p> <p><u>Retirement rates</u> - the rate or probability of retirement at a given age or service;</p> <p><u>Disability rates</u> - the probability of disability retirement at a given age;</p> <p><u>Termination rates</u> - the rates at which employees of various ages are expected to leave employment for reasons other than death, disability, or retirement;</p> <p><u>Salary increase rates</u> - the rates of salary increase due to inflation and productivity growth.</p>
Closed Amortization Period:	<p>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 30 years, it is 29 years at the end of one year, 28 years at the end of two years, etc. See Open Amortization Period.</p>
Decrements:	<p>Those causes/events due to which a member's status (active-inactive-retiree-beneficiary) changes, that is: death, retirement, disability, or termination.</p>
Defined Benefit Plan:	<p>A retirement plan in which benefits are defined by a formula applied to the member's compensation and/or years of service.</p>
Defined Contribution Plan:	<p>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.</p>
Employer Normal Cost:	<p>The portion of the Normal Cost to be paid by the employer. This is equal to the Normal Cost less expected member contributions.</p>
Experience Study:	<p>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.</p>
Funded Ratio:	<p>The ratio of the Valuation Value of Assets (VVA) to the actuarial accrued liability (AAL). Plans sometimes calculate a market funded ratio, using the Market Value of Assets (MVA), rather than the VVA.</p>
Investment Return:	<p>The rate of earnings of the Fund 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.</p>

Section 3: Supplemental Information

Normal Cost:	That portion of the Actuarial Present Value of pension plan benefits and expenses allocated to a valuation year by the Actuarial Cost Method. Any payment with respect to an Unfunded Actuarial Accrued Liability is not part of Normal Cost (see Amortization Payment). For pension plan benefits that are provided in part by employee contributions, Normal Cost refers to the total of employee 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 determining the Amortization Period each year. In theory, if an Open Amortization Period with level percentage of payroll is used to amortize the Unfunded Actuarial Accrued Liability, the UAAL will never decrease, but will become smaller each year, in relation to covered payroll, if the actuarial assumptions are realized.
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, 2018 through June 30, 2021 Actuarial Experience Study dated May 3, 2022. Unless otherwise noted, all actuarial assumptions and methods shown below apply to members for all 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 0.70% of the Actuarial Value of Assets.
Member Contribution Crediting Rate:	One-half of the net investment return credited semi-annually.
Inflation Rate:	Increases of 2.50% per year.
Cost of Living Adjustments (COLA):	Retiree COLA increases of 2.75% per year for Tier 1 and Tier A, and 2% per year for Tiers B, C and D. For Tier 1 and Tier A members that have COLA banks, we assume they receive 3.0% COLA increases until their COLA banks are exhausted and 2.75% thereafter.
Payroll Growth:	Inflationary increases of 2.50% per year plus “across the board” real salary increases of 0.50% per year.
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
Less than 1	7.50	8.75
1 – 2	6.00	6.40
2 – 3	5.25	5.00
3 – 4	4.75	4.60
4 – 5	3.75	4.50
5 – 6	3.00	3.75
6 – 7	2.50	3.00
7 – 8	2.25	2.25
8 – 9	2.00	2.00
9 – 10	1.75	1.75
10 – 11	1.50	1.70
11 – 12	1.40	1.40
12 – 13	1.30	1.30
13 – 14	1.20	1.20
14 – 15	1.05	1.15
15 & Over	0.90	1.10

Section 4: Actuarial Valuation Basis

Demographic Assumptions:

Post-Retirement Mortality Rates:

Healthy

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

Disabled

- **General Members:** Pub-2010 Non-Safety Disabled Retiree Amount-Weighted Mortality Table (separate tables for males and females) with rates decreased by 15%, projected generationally with the two-dimensional mortality improvement scale MP-2021.
- **Safety Members:** Pub-2010 Safety Disabled Retiree Amount-Weighted Mortality Table (separate tables for males and females), 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.

Section 4: Actuarial Valuation Basis

Pre-Retirement Mortality Rates:

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

Age	Rate (%) ¹			
	General ¹		Safety ¹	
	Male	Female	Male	Female
20	0.04	0.01	0.04	0.02
25	0.02	0.01	0.03	0.02
30	0.03	0.01	0.04	0.02
35	0.04	0.02	0.04	0.03
40	0.06	0.03	0.05	0.04
45	0.09	0.05	0.07	0.06
50	0.13	0.08	0.10	0.08
55	0.19	0.11	0.15	0.11
60	0.28	0.17	0.23	0.14
65	0.41	0.27	0.35	0.20
70	0.61	0.44	0.66	0.39

All General pre-retirement deaths are assumed to be non-service connected. All Safety pre-retirement deaths are assumed to be service connected.

¹ Generational projections beyond the base year (2010) are not reflected in the above mortality rates.

Mortality Rates for Member Contributions:

- **General Members:** Pub-2010 General Healthy Retiree Amount-Weighted Above-Median Mortality Table (separate tables for males and females), projected 30 years with the two-dimensional mortality improvement scale MP-2021, weighted 30% male and 70% female.
- **Safety Members:** Pub-2010 Safety Healthy Retiree Amount-Weighted Above-Median Mortality Table (separate tables for males and females) with rates increased by 5% for males and decreased by 5% for females, projected 30 years with the two-dimensional mortality improvement scale MP-2021, weighted 75% male and 25% female.

Section 4: Actuarial Valuation Basis

Disability Incidence:

Age	Rate (%)	
	General	Safety
20	0.00	0.02
25	0.01	0.07
30	0.02	0.16
35	0.03	0.29
40	0.10	0.44
45	0.18	0.59
50	0.21	1.10
55	0.26	1.61
60	0.32	1.90
65	0.41	2.00
70	0.51	1.70
75	0.55	1.50

75% of General disabilities are assumed to be service connected disabilities and the other 25% are assumed to be non-service connected disabilities.

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

Section 4: Actuarial Valuation Basis

Termination Rates:

Years of Service	Rate (%)	
	General	Safety
Less than 1	12.50	7.50
1 – 2	8.25	5.75
2 – 3	6.75	4.75
3 – 4	5.50	4.00
4 – 5	5.25	3.50
5 – 6	5.00	3.25
6 – 7	4.75	2.75
7 – 8	4.25	2.75
8 – 9	3.50	2.65
9 – 10	3.50	2.50
10 – 11	3.50	2.25
11 – 12	3.25	2.00
12 – 13	3.00	1.50
13 – 14	2.75	1.30
14 – 15	2.50	1.10
15 – 16	2.30	0.90
16 – 17	2.10	0.80
17 – 18	1.80	0.70
18 – 19	1.65	0.60
19 – 20	1.60	0.60
20 & Over	1.50	0.60

The greater of a refund of member contributions and a deferred annuity is valued when a member terminates. No termination is assumed after a member is first assumed to retire.

Section 4: Actuarial Valuation Basis

Retirement Rates:

Age	Rate (%)				
	General Tiers 1 and A (Less than 30 Years of Service)	General Tiers 1 and A (30 or More Years of Service)	General Tier B	General Tier C	General Tier D
49	0.00	50.00	0.00	0.00	0.00
50	4.75	8.00	0.00	0.00	0.00
51	4.50	10.00	0.00	0.00	0.00
52	4.50	10.00	0.00	4.00	3.00
53	5.00	10.00	0.00	4.00	3.00
54	6.00	12.00	0.00	4.00	3.00
55	8.00	14.00	7.00	4.00	3.00
56	8.00	20.00	8.00	4.00	4.00
57	9.00	20.00	8.00	5.00	4.50
58	9.00	27.00	9.00	5.00	4.50
59	12.00	30.00	9.00	5.00	7.00
60	15.00	30.00	12.00	6.00	10.00
61	18.00	30.00	15.00	8.00	12.00
62	20.00	32.00	18.00	10.00	14.00
63	22.00	30.00	18.00	12.00	16.00
64	22.00	30.00	18.00	14.00	18.00
65	32.00	35.00	30.00	26.00	23.00
66	35.00	35.00	30.00	30.00	26.00
67	35.00	35.00	30.00	30.00	26.00
68	30.00	35.00	30.00	30.00	26.00
69	30.00	30.00	30.00	25.00	26.00
70	30.00	30.00	30.00	25.00	30.00
71	25.00	25.00	25.00	25.00	25.00
72	25.00	25.00	25.00	25.00	25.00
73	25.00	25.00	25.00	25.00	25.00
74	25.00	25.00	25.00	25.00	25.00
75 & Over	100.00	100.00	100.00	100.00	100.00

Section 4: Actuarial Valuation Basis

Retirement Rates: (continued)

Age	Rate (%)				
	Safety Tier A (Less than 30 Years of Service)	Safety Tier A (30 or More Years of Service)	Safety Tier B	Safety Tier C	Safety Tier D
41	6.0	0.0	6.0	0.0	0.0
42	6.0	0.0	6.0	0.0	0.0
43	6.0	0.0	6.0	0.0	0.0
44	3.0	0.0	3.0	0.0	0.0
45	3.0	0.0	3.0	0.0	0.0
46	4.0	0.0	4.0	0.0	0.0
47	5.0	0.0	5.0	0.0	0.0
48	6.0	6.0	6.0	0.0	0.0
49	14.0	14.0	6.5	0.0	0.0
50	15.0	30.0	11.5	15.0	15.0
51	15.0	40.0	11.0	9.5	9.5
52	16.0	40.0	12.0	11.0	11.0
53	16.0	40.0	12.0	11.0	11.0
54	16.0	40.0	13.0	11.0	11.0
55	16.0	30.0	20.0	17.0	16.0
56	16.0	30.0	22.5	20.0	18.0
57	16.0	35.0	20.0	20.0	18.0
58	18.0	35.0	20.0	20.0	18.0
59	20.0	35.0	20.0	22.0	20.0
60	20.0	35.0	21.0	21.0	20.0
61	25.0	35.0	26.0	26.0	26.0
62	25.0	35.0	26.0	26.0	26.0
63	25.0	40.0	26.0	26.0	26.0
64	28.0	40.0	30.0	30.0	30.0
65	50.0	50.0	50.0	50.0	50.0
66	50.0	50.0	50.0	50.0	50.0
67	50.0	50.0	50.0	50.0	50.0
68	50.0	50.0	50.0	50.0	50.0
69	50.0	50.0	50.0	50.0	50.0
70 & Over	100.0	100.0	100.0	100.0	100.0

Section 4: Actuarial Valuation Basis

Retirement Age and Benefit for Deferred Vested Members:	<u>General Retirement Age</u>
	Reciprocal members: 60 Other members: 58
	<u>Safety Retirement Age</u>
	Reciprocal members: 54 Other members: 51
	Future deferred vested members who terminate with less than five years of service and are not vested are assumed to retire at age 70 for both General and Safety if they decide to leave their contributions on deposit. 17% of future General and 27% of future Safety deferred vested members are assumed to continue to work for a reciprocal employer. For reciprocals, 3.90% and 4.10% compensation increases are assumed per annum for General and Safety members, respectively.
Future Benefit Accruals:	1.0 year of service per year of employment.
Unknown Data for Members:	Same as those exhibited by members with similar known characteristics. If not specified, members are assumed to be female.
Definition of Active Members:	First day of pay period following employment.
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 55% 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 3 years younger than the member and female members are assumed to have a male spouse who is 2 years older than the member.
Service Converted from Unused Sick Leave:	The following assumptions for service converted from unused sick leave as a percentage of service at retirement are used: General members: 0.90% Safety members: 1.50% Pursuant to Section 31641.02, the cost of this benefit for Tiers 1, A and B members will be charged only to employers and will not affect member contribution rates.
<u>Actuarial Funding Policy</u>	
Actuarial Cost Method:	Entry Age Actuarial 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.

Section 4: Actuarial Valuation Basis

Actuarial Value of Assets:	Market value of assets (MVA) less unrecognized returns in each of the last nine semi-annual accounting periods. Unrecognized returns are equal to the difference between the actual market return and the expected return on the market value, and are recognized semi-annually over a five-year period. Deferred gains and losses as of June 30, 2019 have been combined and will be recognized in equal amounts over a period of four and a half years from that date.
Valuation Value of Assets:	The actuarial value of assets reduced by the following non-valuation reserves and designations: (1) Health Benefits 401(h) Account; (2) Undistributed Excess Earnings Reserve; (3) Contingency Reserve; (4) Supplemental Pension Benefit Reserve; (5) Disability Supplemental Pension Benefit Reserve; and (6) STAR COLA Reserve.
Amortization Policy:	<p>The UAAL (i.e., the difference between the Actuarial Accrued Liability and the Valuation Value of Assets), as of June 30, 2012 shall continue to be amortized over separate 20-year period amortization layers based on the valuations during which each separate layer was previously established.</p> <p>Any new UAAL as a result of assumption changes, method changes and actuarial gains or losses identified in the annual valuation as of June 30, 2013 and later will be amortized over a period of 20 years.</p> <p>Any new UAAL as a result of plan amendments will be amortized over a period of 15 years.</p> <p>Any new UAAL as a result of Golden Handshakes or Early Retirement Incentive Programs (ERIP) will be amortized over a period of up to 5 years.</p> <p>The UAAL shall be amortized over “closed” amortization periods so that the amortization period for each layer decreases by one year with each actuarial valuation.</p> <p>The UAAL shall be amortized as a level percentage of payroll so that the amortization amount in each year during the amortization period shall be expected to be a level percentage of covered payroll, taking into consideration the current assumption for general payroll increase.</p> <p>If the AAL is overfunded (i.e., the Valuation Value of Assets exceeds 120% of the Actuarial Accrued Liability so that there is a surplus), such surplus and any subsequent surpluses will be amortized over an “open” amortization period of 30 years. Any prior UAAL amortization layers will be considered fully amortized, and any subsequent UAAL, will be amortized over 20 years as the first of a new series of amortization layers.</p>

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 earning rate. The contribution rate is determined 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 earning 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.

The recommended employer contributions are provided in *Section 2, Subsection F*.

Member Contributions:

Non-Tier C and Non-Tier D Members (i.e., Non-CalPEPRA)

Articles 6 and 6.8 of the 1937 Act define the methodology to be used in the calculation of member basic contribution rates for non-Tier C and non-Tier D General members and Safety 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 Compensation for General and Safety members. A One-Year Final Average Compensation is used for General Tier 1, General Tier A and Safety Tier A. A Three-Year Final Average Compensation is used for General Tier B and Safety Tier B. That age is 60 for General Tier 1 and Tier B members, 55 for General Tier A members and 50 for Safety Tier A and Tier B members. It is assumed that contributions are made annually at the same rate, starting at entry age. In addition to their basic contributions, members pay one-half of the total normal cost necessary to fund their cost-of-living benefits. Accumulation includes semi-annual crediting of interest at half of the assumed investment earning rate. Please note that the member rates provided in the report are the full rate before reflecting any employer pickup, if any.

Section 4: Actuarial Valuation Basis

Member Contributions: (continued)

Tier C and Tier D Members (i.e., CalPEPRA)

Pursuant to Section 7522.30(a) of the Government Code, Tier C and Tier D members are required to contribute at least 50% of the Normal Cost rate. 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 Tier C and Tier D members and we have not taken into account the requirements of Section 7522.30(e).

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

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.

Non-CalPEPRA benefits 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.

Section 415(b) limit have been applied to the benefit data for members in pay status provided by SDCERA for valuation purposes.

Contribution rates determined in this valuation have not been reduced for the Section 415 limitations for active and inactive vested members. Actual limitations will result in gains as they occur.

Changed Actuarial Assumptions:

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

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:	All permanent employees of the County of San Diego or contracting district, scheduled to work 20 or more hours weekly, are eligible, subject to classification below:
<i>General Tier 1</i>	All General members with membership dates before March 8, 2002 who made a specific and irrevocable election to opt out of Tier A. This also included those General Members in deferred status on March 8, 2002.
<i>General Tier A</i>	All General members with membership dates or continuing employment on or after March 8, 2002 and before August 28, 2009, except as noted above.
<i>General Tier B</i>	All General members with membership dates on or after August 28, 2009 and before January 1, 2013.
<i>General Tier C</i>	All General members with membership dates on or after January 1, 2013 and before July 1, 2018.
<i>General Tier D</i>	All General members with membership dates on or after July 1, 2018.
<i>Safety Tier A</i>	All Safety members with membership dates before August 28, 2009.
<i>Safety Tier B</i>	All Safety members with membership dates on or after August 28, 2009 and before January 1, 2013.
<i>Safety Tier C</i>	All Safety members with membership dates on or after January 1, 2013 and before July 1, 2020.
<i>Safety Tier D</i>	All Safety members with membership dates on or after July 1, 2020.
Final Compensation for Benefit Determination:	
<i>Tier 1 and Tier A</i>	Highest consecutive 26 biweekly pay periods of compensation earnable (§31462.1) (FAC1).
<i>Tier B</i>	Highest consecutive 78 biweekly pay periods of compensation earnable (§31462) (FAC3).
<i>Tier C and Tier D</i>	Highest consecutive 36 months of pensionable compensation (§7522.10(c), §7522.32 and §7522.34) (FAC3).

Section 4: Actuarial Valuation Basis

Compensation Limit

Non-Tier C and Non-Tier D

For members with membership dates on or after July 1, 1996, Compensation Earnable is limited to Internal Revenue Code Section 401(a)(17). The limit as of July 1, 2023 is \$330,000. The limit is indexed for inflation on an annual basis.

Tier C and Tier D

Pensionable Compensation is limited to \$146,042 for 2023 (\$175,250, if not enrolled in Social Security). The limit is indexed for inflation on an annual basis.

Service:

Years of service (Yrs) are generally based on a member's employment during a period of time for which deductions are made from their compensation.

Service Retirement Eligibility:

General Tier 1 and Tier A

Age 50 with 10 years of service, or age 70 regardless of service, or after 30 years regardless of age (§31672).

General Tier B

Age 55 with 10 years of service, or age 70 regardless of service, or after 30 years regardless of age (§31672).

General Tier C and Tier D

Age 52 with 5 years of service (§7522.20(a)) or age 70 regardless of service (§31672.3).

Safety Tier A and Tier B

Age 50 with 10 years of service, or age 70 regardless of service, or after 20 years regardless of age (§31663.25).

Safety Tier C and Tier D

Age 50 with 5 years of service (§7522.25(d)) or age 70 regardless of service (§31672.3).

Benefit Formula:

General Tier 1 (§31676.12)

Retirement Age

Benefit Formula

50 (1.34% x FAC1 – 1/3 x 1.34% x \$350 x 12) x Yrs

55 (1.77% x FAC1 – 1/3 x 1.77% x \$350 x 12) x Yrs

60 (2.34% x FAC1 – 1/3 x 2.34% x \$350 x 12) x Yrs

62 and over (2.62% x FAC1 – 1/3 x 2.62% x \$350 x 12) x Yrs

General Tier A (§31676.17)

Retirement Age

Benefit Formula

50 (2.00% x FAC1 – 1/3 x 2.00% x \$350 x 12) x Yrs

55 (2.50% x FAC1 – 1/3 x 2.50% x \$350 x 12) x Yrs

60 and over (3.00% x FAC1 – 1/3 x 3.00% x \$350 x 12) x Yrs

Section 4: Actuarial Valuation Basis

Benefit Formula: (continued)

<i>General Tier B (§31676.12)</i>	Retirement Age	Benefit Formula
	50	$(1.34\% \times \text{FAC3} - 1/3 \times 1.34\% \times \$350 \times 12) \times \text{Yrs}$
	55	$(1.77\% \times \text{FAC3} - 1/3 \times 1.77\% \times \$350 \times 12) \times \text{Yrs}$
	60	$(2.34\% \times \text{FAC3} - 1/3 \times 2.34\% \times \$350 \times 12) \times \text{Yrs}$
	62 and over	$(2.62\% \times \text{FAC3} - 1/3 \times 2.62\% \times \$350 \times 12) \times \text{Yrs}$
<i>General Tier C (§7522.20(a))</i>	Retirement Age	Benefit Formula
	52	$1.00\% \times \text{FAC3} \times \text{Yrs}$
	55	$1.30\% \times \text{FAC3} \times \text{Yrs}$
	60	$1.80\% \times \text{FAC3} \times \text{Yrs}$
	62	$2.00\% \times \text{FAC3} \times \text{Yrs}$
	65	$2.30\% \times \text{FAC3} \times \text{Yrs}$
	67 and over	$2.50\% \times \text{FAC3} \times \text{Yrs}$
<i>General Tier D (§31676.01)</i>	Retirement Age	Benefit Formula
	52	$0.87\% \times \text{FAC3} \times \text{Yrs}$
	55	$0.99\% \times \text{FAC3} \times \text{Yrs}$
	60	$1.28\% \times \text{FAC3} \times \text{Yrs}$
	62	$1.39\% \times \text{FAC3} \times \text{Yrs}$
	65 and over	$1.62\% \times \text{FAC3} \times \text{Yrs}$
<i>Safety Tier A (§31664.1)</i>	Retirement Age	Benefit Formula
	50 and over	$3.00\% \times \text{FAC1} \times \text{Yrs}$
<i>Safety Tier B (§31664.2)</i>	Retirement Age	Benefit Formula
	50	$2.29\% \times \text{FAC3} \times \text{Yrs}$
	55 and over	$3.00\% \times \text{FAC3} \times \text{Yrs}$
<i>Safety Tier C (§7522.25(d))</i>	Retirement Age	Benefit Formula
	50	$2.00\% \times \text{FAC3} \times \text{Yrs}$
	55	$2.50\% \times \text{FAC3} \times \text{Yrs}$
	57 and over	$2.70\% \times \text{FAC3} \times \text{Yrs}$

Section 4: Actuarial Valuation Basis

Benefit Formula: (continued)		
<i>Safety Tier D (§7522.25(c))</i>	Retirement Age	Benefit Formula
	50	2.00% x FAC3 x Yrs
	55	2.36% x FAC3 x Yrs
	57 and over	2.50% x FAC3 x Yrs
Maximum Benefit:		
<i>Non-Tier C and Non-Safety Tier D</i>	100% of Final Average Compensation (§31676.01, §31676.12, §31676.17, §31664.1, §31664.2).	
<i>Tier C and Safety Tier D</i>	There is no Final Compensation limit on the maximum retirement benefit.	
Non-Service Connected Disability:		
<i>General</i>		
<i>Eligibility</i>	Five years of service (§31720).	
<i>Benefit Formula</i>	1.8% per year of service. If the benefit does not exceed one-third of Final Compensation, the service is projected to 62, but the total benefit cannot be more than one-third of Final Compensation. (§31727.1). For all members, 100% of the Service Retirement benefit will be paid, if greater.	
<i>Safety</i>		
<i>Eligibility</i>	Five years of service (§31720).	
<i>Benefit Formula</i>	1.8% per year of service. If the benefit does not exceed one-third of Final Compensation, the service is projected to 55, but the total benefit cannot be more than one-third of Final Compensation (§31727.2). For all members, 100% of the Service Retirement benefit will be paid, if greater.	
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).	

Section 4: Actuarial Valuation Basis

Pre-Retirement Death:

All Members

<i>Eligibility</i>	None.
<i>Basic lump sum benefit</i>	Refund of member contributions with interest, plus one month's compensation for each year of service, to a maximum of six months' 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). In addition, safety members are entitled to benefits under Sections 31787.5 and 31787.6.

Vested Members

<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 or eligible children (§31765.1, §31781.1), in lieu of the basic lump sum benefit above (§31781). Alternatively, the spouse may choose a combined benefit of: <ul style="list-style-type: none">• A lump sum payment of up to 6 months' compensation (see above), and• A monthly (60%) benefit reduced by actuarial equivalent of the lump sum payment (§31781.3).

Death After Retirement:

All Members

<i>Service Retirement or Non Service Connected Disability Retirement</i>	Unless another option was selected at retirement, 60% of member's unmodified allowance continued to eligible spouse (§31760.1) and \$3,500 lump sum benefit payable to member's beneficiary (§31789.3). An eligible spouse is a surviving spouse who was married to the member at least one year prior to the day of retirement (§31760.1), or at least two years prior to the date of death, having attained age 55 on or prior to the date of death (§31760.2).
<i>Service Connected Disability Retirement</i>	Unless another option was selected at retirement, 100% of member's unmodified allowance continued to eligible spouse (§31786).

Withdrawal Benefits:

<i>Less than Five Years of Service</i>	Refund of accumulated employee contributions with interest, or earned benefit at age 70 (§31628). A member may also elect to leave contributions on deposit in the retirement fund (§31629.5).
<i>Five or More Years of Service</i>	If contributions left on deposit, a member is entitled to earned benefits commencing at any time after eligible to retire (§31700).

Section 4: Actuarial Valuation Basis

Post-retirement Cost-of-Living Benefits:	
<i>Tier 1 and Tier A</i>	Future changes based on changes to the Consumer Price Index for the San Diego-Carlsbad Area to a maximum of 3% per year, excess “banked” (§31870.1).
<i>Tier B, Tier C and Tier D</i>	Future changes based on changes to the Consumer Price Index for the San Diego-Carlsbad Area to a maximum of 2% per year, excess “banked” (§31870).
Supplemental Benefit Allowance and Health Insurance Allowance:	
	The Association provides a supplemental benefit allowance and a health insurance allowance for eligible retirees. These benefits have been excluded from this valuation. The supplemental benefit allowance has been suspended due to lack of funds to continue to provide for that benefit.
Member Contributions:	
Please refer to Section 4, Exhibit 3 for the specific rates.	
<i>General Tier 1</i>	
<i>Basic</i>	Entry-age based rates that provide for an annuity at age 60 equal to 1/100 of FAC1 (§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 A</i>	
<i>Basic</i>	Entry-age based rates that provide for an annuity at age 55 equal to 1/100 of FAC1 (§31621.8).
<i>Cost-of-Living</i>	Entry-age based rates that provide for one-half of future Cost-of-Living costs.
<i>General Tier B</i>	
<i>Basic</i>	Entry-age based rates that provide for an annuity at age 60 equal to 1/100 of FAC3 (§31621.2).
<i>Cost-of-Living</i>	Entry-age based rates that provide for one-half of future Cost-of-Living costs.
<i>Safety Tier A</i>	
<i>Basic</i>	Entry-age based rates that provide for an annuity at age 50 equal to 1/100 of FAC1 (§31639.25).
<i>Cost-of-Living</i>	Entry-age based rates that provide for one-half of future Cost-of-Living costs.
<i>Safety Tier B</i>	
<i>Basic</i>	Entry-age based rates that provide for an annuity at age 50 equal to 1/100 of FAC3 (§31639.25).
<i>Cost-of-Living</i>	Entry-age based rates that provide for one-half of future Cost-of-Living costs.
<i>Tier C and Tier D</i>	
	Non-entry age based rates that provide for 50% of total Normal Cost Rate.

Section 4: Actuarial Valuation Basis

Other Information:	Non-Tier C and Non-Tier D members with 30 or more years of qualifying service credit are exempt from paying member contributions (§31625.2 and §31625.3).
Changed Plan Provisions:	There have been no changes in plan provisions since the prior 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

Comparison of Member Rate at Entry Age 35 for General and Entry Age 30 for Safety Members for Non-CalPEPRA Members and at any Entry Ages for CalPEPRA Members.

	June 30, 2023			June 30, 2022			Change
	Basic	COLA	Total	Basic	COLA	Total	
General Tier 1 ¹	9.51%	4.19%	13.70%	9.51%	4.19%	13.70%	0.00%
General Tier A ¹	10.89%	5.46%	16.35%	10.89%	5.46%	16.35%	0.00%
General Tier B ¹	9.16%	2.49%	11.65%	9.16%	2.49%	11.65%	0.00%
General Tier C	N/A	N/A	10.04%	N/A	N/A	9.97%	0.07%
General Tier D	N/A	N/A	7.32%	N/A	N/A	7.09%	0.23%
Safety Tier A	11.45%	7.44%	18.89%	11.45%	7.44%	18.89%	0.00%
Safety Tier B	11.01%	4.01%	15.02%	11.01%	4.01%	15.02%	0.00%
Safety Tier C	N/A	N/A	16.37%	N/A	N/A	16.58%	-0.21%
Safety Tier D	N/A	N/A	15.72%	N/A	N/A	15.58%	0.14%

¹ Rates shown are for salaries in excess of \$350 per month.

Section 4: Actuarial Valuation Basis

Exhibit 3: Member Contribution Rates (continued)

General Non-CalPEPRA Members' Contribution Rates Based on the June 30, 2023 Actuarial Valuation
(as a % of monthly payroll)

Entry Age	General Tier 1					
	Basic		COLA		Total	
	First \$350	Over \$350	First \$350	Over \$350	First \$350	Over \$350
15	4.76%	7.14%	2.09%	3.14%	6.85%	10.28%
16	4.76%	7.14%	2.09%	3.14%	6.85%	10.28%
17	4.83%	7.25%	2.13%	3.19%	6.96%	10.44%
18	4.91%	7.36%	2.16%	3.24%	7.07%	10.60%
19	4.98%	7.47%	2.19%	3.29%	7.17%	10.76%
20	5.06%	7.59%	2.23%	3.34%	7.29%	10.93%
21	5.13%	7.70%	2.26%	3.39%	7.39%	11.09%
22	5.21%	7.82%	2.29%	3.44%	7.50%	11.26%
23	5.29%	7.94%	2.33%	3.50%	7.62%	11.44%
24	5.37%	8.06%	2.37%	3.55%	7.74%	11.61%
25	5.45%	8.18%	2.40%	3.60%	7.85%	11.78%
26	5.53%	8.30%	2.44%	3.66%	7.97%	11.96%
27	5.62%	8.43%	2.47%	3.71%	8.09%	12.14%
28	5.70%	8.55%	2.51%	3.77%	8.21%	12.32%
29	5.79%	8.68%	2.55%	3.82%	8.34%	12.50%
30	5.88%	8.82%	2.59%	3.88%	8.47%	12.70%
31	5.97%	8.95%	2.63%	3.94%	8.60%	12.89%
32	6.06%	9.09%	2.67%	4.00%	8.73%	13.09%
33	6.15%	9.23%	2.71%	4.07%	8.86%	13.30%
34	6.25%	9.37%	2.75%	4.13%	9.00%	13.50%
35	6.34%	9.51%	2.79%	4.19%	9.13%	13.70%
36	6.44%	9.66%	2.83%	4.25%	9.27%	13.91%
37	6.54%	9.81%	2.88%	4.32%	9.42%	14.13%
38	6.65%	9.97%	2.93%	4.39%	9.58%	14.36%
39	6.75%	10.13%	2.97%	4.46%	9.72%	14.59%

Section 4: Actuarial Valuation Basis

Exhibit 3: Member Contribution Rates (continued)

General Tier 1 (continued)						
Entry Age	Basic		COLA		Total	
	First \$350	Over \$350	First \$350	Over \$350	First \$350	Over \$350
40	6.87%	10.30%	3.03%	4.54%	9.90%	14.84%
41	6.98%	10.47%	3.07%	4.61%	10.05%	15.08%
42	7.09%	10.64%	3.13%	4.69%	10.22%	15.33%
43	7.22%	10.83%	3.18%	4.77%	10.40%	15.60%
44	7.35%	11.02%	3.23%	4.85%	10.58%	15.87%
45	7.47%	11.20%	3.29%	4.93%	10.76%	16.13%
46	7.59%	11.38%	3.34%	5.01%	10.93%	16.39%
47	7.71%	11.56%	3.39%	5.09%	11.10%	16.65%
48	7.83%	11.74%	3.45%	5.17%	11.28%	16.91%
49	7.95%	11.92%	3.50%	5.25%	11.45%	17.17%
50	8.05%	12.08%	3.55%	5.32%	11.60%	17.40%
51	8.16%	12.24%	3.59%	5.39%	11.75%	17.63%
52	8.25%	12.38%	3.63%	5.45%	11.88%	17.83%
53	8.35%	12.52%	3.67%	5.51%	12.02%	18.03%
54	8.42%	12.63%	3.71%	5.56%	12.13%	18.19%
55	8.45%	12.68%	3.72%	5.58%	12.17%	18.26%
56	8.43%	12.65%	3.71%	5.57%	12.14%	18.22%
57	8.39%	12.58%	3.69%	5.54%	12.08%	18.12%
58	8.31%	12.47%	3.66%	5.49%	11.97%	17.96%
59 & Over	8.16%	12.24%	3.59%	5.39%	11.75%	17.63%

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 (See Section 4, Exhibit 1)

COLA Loading Factor: 44.05%

Section 4: Actuarial Valuation Basis

Exhibit 3: Member Contribution Rates (continued)

Entry Age	General Tier A					
	Basic		COLA		Total	
	First \$350	Over \$350	First \$350	Over \$350	First \$350	Over \$350
15	5.43%	8.15%	2.73%	4.09%	8.16%	12.24%
16	5.43%	8.15%	2.73%	4.09%	8.16%	12.24%
17	5.51%	8.27%	2.77%	4.15%	8.28%	12.42%
18	5.60%	8.40%	2.81%	4.21%	8.41%	12.61%
19	5.68%	8.52%	2.85%	4.27%	8.53%	12.79%
20	5.77%	8.65%	2.89%	4.34%	8.66%	12.99%
21	5.85%	8.78%	2.93%	4.40%	8.78%	13.18%
22	5.95%	8.92%	2.98%	4.47%	8.93%	13.39%
23	6.03%	9.05%	3.03%	4.54%	9.06%	13.59%
24	6.13%	9.19%	3.07%	4.61%	9.20%	13.80%
25	6.22%	9.33%	3.12%	4.68%	9.34%	14.01%
26	6.31%	9.47%	3.17%	4.75%	9.48%	14.22%
27	6.41%	9.61%	3.21%	4.82%	9.62%	14.43%
28	6.51%	9.76%	3.26%	4.89%	9.77%	14.65%
29	6.61%	9.91%	3.31%	4.97%	9.92%	14.88%
30	6.71%	10.07%	3.37%	5.05%	10.08%	15.12%
31	6.81%	10.22%	3.41%	5.12%	10.22%	15.34%
32	6.92%	10.38%	3.47%	5.20%	10.39%	15.58%
33	7.03%	10.55%	3.53%	5.29%	10.56%	15.84%
34	7.15%	10.72%	3.58%	5.37%	10.73%	16.09%
35	7.26%	10.89%	3.64%	5.46%	10.90%	16.35%
36	7.38%	11.07%	3.70%	5.55%	11.08%	16.62%
37	7.51%	11.26%	3.76%	5.64%	11.27%	16.90%
38	7.63%	11.45%	3.83%	5.74%	11.46%	17.19%
39	7.77%	11.65%	3.89%	5.84%	11.66%	17.49%

Section 4: Actuarial Valuation Basis

Exhibit 3: Member Contribution Rates (continued)

General Tier A (continued)						
Entry Age	Basic		COLA		Total	
	First \$350	Over \$350	First \$350	Over \$350	First \$350	Over \$350
40	7.90%	11.85%	3.96%	5.94%	11.86%	17.79%
41	8.03%	12.04%	4.02%	6.03%	12.05%	18.07%
42	8.15%	12.23%	4.09%	6.13%	12.24%	18.36%
43	8.27%	12.41%	4.15%	6.22%	12.42%	18.63%
44	8.41%	12.61%	4.21%	6.32%	12.62%	18.93%
45	8.52%	12.78%	4.27%	6.41%	12.79%	19.19%
46	8.63%	12.95%	4.33%	6.49%	12.96%	19.44%
47	8.73%	13.10%	4.38%	6.57%	13.11%	19.67%
48	8.83%	13.25%	4.43%	6.64%	13.26%	19.89%
49	8.91%	13.36%	4.47%	6.70%	13.38%	20.06%
50	8.94%	13.41%	4.48%	6.72%	13.42%	20.13%
51	8.92%	13.38%	4.47%	6.71%	13.39%	20.09%
52	8.87%	13.31%	4.45%	6.67%	13.32%	19.98%
53	8.79%	13.19%	4.41%	6.61%	13.20%	19.80%
54 & Over	8.63%	12.95%	4.33%	6.49%	12.96%	19.44%

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 (See Section 4, Exhibit 1)

COLA Loading Factor: 50.12%

Section 4: Actuarial Valuation Basis

Exhibit 3: Member Contribution Rates (continued)

Entry Age	General Tier B					
	Basic		COLA		Total	
	First \$350	Over \$350	First \$350	Over \$350	First \$350	Over \$350
15	4.59%	6.88%	1.25%	1.87%	5.84%	8.75%
16	4.59%	6.88%	1.25%	1.87%	5.84%	8.75%
17	4.65%	6.98%	1.27%	1.90%	5.92%	8.88%
18	4.73%	7.09%	1.29%	1.93%	6.02%	9.02%
19	4.80%	7.20%	1.31%	1.96%	6.11%	9.16%
20	4.87%	7.31%	1.33%	1.99%	6.20%	9.30%
21	4.95%	7.42%	1.35%	2.02%	6.30%	9.44%
22	5.02%	7.53%	1.37%	2.05%	6.39%	9.58%
23	5.09%	7.64%	1.39%	2.08%	6.48%	9.72%
24	5.17%	7.76%	1.41%	2.11%	6.58%	9.87%
25	5.25%	7.87%	1.43%	2.14%	6.68%	10.01%
26	5.33%	7.99%	1.45%	2.17%	6.78%	10.16%
27	5.41%	8.11%	1.47%	2.20%	6.88%	10.31%
28	5.49%	8.24%	1.49%	2.24%	6.98%	10.48%
29	5.57%	8.36%	1.51%	2.27%	7.08%	10.63%
30	5.66%	8.49%	1.54%	2.31%	7.20%	10.80%
31	5.75%	8.62%	1.56%	2.34%	7.31%	10.96%
32	5.83%	8.75%	1.59%	2.38%	7.42%	11.13%
33	5.93%	8.89%	1.61%	2.41%	7.54%	11.30%
34	6.01%	9.02%	1.63%	2.45%	7.64%	11.47%
35	6.11%	9.16%	1.66%	2.49%	7.77%	11.65%
36	6.20%	9.30%	1.69%	2.53%	7.89%	11.83%
37	6.30%	9.45%	1.71%	2.57%	8.01%	12.02%
38	6.40%	9.60%	1.74%	2.61%	8.14%	12.21%
39	6.51%	9.76%	1.77%	2.65%	8.28%	12.41%

Section 4: Actuarial Valuation Basis

Exhibit 3: Member Contribution Rates (continued)

General Tier B (continued)						
Entry Age	Basic		COLA		Total	
	First \$350	Over \$350	First \$350	Over \$350	First \$350	Over \$350
40	6.61%	9.91%	1.79%	2.69%	8.40%	12.60%
41	6.72%	10.08%	1.83%	2.74%	8.55%	12.82%
42	6.83%	10.25%	1.85%	2.78%	8.68%	13.03%
43	6.95%	10.42%	1.89%	2.83%	8.84%	13.25%
44	7.06%	10.59%	1.92%	2.88%	8.98%	13.47%
45	7.17%	10.75%	1.95%	2.92%	9.12%	13.67%
46	7.27%	10.91%	1.97%	2.96%	9.24%	13.87%
47	7.38%	11.07%	2.01%	3.01%	9.39%	14.08%
48	7.49%	11.23%	2.03%	3.05%	9.52%	14.28%
49	7.58%	11.37%	2.06%	3.09%	9.64%	14.46%
50	7.67%	11.51%	2.09%	3.13%	9.76%	14.64%
51	7.75%	11.63%	2.11%	3.16%	9.86%	14.79%
52	7.82%	11.73%	2.13%	3.19%	9.95%	14.92%
53	7.87%	11.80%	2.14%	3.21%	10.01%	15.01%
54	7.87%	11.81%	2.14%	3.21%	10.01%	15.02%
55	7.85%	11.77%	2.13%	3.20%	9.98%	14.97%
56	7.79%	11.68%	2.11%	3.17%	9.90%	14.85%
57	7.68%	11.52%	2.09%	3.13%	9.77%	14.65%
58	7.91%	11.87%	2.15%	3.22%	10.06%	15.09%
59 & Over	8.16%	12.24%	2.21%	3.32%	10.37%	15.56%

Interest: 6.50% per annum

COLA: 2.00%

Mortality: See Section 4, Exhibit 1

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

COLA Loading Factor: 27.16%

Section 4: Actuarial Valuation Basis

Exhibit 3: Member Contribution Rates (continued)

Safety Non-CalPEPRA Members' Contribution Rates Based on the June 30, 2023 Actuarial Valuation
(as a % of monthly payroll)

Safety Tier A			
Entry Age	Basic	COLA	Total
15	10.07%	6.55%	16.62%
16	10.07%	6.55%	16.62%
17	10.07%	6.55%	16.62%
18	10.07%	6.55%	16.62%
19	10.07%	6.55%	16.62%
20	10.07%	6.55%	16.62%
21	10.07%	6.55%	16.62%
22	10.21%	6.64%	16.85%
23	10.36%	6.73%	17.09%
24	10.50%	6.83%	17.33%
25	10.65%	6.92%	17.57%
26	10.80%	7.02%	17.82%
27	10.96%	7.12%	18.08%
28	11.12%	7.23%	18.35%
29	11.29%	7.34%	18.63%
30	11.45%	7.44%	18.89%
31	11.63%	7.56%	19.19%
32	11.81%	7.68%	19.49%
33	12.00%	7.80%	19.80%
34	12.19%	7.92%	20.11%
35	12.39%	8.05%	20.44%
36	12.60%	8.19%	20.79%
37	12.80%	8.32%	21.12%
38	13.01%	8.46%	21.47%
39	13.20%	8.58%	21.78%

Section 4: Actuarial Valuation Basis

Exhibit 3: Member Contribution Rates (continued)

Safety Tier A (continued)			
Entry Age	Basic	COLA	Total
40	13.40%	8.71%	22.11%
41	13.59%	8.83%	22.42%
42	13.77%	8.95%	22.72%
43	13.89%	9.03%	22.92%
44	13.94%	9.06%	23.00%
45	13.91%	9.04%	22.95%
46	13.90%	9.04%	22.94%
47	13.87%	9.02%	22.89%
48	13.74%	8.93%	22.67%
49 & Over	13.42%	8.72%	22.14%

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 (See *Section 4, Exhibit 1*)

COLA Loading Factor: 65.01%

Section 4: Actuarial Valuation Basis

Exhibit 3: Member Contribution Rates (continued)

Safety Tier B			
Entry Age	Basic	COLA	Total
15	9.68%	3.53%	13.21%
16	9.68%	3.53%	13.21%
17	9.68%	3.53%	13.21%
18	9.68%	3.53%	13.21%
19	9.68%	3.53%	13.21%
20	9.68%	3.53%	13.21%
21	9.68%	3.53%	13.21%
22	9.81%	3.58%	13.39%
23	9.95%	3.63%	13.58%
24	10.09%	3.68%	13.77%
25	10.24%	3.73%	13.97%
26	10.38%	3.78%	14.16%
27	10.53%	3.84%	14.37%
28	10.69%	3.90%	14.59%
29	10.85%	3.95%	14.80%
30	11.01%	4.01%	15.02%
31	11.18%	4.07%	15.25%
32	11.35%	4.14%	15.49%
33	11.53%	4.20%	15.73%
34	11.71%	4.27%	15.98%
35	11.90%	4.34%	16.24%
36	12.08%	4.40%	16.48%
37	12.26%	4.47%	16.73%
38	12.43%	4.53%	16.96%
39	12.60%	4.59%	17.19%

Section 4: Actuarial Valuation Basis

Exhibit 3: Member Contribution Rates (continued)

Safety Tier B (continued)			
Entry Age	Basic	COLA	Total
40	12.76%	4.65%	17.41%
41	12.89%	4.70%	17.59%
42	12.98%	4.73%	17.71%
43	13.00%	4.74%	17.74%
44	12.98%	4.73%	17.71%
45	12.94%	4.72%	17.66%
46	12.85%	4.68%	17.53%
47	12.63%	4.60%	17.23%
48	13.02%	4.75%	17.77%
49 & Over	13.42%	4.89%	18.31%

Interest: 6.50% per annum

COLA: 2.00%

Mortality: See *Section 4, Exhibit 1*

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

COLA Loading Factor: 36.45%

Section 4: Actuarial Valuation Basis

Exhibit 3: Member Contribution Rates (continued)

CalPEPRA Members' Contribution Rates Based on the June 30, 2023 Actuarial Valuation
(as a % of monthly payroll)

All Entry Age	Normal Cost Rate
General Tier C	10.04%
General Tier D	7.32%
Safety Tier C	16.37%
Safety Tier D	15.72%

Note: Tier C and Tier D member contribution rate is 50% of the Normal Cost rate.

It is our understanding that in the determination of pension benefits under the PEPRA formulas, the maximum 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 \$175,250. (§7522.10) These amounts should be adjusted for changes to the Consumer Price Index for All Urban Consumers after 2023. (§7522.10(d))

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