Board of Retirement Regular Meeting

Sacramento County Employees' Retirement System

Agenda Item 15

MEETING DATE: **December 6, 2023**

SUBJECT: **Actuarial Valuation and Review and GASB 67 Reports as of June 30, 2023**

SUBMITTED FOR: **___ Consent** **_X_ Deliberation and Action** **___ Receive and File**

RECOMMENDATION

1) Adopt the 2024-25 fiscal year employer and member contribution rates recommended by Segal;
2) Receive and file the Actuarial Valuation and Review as of June 30, 2023; and
3) Receive and file the Governmental Accounting Standards Board Statement No.67 Actuarial Valuation as of June 30, 2023.

PURPOSE

This item supports the Strategic Management Plan by maintaining prudent and effective funding policies and practices that assist in producing low contribution rate volatility and plan sustainability.

DISCUSSION

The Actuarial Valuation and Review as of June 30, 2023, was conducted to determine whether SCERS' assets and contribution rates are sufficient to provide the prescribed benefits. Staff has reviewed the reports with the actuary, Segal. Staff provides the following highlights of key components of the valuation report. Segal will attend the Board Meeting to present the report and answer any questions.

Investment Experience and Return for 2022-23 – 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 System's investment policy. The rate of return on the Market Value of Assets was 5.74% for the year ended June 30, 2023. The rate of return on the smoothed Actuarial Value of Assets was 7.90%. The actual rate of return on the Valuation Value of Assets (VVA) for the 2022-2023 plan year was 8.02%. Because the actual return on the VVA for the year was greater than the assumed return, the System experienced an actuarial gain during the year ended June 30, 2023, with regard to its investments (Refer to page 26 of the valuation report).

However, there is total net unrecognized investment loss as of June 30, 2023, of $59.8 million, compared to the net unrecognized gain of $182.5 million as of June 30, 2022. This net investment loss will be recognized in the determination of the actuarial value of assets for funding purposes over the next six years. This means if SCERS earns only the 6.75% assumed investment rate of return per year on a market value basis, there will be net investment losses on the Actuarial Value of Assets in the next few years. Therefore, if the actual market return remains equal to the assumed rate of 6.75%, and all the other actuarial assumptions are met, the net employer contribution requirements will increase in the next few years. Furthermore, the $59.8 million in unrecognized investment loss will be recognized in a non-level (uneven) pattern, unless direction is provided to Segal to combine the prior six smoothing layers into one layer and to recognize one-sixth of the $59.8 million in each of the next six valuations (Refer to pages 9 - 10 of the valuation report).

Contingency Reserve – SCERS currently has $370.9 million in the Contingency Reserve available to help mitigate future losses when smoothed earnings are insufficient to credit reserves at the assumed rate.

Funded Status and Unfunded Actuarial Accrued Liability (UAAL) – SCERS' funded status on a market value basis decreased to 86.1% as of June 30, 2023, from 87.1% as of June 30, 2022. SCERS' funded status on an actuarial value of assets basis (using seven-year asset smoothing) increased from 85.8% as of June 30, 2022, to 86.5% as of June 30, 2023.

Funded Status
Dollar Amounts in Thousands

Valuation Year Ending June 30	(1) Actuarial Accrued Liability	(2) Market Value of Assets	(3) Market Value of Assets as a % of Actuarial Accrued Liability (2)/(1)	(4) Actuarial Value of Assets	(5) Actuarial Value of Assets as a % of Actuarial Accrued Liability (4)/(1)
2023	$14,358,854	$12,363,258	86.1%	$12,423,093	86.5%
2022	$13,578,984	$11,830,351	87.1%	$11,647,866	85.8%

The Unfunded Actuarial Accrued Liability (UAAL) on a market value basis increased to $1,995.6 million as of June 30, 2023, up from $1,748.6 million as of June 30, 2022. On an actuarial value basis, the UAAL increased to $1,935.8 million as of June 30, 2023, up from $1,931.1 million as of June 30, 2022.

Recommended Employer Contribution Rates – Contribution rates are expressed as a percentage of members' pension-eligible compensation, also known as a "percentage of payroll." The table below summarizes the impact on the average total employer contribution rate (Refer to page 34 of the valuation report).

Reconciliation of Average Recommended Employer Contribution Rates from June 30, 2022 to June 30, 2023	**Rate**
Average Recommended Employer Contribution Rate as of June 30, 2022 Valuation	**30.87%**
Effect of investment return greater than expected (after smoothing)	(0.82%)
Effect of actual contributions greater than expected	(0.12%)
Effect of individual salary increases higher than expected	1.26%
Effect of decrease in UAAL rate from higher than expected increase in total payroll	(1.29%)
Effect of COLA increases higher than expected	0.66%
Effect of reduced retiree and beneficiary benefits from Alameda Decision	(0.08%)
Effect of other experience gains	(0.34%)
Effect of changes in actuarial assumptions	(0.12%)
Total Change	(0.85%)
Average Recommended Employer Contribution Rate as of June 30, 2023 Valuation	**30.02%**

The aggregate total employer contribution rates are a combination of the normal cost rate and the UAAL rate across all member categories and benefit tiers. The contribution rate for special district employers is higher due to a higher UAAL amortization payment, unlike the County and the Superior Court, special district employers did not provide UAAL funding from pension obligation bonds in 2004 when benefit formulas were enhanced. Information regarding the UAAL amortization layers and amortization periods can be found on pages 79 - 82 of the valuation report. Below are the average total employer contribution rates (Refer to pages 36 - 41 of the valuation report).

Aggregate Total Employer Contribution Rate *			
Employer	**FY 2024-25**	**FY 2023-24**	**Change**
County of Sacramento	30.22%	31.06%	(0.84%)
Superior Court	25.24%	26.23%	(0.99%)
Special Districts	32.04%	32.87%	(0.83%)
All Employers Combined	**30.02%**	**30.87%**	**(0.85%)**

*Contribution rates for FY 2024-25 represent the recommended rates from the June 30, 2023, actuarial valuation report. Contribution rates for FY 2023-24 represent the actual effective rates from the June 30, 2022, actuarial valuation report after they have been recomposited using payrolls determined in the June 30, 2023 actuarial valuation.

Recommended Member Contribution Rates – The aggregate member contribution rate across all member categories and benefit tiers reflects a decrease from 11.92% to 11.60% primarily due to the impact of assumption changes as well as changes in member demographics amongst the tiers (Refer to page 35 of the valuation report). Information regarding the base (unadjusted) member contribution rates by plan and tier can be found on pages 120 – 134 of the valuation report.

Reconciliation of Average Recommended Member Contribution Rates from June 30, 2022 to June 30, 2023	**Rate**
Average Recommended Member Contribution as of June 30, 2022, Valuation	**11.92%**
Effect of changes in active member demographics	(0.07%)
Effect of changes in actuarial assumptions	(0.25%)
Total Change	(0.32%)
Average Recommended Member Contribution as of June 30, 2023	**11.60%**

Effects of Pension Reform and Participation Levels – The impact pension reform measures are being seen in the SCERS member's workforce and the total cost reduction resulting from reform measures is included in the current valuation and is projected to be realized in future years. As of June 30, 2023, about 57% of active members are enrolled in the CalPEPRA tiers. As a result of the implementation of the CalPEPRA tiers, the aggregate Normal Cost rate is lower by about 1.9% of payroll compared to what the aggregate Normal Cost rate would have been if all active members were enrolled in the legacy tiers.

Equally important to understand the lower cost of the new tiers is the transition of the workforce from participation levels in the legacy tiers versus participation levels in the Public Employees' Pension Reform Act (PEPRA) tiers. Below is a summary of active membership as of June 30, 2023, and June 30, 2022 (Refer to pages 53 - 61 of the valuation report).

Active Membership				
Plan/Tier	**June 30, 2023**	**Percentage of Total Membership**	**June 30, 2022**	**Change From Prior Year**
Miscellaneous Tier 1	7	0.1%	13	-46.2%
Miscellaneous Tier 2	28	0.2%	32	-12.5%
Miscellaneous Tier 3	4,449	33.8%	4,859	-8.4%
Miscellaneous Tier 4	292	2.2%	308	-5.2%
Miscellaneous Tier 5	6,285	47.8%	5,491	14.5%
Safety Tier 1	15	0.1%	17	-11.8%
Safety Tier 2	764	5.8%	849	-10.0%
Safety Tier 3	123	0.9%	123	0.0%
Safety Tier 4	1,204	9.1%	1,065	13.1%
Total	**13,167**		**12,757**	

Paying Down Unfunded Liability – Based on SCERS' funding plan, the outstanding Net UAAL balance of $2,307 million as of June 30, 2023, is projected to be eliminated by year 2040, holding all assumptions constant and assuming they are met (Refer to pages 79 - 84). Employer contributions should gradually increase through 2034 before dropping significantly as amortization layers are paid off.

Valuation Methodology – SCERS' annual actuarial valuation measures current and projected assets and liabilities, as well as determines the funded status. This information forms the basis for establishing the actuary's recommendations for the employer and member contribution rates for the upcoming fiscal year. The Board then uses the actuary's recommendations in adopting the appropriate contribution rates, which are conveyed to the Board of Supervisors for implementation.

In measuring the assets and liabilities, and determining SCERS' funded status, the actuary uses investment and actuarial experience to-date, plus various assumptions about the projected future growth in assets and liabilities. The actuarial assumptions include both economic and demographic assumptions, which are long term in nature, as opposed to the experience that might be anticipated in the next few years.

In each valuation, the previous year experience is compared to the actuarial assumptions, and to the extent there are differences, the contribution rates are adjusted. This is referred to as the "differences between expected and actual experience" and can result in either an upward or downward adjustment in the next year's contribution rate depending on whether the experience produced an "actuarial loss" or "actuarial gain". A review of demographic and economic assumptions is conducted as part of the triennial experience study.

The most recent triennial experience study prepared by Segal covered the period July 1, 2019 through June 30, 2022. The Board approved the recommended actuarial methods and assumptions changes, which have been used in preparing the annual actuarial valuations as of June 30, 2023.

GASB STATEMENT No. 67 ACTUARIAL VALUATION REPORT

Attached is the GASB Statement No. 67 (GASB 67) Actuarial Valuation as of June 30, 2023. GASB 67 redefined pension liability and expense for financial reporting purposes. When measuring pension liability, GASB uses the same actuarial cost method (Entry Age method) and the same type of discount rate (long-term expected rate of return on pension plan investments) as SCERS uses for funding. As a result, the total pension liability measure for financial reporting purposes is determined on the same basis as SCERS' actuarial accrued liability measure for funding, which totals $14,358.9 million as of June 30, 2023.

The GASB Statement No. 67 Valuation Report provides additional information related to the Net Pension Liability (NPL), changes in the NPL, the discount rate used in determining the total pension liability, and the sensitivity of the NPL to changes in the discount rate, as well as other required note disclosures. SCERS' NPL increased from $1,748.6 million as of June 30, 2022, to $1,995.6 million as of June 30, 2023. primarily a result of unfavorable investment return measured on Market Value of Assets (about $92 million less than expected). Changes in these values during the last two fiscal years ending June 30, 2022, and June 30, 2023, can be found in *Section 2, Schedule of changes in Net Pension Liability* on page 19.

ATTACHMENTS

- Board Order
- Fiscal Year 2024-25 Contribution Rate Schedules
- Actuarial Valuation and Review as of June 30, 2023
- Governmental Accounting Standards Board Statement No. 67 Actuarial Valuation

Prepared by:	Reviewed by:
/S/	/S/
Margo Allen	Eric Stern
Chief Operations Officer	Chief Executive Officer

Retirement Board Order

Sacramento County Employees' Retirement System

Before the Board of Retirement
December 6, 2023

AGENDA ITEM:

Actuarial Valuation and Review and GASB 67 Report as of June 30, 2023

THE BOARD OF RETIREMENT hereby accepts the recommendation of staff to adopt the 2024-25 fiscal year employer and member contribution rates recommended by Segal; receive and file the Actuarial Valuation and Review as of June 30, 2023; and receive and file the Governmental Accounting Standards Board Statement 68 Actuarial Valuation as of June 30, 2023.

I HEREBY CERTIFY that the above order was passed and adopted on December 6, 2023 by the following vote of the Board of Retirement, to wit:

AYES:

NOES:

ABSENT:

ABSTAIN:

ALTERNATES:
(Present but not voting)

James Diepenbrock
Board President

Eric Stern
Chief Executive Officer and
Board Secretary

SCERS
Sacramento County Employees' Retirement System

FY 2024-25 and FY 2023-24 MEMBER CONTRIBUTION RATES

Sacramento County and Elected Officials

MISCELLANEOUS

	Tier 1*		Tier 2		Tier 3		Tier 4		Tier 5	
	FY 2024-25	FY 2023-24	FY 2024-25	FY 2023-24	FY 2024-25	FY 2023-24	FY 2024-25	FY 2023-24	FY 2024-25	FY 2023-24
All	12.68%	10.54%	8.04%	7.87%	10.81%	11.23%	10.35%	10.83%	9.60%	9.90%

SAFETY

	Tier 1*		Tier 2		Tier 3		Tier 4	
	FY 2024-25	FY 2023-24	FY 2024-25	FY 2023-24	FY 2024-25	FY 2023-24	FY 2024-25	FY 2023-24
All	21.16%	21.70%	20.91%	21.12%	20.53%	20.92%	14.68%	15.07%

Superior Court

MISCELLANEOUS

	Tier 1*		Tier 2		Tier 3		Tier 5	
	FY 2024-25	FY 2023-24	FY 2024-25	FY 2023-24	FY 2024-25	FY 2023-24	FY 2024-25	FY 2023-24
All	7.32%	7.12%	4.17%	4.16%	5.97%	5.99%	9.60%	9.90%

Special Districts

MISCELLANEOUS

	Tier 3		Tier 5	
	FY 2024-25	FY 2023-24	FY 2024-25	FY 2023-24
Galt-Arno Cemetery and Fair Oaks Cemetery Districts	5.97%	5.99%	9.60%	9.90%

	Tier 3		Tier 5	
	FY 2024-25	FY 2023-24	FY 2024-25	FY 2023-24
Orangevale Recreation and Park District	10.66%	11.23%	9.60%	9.90%

	Tier 5	
	FY 2024-25	FY 2023-24
Rio Linda Elverta Recreation and Park District	9.60%	9.90%

	Tier 3		Tier 5	
	FY 2024-25	FY 2023-24	FY 2024-25	FY 2023-24
All Other Districts	5.97%	5.99%	9.60%	9.90%

Note: For legacy tiers (Miscellaneous tiers 1, 2, 3, and 4 and Safety tiers 1, 2, and 3), member rates shown are for bi-weekly salary in excess of $161 (or monthly salary in excess of $350). For PEPRA tiers (Miscellaneous tier 5 and Safety tier 4), member rates shown are for the total bi-weekly salary.

* Members who enter prior to 1/1/1975 contribute on the basis of their actual entry age and all others contribute based on the basis of a single entry age of 35 for Miscellaneous members and age of 29 for Safety members.

FY 2024-25 and FY 2023-24 EMPLOYER CONTRIBUTION RATES

Sacramento County and Elected Officials

MISCELLANEOUS

	Tier 1		Tier 2		Tier 3		Tier 4		Tier 5	
	FY 2024-25	FY 2023-24	FY 2024-25	FY 2023-24	FY 2024-25	FY 2023-24	FY 2024-25	FY 2023-24	FY 2024-25	FY 2023-24
Normal Cost	12.50%	11.14%	7.92%	7.74%	10.91%	11.32%	10.47%	10.94%	9.60%	9.90%
UAAL	12.36%	12.81%	12.36%	12.81%	12.36%	12.81%	12.36%	12.81%	12.36%	12.81%
Total	**24.86%**	**23.95%**	**20.28%**	**20.55%**	**23.27%**	**24.13%**	**22.83%**	**23.75%**	**21.96%**	**22.71%**

SAFETY

	Tier 1		Tier 2		Tier 3		Tier 4	
	FY 2024-25	FY 2023-24	FY 2024-25	FY 2023-24	FY 2024-25	FY 2023-24	FY 2024-25	FY 2023-24
Normal Cost	25.91%	31.93%	21.09%	21.28%	20.63%	21.00%	14.68%	15.07%
UAAL	36.61%	37.20%	36.61%	37.20%	36.61%	37.20%	36.61%	37.20%
Total	**62.52%**	**69.13%**	**57.70%**	**58.48%**	**57.24%**	**58.20%**	**51.29%**	**52.27%**

Superior Court

MISCELLANEOUS

	Tier 1		Tier 2		Tier 3		Tier 5	
	FY 2024-25	FY 2023-24	FY 2024-25	FY 2023-24	FY 2024-25	FY 2023-24	FY 2024-25	FY 2023-24
Normal Cost	17.92%	14.24%	11.73%	11.41%	15.67%	16.45%	9.60%	9.90%
UAAL	12.33%	12.77%	12.33%	12.77%	12.33%	12.77%	12.33%	12.77%
Total	**30.25%**	**27.01%**	**24.06%**	**24.18%**	**28.00%**	**29.22%**	**21.93%**	**22.67%**

Special Districts

MISCELLANEOUS

Galt-Arno Cemetery and Fair Oaks Cemetery Districts

	Tier 3		Tier 5	
	FY 2024-25	FY 2023-24	FY 2024-25	FY 2023-24
Normal Cost	15.67%	16.45%	9.60%	9.90%
UAAL	15.95%	16.73%	15.95%	16.73%
Total	**31.62%**	**33.18%**	**25.55%**	**26.63%**

Orangevale Recreation and Park District

	Tier 3		Tier 5	
	FY 2024-25	FY 2023-24	FY 2024-25	FY 2023-24
Normal Cost	10.91%	11.32%	9.60%	9.90%
UAAL	20.26%	20.60%	20.26%	20.60%
Total	**31.17%**	**31.92%**	**29.86%**	**30.50%**

Rio Linda Elverta Recreation and Park District

	Tier 5	
	FY 2024-25	FY 2023-24
Normal Cost	9.60%	9.90%
UAAL	2.03%	1.47%
Total	**11.63%**	**11.37%**

All Other Districts

	Tier 3		Tier 5	
	FY 2024-25	FY 2023-24	FY 2024-25	FY 2023-24
Normal Cost	15.67%	16.45%	9.60%	9.90%
UAAL	20.26%	20.60%	20.26%	20.60%
Total	**35.93%**	**37.05%**	**29.86%**	**30.50%**

Sacramento County Employees' Retirement System (SCERS)

Actuarial Valuation and Review

As of June 30, 2023

Segal

180 Howard Street, Suite 1100
San Francisco, CA 94105-6147
segalco.com
T 415.263.8200

November 16, 2023

Board of Retirement
Sacramento County Employees' Retirement System
980 9th Street, Suite 1900
Sacramento, CA 95814

Dear Board Members:

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

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

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

The measurements shown in this actuarial valuation may not be applicable for other purposes. Future actuarial measurements may differ significantly from the current measurements presented in this report due to such factors as the following: plan experience differing from that anticipated by the economic or demographic assumptions; changes in economic or demographic assumptions; increases or decreases expected as part of the natural operation of the methodology used for these measurements; and changes in plan provisions or applicable law.

The actuarial calculations were directed under the supervision of Andy Yeung, ASA, MAAA, FCA and Enrolled Actuary. We are members of the American Academy of Actuaries and we meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion herein. To the best of our knowledge, the information supplied in this actuarial valuation is complete and accurate. The assumptions used in this actuarial valuation were selected by the Board based upon our analysis and recommendations. In our opinion, the assumptions are reasonable and take into account the experience of the System and reasonable expectations. In addition, in our opinion, the combined effect of these assumptions is expected to have no significant bias.

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

Sincerely,

Segal

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

Todd Tauzer, FSA, MAAA, FCA, CERA
Senior Vice President and Actuary

Andy Yeung, ASA, MAAA, FCA, EA
Vice President and Actuary

Molly Calcagno, ASA, MAAA, EA
Senior Actuary

ST/jl

Table of Contents

Table of Contents

Section 1: Actuarial Valuation Summary

Purpose and Basis

This report was prepared by Segal to present a valuation of the Sacramento County Employees' Retirement System ("SCERS" or "the System") 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 System, 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 SCERS;
- The assets of the System as of June 30, 2023, provided by SCERS;
- Economic assumptions regarding future salary increases and investment earnings;
- Other actuarial assumptions regarding employee terminations, retirement, death, etc.; 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 System'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 System's liabilities and future contribution requirements. Our calculations are based upon member data and financial information provided to us by the System'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 System's employer rates provide for both Normal Cost and a contribution to amortize any unfunded or overfunded actuarial accrued liabilities. In this valuation, we have applied the funding policy adopted by the Board on June 19, 2013 and reaffirmed by the Board on March 17, 2021. Details of the funding policy are provided in *Section 4, Exhibit 1* on pages 99 and 100.

Section 1: Actuarial Valuation Summary

A schedule of current amortization balances and payments may be found in *Section 3, Exhibit H* on pages 79 through 82. A graphical projection of the Unfunded Actuarial Accrued Liability (UAAL) amortization balances and payments has been included in *Section 3, Exhibit I* on pages 83 and 84.

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.

Valuation Highlights

Pg. 89
1. The results of this valuation reflect changes in the actuarial assumptions as recommended by Segal and adopted by the Board for the June 30, 2023 valuation. These changes were documented in our Actuarial Experience Study and are also outlined in *Section 4, Exhibit 1* of this report. The assumption changes resulted in a decrease in the Actuarial Accrued Liability of $20.66 million, or 0.1%, a decrease in the average employer contribution rate of 0.12% of payroll, and a decrease in the average member rate of 0.25% of payroll. We have also included a refinement in applying beginning of year timing of decrements for exiting from active membership status in calculating the normal cost rate consistent with that used in the estimated cost impact results provided in the experience study report.

Pg. 43
2. The funded ratio (the ratio of the Actuarial Value of Assets (AVA) to Actuarial Accrued Liability) is 86.5%, compared to the prior year funded ratio of 85.8%. This ratio is one measure of funding status, and its history is a measure of funding progress. The funded ratio measured on a Market Value of Assets (MVA) basis is 86.1%, compared to 87.1% as of the prior valuation date. These measurements are not necessarily appropriate for assessing the sufficiency of plan assets to cover the estimated cost of settling the System's benefit obligation or the need for, or the amount of, future contributions.

Pgs. 31, 79-84
3. The System's UAAL increased from $2,286 million as of June 30, 2022 to $2,307 million as of June 30, 2023. The increase in UAAL is due to individual salary increases for active members and COLA increases for retired members and beneficiaries greater than expected, offset somewhat by favorable investment (after smoothing), contribution and other actuarial experience, as well as changes in actuarial assumptions. A reconciliation of the System's UAAL is provided in *Section 2, Subsection E*. A schedule of the current UAAL amortization amounts is provided in *Section 3, Exhibit H*. A graphical projection of the UAAL amortization bases and payments has been provided in *Section 3, Exhibit I*.

Pg. 25
4. The net actuarial loss of $101.7 million, or 0.7% of the Actuarial Accrued Liability, is due to an investment gain of $144.5 million, and a net experience loss from sources other than investments of $246.3 million, prior to reflection of assumption changes. This net loss from sources other than investment and contribution experience was primarily due to individual salary increases greater than expected for actives and greater than expected COLA increases for retirees and beneficiaries.

Pg. 34
5. The aggregate employer rate decreased from 30.87% of payroll as determined in the June 30, 2022 valuation to 30.02% of payroll as determined in the June 30, 2023 valuation. This decrease is primarily due the effect of amortizing prior year's UAAL over a larger than expected projected total salary and the investment gain, partially offset by the effect of individual salary increases greater than expected and greater than expected cost-of-living adjustment (COLA) increases for retirees and beneficiaries. A reconciliation of the System's aggregate employer rate is provided in *Section 2, Subsection F*.

Pg. 35
6. The aggregate member rate calculated in this valuation has decreased from 11.92% of payroll to 11.60% of payroll. The decrease in member rate is primarily due to the impact of assumption changes as well as changes in member demographics amongst the tiers. A reconciliation of the System's aggregate member rate is provided in *Section 2, Subsection F*.

7. As of June 30, 2023, about 57% of active members are enrolled in the CalPEPRA tiers. As a result of the implementation of the CalPEPRA tiers, the aggregate Normal Cost rate is lower by about 1.9% of payroll compared to what the aggregate Normal Cost rate would have been if all active members were enrolled in the legacy tiers.

Pg. 26

8. The rate of return on the Market Value of Assets was 5.74% for the July 1, 2022 to June 30, 2023 plan year. The rate of return on the smoothed Actuarial Value of Assets was 7.90%. The return on the Valuation Value of Assets was 8.02% for the same period, which resulted in an actuarial gain when measured against the assumed rate of return of 6.75%. This actuarial investment gain decreased the average employer contribution rate by 0.82% of payroll.

Pg. 23

9. As indicated in *Section 2, Subsection B*, the total net unrecognized investment loss as of June 30, 2023 is $59.8 million (as compared to a net unrecognized investment gain of $182.5 million as of June 30, 2022). This net investment loss will be recognized in the determination of the Actuarial Value of Assets for funding purposes over the next six years. That means that if the System earns the assumed rate of investment return of 6.75% per year on a **market value** basis, there will be net investment losses on the Actuarial Value of Assets in the next few years. Therefore, if the actual market return is equal to the assumed rate of 6.75% and all the other actuarial assumptions are met, the net employer contribution requirements would increase in the next few years.

   The unrecognized investment losses represent about 0.5% of the Market Value of Assets. Unless offset by future investment gains or other favorable experience, the recognition of the $59.8 million in past market losses is expected to have an impact on the System's future funded ratio and the aggregate employer contributions. This potential impact may be illustrated as follows:

   a. If the deferred losses were recognized immediately in the Actuarial Value of Assets, the funded percentage would decrease from 86.5% to 86.1%.

      For comparison purposes, if all the deferred gains in the June 30, 2022 valuation had been recognized immediately in the June 30, 2022 valuation, the funded percentage would have increased from 85.8% to 87.1%.

   b. If the deferred losses were recognized immediately in the Actuarial Value of Assets, the aggregate employer contribution rate would increase from 30.02% of payroll to 30.4% of payroll.

      For comparison purposes, if all the deferred gains in the June 30, 2022 valuation had been recognized immediately in the June 30, 2022 valuation, the aggregate employer contribution rate would have decreased from 31.12% of payroll to 29.9% of payroll.

10. The footnote on page 22 shows that under the asset smoothing method the $59.8 million in net deferred losses will be recognized in the next six years, but in a very non-level (uneven) pattern. In particular there will be gains of $55.9 million, $22.5 million, $20.2 million, and $77.0 million recognized in the next four years, followed by offsetting losses of $218.3 million and $17.1 million in the two years after that, so as to ultimately recognize all of the current total net deferred losses of $59.8 million. This means that, absent any new gains or losses in the future, there will be four years of decreases in the employer contribution rate followed by two years of increases before the $59.8 million in net deferred losses are fully recognized.

In keeping with model actuarial practice for this situation as well as Section B of the Board's Actuarial Funding Policy, and similar to what was proposed and adopted for the June 30, 2014 valuation, the asset smoothing method could be modified, effective July 1, 2024, by combining the net deferred loss of $59.8 million from the current valuation into a single six-year smoothing "layer" and thereby recognizing that loss over the next six years in six level amounts of approximately $9.97 million in each year. This would reduce the volatility associated with the current pattern of deferred gain/loss recognition and thereby result in both more stable funded ratios (on an actuarial value basis) and more level employer contribution rates.

This change would have no impact on the current June 30, 2023 valuation results as the total amount of unrecognized losses as of June 30, 2023 would remain unchanged. Additionally, we recommend using a six-year smoothing period for the combined deferred losses as that will complete the recognition of the net deferred loss over the same period as under the current separate smoothing layers. We can provide more details of this policy option as requested.

11. The $370.9 million in the Contingency Reserve as of June 30, 2023 is available to supplement shortfall when crediting interest to the valuation reserve accounts in future valuations under the Board's Interest Crediting Policy, such as what might happen when the $218.3 million and $17.1 million in deferred investment losses are recognized. If that amount were applied in the June 30, 2023 valuation, the aggregate employer contribution rate would have decreased by about 2.2% of payroll.
12. 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.
13. On July 30, 2020, the California Supreme Court issued a decision in the case of Alameda County Deputy Sheriffs' Association et al. v. Alameda County Employees' Retirement Association (ACERA) and Board of Retirement of ACERA. That decision affected the benefits paid by SCERS to its members and/or the contributions received by SCERS from its members. In particular, the June 30, 2023 valuation reflected refunding member contributions to active and deferred vested members associated with the excluded premium pays under the Alameda Decision, and reduced retiree and beneficiary benefits as the result of reduced final average salary calculations caused by the excluded premium pays. However, when preparing the financial and membership data provided for the June 30, 2023 valuation, SCERS had not completely finished refunding member contributions and reducing retiree and beneficiary benefits for all members affected by the Alameda Decision.

    We have reflected the contribution refunds and reduced retiree and beneficiary benefits noted above as part of experience gains and losses rather than as a plan amendment. We have estimated that the reduction in the UAAL for the retirees and beneficiaries reported for this year's valuation to be about $14 million as of June 30, 2023.

14. Rio Linda Elverta Recreation and Parks District became a participating employer effective October 1, 2017. Employees are enrolled in Miscellaneous Tier 5, regardless of any reciprocity with other retirement systems. Besides paying the Normal Cost rate, the employer is only responsible for its share of the UAAL rate based only on actuarial experience that occurred on or after July 1, 2017.

Pg. 48

15. Actuarial Standard of Practice No. 51 (ASOP 51) requires actuaries to identify and assess risks that "may reasonably be anticipated to significantly affect the plan's future financial condition." Examples of key risks listed that are particularly relevant to SCERS 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. For this valuation cycle, we have not been engaged to perform a detailed analysis of the potential range of the impact of risk relative to the System's future financial condition, but have included a brief discussion of key risks that may affect the System in *Section 2, Subsection J*. 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. This assessment would further discuss and highlight information and risks particular to SCERS such as detailed historical experience and key events, growing plan maturity, heightened contribution sensitivity to asset and liability changes, and projected sensitivity to potential future investment returns through selected scenario or stress test projections.

Pg. 50

    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.

16. 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.

17. This report constitutes an actuarial valuation for the purpose of determining the actuarially determined contribution (ADC) under the System's funding policy and measuring the progress of that funding policy. The Net Pension Liability (NPL) and Pension Expense

under Governmental Accounting Standards Board (GASB) Statements No. 67 and No. 68, for inclusion in the plan and employer's financial statements as of June 30, 2023, will be provided separately. The accounting disclosures will utilize different methodologies from those employed in the funding valuation, as required by GASB. However, the ADC in this valuation is expected to be used as the ADC for GASB financial reporting.

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:	• Miscellaneous Tier 1	25.81%	$175	24.63%	$167
	• Miscellaneous Tier 2	21.15%	567	21.37%	573
	• Miscellaneous Tier 3	24.07%	111,078	24.97%	115,216
	• Miscellaneous Tier 4	22.83%	7,473	23.75%	7,775
	• Miscellaneous Tier 5	22.31%	107,709	23.06%	111,295
	• Safety Tier 1	62.52%	1,796	69.13%	1,987
	• Safety Tier 2	57.70%	72,028	58.48%	73,001
	• Safety Tier 3	57.24%	10,852	58.20%	11,035
	• Safety Tier 4	51.29%	64,167	52.27%	65,392
	All Categories Combined	**30.02%**	**$375,845**	**30.87%**	**$386,441**
Aggregate Member Contribution Rates:	**All Categories Combined**	**11.60%**	**$145,228**	**11.92%**	**$149,234**
		Total Rate[2]	**Per Member Annual Dollar Amount[3]**	**Total Rate[2]**	**Per Member Annual Dollar Amount[3]**
Individual Member Contribution Rates:[4]	• Miscellaneous Tier 1	7.32%	$6,989	7.12%	$6,793
	• Miscellaneous Tier 2	4.17%	3,934	4.16%	3,925
	• Miscellaneous Tier 3	5.97%	6,112	5.99%	6,128
	• Miscellaneous Tier 4	8.89%	9,843	8.97%	9,931
	• Miscellaneous Tier 5	9.60%	7,373	9.90%	7,603
	• Safety Tier 1	17.22%	32,748	19.96%	37,948
	• Safety Tier 2	16.03%	25,963	16.04%	25,991
	• Safety Tier 3	15.63%	23,876	15.70%	23,983
	• Safety Tier 4	14.68%	15,254	15.07%	15,659

1 Based on June 30, 2023 projected annual compensation.
2 Based on single full-rates payable by members who enter on or after January 1, 1975.
3 Based on June 30, 2023 average projected annual compensation for members in each respective tier.
4 Before reflecting members in legacy tiers agreeing to contribute an additional portion of the Normal Cost.

Summary of Key Valuation Results (continued)

		June 30, 2023 ($ in '000s)	June 30, 2022 ($ in '000s)
Actuarial Accrued Liability as of June 30:	• Retired members and beneficiaries	$8,907,955	$8,459,113
	• Inactive vested members[1]	453,692	457,480
	• Active members	4,985,477	4,649,664
	• Non-valuation reserves and amounts[2]	11,730	12,727
	• Total Actuarial Accrued Liability[2]	14,358,854	13,578,984
	• Normal Cost for plan year beginning June 30	297,450	279,728
Assets as of June 30:	• Market Value of Assets (MVA)	$12,363,258	$11,830,351
	• Actuarial Value of Assets (AVA)[3]	12,423,093	11,647,866
	• Valuation Value of Assets (VVA)[4]	12,040,466	11,280,228
Funded status as of June 30:	• Unfunded Actuarial Accrued Liability on Market Value of Assets basis	$1,995,596	$1,748,633
	• Funded percentage on MVA basis	86.1%	87.1%
	• Unfunded Actuarial Accrued Liability on Actuarial Value of Assets basis	$1,935,761	$1,931,118
	• Funded percentage on AVA basis	86.5%	85.8%
	• Unfunded Actuarial Accrued Liability on Valuation Value of Assets basis[5]	$2,306,658	$2,286,029
	• Funded percentage on VVA basis	83.9%	83.1%
Key assumptions:	• Net investment return	6.75%	6.75%
	• Inflation rate	2.50%	2.75%
	• Real across-the-board salary increase	0.25%	0.25%
	• Payroll growth	2.75%	3.00%
	• Cost of living adjustments		
	– Tiers with 4% maximum COLA	2.75%	2.75%
	– Tiers with 2% maximum COLA	2.00%	2.00%
	• Amortization period on VVA basis[6]	20 years	20 years

Note: Results may not total due to rounding.

1 Includes inactive members due a refund of member contributions.
2 The Contingency Reserve is not included in the non-valuation reserves and amounts and is not added to the Actuarial Accrued Liability.
3 Includes non-valuation reserves and amounts.
4 Excludes non-valuation reserves and amounts.
5 The Actuarial Accrued Liability in this calculation excludes non-valuation reserves and amounts.
6 Changes in Unfunded Actuarial Accrued Liability as a result of gains or losses for each valuation are amortized over separate 20-year periods. Details of the funding policy are provided in *Section 4, Exhibit 1*.

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	13,167	12,757	3.2%
	• Average age	44.7	45.1	-0.4
	• Average service	10.8	11.3	-0.5
	• Total projected compensation	$1,251,965,469	$1,131,639,895	10.6%
	• Average projected compensation	$95,084	$88,707	7.2%
	Retired Members and Beneficiaries:			
	• Number of members:			
	– Service retired	11,392	11,123	2.4%
	– Disability retired	692	706	-2.0%
	– Beneficiaries	1,850	1,806	2.4%
	– Total	13,934	13,635	2.2%
	• Average age	70.5	70.4	0.1
	• Average monthly benefit	$4,059	$3,911	3.8%
	Inactive Vested Members:			
	• Number of members[1]	4,702	4,423	6.3%
	• Average age	46.1	46.9	-0.8
	Total Members:	31,803	30,815	3.2%

[1] Includes inactive members due a refund of member contributions.

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 System. 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 Market Value of Assets as of the valuation date, as provided by the System. 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. The System uses a "Valuation 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.

Section 1: Actuarial Valuation Summary

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

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

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

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

If the System 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 System 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 System upon delivery and review. The System 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 System, it is not a fiduciary in its capacity as actuaries and consultants with respect to the System.

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

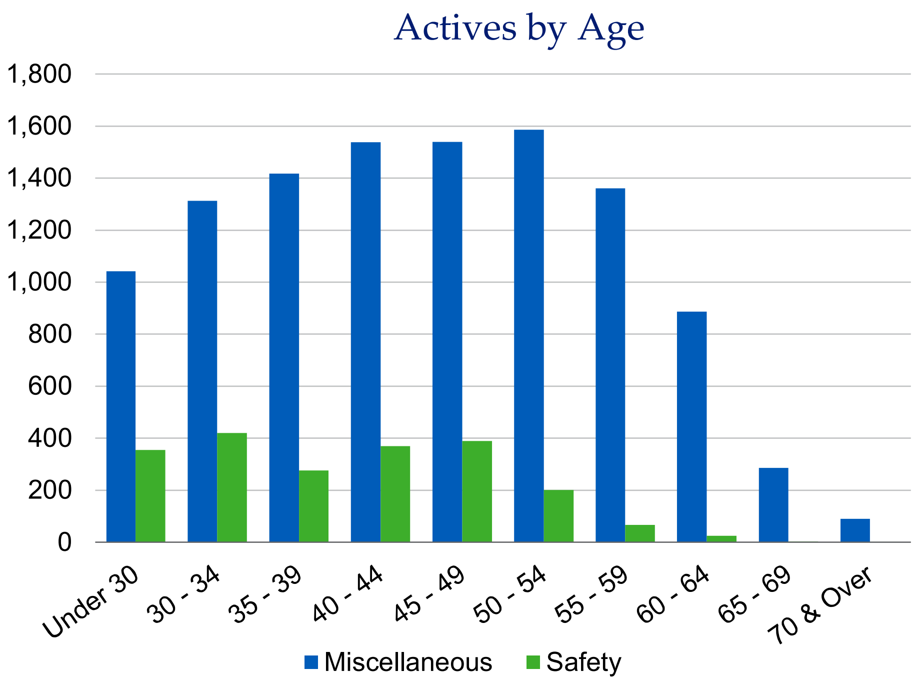
Year Ended June 30	Active Members	Inactive Vested Members[1]	Retired Members and Beneficiaries	Total Non-Actives	Ratio of Non-Actives to Actives	Ratio of Retired Members and Beneficiaries to Actives
2014	12,049	3,201	10,049	13,250	1.10	0.83
2015	12,072	3,261	10,541	13,802	1.14	0.87
2016	12,393	3,301	10,960	14,261	1.15	0.88
2017	12,587	3,425	11,396	14,821	1.18	0.91
2018	12,677	3,509	11,883	15,392	1.21	0.94
2019	12,678	3,602	12,381	15,983	1.26	0.98
2020	12,650	3,791	12,732	16,523	1.31	1.01
2021	12,500	4,054	13,051	17,105	1.37	1.04
2022	12,757	4,423	13,635	18,058	1.42	1.07
2023	13,167	4,702	13,934	18,636	1.42	1.06

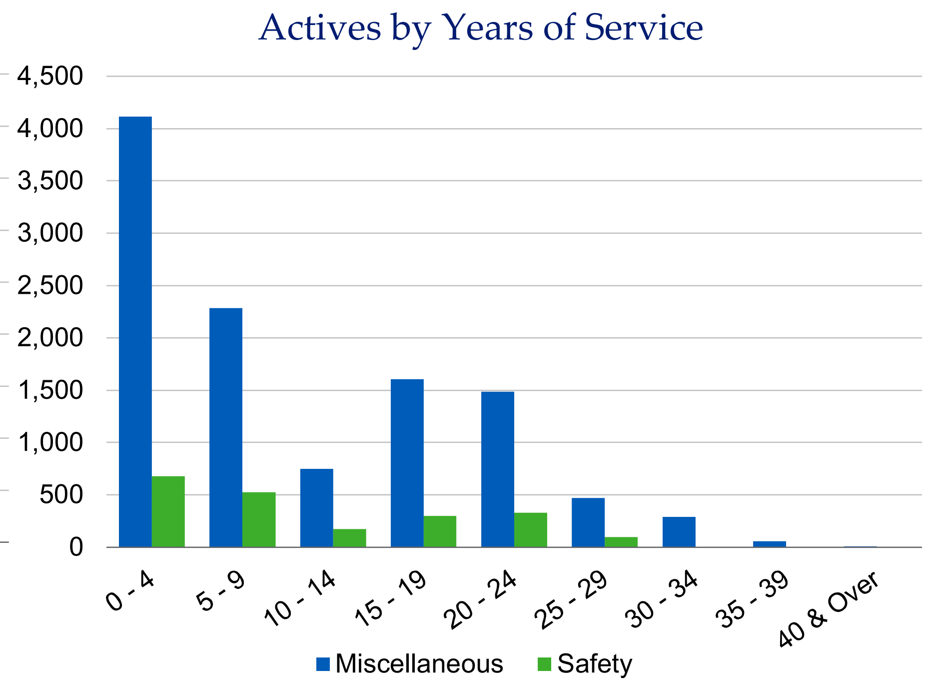
[1] Includes inactive members due a refund of member contributions.

Active Members

Plan costs are affected by the age, years of service and compensation of active members. In this year's valuation, there were 13,167 active members with an average age of 44.7, average service of 10.8 years and average compensation of $95,084. The 12,757 active members in the prior valuation had an average age of 45.1, average service of 11.3 years and average compensation of $88,707.

Distribution of Active Members as of June 30, 2023





Average age	44.7
Prior year average age	45.1
Difference	-0.4

Average years of service	10.8
Prior year average years of service	11.3
Difference	-0.5

Inactive Members

In this year's valuation, there were 4,702 members with a vested right to a deferred or immediate vested benefit or entitled to a return of their member contributions versus 4,423 in the prior valuation.

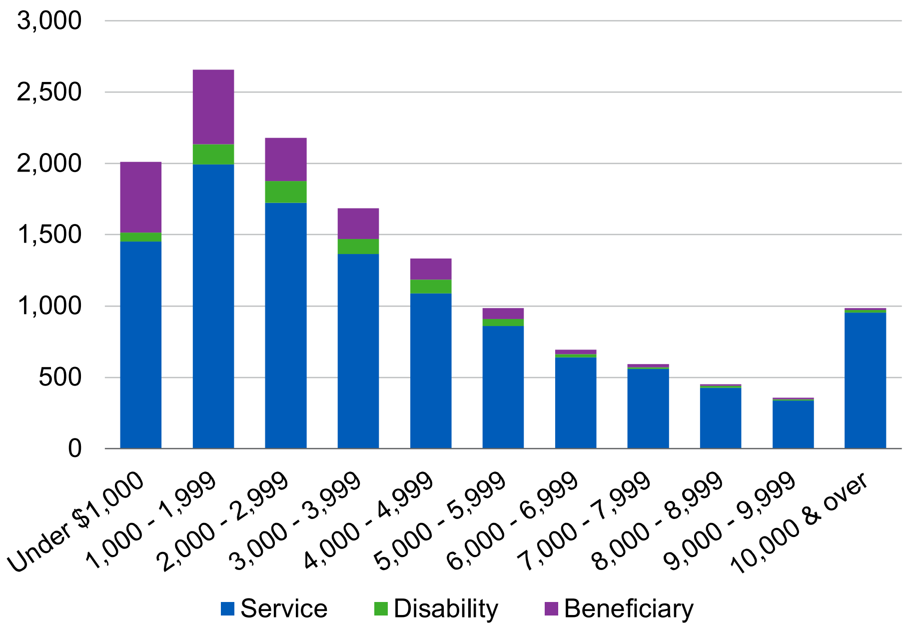
Retired Members and Beneficiaries

As of June 30, 2023, 12,084 retired members and 1,850 beneficiaries were receiving total monthly benefits of $56,558,765. For comparison, in the previous valuation, there were 11,829 retired members and 1,806 beneficiaries receiving monthly benefits of $53,324,872.

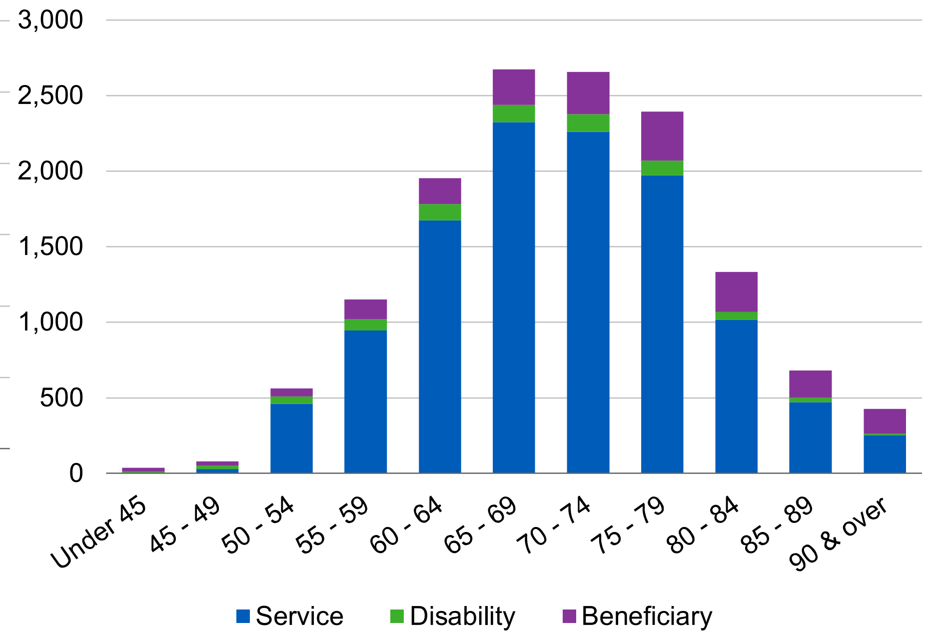
As of June 30, 2023, the average monthly benefit for retired members and beneficiaries is $4,059, compared to $3,911 in the previous valuation. The average age for retired members and beneficiaries is 70.5 in the current valuation, compared with 70.4 in the prior valuation.

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



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

	Active Members			Retired Members and Beneficiaries		
Year Ended June 30	Count	Average Age	Average Service	Count	Average Age	Average Monthly Amount
2014	12,049	46.9	12.8	10,049	69.1	$2,950
2015	12,072	46.7	12.7	10,541	69.2	3,072
2016	12,393	46.3	12.4	10,960	69.4	3,156
2017	12,587	46.0	12.1	11,396	69.5	3,260
2018	12,677	45.7	11.9	11,883	69.6	3,381
2019	12,678	45.7	11.9	12,381	69.8	3,521
2020	12,650	45.7	11.9	12,732	70.1	3,658
2021	12,500	45.6	11.8	13,051	70.2	3,768
2022	12,757	45.1	11.3	13,635	70.4	3,911
2023	13,167	44.7	10.8	13,934	70.5	4,059

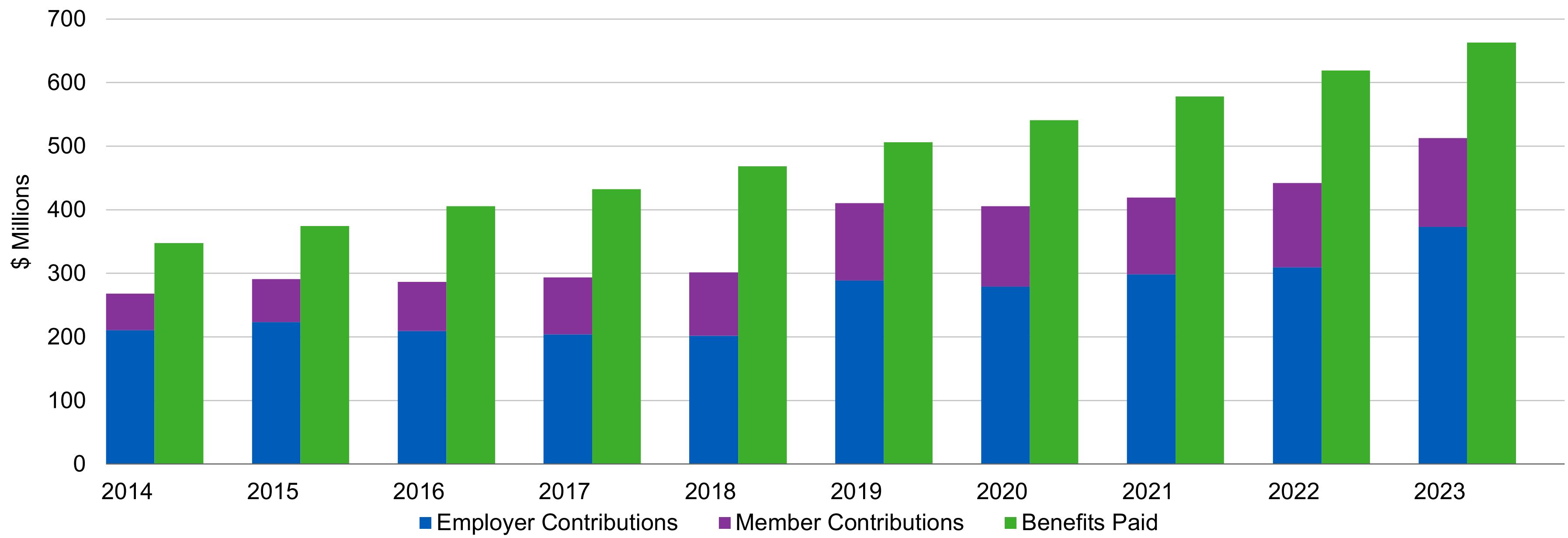
B. Financial Information

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



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

		Expected Return	Actual Return	Original Amount	Percent Deferred	Unrecognized Amount
1	**Market Value of Assets**					**$12,363,257,528**
2	Calculation of unrecognized return					
a.	Year ended June 30, 2018	$600,381,878	$834,483,764	$234,101,886	14.3%	$33,443,127
b.	Year ended June 30, 2019	649,300,474	665,185,884	15,885,410	28.6%	4,538,689
c.	Year ended June 30, 2020	690,394,213	292,913,229	(397,480,984)	42.9%	(170,348,993)
d.	Year ended June 30, 2021	676,831,490	2,744,248,606	2,067,417,116	57.1%	1,181,381,209
e.	Year ended June 30, 2022	851,772,426	(556,708,213)	(1,408,480,639)	71.4%	(1,006,057,599)
f.	Year ended June 30, 2023	802,694,164	682,769,803	(119,924,361)	85.7%	(102,792,309)
g.	Total unrecognized return[1]					$(59,835,876)
3	**Preliminary Actuarial Value of Assets 1 – 2g**					**$12,423,093,404**
4	Adjustment to be within 30% corridor					**0**
5	**Final Actuarial Value of Assets 3 + 4**					**$12,423,093,404**
6	Actuarial Value of Assets as a percentage of Market Value of Assets					100.5%
7	Non-valuation reserves:					
a.	Contingency Reserve					$370,897,726
b.	Other Non-Valuation Reserves					0
c.	Subtotal					$370,897,726
8	**Preliminary Valuation Value of Assets 5 – 7c**					**$12,052,195,678**
9	Non-valuation amounts:					
a.	Balance of transfer to offset member COLA rate[2, 3]					$11,730,000
10	**Final Valuation Value of Assets 8 – 9a**					**$12,040,465,678**

[1] Deferred return as of June 30, 2023 recognized in each of the next six years:

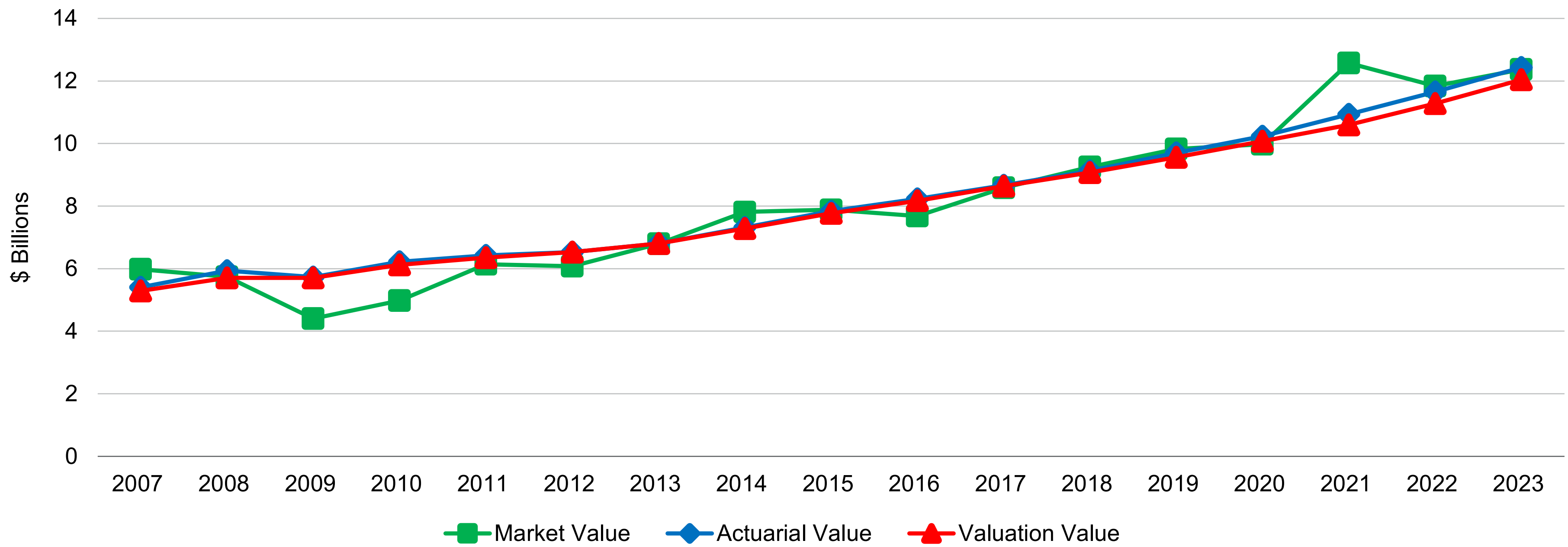
a.	Amount recognized on June 30, 2024	$55,931,203	d.	Amount recognized on June 30, 2027	$77,001,731
b.	Amount recognized on June 30, 2025	22,488,077	e.	Amount recognized on June 30, 2028	(218,343,571)
c.	Amount recognized on June 30, 2026	20,218,733	f.	Amount recognized on June 30, 2029	(17,132,049)
			g.	Total unrecognized return as of June 30, 2023	$(59,835,876)

[2] This amount has been applied in this valuation to offset the legacy members' COLA contribution rates over their expected remaining active working career of 7.87 years. There is a reduction in the aggregate member rate of 0.14% when expressed as a percent of payroll for all members in this valuation.

[3] Of this amount, about $591,000 may be reverted to the employer reserves to reduce the UAAL after all members in the corresponding legacy tiers have separated employment.

The Market Value, Actuarial Value and Valuation Value of Assets are representations of the System'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 System'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



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. The changes in actuarial assumptions based on the experience study performed earlier this year are reflected in this valuation.

The total loss is $101.7 million, which includes $144.5 million from investment gains, a gain of $21.8 million from contribution experience and $268.1 million in losses from all other sources. The net experience variation from individual sources other than investments was 1.7% 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 gain from investments[1]	$(144,540,000)
2	Net gain from contribution experience	(21,826,000)
3	Net loss from other experience[2]	268,101,000
4	**Net experience loss: 1 + 2 + 3**	**$101,735,000**

[1] Details on next page.
[2] See *Section 2, Subsection E* for further details. Does not include the effect of plan or assumption changes, if any.

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 System's investment policy. The rate of return on the Market Value of Assets was 5.74% for the year ended June 30, 2023.

The rate of return on the smoothed Actuarial Value of Assets was 7.90%, which is greater than the 6.75% assumed in the valuation as of June 30, 2022. The actual rate of return on a valuation basis for the 2022-2023 plan year was 8.02%. Because the actual return for the year was greater than the assumed return, the System experienced an actuarial gain during the year ended June 30, 2023 with regard to its investments.

Investment Experience for Year Ended June 30, 2023

		Market Value	Actuarial Value	Valuation Value
1	Net investment income	$682,770,000	$925,091,000	$910,101,000
2	Average value of assets	11,891,766,000	11,709,280,000	11,341,643,000
3	Rate of return: **1 ÷ 2**	5.74%	7.90%	8.02%
4	Assumed rate of return	6.75%	6.75%	6.75%
5	Expected investment income: **2 x 4**	$802,694,000	$790,376,000	$765,561,000
6	**Actuarial gain/(loss): 1 - 5**	**$(119,924,000)**	**$134,715,000**	**$144,540,000**

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.

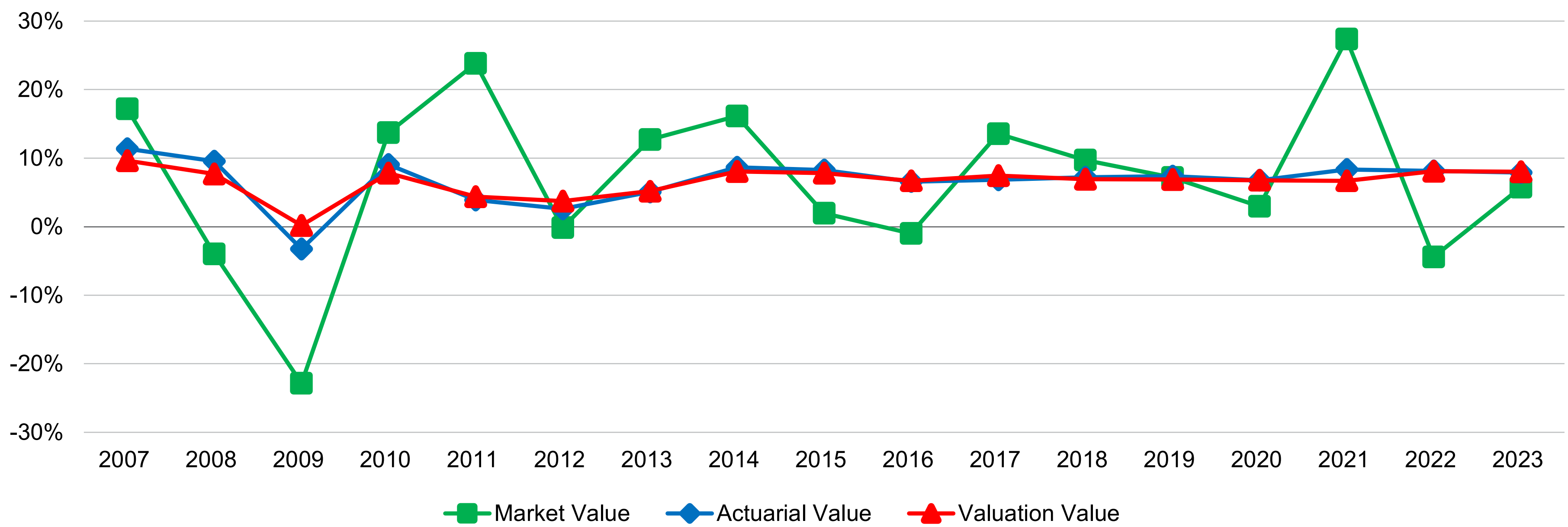
Investment Return – Market Value, Actuarial Value and Valuation Value: 2014 – 2023

	Market Value Investment Return		Actuarial Value Investment Return		Valuation Value Investment Return	
Year Ended June 30	**Amount**	**Percent**	**Amount**	**Percent**	**Amount**	**Percent**
2014	$1,101,488,000	16.13%	$594,718,000	8.70%	$551,884,000	8.06%
2015	152,368,000	1.94%	609,387,000	8.28%	572,950,000	7.82%
2016	(78,761,000)	(1.00%)	516,765,000	6.57%	521,978,000	6.70%
2017	1,042,009,000	13.55%	567,473,000	6.88%	610,522,000	7.46%
2018	834,484,000	9.73%	624,550,000	7.21%	598,171,000	6.93%
2019	665,186,000	7.17%	675,738,000	7.39%	628,142,000	6.91%
2020	292,913,000	2.97%	661,676,000	6.79%	652,027,000	6.79%
2021	2,744,249,000	27.37%	859,268,000	8.36%	680,345,000	6.72%
2022	(556,708,000)	(4.41%)	895,406,000	8.15%	865,691,000	8.13%
2023	682,770,000	5.74%	925,091,000	7.90%	910,101,000	8.02%
Most recent five-year geometric average return		**7.28%**		**7.72%**		**7.31%**
Most recent ten-year geometric average return		**7.57%**		**7.62%**		**7.35%**

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



Contributions

Contributions for the year ended June 30, 2023 totaled $500.2 million (excluding $12.3 million in net receivable and actual contributions made by a withdrawn employer required to pay off its unfunded liability), compared to the projected amount of $488.3 million. This resulted in a gain of $21.8 million for the year, when adjusted for timing. These exclude any contributions for withdrawn employers, if any.

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 $268.1 million, which is 1.9% of the Actuarial Accrued Liability. This loss was primarily due to individual salary increases higher than expected and higher than expected COLA increases for retirees and beneficiaries. See *Section 2, Subsection E* for a detailed development of the Unfunded Actuarial Accrued Liability.

D. Other Changes in the Actuarial Accrued Liability

Actuarial Assumptions and Methods

The results of this valuation reflect changes in the actuarial assumptions as recommended by Segal and adopted by the Board for the June 30, 2023 valuation, as well as a refinement in applying beginning of year timing of decrements for exiting from active membership status in calculating the normal cost rate. The assumption changes resulted in a decrease in the Actuarial Accrued Liability of $20.66 million, or 0.1%, a decrease in the average employer contribution rate of 0.12% of payroll, and a decrease in the average member rate of 0.25% of payroll.

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

Plan Provisions

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

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

E. Development of Unfunded Actuarial Accrued Liability

Development for Year Ended June 30, 2023

1	**Unfunded Actuarial Accrued Liability at beginning of year**		**$2,286,029,000**
2	Total Normal Cost at middle of year		279,728,000
3	Expected employer and member contributions[1]		(488,278,000)
4	Interest		148,108,000
5	Expected Unfunded Actuarial Accrued Liability at end of year		$2,225,587,000
6	Changes due to:		
	a. Investment return greater than expected (after "smoothing")	$(144,540,000)	
	b. Actual contributions greater than expected[1, 2]	(21,826,000)	
	c. Individual salary increases greater than expected	220,935,000	
	d. COLA increases greater than expected	116,394,000	
	e. Reduced retiree and beneficiary benefits from Alameda Decision	(13,982,000)	
	f. Other experience gains[3]	(55,246,000)	
	g. Changes in actuarial assumptions	(20,664,000)	
	Total changes		$81,071,000
7	**Unfunded Actuarial Accrued Liability at end of year**		**$2,306,658,000**

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

1 Contribution from Sacramento Metropolitan Fire District is excluded from both the expected and the actual contributions.
2 Due to the one-year lag in implementation of the contribution rates.
3 Includes gain from reporting of retiree and beneficiary deaths during 2022/2023 that were underreported during 2022/2023.

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 30.02% of compensation.

The Board sets the funding policy used to calculate the recommended contribution based on layered 20-year[1] 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 I*, because there is a combination of charge and credit amortization layers, 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 Unfunded Actuarial Accrued Liability as a result of gains or losses or as a result of changes in actuarial assumptions or methods for each valuation are amortized over separate 20-year periods. Changes in Unfunded Actuarial Accrued Liability as a result of plan amendments are generally amortized over separate 15-year periods.

Recommended Contribution (continued)

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	$297,450	23.76%	$279,728	24.71%
2	Expected member Normal Cost contributions	(145,228)	(11.60%)	(136,023)	(12.02%)
3	Employer Normal Cost: 1 + 2	$152,222	12.16%	$143,705	12.69%
4	Actuarial Accrued Liability[1]	14,347,124		13,566,257	
5	Valuation Value of Assets[1]	12,040,466		11,280,228	
6	Unfunded Actuarial Accrued Liability: 4 - 5	$2,306,658		$2,286,029	
7	Payment on Unfunded Actuarial Accrued Liability	223,623	17.86%	$208,550	18.43%
8	Total average recommended employer contribution: 3 + 7	$375,845	30.02%	$352,255	31.12%
9	Projected compensation	$1,251,966		$1,131,640	

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

[1] Excludes non-valuation reserves and amounts.

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**	**30.87%**	**$386,441**
2	Effect of investment return greater than expected (after "smoothing")	(0.82%)	(10,266)
3	Effect of actual contributions greater than expected[2]	(0.12%)	(1,502)
4	Effect of individual salary increases greater than expected	1.26%	15,775
5	Effect of decrease in UAAL rate from greater than expected increase in total payroll	(1.29%)	(16,150)
6	Effect of COLA increases greater than expected	0.66%	8,263
7	Effect of reduced retiree and beneficiary benefits from Alameda Decision	(0.08%)	(995)
8	Effect of other experience gains[3]	(0.34%)	(4,219)
9	Effect of changes in actuarial assumptions	(0.12%)	(1,502)
10	Total change	(0.85%)	$(10,596)
11	**Average Recommended Employer Contribution as of June 30, 2023**	**30.02%**	**$375,845**

[1] Based on June 30, 2023 projected compensation.
[2] Due to the one-year lag in implementation of the contribution rates.
[3] Includes gain from reporting of retiree and beneficiary deaths during 2022/2023 that were underreported during 2022/2023.

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**	**11.92%**	**$149,234**
2	Effect of changes in active member demographics	(0.07%)	(876)
3	Effect of changes in actuarial assumptions	(0.25%)	(3,130)
4	Total change	(0.32%)	(4,006)
5	**Average Recommended Member Contribution as of June 30, 2023**	**11.60%**	**$145,228**

[1] Based on June 30, 2023 projected compensation.

Recommended Employer Contribution Rate

County Only[1]	June 30, 2023 Actuarial Valuation Contribution Rate	June 30, 2023 Actuarial Valuation Estimated Annual Dollar Amount[2] ($ in '000s)	June 30, 2022 Actuarial Valuation Contribution Rate	June 30, 2022 Actuarial Valuation Estimated Annual Dollar Amount[2] ($ in '000s)
Miscellaneous – Tier 1 Members				
Normal Cost	12.50%	$70	11.14%	$63
UAAL	12.36%	69	12.81%	72
Total Contribution	**24.86%**	**$139**	**23.95%**	**$135**
Miscellaneous – Tier 2 Members				
Normal Cost	7.92%	$165	7.74%	$161
UAAL	12.36%	257	12.81%	266
Total Contribution	**20.28%**	**$422**	**20.55%**	**$427**
Miscellaneous – Tier 3 Members				
Normal Cost	10.91%	$44,682	11.32%	$46,362
UAAL	12.36%	50,621	12.81%	52,464
Total Contribution	**23.27%**	**$95,303**	**24.13%**	**$98,826**
Miscellaneous – Tier 4 Members				
Normal Cost	10.47%	$3,427	10.94%	$3,582
UAAL	12.36%	4,046	12.81%	4,193
Total Contribution	**22.83%**	**$7,473**	**23.75%**	**$7,775**

[1] Includes elected officials (Board of Supervisors, Sheriff, District Attorney and Assessor).
[2] Based on June 30, 2023 projected annual payroll, see page 42.

Recommended Employer Contribution Rate (continued)

County Only[1] (continued)	June 30, 2023 Actuarial Valuation Contribution Rate	June 30, 2023 Actuarial Valuation Estimated Annual Dollar Amount[2] ($ in '000s)	June 30, 2022 Actuarial Valuation Contribution Rate	June 30, 2022 Actuarial Valuation Estimated Annual Dollar Amount[2] ($ in '000s)
Miscellaneous – Tier 5 Members				
Normal Cost	9.60%	$41,350	9.90%	$42,642
UAAL	12.36%	53,238	12.81%	55,176
Total Contribution	**21.96%**	**$94,588**	**22.71%**	**$97,818**
All Miscellaneous County Categories Combined				
Normal Cost	10.24%	$89,694	10.60%	$92,810
UAAL	12.36%	108,231	12.81%	112,171
Total Contribution	**22.60%**	**$197,925**	**23.41%**	**$204,981**
Safety – Tier 1 Members				
Normal Cost[3]	25.91%	$744	31.93%	$918
UAAL	36.61%	1,052	37.20%	1,069
Total Contribution	**62.52%**	**$1,796**	**69.13%**	**$1,987**
Safety – Tier 2 Members				
Normal Cost	21.09%	$26,327	21.28%	$26,564
UAAL	36.61%	45,701	37.20%	46,437
Total Contribution	**57.70%**	**$72,028**	**58.48%**	**$73,001**

[1] Includes elected officials (Board of Supervisors, Sheriff, District Attorney and Assessor).
[2] Based on June 30, 2023 projected annual payroll, see page 42.
[3] Change in Safety Tier 1 Normal Cost rate is primarily due to a reduction in the number of actives with over 30 years of service (5 at June 30, 2022 vs 1 at June 30, 2023), and applying beginning of year timing of decrements for exiting from active membership status in calculating the normal cost rate (because members with close to or over 30 years of service have higher retirement rates assumed than the remaining active members.)

Recommended Employer Contribution Rate (continued)

County Only[1] (continued)	June 30, 2023 Actuarial Valuation Contribution Rate	June 30, 2023 Actuarial Valuation Estimated Annual Dollar Amount[2] ($ in '000s)	June 30, 2022 Actuarial Valuation Contribution Rate	June 30, 2022 Actuarial Valuation Estimated Annual Dollar Amount[2] ($ in '000s)
Safety – Tier 3 Members				
Normal Cost	20.63%	$3,911	21.00%	$3,982
UAAL	36.61%	6,941	37.20%	7,053
Total Contribution	**57.24%**	**$10,852**	**58.20%**	**$11,035**
Safety – Tier 4 Members				
Normal Cost	14.68%	$18,366	15.07%	$18,853
UAAL	36.61%	45,801	37.20%	46,539
Total Contribution	**51.29%**	**$64,167**	**52.27%**	**$65,392**
All Safety County Categories Combined				
Normal Cost	18.16%	$49,348	18.51%	$50,317
UAAL	36.61%	99,495	37.20%	101,098
Total Contribution	**54.77%**	**$148,843**	**55.71%**	**$151,415**
All County Categories Combined				
Normal Cost	12.12%	$139,042	12.47%	$143,127
UAAL	18.10%	207,726	18.59%	213,269
Total Contribution	**30.22%**	**$346,768**	**31.06%**	**$356,396**

1 Includes elected officials (Board of Supervisors, Sheriff, District Attorney and Assessor).
2 Based on June 30, 2023 projected annual payroll, see page 42.

Recommended Employer Contribution Rate (continued)

Superior Court Only	June 30, 2023 Actuarial Valuation Contribution Rate	June 30, 2023 Actuarial Valuation Estimated Annual Dollar Amount[1] ($ in '000s)	June 30, 2022 Actuarial Valuation Contribution Rate	June 30, 2022 Actuarial Valuation Estimated Annual Dollar Amount[1] ($ in '000s)
Miscellaneous – Tier 1 Members				
Normal Cost[2]	17.92%	$21	14.24%	$17
UAAL	12.33%	15	12.77%	15
Total Contribution	**30.25%**	**$36**	**27.01%**	**$32**
Miscellaneous – Tier 2 Members				
Normal Cost	11.73%	$71	11.41%	$69
UAAL	12.33%	74	12.77%	77
Total Contribution	**24.06%**	**$145**	**24.18%**	**$146**
Miscellaneous – Tier 3 Members				
Normal Cost	15.67%	$5,491	16.45%	$5,764
UAAL	12.33%	4,320	12.77%	4,475
Total Contribution	**28.00%**	**$9,811**	**29.22%**	**$10,239**
Miscellaneous – Tier 5 Members				
Normal Cost	9.60%	$2,803	9.90%	$2,891
UAAL	12.33%	3,600	12.77%	3,729
Total Contribution	**21.93%**	**$6,403**	**22.67%**	**$6,620**

[1] Based on June 30, 2023 projected annual payroll, see page 42.

[2] Change in Miscellaneous Tier 1 Normal Cost rate is primarily due to an increase in average entry age (26.3 at June 30, 2022 vs 28.6 at June 30, 2023), and applying beginning of year timing of decrements for exiting from active membership status in calculating the normal cost rate (because members at 100% assumed retirement age have lower entry ages than the remaining active members.)

Recommended Employer Contribution Rate (continued)

Superior Court Only (continued)	June 30, 2023 Actuarial Valuation Contribution Rate	June 30, 2023 Actuarial Valuation Estimated Annual Dollar Amount[1] ($ in '000s)	June 30, 2022 Actuarial Valuation Contribution Rate	June 30, 2022 Actuarial Valuation Estimated Annual Dollar Amount[1] ($ in '000s)
All Superior Court Categories Combined				
Normal Cost	12.91%	$8,386	13.46%	$8,741
UAAL	12.33%	8,009	12.77%	8,296
Total Contribution	**25.24%**	**$16,395**	**26.23%**	**$17,037**

[1] Based on June 30, 2023 projected annual payroll, see page 42.

Recommended Employer Contribution Rate (continued)

District Only	June 30, 2023 Actuarial Valuation Contribution Rate	June 30, 2023 Actuarial Valuation Estimated Annual Dollar Amount[1] ($ in '000s)	June 30, 2022 Actuarial Valuation Contribution Rate	June 30, 2022 Actuarial Valuation Estimated Annual Dollar Amount[1] ($ in '000s)
Miscellaneous – Tier 3 Members				
Normal Cost	15.51%	$2,610	16.31%	$2,745
UAAL[3]	19.93%	3,354	20.24%	3,406
Total Contribution	**35.44%**	**$5,964**	**36.55%**	**$6,151**
Miscellaneous – Tier 5 Members				
Normal Cost	9.60%	$2,184	9.90%	$2,252
UAAL[3]	19.93%	4,534	20.24%	4,605
Total Contribution	**29.53%**	**$6,718**	**30.14%**	**$6,857**
All District Categories Combined				
Normal Cost	12.11%	$4,794	12.63%	$4,997
UAAL[3]	19.93%	7,888	20.24%	8,011
Total Contribution	**32.04%**	**$12,682**	**32.87%**	**$13,008**
All County and District Categories Combined				
Normal Cost	12.16%	$152,222	12.53%	$156,865
UAAL	17.86%	223,623	18.34%	229,576
Total Contribution	**30.02%**	**$375,845**	**30.87%**	**$386,441**

[1] Based on June 30, 2023 projected annual payroll, see page 42.

Recommended Employer Contribution Rate (continued)

The following June 30, 2023 projected annual payroll is used in developing employer contribution rates on the six previous pages:

	($ in '000s)			
	County[1]	Superior Court	District	Total
Miscellaneous Tier 1	$560	$118	$0	$678
Miscellaneous Tier 2	2,077	604	0	2,681
Miscellaneous Tier 3	409,555	35,040	16,830	461,425
Miscellaneous Tier 4	32,736	0	0	32,736
Miscellaneous Tier 5	430,727	29,198	22,752	482,677
Subtotal	**$875,655**	**$64,960**	**$39,582**	**$980,197**
Safety Tier 1	$2,873	$0	$0	$2,873
Safety Tier 2	124,831	0	0	124,831
Safety Tier 3	18,959	0	0	18,959
Safety Tier 4	125,106	0	0	125,106
Subtotal	**$271,769**	**$0**	**$0**	**$271,769**
Total	**$1,147,424**	**$64,960**[2]	**$39,582**	**$1,251,966**

1 Includes elected officials (Board of Supervisors, Sheriff, District Attorney and Assessor).
2 The increase in Superior Court projected annual payroll (23% higher than June 30, 2022 projected annual payroll of $52,700,000) is partly due to a 12% increase in the active membership count (696 as of June 30, 2023 vs. 622 as of June 30, 2022).

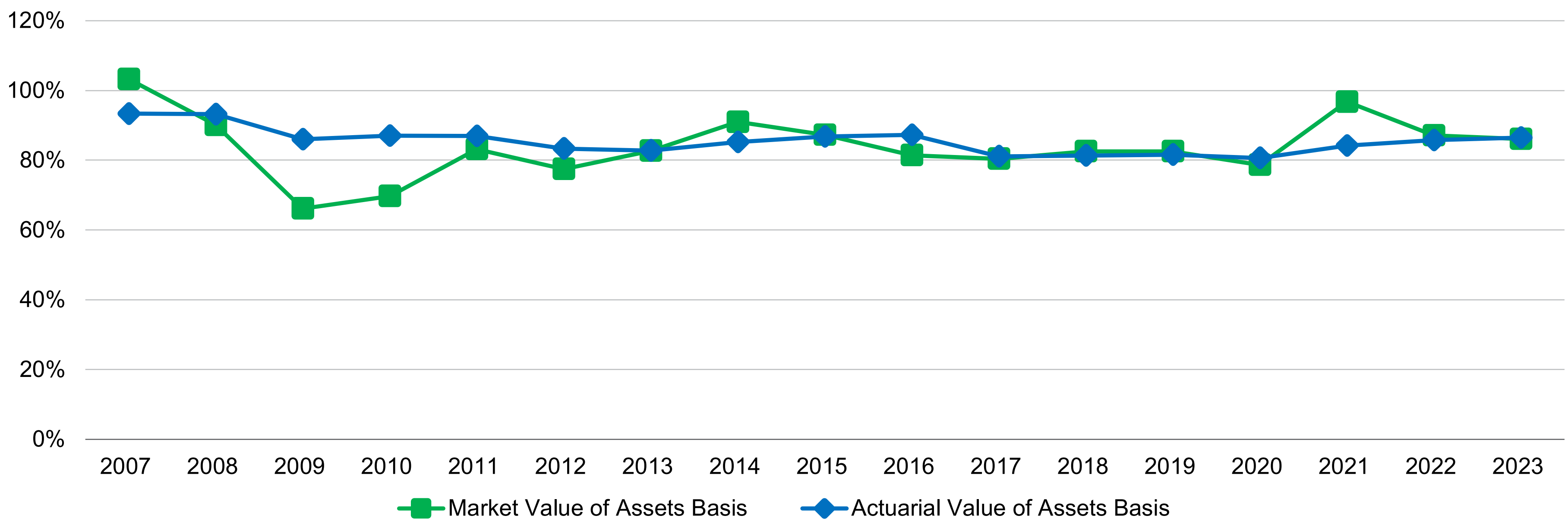
G. Funded Status

A commonly reported piece of information regarding the System's financial status is the funded ratio. These ratios compare the Market and Actuarial Value of Assets to the Actuarial Accrued Liability of the System. 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 System. The chart on the next page shows the System'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 System's benefit obligations. As the chart below shows, the measures are different depending on whether the Market or Actuarial Value of Assets is used.

Funded Ratio for Years Ended June 30, 2007 – 2023



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

Actuarial Valuation Date as of June 30	Actuarial Value of Assets[1] (a)	Actuarial Accrued Liability (AAL)[2] (b)	Unfunded AAL (UAAL) (b) - (a)	Funded Ratio (%) (a) / (b)	Covered Payroll (c)	UAAL as a Percentage of Covered Payroll (%) [(b) - (a)] / (c)
2014	$7,312,993,000	$8,580,928,000	$1,267,935,000	85.2%	$879,999,000	144.1%
2015	7,838,825,000	9,028,679,000	1,189,854,000	86.8	897,341,000	132.6
2016	8,236,402,000	9,436,090,000	1,199,688,000	87.3	938,555,000	127.8
2017	8,665,226,000	10,680,998,000	2,015,772,000	81.1	980,359,000	205.6
2018	9,123,004,000	11,213,263,000	2,090,259,000	81.4	1,007,815,000	207.4
2019	9,703,313,000	11,895,520,000	2,192,207,000	81.6	1,038,341,000	211.1
2020	10,229,760,000	12,693,655,000	2,463,894,000	80.6	1,070,512,000	230.2
2021	10,929,549,000	13,309,706,000	2,380,157,000	82.1[3]	1,081,961,000	220.0
2022[4]	11,647,866,000	13,578,984,000	1,931,118,000	85.8	1,131,640,000	170.6
2023[5]	12,423,093,000	14,358,854,000	1,935,761,000	86.5	1,251,966,000	154.6

Note: Results may not total due to rounding.

[1] Includes the Contingency Reserve and other non-valuation reserves and amounts.
[2] Prior to June 30, 2022, the Actuarial Accrued Liability included the Contingency Reserve and other non-valuation reserves and amounts. Starting with the June 30, 2022 valuation, the Contingency Reserve is no longer included in the Actuarial Accrued Liability.
[3] If as of June 30, 2021, the Contingency Reserve were not included in the Actuarial Accrued Liability, the funded status would have been 84.2% measured on an AVA basis.
[4] As of June 30, 2022, the Unfunded Actuarial Accrued Liability on a Valuation Value of Assets (VVA) basis was $2,286,029,000 and the funded ratio on a VVA basis is 83.1%.
[5] As of June 30, 2023, the Unfunded Actuarial Accrued Liability on a Valuation Value of Assets (VVA) basis is $2,306,658,000 and the funded ratio on a VVA basis is 83.9%.

H. Actuarial Balance Sheet

An overview of the System'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 System 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 System.

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 System, 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 ($ in '000s)

	Basic	COLA	Total
Actuarial Present Value of Future Benefits			
• Present value of benefits for retired members and beneficiaries	$5,626,023	$3,281,932	$8,907,955
• Present value of benefits for inactive vested members	371,290	82,402	453,692
• Present value of benefits for active members	6,015,561	1,461,432	7,476,993
• Other non-valuation reserves	0	0	0
• Contingency Reserve	370,898	0	370,898
Total Actuarial Present Value of Future Benefits	**$12,383,772**	**$4,825,766**	**$17,209,538**
Current and future assets			
• Total Valuation Value of Assets (VVA)	$8,057,903	$3,982,563	$12,040,466
• Present value of future contributions by members[1]	814,129	277,019	1,091,148
• Present value of future employer contributions for:			
– Entry age Normal Cost	1,196,416	192,222	1,388,638
– Unfunded Actuarial Accrued Liability	1,944,426	362,232	2,306,658
• Balance of transfer to offset member COLA rate[2]	0	11,730	11,730
• Contingency Reserve	370,898	0	370,898
Total of current and future assets	**$12,383,772**	**$4,825,766**	**$17,209,538**

Note: Results may not total due to rounding.

[1] Calculated assuming all legacy members pay the "full rate", as described on pages 117-118.
[2] Of this amount, about $591,000 may be reverted to the employer reserves to reduce the UAAL after all members in the corresponding legacy tiers have separated employment.

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 because it is based on the current level of assets.

The current AVR is about 9.9. This means that a 1% asset gain or loss (relative to the assumed investment return) translates to about 9.9% of one-year's payroll. Because 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 LVR is about 11.5 but is 9.3 for Miscellaneous compared to 19.4 for Safety. This means that assumption changes will have a greater impact on employer contribution rates for Safety than Miscellaneous.

The chart on the next page shows how the asset and liability volatility ratios have varied over time.

Volatility Ratios for Years Ended 2014 – 2023

Year Ended June 30	Asset Volatility Ratio			Liability Volatility Ratio		
	Miscellaneous	Safety	Total	Miscellaneous	Safety	Total
2014	7.6	13.2	8.9	8.1	15.2	9.8
2015	7.5	13.0	8.8	8.4	15.8	10.1
2016	7.0	12.2	8.2	8.4	15.7	10.1
2017	7.4	13.5	8.8	8.9	17.8	10.9
2018	7.8	14.0	9.2	9.1	18.0	11.1
2019	8.0	14.6	9.5	9.4	18.6	11.5
2020	7.8	14.4	9.3	9.6	18.9	11.7
2021	9.7	18.4	11.6	10.0	20.3	12.3
2022	8.7	16.8	10.5	9.7	20.0	12.0
2022	8.2	16.1	9.9	9.3	19.4	11.5

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.

This section provides descriptions and basic assessments of the primary risks that are likely to have an ongoing influence on the System's financial condition, 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 System 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 System, affecting both funded status and contribution rates. The inherent year-to-year volatility is reduced by smoothing through the Actuarial Value of Assets; however, investment experience can still have a sizable impact. As discussed in *Section 2, Subsection I, Volatility Ratios*, on page 46, a 1% asset gain or loss (relative to the assumed investment return) translates to about 9.9% of one-year's payroll. Because 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 -4.41% to a high of 27.37%.

- 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 System (public experience tables) that are weighted by benefit levels, and by using generational mortality projections. Effective with the June 30, 2020 valuation, the Board has adopted benefit weighted mortality tables with the generational mortality projections.

- Other Risks

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

Some plans also carry significant contribution risk, defined as the potential for actual future contributions deviating from expected future contributions. However, the employers have 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 System's actual experience. Over the past ten years:

- The funded percentage on the Actuarial Value of Assets basis has increased from 85.2% to 86.5%. For a more detailed history see *Section 2, Subsection G, Funded Status* starting on page 43.
- The average geometric investment return on the Actuarial Value of Assets over the last 10 years was 7.62%. This includes a high single-year return of 8.70% and a low of 6.57%. The average over the last 5 years was 7.72%. For more details see the *Investment Return* table in *Section 2, Subsection C* on page 27.
- The primary source of new UAAL was the strengthening of assumptions through multiple assumption changes. For example, the assumption changes in 2020 changed the discount rate from 7.00% to 6.75% and updated mortality tables, adding $216 million in

unfunded liability. The assumption changes in 2017 changed the discount rate from 7.50% to 7.00% and updated mortality tables, adding $824 million in unfunded liability. For more details on the unfunded liability changes see *Section 3, Exhibit H, Table of Amortization Bases* starting on page 79.

- The System'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 on pages 83 and 84.

Maturity Measures

In the last 10 years the ratio of members in pay status to active participants has increased from 0.83 to 1.06. An increased ratio indicates that the System 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 18.

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 System's asset allocation is aligned to meet emerging pension liabilities. For the prior year benefits paid were $149.9 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 22.

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 46.

Low-Default-Risk Obligation Measure (LDROM)

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

The LDROM is a calculation assuming a plan's assets are invested in an all-bond portfolio, generally lowering expected long-term investment returns. The discount rate selected and used for this purpose is the Bond Buyer General Obligation 20-year Municipal Bond

Index Rate, published at the end of each week. The last published rate in June of the measurement period, by The Bond Buyer, is 3.65% for use effective June 30, 2023. This is the rate used to determine the discount rate for valuing reported public pension plan liabilities in accordance with Governmental Accounting Standards when plan assets are projected to be insufficient to make projected benefit payments, and the 20-year period reasonably approximates the duration of public pension plan liabilities. The LDROM is not used to determine a plan's funded status or Actuarially Determined Contribution Rate. The plan's expected return on assets, currently 6.75%, is used for these calculations.

As of June 30, 2023, the LDROM for the System is $21.95 billion. The difference between the System's AAL of $14.36 billion and the LDROM can be thought of as the increase in the AAL if the entire portfolio were invested in low-default-risk securities. Alternatively, this difference could also be viewed as representing the expected savings from investing in the plan's diversified portfolio compared to investing only in low-default-risk securities.

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

Section 3: Supplemental Information

Exhibit A: Table of Plan Coverage

Total Plan

Category	Year Ended June 30: 2023	Year Ended June 30: 2022	Change From Prior Year
Active members in valuation:			
• Number	13,167	12,757	3.2%
• Average age	44.7	45.1	-0.4
• Average years of service	10.8	11.3	-0.5
• Total projected compensation[1]	$1,251,965,469	$1,131,639,895	10.6%
• Average projected compensation	$95,084	$88,707	7.2%
• Account balances	$1,025,063,181	$945,681,066	8.4%
• Total active vested members	8,386	8,499	-1.3%
Inactive vested members:			
• Number[2]	4,702	4,423	6.3%
• Average age	46.1	46.9	-0.8
Retired members:			
• Number in pay status	11,392	11,123	2.4%
• Average age	70.2	70.0	0.2
• Average monthly benefit	$4,373	$4,221	3.6%
Disabled members:			
• Number in pay status	692	706	-2.0%
• Average age	67.8	67.4	0.4
• Average monthly benefit	$3,438	$3,284	4.7%
Beneficiaries:			
• Number in pay status	1,850	1,806	2.4%
• Average age	73.5	73.5	0.0
• Average monthly benefit	$2,360	$2,243	5.2%

[1] Projected compensation was calculated by increasing the annualized compensation earned during the past fiscal year for each active member by the individual service-based salary scale assumption for the upcoming fiscal year, as shown in *Section 4, Exhibit 1*.

[2] Includes inactive members due a refund of member contributions.

Exhibit A: Table of Plan Coverage (continued)

Miscellaneous Tier 1

Category	Year Ended June 30 2023	Year Ended June 30 2022	Change From Prior Year
Active members in valuation:			
• Number	7	13	-46.2%
• Average age	68.6	66.1	2.5
• Average years of service	40.0	40.3	-0.3
• Total projected compensation[1]	$677,830	$1,229,014	-44.8%
• Average projected compensation	$96,833	$94,540	2.4%
• Account balances	$1,434,610	$2,748,890	-47.8%
• Total active vested members	7	13	-46.2%
Inactive vested members:			
• Number[2]	17	23	-26.1%
• Average age	73.7	71.7	2.0
Retired members:			
• Number in pay status	2,175	2,302	-5.5%
• Average age	78.4	78.0	0.4
• Average monthly benefit	$4,767	$4,503	5.9%
Disabled members:			
• Number in pay status	99	111	-10.8%
• Average age	78.9	78.6	0.3
• Average monthly benefit	$2,890	$2,771	4.3%
Beneficiaries:			
• Number in pay status	697	725	-3.9%
• Average age	80.0	80.4	-0.4
• Average monthly benefit	$2,483	$2,289	8.5%

[1] Projected compensation was calculated by increasing the annualized compensation earned during the past fiscal year for each active member by the individual service-based salary scale assumption for the upcoming fiscal year, as shown in *Section 4, Exhibit 1*.
[2] Includes inactive members due a refund of member contributions.

Exhibit A: Table of Plan Coverage (continued)

Miscellaneous Tier 2

Category	Year Ended June 30 2023	Year Ended June 30 2022	Change From Prior Year
Active members in valuation:			
• Number	28	32	-12.5%
• Average age	59.5	58.7	0.8
• Average years of service	31.6	30.9	0.7
• Total projected compensation[1]	$2,680,706	$2,700,014	-0.7%
• Average projected compensation	$95,739	$84,375	13.5%
• Account balances	$3,547,194	$3,707,404	-4.3%
• Total active vested members	28	32	-12.5%
Inactive vested members:			
• Number[2]	71	84	-15.5%
• Average age	62.3	62.1	0.2
Retired members:			
• Number in pay status	395	390	1.3%
• Average age	71.2	70.9	0.3
• Average monthly benefit	$1,299	$1,246	4.3%
Disabled members:			
• Number in pay status	23	24	-4.2%
• Average age	71.5	70.9	0.6
• Average monthly benefit	$979	$942	3.9%
Beneficiaries:			
• Number in pay status	64	60	6.7%
• Average age	73.8	73.1	0.7
• Average monthly benefit	$883	$837	5.5%

[1] Projected compensation was calculated by increasing the annualized compensation earned during the past fiscal year for each active member by the individual service-based salary scale assumption for the upcoming fiscal year, as shown in *Section 4, Exhibit 1*.

[2] Includes inactive members due a refund of member contributions.

Exhibit A: Table of Plan Coverage (continued)

Miscellaneous Tier 3

Category	Year Ended June 30 2023	Year Ended June 30 2022	Change From Prior Year
Active members in valuation:			
• Number	4,449	4,859	-8.4%
• Average age	53.0	52.6	0.4
• Average years of service	20.5	19.7	0.8
• Total projected compensation[1]	$461,425,336	$459,838,581	0.3%
• Average projected compensation	$103,714	$94,636	9.6%
• Account balances	$518,160,244	$501,708,745	3.3%
• Total active vested members	4,424	4,827	-8.3%
Inactive vested members:			
• Number[2]	2,160	2,298	-6.0%
• Average age	51.6	51.4	0.2
Retired members:			
• Number in pay status	6,479	6,193	4.6%
• Average age	69.2	68.8	0.4
• Average monthly benefit	$3,265	$3,151	3.6%
Disabled members:			
• Number in pay status	301	305	-1.3%
• Average age	66.6	65.8	0.8
• Average monthly benefit	$2,151	$2,086	3.1%
Beneficiaries:			
• Number in pay status	605	555	9.0%
• Average age	69.3	68.6	0.7
• Average monthly benefit	$1,428	$1,346	6.1%

1 Projected compensation was calculated by increasing the annualized compensation earned during the past fiscal year for each active member by the individual service-based salary scale assumption for the upcoming fiscal year, as shown in *Section 4, Exhibit 1*.
2 Includes inactive members due a refund of member contributions.

Exhibit A: Table of Plan Coverage (continued)

Miscellaneous Tier 4

Category	Year Ended June 30 2023	Year Ended June 30 2022	Change From Prior Year
Active members in valuation:			
• Number	292	308	-5.2%
• Average age	47.7	46.8	0.9
• Average years of service	9.1	8.4	0.7
• Total projected compensation[1]	$32,736,064	$32,044,924	2.2%
• Average projected compensation	$112,110	$104,042	7.8%
• Account balances	$22,525,351	$20,039,022	12.4%
• Total active vested members	264	268	-1.5%
Inactive vested members:			
• Number[2]	133	133	0.0%
• Average age	45.1	45.1	0.0
Retired members:			
• Number in pay status	33	22	50.0%
• Average age	63.4	63.7	-0.3
• Average monthly benefit	$1,312	$1,109	18.3%
Disabled members:			
• Number in pay status	1	1	0.0%
• Average age	60.6	59.6	1.0
• Average monthly benefit	$3,136	$2,897	8.2%
Beneficiaries:			
• Number in pay status	2	1	100.0%
• Average age	63.5	58.7	4.8
• Average monthly benefit	$1,144	$863	32.6%

[1] Projected compensation was calculated by increasing the annualized compensation earned during the past fiscal year for each active member by the individual service-based salary scale assumption for the upcoming fiscal year, as shown in *Section 4, Exhibit 1*.
[2] Includes inactive members due a refund of member contributions.

Exhibit A: Table of Plan Coverage (continued)

Miscellaneous Tier 5

Category	Year Ended June 30 2023	Year Ended June 30 2022	Change From Prior Year
Active members in valuation:			
• Number	6,285	5,491	14.5%
• Average age	40.3	40.1	0.2
• Average years of service	3.9	3.8	0.1
• Total projected compensation[1]	$482,676,862	$386,802,659	24.8%
• Average projected compensation	$76,798	$70,443	9.0%
• Account balances	$160,267,712	$124,953,600	28.3%
• Total active vested members	2,235	1,970	13.5%
Inactive vested members:			
• Number[2]	1,886	1,451	30.0%
• Average age	39.6	39.5	0.1
Retired members:			
• Number in pay status	76	57	33.3%
• Average age	65.0	64.9	0.1
• Average monthly benefit	$896	$897	-0.1%
Disabled members:			
• Number in pay status	3	2	50.0%
• Average age	47.8	49.5	-1.7
• Average monthly benefit	$1,845	$1,373	34.4%
Beneficiaries:			
• Number in pay status	6	1	500.0%
• Average age	53.7	41.0	12.7
• Average monthly benefit	$790	$615	28.5%

[1] Projected compensation was calculated by increasing the annualized compensation earned during the past fiscal year for each active member by the individual service-based salary scale assumption for the upcoming fiscal year, as shown in *Section 4, Exhibit 1*.
[2] Includes inactive members due a refund of member contributions.

Exhibit A: Table of Plan Coverage (continued)

Safety Tier 1

Category	Year Ended June 30 2023	Year Ended June 30 2022	Change From Prior Year
Active members in valuation:			
• Number	15	17	-11.8%
• Average age	55.4	55.0	0.4
• Average years of service	25.1	27.7	-2.6
• Total projected compensation[1]	$2,873,445	$2,956,218	-2.8%
• Average projected compensation	$191,563	$173,895	10.2%
• Account balances	$5,513,376	$6,220,731	-11.4%
• Total active vested members	14	17	-17.6%
Inactive vested members:			
• Number[2]	12	17	-29.4%
• Average age	56.1	56.3	-0.2
Retired members:			
• Number in pay status	1,345	1,362	-1.2%
• Average age	68.4	67.7	0.7
• Average monthly benefit	$8,853	$8,497	4.2%
Disabled members:			
• Number in pay status	173	176	-1.7%
• Average age	69.5	68.7	0.8
• Average monthly benefit	$5,842	$5,570	4.9%
Beneficiaries:			
• Number in pay status	381	378	0.8%
• Average age	72.1	71.4	0.7
• Average monthly benefit	$3,867	$3,672	5.3%

[1] Projected compensation was calculated by increasing the annualized compensation earned during the past fiscal year for each active member by the individual service-based salary scale assumption for the upcoming fiscal year, as shown in *Section 4, Exhibit 1*.
[2] Includes inactive members due a refund of member contributions.

Exhibit A: Table of Plan Coverage (continued)

Safety Tier 2

Category	Year Ended June 30 2023	Year Ended June 30 2022	Change From Prior Year
Active members in valuation:			
• Number	764	849	-10.0%
• Average age	46.9	46.5	0.4
• Average years of service	20.3	19.7	0.6
• Total projected compensation[1]	$124,830,535	$126,182,685	-1.1%
• Average projected compensation	$163,391	$148,625	9.9%
• Account balances	$216,688,274	$210,075,153	3.1%
• Total active vested members	762	849	-10.2%
Inactive vested members:			
• Number[2]	283	312	-9.3%
• Average age	46.7	46.3	0.4
Retired members:			
• Number in pay status	864	778	11.1%
• Average age	60.4	60.5	-0.1
• Average monthly benefit	$6,616	$6,311	4.8%
Disabled members:			
• Number in pay status	87	84	3.6%
• Average age	56.7	55.7	1.0
• Average monthly benefit	$4,422	$4,228	4.6%
Beneficiaries:			
• Number in pay status	92	84	9.5%
• Average age	59.7	58.5	1.2
• Average monthly benefit	$2,413	$2,335	3.3%

1 Projected compensation was calculated by increasing the annualized compensation earned during the past fiscal year for each active member by the individual service-based salary scale assumption for the upcoming fiscal year, as shown in *Section 4, Exhibit 1*.
2 Includes inactive members due a refund of member contributions.

Exhibit A: Table of Plan Coverage (continued)

Safety Tier 3

Category	Year Ended June 30: 2023	Year Ended June 30: 2022	Change From Prior Year
Active members in valuation:			
• Number	123	123	0.0%
• Average age	43.9	42.9	1.0
• Average years of service	10.4	9.8	0.6
• Total projected compensation[1]	$18,959,020	$16,921,487	12.0%
• Average projected compensation	$154,138	$137,573	12.0%
• Account balances	$22,242,946	$18,575,908	19.7%
• Total active vested members	112	110	1.8%
Inactive vested members:			
• Number[2]	14	14	0.0%
• Average age	40.6	42.6	-2.0
Retired members:			
• Number in pay status	4	3	33.3%
• Average age	61.4	59.9	1.5
• Average monthly benefit	$2,615	$2,600	0.6%
Disabled members:			
• Number in pay status	2	1	100.0%
• Average age	43.8	44.1	-0.3
• Average monthly benefit	$3,167	$3,380	-6.3%
Beneficiaries:			
• Number in pay status	—	—	N/A
• Average age	N/A	N/A	N/A
• Average monthly benefit	N/A	N/A	N/A

[1] Projected compensation was calculated by increasing the annualized compensation earned during the past fiscal year for each active member by the individual service-based salary scale assumption for the upcoming fiscal year, as shown in *Section 4, Exhibit 1*.

[2] Includes inactive members due a refund of member contributions.

Exhibit A: Table of Plan Coverage (continued)

Safety Tier 4

Category	Year Ended June 30 2023	Year Ended June 30 2022	Change From Prior Year
Active members in valuation:			
• Number	1,204	1,065	13.1%
• Average age	34.7	34.4	0.3
• Average years of service	4.6	4.3	0.3
• Total projected compensation[1]	$125,105,670	$102,964,314	21.5%
• Average projected compensation	$103,908	$96,680	7.5%
• Account balances	$74,683,476	$57,651,613	29.5%
• Total active vested members	540	413	30.8%
Inactive vested members:			
• Number[2]	126	91	38.5%
• Average age	35.1	34.8	0.3
Retired members:			
• Number in pay status	21	16	31.3%
• Average age	61.3	61.4	-0.1
• Average monthly benefit	$1,580	$1,609	-1.8%
Disabled members:			
• Number in pay status	3	2	50.0%
• Average age	58.3	56.5	1.8
• Average monthly benefit	$4,231	$3,805	11.2%
Beneficiaries:			
• Number in pay status	3	2	50.0%
• Average age	41.9	30.3	11.6
• Average monthly benefit	$4,227	$4,482	-5.7%

[1] Projected compensation was calculated by increasing the annualized compensation earned during the past fiscal year for each active member by the individual service-based salary scale assumption for the upcoming fiscal year, as shown in *Section 4, Exhibit 1*.

[2] Includes inactive members due a refund of member contributions.

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

Total Plan

		Years of Service									
Age	Total	0 – 4	5 – 9	10 – 14	15 – 19	20 – 24	25 – 29	30 – 34	35 – 39	40 & over
Under 25	283	282	1	—	—	—	—	—	—	—
	$64,271	$64,290	$58,983	—	—	—	—	—	—	—
25 – 29	1,115	1,032	83	—	—	—	—	—	—	—
	$74,802	$73,435	$91,801	—	—	—	—	—	—	—
30 – 34	1,732	1,089	606	37	—	—	—	—	—	—
	$82,180	$75,088	$92,860	$115,998	—	—	—	—	—	—
35 – 39	1,693	753	639	167	128	6	—	—	—	—
	$90,265	$76,992	$93,805	$118,360	$111,123	$152,123	—	—	—	—
40 – 44	1,908	562	491	228	479	144	4	—	—	—
	$100,729	$80,541	$94,332	$110,892	$119,283	$121,400	$177,118	—	—	—
45 – 49	1,929	382	311	154	471	537	73	1	—	—
	$108,148	$80,659	$93,076	$107,046	$113,876	$124,349	$162,659	$89,038	—	—
50 – 54	1,788	304	282	124	340	517	185	34	2	—
	$106,374	$83,853	$91,720	$106,814	$106,986	$114,496	$141,088	$106,260	$156,276	—
55 – 59	1,426	229	187	102	247	329	167	142	21	2
	$100,994	$81,956	$88,994	$94,655	$101,108	$101,780	$126,789	$117,219	$115,982	$119,502
60 – 64	912	117	151	73	155	212	97	82	21	4
	$94,884	$77,382	$86,265	$97,345	$98,045	$94,283	$115,067	$103,034	$102,414	$100,576
65 – 69	289	31	40	25	66	55	36	23	13	—
	$89,799	$77,994	$85,686	$95,252	$90,616	$81,748	$98,330	$100,533	$107,409	—
70 & over	92	13	17	11	18	16	4	8	1	4
	$83,793	$71,715	$73,962	$79,070	$83,437	$103,670	$97,747	$85,018	$78,883	$84,746
Total	**13,167**	**4,794**	**2,808**	**921**	**1,904**	**1,816**	**566**	**290**	**58**	**10**
	$95,084	**$76,429**	**$92,370**	**$107,582**	**$109,781**	**$112,331**	**$132,420**	**$109,614**	**$109,898**	**$98,029**

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

Miscellaneous Tier 1

		Years of Service								
Age	Total	0 – 4	5 – 9	10 – 14	15 – 19	20 – 24	25 – 29	30 – 34	35 – 39	40 & over
Under 25	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—
25 – 29	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—
30 – 34	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—
35 – 39	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—
40 – 44	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—
45 – 49	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—
50 – 54	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—
55 – 59	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—
60 – 64	1	—	—	—	—	—	—	—	—	1
	$111,772	—	—	—	—	—	—	—	—	$111,772
65 – 69	3	—	—	—	—	—	1	2	—	—
	$94,618	—	—	—	—	—	$59,618	$112,118	—	—
70 & over	3	—	—	—	—	—	—	—	—	3
	$94,068	—	—	—	—	—	—	—	—	$94,068
Total	**7**	**—**	**—**	**—**	**—**	**—**	**1**	**2**	**—**	**4**
	$96,833	**—**	**—**	**—**	**—**	**—**	**$59,618**	**$112,118**	**—**	**$98,494**

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

Miscellaneous Tier 2

		Years of Service								
Age	**Total**	**0 – 4**	**5 – 9**	**10 – 14**	**15 – 19**	**20 – 24**	**25 – 29**	**30 – 34**	**35 – 39**	**40 & over**
Under 25	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—
25 – 29	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—
30 – 34	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—
35 – 39	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—
40 – 44	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—
45 – 49	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—
50 – 54	4	—	—	—	—	—	—	4	—	—
	$80,553	—	—	—	—	—	—	$80,553	—	—
55 – 59	12	—	—	—	1	—	—	10	1	—
	$107,801	—	—	—	$50,619	—	—	$118,539	$57,610	—
60 – 64	8	—	—	—	—	—	1	7	—	—
	$94,235	—	—	—	—	—	$91,981	$94,557	—	—
65 – 69	4	—	—	—	1	—	—	2	1	—
	$77,749	—	—	—	$37,878	—	—	$94,225	$84,669	—
70 & over	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—
Total	**28**	**—**	**—**	**—**	**2**	**—**	**1**	**23**	**2**	**—**
	$95,739	**—**	**—**	**—**	**$44,249**	**—**	**$91,981**	**$102,520**	**$71,140**	**—**

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

Miscellaneous Tier 3

		Years of Service									
Age	**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	4	—	1	3	—	—	—	—	—	—
	$94,529	—	$52,292	$108,608	—	—	—	—	—	—
35 – 39	169	3	10	55	98	3	—	—	—	—
	$98,834	$76,770	$84,010	$107,444	$95,156	$132,602	—	—	—	—
40 – 44	577	11	17	127	325	96	1	—	—	—
	$100,833	$108,863	$99,321	$102,632	$102,670	$91,929	$67,356	—	—	—
45 – 49	864	4	7	94	385	348	25	1	—	—
	$105,410	$74,455	$121,748	$104,080	$106,232	$103,776	$121,553	$89,038	—	—
50 – 54	1,032	3	11	78	315	443	151	29	2	—
	$109,069	$94,084	$99,094	$109,170	$103,913	$106,568	$128,565	$103,573	$156,276	—
55 – 59	953	3	15	71	237	315	158	132	20	2
	$105,417	$101,046	$88,029	$91,271	$100,002	$98,344	$124,071	$117,119	$118,900	$119,502
60 – 64	598	1	5	40	152	209	92	75	21	3
	$99,124	$35,545	$123,842	$93,539	$96,869	$93,721	$112,389	$103,825	$102,414	$96,843
65 – 69	198	—	1	14	63	55	35	19	11	—
	$91,473	—	$124,492	$94,119	$91,101	$81,748	$99,436	$99,977	$95,827	—
70 & over	54	—	—	7	18	15	4	8	1	1
	$86,664	—	—	$67,538	$83,437	$99,896	$97,747	$85,018	$78,883	$56,779
Total	**4,449**	**25**	**67**	**489**	**1,593**	**1,484**	**466**	**264**	**55**	**6**
	$103,714	**$93,862**	**$98,317**	**$101,392**	**$101,689**	**$100,476**	**$120,888**	**$109,541**	**$108,622**	**$97,719**

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

Miscellaneous Tier 4

		Years of Service								
Age	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	8	—	2	6	—	—	—	—	—	—
	$104,284	—	$115,303	$100,611	—	—	—	—	—	—
35 – 39	60	4	28	28	—	—	—	—	—	—
	$112,512	$110,705	$111,094	$114,188	—	—	—	—	—	—
40 – 44	67	8	23	34	1	1	—	—	—	—
	$109,448	$155,647	$103,578	$102,333	$147,524	$78,696	—	—	—	—
45 – 49	53	4	21	26	1	—	1	—	—	—
	$114,492	$149,456	$123,905	$103,180	$60,371	—	$125,200	—	—	—
50 – 54	38	5	22	11	—	—	—	—	—	—
	$122,510	$157,261	$132,149	$87,436	—	—	—	—	—	—
55 – 59	28	3	9	16	—	—	—	—	—	—
	$115,410	$144,158	$123,811	$105,294	—	—	—	—	—	—
60 – 64	26	4	7	15	—	—	—	—	—	—
	$96,545	$115,376	$99,234	$90,269	—	—	—	—	—	—
65 – 69	8	—	2	6	—	—	—	—	—	—
	$116,148	—	$159,430	$101,721	—	—	—	—	—	—
70 & over	4	—	2	2	—	—	—	—	—	—
	$105,946	—	$99,819	$112,072	—	—	—	—	—	—
Total	**292**	**28**	**116**	**144**	**2**	**1**	**1**	**—**	**—**	**—**
	$112,110	**$141,647**	**$116,899**	**$102,763**	**$103,948**	**$78,696**	**$125,200**	**—**	**—**	**—**

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

Miscellaneous Tier 5

		Years of Service								
Age	**Total**	**0 – 4**	**5 – 9**	**10 – 14**	**15 – 19**	**20 – 24**	**25 – 29**	**30 – 34**	**35 – 39**	**40 & over**
Under 25	205	204	1	—	—	—	—	—	—	—
	$53,772	$53,747	$58,983	—	—	—	—	—	—	—
25 – 29	838	791	47	—	—	—	—	—	—	—
	$66,939	$66,473	$74,767	—	—	—	—	—	—	—
30 – 34	1,300	901	390	9	—	—	—	—	—	—
	$74,419	$70,865	$82,183	$93,752	—	—	—	—	—	—
35 – 39	1,188	685	476	27	—	—	—	—	—	—
	$80,760	$74,829	$87,684	$109,165	—	—	—	—	—	—
40 – 44	895	499	379	16	1	—	—	—	—	—
	$81,959	$77,006	$88,219	$84,701	$136,806	—	—	—	—	—
45 – 49	623	357	250	14	2	—	—	—	—	—
	$81,193	$78,335	$85,098	$85,043	$76,447	—	—	—	—	—
50 – 54	512	263	228	20	1	—	—	—	—	—
	$81,044	$78,440	$84,015	$83,113	$47,324	—	—	—	—	—
55 – 59	367	208	148	9	2	—	—	—	—	—
	$79,927	$77,228	$84,016	$79,468	$60,000	—	—	—	—	—
60 – 64	254	111	130	13	—	—	—	—	—	—
	$79,653	$75,777	$82,184	$87,436	—	—	—	—	—	—
65 – 69	73	31	37	4	1	—	—	—	—	—
	$78,255	$77,994	$80,652	$63,617	$56,205	—	—	—	—	—
70 & over	30	13	15	2	—	—	—	—	—	—
	$72,095	$71,715	$70,514	$86,430	—	—	—	—	—	—
Total	**6,285**	**4,063**	**2,101**	**114**	**7**	**—**	**—**	**—**	**—**	**—**
	$76,798	**$72,237**	**$84,906**	**$90,163**	**$73,318**	**—**	**—**	**—**	**—**	**—**

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

Safety Tier 1

		Years of Service								
Age	**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	3	—	—	—	—	—	3	—	—	—
	$163,406	—	—	—	—	—	$163,406	—	—	—
50 – 54	7	—	—	—	1	1	5	—	—	—
	$176,784	—	—	—	$160,267	$147,184	$186,008	—	—	—
55 – 59	2	1	—	—	—	—	1	—	—	—
	$216,662	$317,931	—	—	—	—	$115,391	—	—	—
60 – 64	1	—	—	—	—	—	1	—	—	—
	$294,600	—	—	—	—	—	$294,600	—	—	—
65 – 69	1	—	—	—	—	—	—	—	1	—
	$257,550	—	—	—	—	—	—	—	$257,550	—
70 & over	1	—	—	—	—	1	—	—	—	—
	$160,267	—	—	—	—	$160,267	—	—	—	—
Total	**15**	**1**	**—**	**—**	**1**	**2**	**10**	**—**	**1**	**—**
	$191,563	**$317,931**	**—**	**—**	**$160,267**	**$153,726**	**$183,025**	**—**	**$257,550**	**—**

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

Safety Tier 2

		Years of Service								
Age	**Total**	**0 – 4**	**5 – 9**	**10 – 14**	**15 – 19**	**20 – 24**	**25 – 29**	**30 – 34**	**35 – 39**	**40 & over**
Under 25	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—
25 – 29	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—
30 – 34	1	—	—	1	—	—	—	—	—	—
	$169,758	—	—	$169,758	—	—	—	—	—	—
35 – 39	42	—	1	13	25	3	—	—	—	—
	$159,200	—	$118,651	$140,568	$169,017	$171,644	—	—	—	—
40 – 44	225	1	2	25	147	47	3	—	—	—
	$162,040	$156,139	$161,226	$155,703	$155,571	$182,505	$213,705	—	—	—
45 – 49	324	—	1	12	80	187	44	—	—	—
	$162,197	—	$193,439	$143,106	$151,251	$162,145	$186,816	—	—	—
50 – 54	129	1	1	7	20	70	29	1	—	—
	$169,015	$135,993	$58,261	$140,517	$157,009	$163,429	$198,546	$287,024	—	—
55 – 59	30	—	1	2	5	14	8	—	—	—
	$172,503	—	$71,645	$153,598	$166,759	$179,090	$181,900	—	—	—
60 – 64	11	—	—	2	3	3	3	—	—	—
	$149,045	—	—	$165,503	$157,646	$133,481	$145,037	—	—	—
65 – 69	2	—	—	1	1	—	—	—	—	—
	$173,009	—	—	$198,834	$147,184	—	—	—	—	—
70 & over	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—
Total	**764**	**2**	**6**	**63**	**281**	**324**	**87**	**1**	**—**	**—**
	$163,391	**$146,066**	**$127,408**	**$149,645**	**$155,831**	**$165,931**	**$189,760**	**$287,024**	**—**	**—**

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

Safety Tier 3

		Years of Service								
Age	**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	5	—	—	5	—	—	—	—	—	—
	$158,894	—	—	$158,894	—	—	—	—	—	—
35 – 39	36	1	9	22	4	—	—	—	—	—
	$150,618	$154,851	$141,938	$155,622	$141,568	—	—	—	—	—
40 – 44	37	4	15	15	3	—	—	—	—	—
	$153,426	$147,433	$159,436	$154,014	$128,425	—	—	—	—	—
45 – 49	25	5	10	6	2	2	—	—	—	—
	$156,840	$152,623	$163,326	$144,723	$158,013	$170,133	—	—	—	—
50 – 54	14	1	4	5	1	3	—	—	—	—
	$156,793	$112,036	$206,740	$156,411	$76,565	$132,494	—	—	—	—
55 – 59	3	—	—	2	1	—	—	—	—	—
	$135,525	—	—	$120,240	$166,094	—	—	—	—	—
60 – 64	3	—	—	3	—	—	—	—	—	—
	$180,964	—	—	$180,964	—	—	—	—	—	—
65 – 69	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—
70 & over	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—
Total	**123**	**11**	**38**	**58**	**11**	**5**	**—**	**—**	**—**	**—**
	$154,138	**$147,248**	**$161,295**	**$154,519**	**$137,294**	**$147,550**	**—**	**—**	**—**	**—**

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

Safety Tier 4

		Years of Service								
Age	**Total**	**0 – 4**	**5 – 9**	**10 – 14**	**15 – 19**	**20 – 24**	**25 – 29**	**30 – 34**	**35 – 39**	**40 & over**
Under 25	78	78	—	—	—	—	—	—	—	—
	$91,864	$91,864	—	—	—	—	—	—	—	—
25 – 29	277	241	36	—	—	—	—	—	—	—
	$98,590	$96,282	$114,039	—	—	—	—	—	—	—
30 – 34	414	188	213	13	—	—	—	—	—	—
	$104,867	$95,329	$112,388	$119,571	—	—	—	—	—	—
35 – 39	198	60	115	22	1	—	—	—	—	—
	$107,646	$98,154	$111,799	$111,859	$106,823	—	—	—	—	—
40 – 44	107	39	55	11	2	—	—	—	—	—
	$104,564	$93,575	$110,858	$110,156	$114,993	—	—	—	—	—
45 – 49	37	12	22	2	1	—	—	—	—	—
	$106,164	$98,943	$108,692	$121,364	$106,823	—	—	—	—	—
50 – 54	52	31	16	3	2	—	—	—	—	—
	$114,047	$114,361	$114,192	$113,303	$109,137	—	—	—	—	—
55 – 59	31	14	14	2	1	—	—	—	—	—
	$118,765	$117,921	$121,517	$113,470	$102,658	—	—	—	—	—
60 – 64	10	1	9	—	—	—	—	—	—	—
	$117,366	$145,441	$114,247	—	—	—	—	—	—	—
65 – 69	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—
70 & over	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—
Total	**1,204**	**664**	**480**	**53**	**7**	**—**	**—**	**—**	**—**	**—**
	$103,908	**$96,926**	**$112,387**	**$113,898**	**$109,223**	**—**	**—**	**—**	**—**	**—**

Exhibit C: Reconciliation of Member Data

	Active Members	Inactive Vested Members[1]	Retired Members	Disabled Members	Beneficiaries	Total
Number as of June 30, 2022	**12,757**	**4,423**	**11,123**	**706**	**1,806**	**30,815**
• New members	1,626	183	0	0	184	1,993
• Terminations – with vested rights	(620)	620	0	0	0	0
• Contribution refunds	(186)	(310)	0	0	0	(496)
• Retirements	(436)	(141)	577	0	0	0
• New disabilities	(4)	0	(4)	8	0	0
• Return to work	51	(51)	0	0	0	0
• Died with or without beneficiary[2]	(19)	(7)	(299)	(22)	(139)	(486)
• Data adjustments[3]	(2)	(15)	(5)	0	(1)	(23)
Number as of June 30, 2023	**13,167**	**4,702**	**11,392**	**692**	**1,850**	**31,803**

[1] Includes inactive members due a refund of member contributions.
[2] Includes unreported 2021/2022 retiree and beneficiary deaths that were reported in 2022/2023.
[3] Includes 3 deferred alternate payees as of June 30, 2022 in pay status as of June 30, 2023.

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		**$11,830,351,000**		**$12,564,149,000**
Contribution income:				
• Employer contributions	$373,023,000		$309,276,000	
• Member contributions	139,521,000		132,526,000	
Net contribution income		$512,543,000		$441,802,000
Investment income:				
• Interest, dividends and other income	$284,436,000		$237,372,000	
• Asset appreciation	503,818,000		(574,873,000)	
• Less investment and administrative fees	(105,525,000)		(219,258,000)	
Net investment income		$682,729,000		$(556,758,000)
Other income:		$41,000[1]		$49,000[2]
Total income available for benefits		**$1,195,314,000**		**$(114,906,000)**
Less benefit payments:				
• Benefits paid	$(655,591,000)		$(614,345,000)	
• Withdrawal of contributions	(6,815,000)		(4,547,000)	
Net benefit payments		$(662,407,000)		$(618,892,000)
Change in net assets at market value		**$532,907,000**		**$(733,798,000)**
Net assets at market value at the end of the year		**$12,363,258,000**		**$11,830,351,000**

Note: Results may not total due to rounding.

[1] From miscellaneous income and federal tax credit.
[2] From miscellaneous income and federal tax credit.

Exhibit E: Summary Statement of Plan Assets

		June 30, 2023		June 30, 2022
Cash equivalents		$588,578,000		$530,690,000
Accounts receivable:				
• Accrued investment income	$30,450,000		$22,476,000	
• Employer and member contributions	37,869,000		29,617,000	
• Investment sales and other	314,364,000		194,526,000	
Total accounts receivable		$382,683,000		$246,619,000
Investments:				
• Equities	$6,849,771,000		$5,994,892,000	
• Absolute return	845,895,000		955,803,000	
• Fixed income investments	2,242,284,000		2,225,639,000	
• Real assets	2,059,942,000		2,127,866,000	
• Securities lending collateral	195,198,000		250,331,000	
Total investments at market value		$12,193,090,000		$11,554,531,000
Other assets		$6,079,000		$22,700,000
Total assets		$13,170,430,000		$12,354,540,000
Accounts payable:				
• Accounts payable and other liabilities	$(25,027,000)		$(43,023,000)	
• Investment trades and warrants payable	(590,580,000)		(236,633,000)	
• Securities lending liability	(191,566,000)		(244,533,000)	
Total accounts payable		$(807,172,000)		$(524,190,000)
Net assets at market value		**$12,363,258,000**		**$11,830,351,000**
Net assets at actuarial value		**$12,423,093,000**		**$11,647,865,000**
Net assets at valuation value		**$12,040,466,000**		**$11,280,228,000**

Note: Results may not total due to rounding.

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

	Reserves
Included in Valuation Value of Assets	
• Employee Reserve	$1,100,473,153
• Employer Reserve	3,285,980,836
• Retiree Reserve	7,645,852,431
• Death Benefit Reserve	19,889,258
Subtotal: Preliminary Valuation Value of Assets[1]	**$12,052,195,678**
Not Included in Valuation Value of Assets	
• Contingency Reserve	370,897,726
Subtotal: Actuarial Value of Assets	**$12,423,093,404**
• Market Stabilization Reserve	(59,835,876)
Total Market Value of Assets	**$12,363,257,528**

Note: Results may not total due to rounding.

[1] Please note that the Final Valuation Value of Assets (i.e., $12,040,465,678) as shown on page 23 is calculated by taking the Preliminary Valuation Value of Assets and adjusting for the balance of transfer to offset member COLA rate.

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

Change in Reserves

	Balance at June 30, 2022	Interest Credit	Contributions	Benefits	Transfers	Unallocated Earnings	Balance at June 30, 2023
Employee Reserve	$1,059,167,107	42,019,553	$139,520,731	$(6,815,454)	$(133,418,784)	$0	$1,100,473,153
Employer Reserve	3,278,661,538	231,748,664	373,022,702	(188,752)	(643,505,734)	46,242,419	3,285,980,836
Retiree Reserve	6,935,915,348	479,887,765	0	(654,472,515)	776,924,518	107,597,315	7,645,852,431
Death Benefit Reserve	19,210,973	1,328,378	0	(929,987)	0	279,894	19,889,258
Subtotal	**$11,292,954,967**	**$754,984,360**	**$512,543,433**	**$(662,406,708)**	**$0**	**$154,119,628**	**$12,052,195,679**
Contingency Reserve	354,910,520	0	0	0	0	15,987,206	370,897,726
Total Allocated Reserves	**$11,647,865,487**	**$754,984,360**	**$512,543,433**	**$(662,406,708)**	**$0**	**$170,106,834**	**$12,423,093,405**
Market Stabilization Reserve	182,485,513	(242,321,390)	0	0	0	0	(59,835,877)
Net Market Value of Assets	**$11,830,351,000**	**$512,662,970**	**$512,543,433**	**$(662,406,708)**	**$0**	**$170,106,834**	**$12,363,257,528**

Note: Results may not total due to rounding.

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

	Per Interest Crediting and Unallocated Earnings Policy
Earnings from June 30, 2022 to June 30, 2023	$925,091,194
Amounts Credited for:	
Market Stabilization Reserve	242,321,390
Regular Interest Crediting	(754,984,360)
Subtotal	**$(512,662,970)**
Net Unallocated Earnings	**$170,106,834**
Amount Credited Under Unallocated Earnings Policy for:	
Contingency Reserve	$(15,987,206)
Employer Reserve	(46,242,419)
Retiree Reserve	(107,597,315)
Death Benefit Reserve	(279,894)
Subtotal	**$(170,106,834)**
Remaining Unallocated Earnings	**$0**

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	Actuarial Value of Assets at Year-End	Actuarial Value as a Percent of Market Value
2014	$210,503,000	$57,635,000	$1,101,487,000	$347,620,000	$7,810,001,000	$7,312,993,000	93.6%
2015	222,959,000	68,143,000	152,368,000	374,657,000	7,878,814,000	7,838,825,000	99.5%
2016	209,020,000	77,494,000	(78,761,000)	405,702,000	7,680,865,000	8,236,402,000	107.2%
2017	203,928,000	89,489,000	1,042,009,000	432,066,000	8,584,225,000	8,665,226,000	100.9%
2018	201,631,000	99,906,000	834,484,000	468,309,000	9,251,937,000	9,123,004,000	98.6%
2019	288,581,000	121,843,000	665,186,000	505,853,000	9,821,694,000	9,703,313,000	98.8%
2020	279,168,000	126,354,000	292,913,000	540,751,000	9,979,379,000	10,229,760,000	102.5%
2021	298,345,000	120,597,000	2,744,249,000	578,421,000	12,564,149,000	10,929,549,000	87.0%
2022	309,276,000	132,526,000	(556,708,000)	618,892,000	11,830,351,000	11,647,865,000	98.5%
2023	373,023,000	139,521,000	682,770,000	662,407,000	12,363,258,000	12,423,093,000	100.5%

Note: Market value of assets at year-end calculated by taking previous year's market value and adjusting for cash flows may not total due to rounding.

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

Exhibit H: Table of Amortization Bases

Miscellaneous

Type	Date Established	Initial Amount ($ in '000s)	Initial Period	Outstanding Balance ($ in '000s)	Years Remaining	Annual Payment ($ in '000s)
Restart amortization[1]	June 30, 2012	$814,400	23	$726,888	12	$76,751
Actuarial loss[1]	June 30, 2013	34,060	20	27,755	10	3,394
Actuarial gain[1]	June 30, 2014	(125,182)	20	(106,519)	11	(12,054)
Assumption changes[1]	June 30, 2014	(46,607)	20	(39,658)	11	(4,488)
Actuarial gain[1]	June 30, 2015	(73,919)	20	(65,146)	12	(6,879)
Withdrawn employers[2]	June 30, 2015	2,989	20	2,634	12	278
Actuarial loss[1]	June 30, 2016	12,986	20	11,773	13	1,168
Actuarial loss[1]	June 30, 2017	12,571	20	11,655	14	1,092
Assumption changes[1]	June 30, 2017	466,874	20	432,849	14	40,571
Actuarial loss[1,3]	June 30, 2018	6,060	20	5,736	15	511
Actuarial loss[4]	June 30, 2018	39,429	20	37,320	15	3,322
Actuarial loss[1,3]	June 30, 2019	6,060	20	5,830	16	495
Actuarial loss[4]	June 30, 2019	51,548	20	49,596	16	4,211
Actuarial loss[1,3]	June 30, 2020	4,997	20	4,869	17	396
Actuarial loss[4]	June 30, 2020	24,469	20	23,840	17	1,938
Assumption changes[4]	June 30, 2020	187,738	20	182,907	17	14,867
Actuarial loss[1,3]	June 30, 2021	60,008	20	59,144	18	4,618
Actuarial gain[4]	June 30, 2021	(77,842)	20	(76,721)	18	(5,991)
Actuarial loss[1,3]	June 30, 2022	19,229	20	19,116	19	1,438
Actuarial gain[4]	June 30, 2022	(63,321)	20	(62,948)	19	(4,736)

1 These amounts are spread over the payroll for all Miscellaneous employers excluding Rio Linda Elverta Recreation and Parks District.
2 This amount reflects the net withdrawal liability for the Library Authority and Air Quality Districts and is spread over the payroll for Miscellaneous County only. See page 95 for more details.
3 These amounts are due to deferred investment losses that were established prior to July 1, 2017. The total amount of those losses for Miscellaneous and Safety combined is: a) $9,275,175 for both June 30, 2018 and June 30, 2019, b) $7,648,231 for June 30, 2020, c) $91,838,760 for June 30, 2021, d) $29,429,469 for June 30, 2022, and e) ($66,465,826) for June 30, 2023.
4 These amounts are spread over the payroll for all Miscellaneous employers including Rio Linda Elverta Recreation and Parks District.

Exhibit H: Table of Amortization Bases (continued)

Miscellaneous (continued)

Type	Date Established	Initial Amount ($ in '000s)	Initial Period	Outstanding Balance ($ in '000s)	Years Remaining	Annual Payment ($ in '000s)
Actuarial gain[1,2]	June 30, 2023	$(43,429)	20	$(43,429)	20	$(3,156)
Actuarial loss[3]	June 30, 2023	79,914	20	79,914	20	5,808
Assumption changes[3]	June 30, 2023	6,195	20	6,195	20	450
Subtotal				**$1,293,600**		**$124,004**

Note: Results may not total due to rounding.

[1] These amounts are spread over the payroll for all Miscellaneous employers excluding Rio Linda Elverta Recreation and Parks District.
[2] These amounts are due to deferred investment losses that were established prior to July 1, 2017. The total amount of those losses for Miscellaneous and Safety combined is: a) $9,275,175 for both June 30, 2018 and June 30, 2019, b) $7,648,231 for June 30, 2020, c) $91,838,760 for June 30, 2021, d) $29,429,469 for June 30, 2022, and e) ($66,465,826) for June 30, 2023.
[3] These amounts are spread over the payroll for all Miscellaneous employers including Rio Linda Elverta Recreation and Parks District.

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)
Restart amortization	June 30, 2012	$493,928	23	$440,852	12	$46,549
Actuarial loss	June 30, 2013	53,174	20	43,330	10	5,299
Actuarial gain	June 30, 2014	(40,247)	20	(34,246)	11	(3,875)
Assumption changes	June 30, 2014	62,388	20	53,087	11	6,008
Actuarial gain	June 30, 2015	(8,318)	20	(7,331)	12	(774)
Actuarial gain	June 30, 2016	(1,139)	20	(1,033)	13	(102)
Actuarial gain	June 30, 2017	(14,836)	20	(13,756)	14	(1,289)
Assumption changes	June 30, 2017	356,837	20	330,832	14	31,009
Actuarial loss	June 30, 2018	44,898	20	42,497	15	3,783
Actuarial loss	June 30, 2019	65,096	20	62,630	16	5,317
Actuarial loss	June 30, 2020	54,193	20	52,797	17	4,292
Assumption changes	June 30, 2020	28,359	20	27,629	17	2,246
Actuarial gain	June 30, 2021	(23,837)	20	(23,493)	18	(1,834)
Actuarial loss	June 30, 2022	877	20	872	19	66
Actuarial loss	June 30, 2023	65,250	20	65,250	20	4,742
Assumption changes	June 30, 2023	(26,859)	20	(26,859)	20	(1,952)
Subtotal				**$1,013,058**		**$99,485**

Note: Results may not total due to rounding.

Exhibit H: Table of Amortization Bases (continued)

Miscellaneous and Safety Combined

Type	Date Established	Initial Amount ($ in ‘000s)	Initial Period	Outstanding Balance ($ in ‘000s)	Years Remaining	Annual Payment ($ in ‘000s)
Restart amortization	June 30, 2012	$1,308,328	23	$1,167,740	12	$123,300
Actuarial loss	June 30, 2013	87,234	20	71,085	10	8,693
Actuarial gain	June 30, 2014	(165,429)	20	(140,765)	11	(15,929)
Assumption changes	June 30, 2014	15,781	20	13,429	11	1,520
Actuarial gain	June 30, 2015	(82,237)	20	(72,477)	12	(7,653)
Withdrawn employers	June 30, 2015	2,989	20	2,634	12	278
Actuarial loss	June 30, 2016	11,847	20	10,740	13	1,066
Actuarial gain	June 30, 2017	(2,265)	20	(2,101)	14	(197)
Assumption changes	June 30, 2017	823,711	20	763,681	14	71,580
Actuarial loss	June 30, 2018	90,387	20	85,553	15	7,616
Actuarial loss	June 30, 2019	122,704	20	118,056	16	10,023
Actuarial loss	June 30, 2020	83,659	20	81,506	17	6,626
Assumption changes	June 30, 2020	216,097	20	210,536	17	17,113
Actuarial gain	June 30, 2021	(41,671)	20	(41,070)	18	(3,207)
Actuarial gain	June 30, 2022	(43,215)	20	(42,960)	19	(3,232)
Actuarial loss	June 30, 2023	101,735	20	101,735	20	7,394
Assumption changes	June 30, 2023	(20,664)	20	(20,664)	20	(1,502)
Total				**$2,306,658**		**$223,489**

Note: Results may not total due to rounding.

Exhibit I: Projection of UAAL Balances and Payments

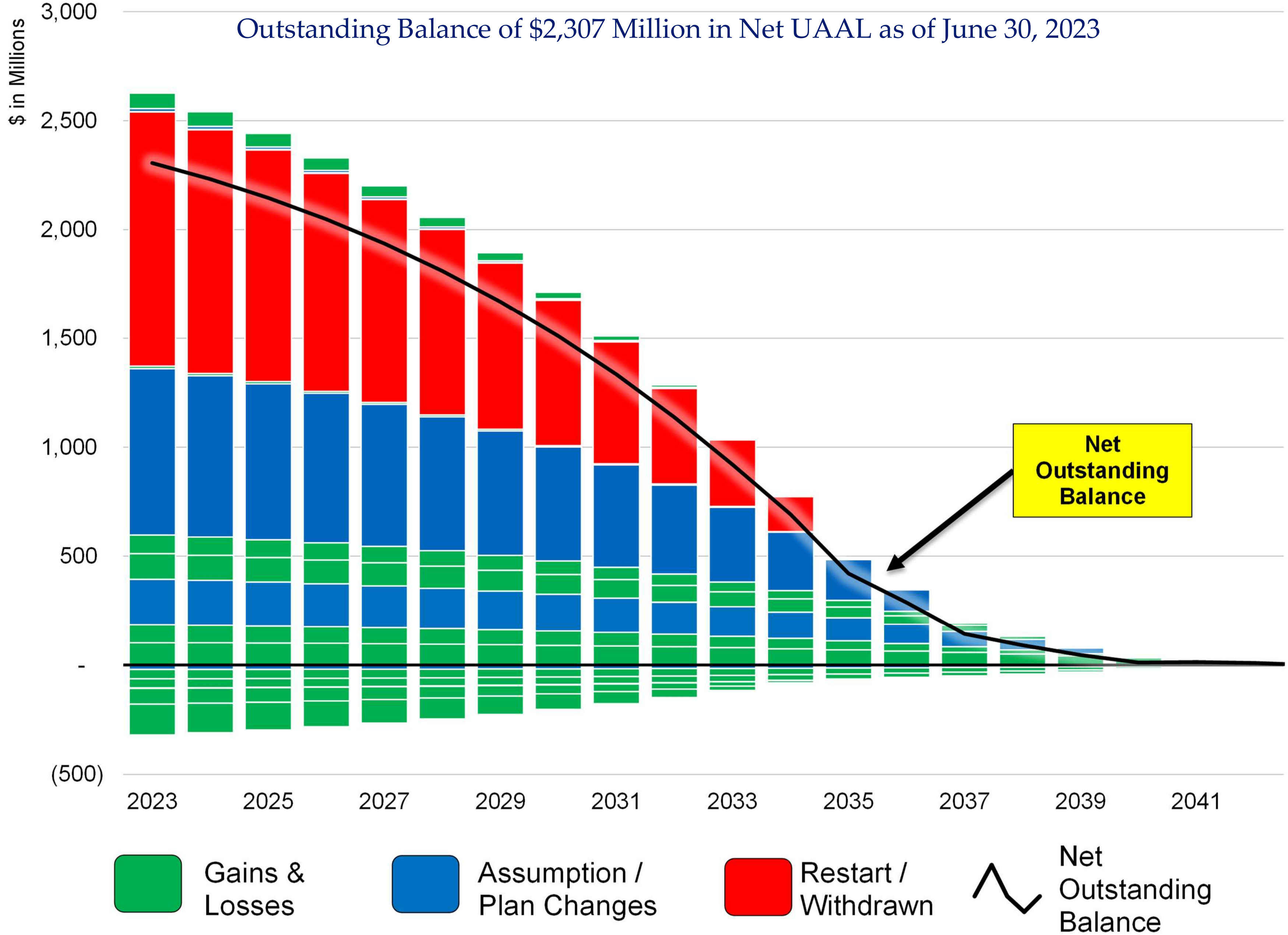


Exhibit I: Projection of UAAL Balances and Payments (continued)

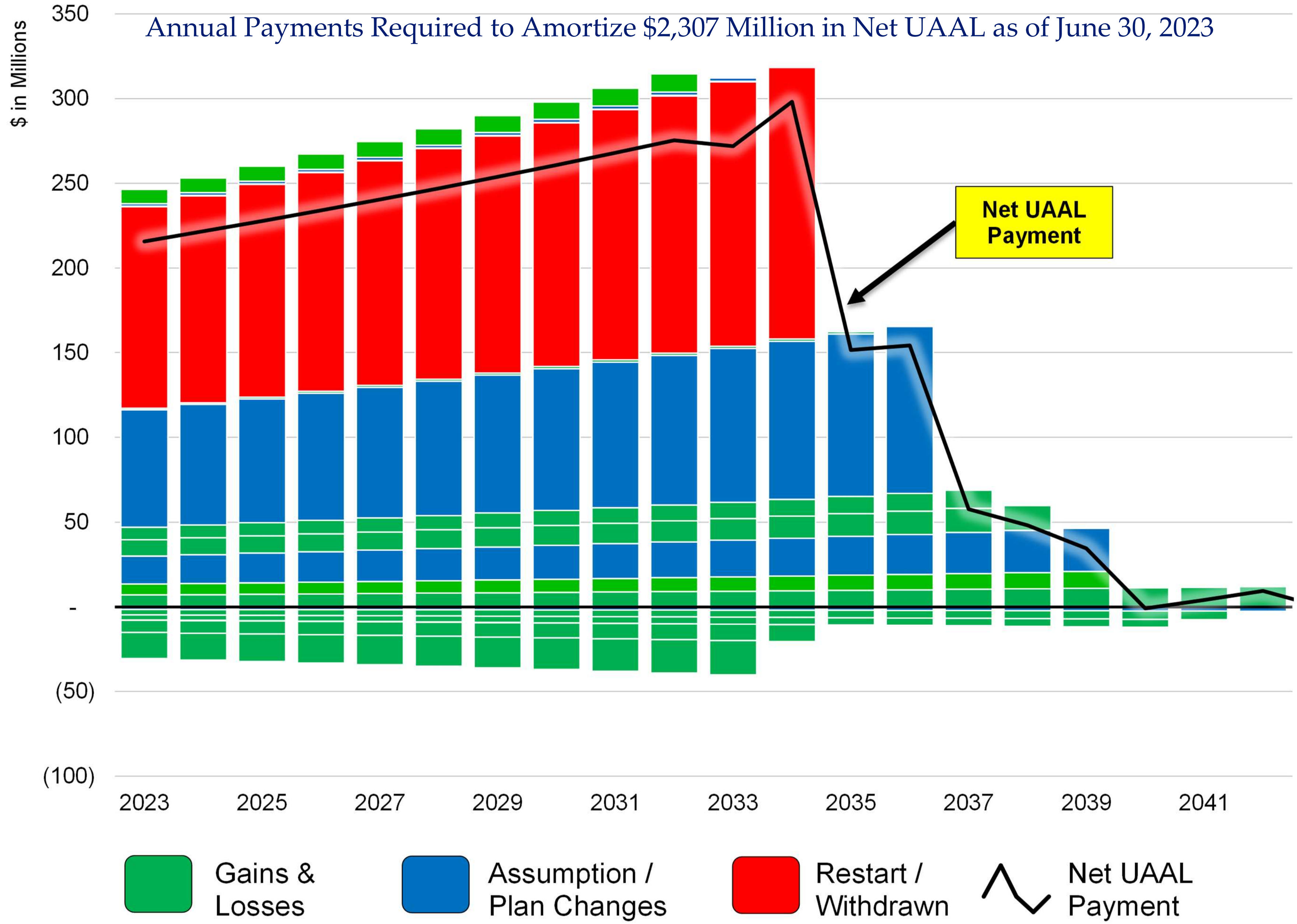


Exhibit J: Definition of Pension Terms

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

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

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

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

Section 4: Actuarial Valuation Basis

Exhibit 1: Actuarial Assumptions and Methods

Rationale for Assumptions:	The information and analysis used in selecting each assumption that has a significant effect on this actuarial valuation is shown in the July 1, 2019 through June 30, 2023 Actuarial Experience Study report dated June 13, 2023. Unless otherwise noted, all actuarial assumptions and methods shown below apply to all tiers. These assumptions were adopted by the Board.
Economic Assumptions	
Net Investment Return:	6.75%; net of administrative and investment expenses. Based on the Actuarial Experience Study reference above, expected administrative and investment expenses represent about 0.15% of the Actuarial Value of Assets.
Consumer Price Index (CPI):	2.50%
Member Contribution Crediting Rate:[1]	2.50% (assumed rate of inflation), compounded semi-annually.
Cost of Living Adjustment:	Miscellaneous and Safety Tier 1 benefits are assumed to increase at 2.75% per year (for Tier 1 members with a sufficient COLA bank, withdrawals from the bank can be made to increase the retiree COLA up to 4% per year). Miscellaneous Tier 3, Tier 4 and Tier 5 and Safety Tier 2, Tier 3 and Tier 4 benefits are assumed to increase at 2.00% per year. Miscellaneous Tier 2 receive no COLA increases.
Payroll Growth:	Inflation of 2.50% per year plus “across the board” real salary increases of 0.25% per year, used to amortize the Unfunded Actuarial Accrued Liability as a level percentage of payroll.
Increase in Section 7522.10 Compensation Limit:	Increase of 2.50% per year from the valuation date.

[1] Current policy is to credit the member contribution account with interest up to the current 5-year Treasury rate, if such earnings are available. However, the difference in earnings between the 5-year Treasury rate and the target crediting rate will be applied to the other valuation reserves so that the overall valuation reserve target crediting rate is maintained at 6.75%.

Salary Increases:

The annual rate of compensation increase includes:

- Inflation at 2.50%, plus
- “Across the board” salary increases of 0.25% per year, plus
- The following merit and promotion increases:

Years of Service	Rate (%) Miscellaneous	Rate (%) Safety
Less than 1	6.00	7.00
1 – 2	6.00	6.25
2 – 3	5.50	6.00
3 – 4	5.25	5.75
4 – 5	4.25	5.25
5 – 6	3.25	4.25
6 – 7	2.75	4.00
7 – 8	2.50	3.75
8 – 9	2.25	3.50
9 – 10	2.10	3.25
10 – 11	2.00	3.00
11 – 12	1.70	3.00
12 – 13	1.50	3.00
13 – 14	1.50	3.00
14 – 15	1.50	3.00
15 & Over	1.50	2.75

Demographic Assumptions:	
Post-Retirement Mortality Rates:	*Healthy* • **Miscellaneous Members:** Pub-2010 General Healthy Retiree Amount-Weighted Above-Median Mortality Table (separate tables for males and females) with rates increased by 10% for males and increased by 5% for 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), projected generationally with the two-dimensional mortality improvement scale MP-2021. *Disabled* • **Miscellaneous Members:** Pub-2010 Non-Safety Disabled Retiree Amount-Weighted Mortality Table (separate tables for males and females) with rates unadjusted for males and increased by 5% for females, 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) with rates increased by 5% for males and unadjusted for females, projected generationally with the two-dimensional mortality improvement scale MP-2021. *Beneficiary* • **Beneficiaries not currently in Pay Status:** Pub-2010 General Healthy Retiree Amount-Weighted Above-Median Mortality Table (separate tables for males and females) with rates increased by 10% for males and increased by 5% for females, projected generationally with the two-dimensional mortality improvement scale MP-2021. • **Beneficiaries in Pay Status:** Pub-2010 General Contingent Survivor Amount-Weighted Above-Median Mortality Table (separate tables for males and females) with rates increased by 5% for males and increased by 10% for 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.

Pre-Retirement Mortality Rates:

- **Miscellaneous 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.

	Rate (%)			
	Miscellaneous		Safety	
Age	Male	Female	Male	Female
20	0.04	0.01	0.04	0.01
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

Note that generational projections beyond the base year (2010) are not reflected in the above mortality rates.

Miscellaneous pre-retirement deaths are assumed to be non-duty.

For Safety, 50% of pre-retirement deaths are assumed to be non-duty and the rest are assumed to be duty.

Mortality Rates for Member Contributions:

- **Miscellaneous Members:** Pub-2010 General Healthy Retiree Amount-Weighted Above-Median Mortality Table (separate tables for males and females) with rates increased by 10% for males and increased by 5% for females, projected 30 years (from 2010) with the two-dimensional mortality improvement scale MP-2021, weighted 40% male and 60% female.
- **Safety Members:** Pub-2010 Safety Healthy Retiree Amount-Weighted Above-Median Mortality Table (separate tables for males and females), projected 30 years (from 2010) with the two-dimensional mortality improvement scale MP-2021, weighted 75% male and 25% female.

Assumptions for Optional Form of Benefits:	• **Miscellaneous Service Retirees:** Pub-2010 General Healthy Retiree Amount-Weighted Above-Median Mortality Table (separate tables for males and females) with rates increased by 10% for males and increased by 5% for females, projected generationally with the two-dimensional mortality improvement scale MP-2021, weighted 40% male and 60% female. • **Safety Service Retirees:** Pub-2010 Safety 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, weighted 75% male and 25% female. • **Miscellaneous Disabled Retirees:** Pub-2010 Non-Safety Disabled Retiree Amount-Weighted Mortality Table (separate tables for males and females) with rates unadjusted for males and increased by 5% for females, projected generationally with the two-dimensional mortality improvement scale MP-2021, weighted 40% male and 60% female. • **Safety Disabled Retirees:** Pub-2010 Safety Disabled Retiree Amount-Weighted Mortality Table (separate tables for males and females) with rates increased by 5% for males and unadjusted for females, projected generationally with the two-dimensional mortality improvement scale MP-2021, weighted 75% male and 25% female. • **All Miscellaneous Beneficiaries:** Pub-2010 General Healthy Retiree Amount-Weighted Above-Median Mortality Table (separate tables for males and females) with rates increased by 10% for males and increased by 5% for females, projected generationally with the two-dimensional mortality improvement scale MP-2021, weighted 60% male and 40% female. • **All Safety Beneficiaries:** Pub-2010 General Healthy Retiree Amount-Weighted Above-Median Mortality Table (separate tables for males and females) with rates increased by 10% for males and increased by 5% for females, projected generationally with the two-dimensional mortality improvement scale MP-2021, weighted 25% male and 75% female. Note that for optional form of benefits, a 6.75% per annum interest rate with a 0.00% COLA is used.

Disability Incidence:

	Rate (%)	
Age	**Miscellaneous**	**Safety**
20	0.000	0.050
25	0.006	0.050
30	0.016	0.080
35	0.038	0.190
40	0.080	0.310
45	0.160	0.410
50	0.212	0.780
55	0.268	1.300
60	0.330	1.320
65	0.470	0.000
70	0.670	0.000

50% of Miscellaneous disabilities are assumed to be duty disabilities. The other 50% are assumed to be non-duty disabilities.

90% of Safety disabilities are assumed to be duty disabilities. The other 10% are assumed to be non-duty disabilities.

Termination:

Years of Service	Rate (%) Miscellaneous	Rate (%) Safety
Less than 1	13.00	4.75
1 – 2	9.50	4.00
2 – 3	7.00	4.00
3 – 4	5.75	2.50
4 – 5	5.50	2.50
5 – 6	5.50	2.50
6 – 7	5.25	2.50
7 – 8	5.00	2.25
8 – 9	4.75	1.25
9 – 10	4.50	1.00
10 – 11	4.25	1.00
11 – 12	3.50	1.00
12 – 13	3.25	1.00
13 – 14	2.75	1.00
14 – 15	2.50	1.00
15 – 16	2.00	0.75
16 – 17	2.00	0.75
17 – 18	2.00	0.75
18 – 19	2.00	0.75
19 – 20	1.75	0.75
20 – 21	1.75	0.00
21 & Over	1.50	0.00

45% of the Miscellaneous terminated members with less than five years of service and 45% of the Safety terminated members with less than five years of service are assumed to choose a refund of contributions. The other 55% and 55% of Miscellaneous and Safety terminated members with less than five years of service, respectively, are assumed to choose a deferred vested benefit.

20% of the Miscellaneous terminated members with five or more years of service and 15% of the Safety terminated members with five or more years of service are assumed to choose a refund of contributions. The other 80% and 85% of Miscellaneous and Safety terminated members with five or more years of service, respectively, are assumed to choose a deferred vested benefit.

No termination is assumed after a member is assumed to retire.

Retirement Rates:

	Rate (%)					
	Miscellaneous					
		Tiers 2 & 3			Tier 5	
Age	Tier 1	Less than 30 Years of Service	30 or More Years of Service	Tier 4	Less than 30 Years of Service	30 or More Years of Service
50	6.00	2.50	2.50	2.50	0.00	0.00
51	4.50	2.00	2.00	2.00	0.00	0.00
52	4.50	2.00	2.00	2.00	3.50	4.00
53	4.50	2.00	2.00	2.00	1.25	2.50
54	5.50	3.50	9.00	2.50	1.50	3.00
55	12.00	4.50	12.00	3.50	1.75	3.50
56	18.00	5.50	12.00	5.00	2.00	4.00
57	18.00	7.50	15.00	6.00	4.00	6.00
58	18.00	8.00	20.00	6.00	4.50	6.50
59	20.00	8.00	25.00	6.00	4.50	6.50
60	28.00	9.00	25.00	7.50	5.00	7.00
61	35.00	15.00	30.00	12.00	8.00	11.00
62	35.00	20.00	31.00	13.00	10.00	12.00
63	35.00	18.00	25.00	12.00	9.00	11.00
64	35.00	20.00	25.00	13.00	11.00	13.00
65	35.00	30.00	30.00	25.00	22.00	24.00
66	40.00	35.00	35.00	21.00	18.00	18.00
67	40.00	30.00	30.00	21.00	18.00	18.00
68	50.00	30.00	30.00	21.00	21.00	21.00
69	60.00	30.00	30.00	23.00	23.00	23.00
70	100.00	30.00	30.00	30.00	30.00	30.00
71	100.00	30.00	30.00	30.00	30.00	30.00
72	100.00	30.00	30.00	30.00	30.00	30.00
73	100.00	30.00	30.00	30.00	30.00	30.00
74	100.00	30.00	30.00	30.00	30.00	30.00
75 & Over	100.00	100.00	100.00	100.00	100.00	100.00

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

Retirement Rates (continued):

	Rate (%)			
	Safety			
	Tiers 1 & 2			
Age	Less than 25 Years of Service	25 or More Years of Service	Tier 3	Tier 4
45	2.50	2.50	1.50	0.00
46	3.00	3.00	1.50	0.00
47	4.50	4.50	1.50	0.00
48	7.00	10.00	1.50	0.00
49	16.00	35.00	4.00	0.00
50	25.00	50.00	10.00	15.00
51	20.00	40.00	12.00	10.50
52	22.00	45.00	14.00	12.00
53	16.00	45.00	16.00	14.00
54	18.00	35.00	18.00	15.50
55	20.00	30.00	50.00	40.00
56	20.00	30.00	25.00	25.00
57	20.00	30.00	25.00	25.00
58	20.00	35.00	25.00	25.00
59	30.00	30.00	30.00	25.00
60	45.00	45.00	45.00	45.00
61	50.00	50.00	55.00	55.00
62	70.00	70.00	70.00	70.00
63	70.00	70.00	70.00	70.00
64	70.00	70.00	70.00	70.00
65 & Over	100.00	100.00	100.00	100.00

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

Retirement Age and Benefit for Deferred Vested Members:	For current and future deferred vested members, retirement assumptions are as follows: Miscellaneous Non-Reciprocal Retirement Age: 59 Miscellaneous Reciprocal Retirement Age: 61 Safety Non-Reciprocal Retirement Age: 52 Safety Reciprocal Retirement Age: 55 Current and future deferred vested non-reciprocal members who terminate with less than five years of service and are not vested are assumed to retire at age 70 for both Miscellaneous and Safety if they decide to leave their contributions on deposit. We assume that 25% of future Miscellaneous and 35% of future Safety deferred vested members will continue to work for a reciprocal employer. For reciprocal members, we assume 4.25% and 5.50% compensation increases per annum for Miscellaneous and Safety members, respectively.
Future Benefit Accruals:	1.0 year of service per year for the full-time employees. Continuation of current partial service accrual for part-time employees.
Unknown Data for Members:	Same as those exhibited by members with similar known characteristics. If not specified, members are assumed to be male.
Definition of Active Members:	All active members of SCERS as of the valuation date.
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, 80% of male members and 60% 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 from Unused Sick Leave Conversion:	The following assumptions for service converted from unused sick leave as a percentage of service at retirement are used:

	Service (Non-Disabled) Retirement
Miscellaneous	1.50%
Safety	2.25%

Pursuant to Section 31641.01, the cost of this benefit will be charged only to employers and will not affect member contribution rates.

Section 4: Actuarial Valuation Basis

Actuarial Funding Policy	
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.
Actuarial Value of Assets:	Market Value of Assets (MVA) less unrecognized returns in each of the last seven years. Unrecognized returns are equal to the difference between the actual market return and the expected return on the market value, and are recognized over a seven-year period. The Actuarial Value of Assets (AVA) is limited by a 30% corridor; the AVA cannot be less than 70% of MVA, nor greater than 130% of MVA.
Valuation Value of Assets:	The Actuarial Value of Assets reduced by the value of the non-valuation reserves and amounts.
Amortization Policy:	The balance of the UAAL as of June 30, 2012 shall be amortized separately from any future changes in UAAL over a period of 23 years from June 30, 2012. Any new UAAL as a result of actuarial gains or losses identified in the annual valuation as of June 30 will be amortized over a period of 20 years. Any new UAAL as a result of change in actuarial assumptions or methods will be amortized over a period of 20 years. The change in UAAL as a result of any plan amendments will be amortized over a period of 15 years and the change in UAAL resulting from retirement incentive programs will be amortized over a period of up to 5 years.

<u>**Other Actuarial Methods**</u>	
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 expressed as a level percentage of the member's compensation. *Contribution to the Unfunded Actuarial Accrued Liability (UAAL)* The annual contribution rate that, if paid annually over the UAAL amortization period, would accumulate to the amount necessary to fully fund the UAAL. Accumulation includes annual crediting of interest at the assumed investment 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 System) 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 2.75% (i.e., 2.50% inflation plus 0.25% across-the-board salary increase). Starting with the June 30, 2015 valuation, we have added to the Miscellaneous employer UAAL rate for the County an amount to reflect the net withdrawal liability for the Library Authority and Air Quality Districts when they terminated their affiliation with the County and became special districts. The amortization policy is described above. The recommended employer contributions are provided in *Section 2, Subsection F.* Employer Normal Cost and UAAL contribution rates are calculated assuming payments made at the end of every pay period.

Member Contributions:	*Miscellaneous Tiers 1, 2, 3 & 4 and Safety Tiers 1, 2, & 3* Articles 6 and 6.8 of the 1937 Act define the methodology to be used in the calculation of member basic contribution rates for Miscellaneous members and Safety members, respectively, in the legacy tiers. The basic contribution rate is determined as that percentage of compensation which if paid annually from a member's first year of membership through the prescribed retirement age would accumulate to the amount necessary to fund a prescribed annuity. The annuity is equal to: • 1/240 of Final Average Salary per year of service at age 55 for current Miscellaneous Tier 1, Tier 2 and Tier 3 members • 1/120 of Final Average Salary per year of service at age 60 for current Miscellaneous Tier 4 members • 1/100 of Final Average Salary per year of service at age 50 for current Safety Tier 1, Tier 2 and Tier 3 members In addition to their basic contributions, members in the legacy tiers pay one-half of the total Normal Cost necessary to fund their cost-of-living benefits. The cost to provide the cost-of-living benefits is offset somewhat by the balance available in an account maintained in the valuation to offset member's COLA rates in the legacy tiers. Accumulation includes semi-annual crediting of interest at one-half of the United States 5-year Treasury rate for the last business day of the interest crediting period. For members paying half rates prior to the June 30, 2015 valuation, their rates should be exactly one-half of the rates described above. Note that effective with the June 30, 2015 valuation, all members are reported as paying at least full-rate. Starting in 2014-2015, most County members in the legacy tiers agreed to contribute either 1/3, 1/4, or 1/5 of the difference between the employee's then current Normal Cost and 50% of the total Normal Cost rate. Those members agreed to contribute an additional 1/3, 1/4, or 1/5 of the difference in the Normal Cost rate in 2015-2016, 2016-2017 and 2017-2018. For Rep Unit 26 Miscellaneous members, the member rates they started to contribute in 2015-2016 were 1% of payroll higher than the rates they paid in 2014-2015. In developing their rates for 2016-2017, we added an additional 2% of payroll to the rates for 2015-2016. For Orangevale Recreation and Park District members, the member rates they started to contribute in 2015-2016 were 1/2 of the difference between the employee's then current Normal Cost and 50% of the total Normal Cost rate. Those members agreed to contribute an additional 1/2 of the difference in the Normal Cost rate in 2016-2017. For Rep Unit 16 Miscellaneous members, the member rates effective January 1, 2018 are 1/2 of the difference between the employee's then current Normal Cost and 50% of the total Normal Cost rate. Those members have agreed to contribute an additional 1/4 of the difference in the Normal Cost rate in 2018-2019 and 2019-2020.

Member Contributions (continued):	For Rep Unit 25 Miscellaneous members, the member rates effective January 1, 2018 are 2% of payroll higher than the employees' then current Normal Cost. These members have agreed to contribute an additional 2% of payroll in 2018-2019 and to contribute 50% of the total Normal Cost rate in 2019-2020. Effective in 2019-2020, all of the above members who have previously agreed to contribute a higher Normal Cost rate are paying 50% of the total Normal Cost rate. For Rep Unit 19 (Probation) and Rep Unit 3 (Deputy Sheriffs Association) members in Safety Tiers 1, 2, and 3, the member rate for 2024-2025, 2025-2026, and 2026-2027 shall not exceed the member rate established for 2023-2024. *Miscellaneous Tier 5 and Safety Tier 4* Pursuant to Section 7522.30(a) of the Government Code, Miscellaneous Tier 5 and Safety Tier 4 members are required to contribute at least 50% of the Normal Cost rate. In addition, there are certain additional requirements that would have to be met such as requiring the new employees to pay the contribution rate of "similarly situated employees", if it is greater. (reference: Section 7522.30(c)). We further understand that different rules may have to be applied for collectively bargained employees, non-represented, managerial or other supervisory employees. (reference: Section 7522.30(e)). In preparing the Normal Cost rates in this report, we have assumed that exactly 50% of the Normal Cost would be paid by the new members and we have taken into account in this valuation only the requirements of Section 7522.30(c), but not requirements of Section 7522.30(e). The member contribution rates for all members are provided in *Section 4, Exhibit 3*. Member contributions are assumed to be made at the end of every pay period.
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. Contribution rates determined in this valuation have not been reduced for the Section 415 limitations. However, it is anticipated that PEPRA members will not be limited in the future due to the PEPRA compensation limit applied in the determination of their benefit. Actual limitations will result in gains as they occur.

Section 4: Actuarial Valuation Basis

Change in Actuarial Assumptions and Methods:	Based on the Actuarial Experience Study, the following assumptions were changed. Previously, these assumptions and methods were as follows:
Member Contribution Crediting Rate:[1]	2.75% (assumed rate of inflation), compounded semi-annually.
Payroll Growth:	Inflation of 2.75% per year plus "across the board" salary increases of 0.25% per year, used to amortize the Unfunded Actuarial Accrued Liability as a level percentage of payroll.
Increase in Section 7522.10 Compensation Limit:	Increase of 2.75% per year from the valuation date.
Salary Increases:	The annual rate of compensation increase includes: inflation at 2.75%, plus "across the board" salary increases of 0.25% per year, plus the following merit and promotion increases:

Merit and Promotion Increases

Years of Service	Rate (%) Miscellaneous	Rate (%) Safety
Less than 1	5.00	7.50
1 – 2	5.00	6.50
2 – 3	5.00	6.25
3 – 4	5.00	5.50
4 – 5	4.00	5.00
5 – 6	3.00	4.25
6 – 7	2.50	4.00
7 – 8	2.25	3.50
8 – 9	2.00	3.25
9 – 10	1.80	3.00
10 – 11	1.70	2.50
11 – 12	1.60	2.50
12 – 13	1.50	2.50
13 – 14	1.45	2.50
14 – 15	1.35	2.50
15 & Over	1.25	2.50

[1] Current policy is to credit the member contribution account with interest up to the current 5-year Treasury rate, if such earnings are available. However, the difference in earnings between the 5-year Treasury rate and the target crediting rate will be applied to the other valuation reserves so that the overall valuation reserve target crediting rate is maintained at 6.75%.

Prior Actuarial Assumptions (continued):	
Post-Retirement Mortality Rates:	*Healthy* • **Miscellaneous Members:** Pub-2010 General Healthy Retiree Amount-Weighted Above-Median Mortality Table (separate tables for males and females) with rates increased by 10%, projected generationally with the two-dimensional mortality improvement scale MP-2019. • **Safety Members:** Pub-2010 Safety Healthy Retiree Amount-Weighted Above-Median Mortality Table (separate tables for males and females) with rates decreased by 5% for males, projected generationally with the two-dimensional mortality improvement scale MP-2019. *Disabled* • **Miscellaneous Members:** Pub-2010 Non-Safety Disabled Retiree Amount-Weighted Mortality Table (separate tables for males and females), projected generationally with the two-dimensional mortality improvement scale MP-2019. • **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-2019. *Beneficiaries* • 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-2019. The Pub-2010 mortality tables and adjustments as shown above reasonably reflect the mortality experience as of the measurement date. The generational projection is a provision for future mortality improvement.

Prior Actuarial Assumptions (continued):	

Pre-Retirement Mortality Rates:

- **Miscellaneous 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-2019.
- **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-2019

	Rate (%)			
	Miscellaneous		Safety	
Age	Male	Female	Male	Female
20	0.04	0.01	0.04	0.01
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

Note that generational projections beyond the base year (2010) are not reflected in the above mortality rates.

Miscellaneous pre-retirement deaths are assumed to be non-duty.

For Safety, 50% of pre-retirement deaths are assumed to be non-duty and the rest are assumed to be duty.

Mortality Rates for Member Contributions:

- **Miscellaneous Members:** Pub-2010 General Healthy Retiree Amount-Weighted Above-Median Mortality Table (separate tables for males and females) with rates increased by 10%, projected 30 years (from 2010) with the two-dimensional mortality improvement scale MP-2019, weighted 40% male and 60% female.
- **Safety Members:** Pub-2010 Safety Healthy Retiree Amount-Weighted Above-Median Mortality Table (separate tables for males and females) with rates decreased by 5% for males, projected 30 years (from 2010) with the two-dimensional mortality improvement scale MP-2019, weighted 75% male and 25% female.

Prior Actuarial Assumptions (continued):	
Assumptions for Optional Form of Benefits:	• **Miscellaneous Service Retirees:** Pub-2010 General Healthy Retiree Amount-Weighted Above-Median Mortality Table (separate tables for males and females) with rates increased by 10%, projected generationally with the two-dimensional mortality improvement scale MP-2019 weighted 40% male and 60% female. • **Safety Service Retirees:** Pub-2010 Safety Healthy Retiree Amount-Weighted Above-Median Mortality Table (separate tables for males and females) with rates decreased by 5% for males, projected generationally with the two-dimensional mortality improvement scale MP-2019 weighted 75% male and 25% female. • **Miscellaneous Disabled Retirees:** Pub-2010 Non-Safety Disabled Retiree Amount-Weighted Mortality Table (separate tables for males and females), projected generationally with the two-dimensional mortality improvement scale MP-2019 weighted 40% male and 60% female. • **Safety Disabled Retirees:** 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-2019 weighted 75% male and 25% female. • **All Miscellaneous Beneficiaries:** 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-2019 weighted 60% male and 40% female. • **All Safety Beneficiaries:** 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-2019 weighted 25% male and 75% female. Note that for optional form of benefits, a 6.75% per annum interest rate with a 0.00% COLA is used.

Prior Actuarial Assumptions (continued):	
Disability Incidence:	

Age	Rate (%) Miscellaneous	Safety
20	0.000	0.050
25	0.006	0.050
30	0.016	0.080
35	0.044	0.220
40	0.084	0.360
45	0.160	0.460
50	0.230	0.680
55	0.310	0.920
60	0.410	1.120
65	0.630	0.000

40% of Miscellaneous disabilities are assumed to be duty disabilities. The other 60% are assumed to be non-duty disabilities.

90% of Safety disabilities are assumed to be duty disabilities. The other 10% are assumed to be non-duty disabilities.

Prior Actuarial Assumptions (continued):	
Termination:	*Less Than Five Years of Service*

Years of Service	Rate (%) Miscellaneous	Safety
Less than 1	13.00	5.00
1 – 2	8.00	4.50
2 – 3	6.50	4.00
3 – 4	5.50	2.50
4 – 5	5.25	2.50

55% of the Miscellaneous terminated members and 50% of the Safety terminated members with less than five years of service are assumed to choose a refund of contributions. The other 45% and 50% of Miscellaneous and Safety terminated members, respectively, are assumed to choose a deferred vested benefit.

Five or More Years of Service

Age	Rate (%) Miscellaneous	Safety
20	5.25	2.00
25	5.25	2.00
30	5.10	2.00
35	4.40	1.55
40	3.40	1.10
45	2.70	1.00
50	2.44	1.00
55	2.34	1.00
60	2.24	1.00
65	1.48	0.00

30% of the Miscellaneous terminated members and 15% of the Safety terminated members with 5 or more years of service are assumed to choose a refund of contributions. The other 70% and 85% of Miscellaneous and Safety terminated members are assumed to choose a deferred vested benefit.

No termination is assumed after a member is assumed to retire.

Prior Actuarial Assumptions (continued):

Retirement Rates:

Rate (%)

Age	Miscellaneous Tier 1	Miscellaneous Tiers 2 & 3: Less Than 30 Years of Service	Miscellaneous Tiers 2 & 3: 30 or More Years of Service	Miscellaneous Tier 4	Miscellaneous Tier 5
50	6.00	2.50	2.50	2.50	0.00
51	4.50	1.75	1.75	1.75	0.00
52	4.50	2.00	2.00	2.00	4.00
53	4.50	2.50	2.50	1.75	1.25
54	5.50	3.00	3.00	2.25	1.75
55	12.00	4.00	8.00	3.00	2.50
56	18.00	5.00	10.00	4.50	4.00
57	18.00	8.00	16.00	6.50	6.00
58	18.00	9.00	18.00	7.00	6.50
59	20.00	9.00	18.00	7.00	6.50
60	28.00	9.00	18.00	7.50	7.00
61	35.00	15.00	30.00	12.00	11.00
62	35.00	18.00	18.00	13.00	12.00
63	35.00	18.00	18.00	12.00	11.00
64	35.00	20.00	20.00	13.00	13.00
65	35.00	35.00	35.00	25.00	24.00
66	40.00	35.00	35.00	18.00	18.00
67	40.00	35.00	35.00	18.00	18.00
68	50.00	35.00	35.00	21.00	21.00
69	60.00	35.00	35.00	23.00	23.00
70 & Over	100.00	100.00	100.00	100.00	100.00

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

Prior Actuarial Assumptions (continued):

Retirement Rates (continued):

Rate (%)

Age	Safety Tiers 1 & 2: Less Than 25 Years of Service	Safety Tiers 1 & 2: 25 or More Years of Service	Safety Tier 3	Safety Tier 4
45	2.50	2.50	1.50	0.00
46	2.50	2.50	1.50	0.00
47	2.50	2.50	1.50	0.00
48	2.50	2.50	1.50	0.00
49	10.00	10.00	4.00	0.00
50	18.00	36.00	10.00	15.00
51	15.00	30.00	12.00	10.50
52	18.00	36.00	14.00	12.00
53	16.00	32.00	16.00	14.00
54	18.00	27.00	18.00	15.50
55	18.00	27.00	50.00	40.00
56	20.00	30.00	25.00	25.00
57	20.00	30.00	25.00	25.00
58	20.00	30.00	25.00	25.00
59	30.00	30.00	30.00	25.00
60	45.00	45.00	45.00	45.00
61	55.00	55.00	55.00	55.00
62	70.00	70.00	70.00	70.00
63	70.00	70.00	70.00	70.00
64	70.00	70.00	70.00	70.00
65 & Over	100.00	100.00	100.00	100.00

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

Retirement Age and Benefit for Deferred Vested Members:

Miscellaneous Retirement Age: 59

Safety Retirement Age: 52

Current and future deferred vested non-reciprocal members who terminate with less than five years of service and are not vested are assumed to retire at age 70 for both Miscellaneous and Safety if they decide to leave their contributions on deposit.

30% of future Miscellaneous and 40% of future Safety deferred vested members are assumed to continue to work for a reciprocal employer. For reciprocals, 4.25% and 5.50% compensation increases are assumed per annum for Miscellaneous and Safety, respectively.

Prior Actuarial Assumptions (continued):	
Percent Married:	For all active and inactive members, 80% of male members and 55% of female members are assumed to be married at pre-retirement death or retirement.
Service from Unused Sick Leave Conversion:	The following assumptions for service converted from unused sick leave as a percentage of service at retirement are used:

	Service Retirement	Disability Retirement
Miscellaneous	1.50%	0.25%
Safety	2.25%	0.25%

Pursuant to Section 31641.01, the cost of this benefit will be charged only to employers and will not affect member contribution rates.

Exhibit 2: Summary of Plan Provisions

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

Plan Year:	July 1 through June 30
Membership Eligibility:	Membership with SCERS usually begins with the employment by the County or member District as a permanent full-time or part-time employee as provided in the County Salary Resolution or the District's Salary Resolution.
Miscellaneous Tier 1	All Miscellaneous members hired prior to September 27, 1981.
Miscellaneous Tier 2 & Tier 3	All Miscellaneous members hired on or after September 27, 1981. Membership into Tier 2 or Tier 3 is determined by date of hire and by bargaining unit.
Miscellaneous Tier 4	All Miscellaneous members hired on or after January 1, 2012 as adopted by the County. Membership into Tier 4 is determined by date of hire.
Miscellaneous Tier 5	All Miscellaneous members hired on or after January 1, 2013.
Safety Tier 1 & Tier 2	Membership into Tier 1 or Tier 2 for Safety employee is determined by date of hire and by bargaining unit.
Safety Tier 3	All Safety members hired on or after January 1, 2012 as adopted by the County. Membership into Tier 3 is determined by date of hire.
Safety Tier 4	All Safety members hired on or after January 1, 2013.
Final Compensation for Benefit Determination:	
Miscellaneous and Safety Tier 1	Highest consecutive 1 year (12 months) of compensation earnable (§31462.1) (FAS1).
Miscellaneous Tier 2, Tier 3, & Tier 4 and Safety Tier 2 & Tier 3	Highest consecutive 3 years (36 months) of compensation earnable. (§31462) (FAS3).
Miscellaneous Tier 5 and Safety Tier 4	Highest consecutive 3 years (36 months) of pensionable compensation. (§7522.10(c), §7522.32 and §7522.34) (FAS3).
Service:	Years of service (Yrs).

Service Retirement Eligibility:	
Miscellaneous	
Tiers 1, 2, 3 & 4	Age 50 with 10 years of service, or age 70 regardless of service, or after 30 years regardless of age (§31672).
Tier 5	Age 52 with 5 years of service (§7522.20(a)) or age 70 regardless of service (§31672.3).
Safety	
Tiers 1, 2 & 3	Age 50 with 10 years of service, or age 70 regardless of service, or after 20 years of Safety service regardless of age (§31663.25).
Tier 4	Age 50 with 5 years of service (§7522.25(d)) or age 70 regardless of service (§31672.3).

Benefit Formula:

Miscellaneous Tier 1 (§31676.14)

Retirement Age	Benefit Formula
50	(1.48% x FAS1 – 1/3 x 1.48% x $350 x 12) x Yrs
55	(1.95% x FAS1 – 1/3 x 1.95% x $350 x 12) x Yrs
60	(2.44% x FAS1 – 1/3 x 2.44% x $350 x 12) x Yrs
62 & Over	(2.61% x FAS1 – 1/3 x 2.61% x $350 x 12) x Yrs

Miscellaneous Tier 2 & Tier 3 (§31676.14)

Retirement Age	Benefit Formula
50	(1.48% x FAS3 – 1/3 x 1.48% x $350 x 12) x Yrs
55	(1.95% x FAS3 – 1/3 x 1.95% x $350 x 12) x Yrs
60	(2.44% x FAS3 – 1/3 x 2.44% x $350 x 12) x Yrs
62 & Over	(2.61% x FAS3 – 1/3 x 2.61% x $350 x 12) x Yrs

Miscellaneous Tier 4 (§31676.1)

Retirement Age	Benefit Formula
50	(1.18% x FAS3 – 1/3 x 1.18% x $350 x 12) x Yrs
55	(1.49% x FAS3 – 1/3 x 1.49% x $350 x 12) x Yrs
60	(1.92% x FAS3 – 1/3 x 1.92% x $350 x 12) x Yrs
62	(2.09% x FAS3 – 1/3 x 2.09% x $350 x 12) x Yrs
65 & Over	(2.43% x FAS3 – 1/3 x 2.43% x $350 x 12) x Yrs

Benefit Formula: (continued)		
Miscellaneous Tier 5 (§7522.20(a))	**Retirement Age**	**Benefit Formula**
	52	1.00% x FAS3 x Yrs
	55	1.30% x FAS3 x Yrs
	60	1.80% x FAS3 x Yrs
	62	2.00% x FAS3 x Yrs
	65	2.30% x FAS3 x Yrs
	67 & Over	2.50% x FAS3 x Yrs
Safety Tier 1 (§31664.1)	**Retirement Age**	**Benefit Formula**
	50 & Over	(3.00% x FAS1 – 1/3 x 3.00% x $350 x 12) x Yrs
Safety Tier 2 (§31664.1)	**Retirement Age**	**Benefit Formula**
	50 & Over	(3.00% x FAS3 – 1/3 x 3.00% x $350 x 12) x Yrs
Safety Tier 3 (§31664.2)	**Retirement Age**	**Benefit Formula**
	50	(2.29% x FAS3 – 1/3 x 2.29% x $350 x 12) x Yrs
	55 & Over	(3.00% x FAS3 – 1/3 x 3.00% x $350 x 12) x Yrs
Safety Tier 4 (§7522.25(d))	**Retirement Age**	**Benefit Formula**
	50	2.00% x FAS3 x Yrs
	55	2.50% x FAS3 x Yrs
	57 & Over	2.70% x FAS3 x Yrs

Maximum Benefit:	
Miscellaneous Tier 1, Tier 2, Tier 3 & Tier 4 and Safety Tier 1, Tier 2 and Tier 3	100% of Highest Average Compensation (§31676.14, §31676.1, §31664.1, §31664.2).
Miscellaneous Tier 5 and Safety Tier 4	None.
Additional Benefit Information:	For Miscellaneous members of the following Districts, benefits accrued before June 29, 2003 will continue to be calculated using §31676.1. • Fair Oaks Cemetery District • Galt Amo Cemetery District

Non-Duty Disability:	
Miscellaneous Tier 1 and Safety Tier 1	
Eligibility	Five years of service (§31720).
Benefit Formula	1.5% per year of service for Miscellaneous Tier 1 and 1.8% per year of service for Safety Tier 1. If the benefit does not exceed one-third of Final Compensation, the service is projected to 65 for Miscellaneous Tier 1 and 55 for Safety Tier 1, but the total projected benefit cannot be more than one-third of Final Compensation (§31727 and §31727.2). The Service Retirement benefit is payable, if greater.
Miscellaneous Tier 2, Tier 3, Tier 4, & Tier 5 and Safety Tier 2, Tier 3 & Tier 4	
Eligibility	Five years of service (§31720).
Benefit Formula	20% of Final Compensation for the first five years of service plus 2% for each year of additional service for a maximum of 40% of Final Compensation (§31727.7). The Service Retirement benefit is payable, if greater.
Line-of-Duty Disability:	
All Members	
Eligibility	No age or service requirements (§31720).
Benefit Formula	50% of the Final Compensation or 100% of Service Retirement benefit, if greater (§31727.4).

Pre-Retirement Death:	
All Members	
Eligibility	No age or service requirements.
Basic lump sum benefit	Refund of employee contributions with interest, plus one month's compensation for each year of service, to a maximum of six month's compensation (§31781).
Death in Line-of-Duty	50% of Final Compensation or 100% of Service Retirement benefit, if greater, payable to spouse or minor children (§31787).
Vested Members	
Eligibility	Five years of service.
Basic benefit	60% of the greater of Service Retirement or Non-Duty Disability Retirement benefit payable to surviving eligible spouse (§31765.1, §31781.1), in lieu of the basic lump sum benefit above.
Death in Line-of-Duty	50% of Final compensation or 100% of Service Retirement benefit, if greater, payable to spouse or minor children (§31787).
Death After Retirement:	
All Members	
Service Retirement or Non Service Connected Disability Retirement	Unless another option was selected at retirement, 60% of member's unmodified allowance continues to eligible spouse (§31760.1) and an additional $4,000 lump sum benefit is 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 date of retirement (§31760.1).
Line-of-Duty Disability	Unless another option was selected at retirement, 100% of member's allowance continued to eligible spouse (§31786) and an additional $4,000 lump sum benefit is 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 date of retirement (§31760.1).
Withdrawal Benefits:	
Less than Five Years of Service	Refund of accumulated employee contributions with interest, or benefit at age 70 (§31628). A member may also elect to leave contributions on deposit in the retirement fund (§31629.5).
Five or More Years of Service	If contributions left on deposit, eligible for retirement benefits at any time after eligible to retire (§31700).

Post-Retirement Cost-of-Living Benefits:	
Miscellaneous Tier 1 and Safety Tier 1	Annual adjustment based on Consumer Price Index to a maximum of 4% per year; excess "banked" (§31874.2).
Miscellaneous Tier 2	None.
Miscellaneous Tier 3, Tier 4 & Tier 5 and Safety Tier 2, Tier 3 & Tier 4	Annual adjustment based on Consumer Price Index to a maximum of 2% per year; excess "banked" (§31870).
Member Contributions:	Please refer to *Section 4, Exhibit 3* for specific rates.
Miscellaneous Tier 1	
Basic	Entry-age based rates that provide for an annuity at age 55 equal to 1/240 of FAS1 (§31621.3).
Cost-of-Living	Entry-age based rates that provide for one-half of future Cost-of-Living costs.
Miscellaneous Tier 2	
Basic	Entry-age based rates that provide for an annuity at age 55 equal to 1/240 of FAS3 (§31621.3).
Cost-of-Living	None.
Miscellaneous Tier 3	
Basic	Entry-age based rates that provide for an annuity at age 55 equal to 1/240 of FAS3 (§31621.3).
Cost-of-Living	Entry-age based rates that provide for one-half of future Cost-of-Living costs.
Miscellaneous Tier 4	
Basic	Entry-age based rates that provide for an annuity at age 60 equal to 1/120 of FAS3 (§31621).
Cost-of-Living	Entry-age based rates that provide for one-half of future Cost-of-Living costs.
Miscellaneous Tier 5	50% of the total Normal Cost rate.
Safety Tier 1, Tier 2 & Tier 3	
Basic	Entry-age based rates that provide for an annuity at age 50 equal to 1/100 of FAS1 (FAS3 for Tier 2 and Tier 3). (§31639.25).
Cost-of-Living	Entry-age based rates that provide for one-half of future Cost-of-Living costs.
Safety Tier 4	50% of the total Normal Cost rate.

Member Contributions (continued):

Notes

- The above rates are known as full rates. For members paying half rates prior to the June 30, 2015 valuation, their rates should be one-half of the rates provided in this report. Note that effective with the June 30, 2015 valuation, all members are reported as paying at least full-rate. In addition, for members entering the System on or after January 1, 1975, they pay a rate based on a single entry age (§31621.11 and §31639.26).
- Starting in 2014-2015, most County members in the legacy tiers agreed to contribute either 1/3, 1/4, or 1/5 of the difference between the employee's then current Normal Cost and 50% of the total Normal Cost rate. Those members agreed to contribute an additional 1/3, 1/4, or 1/5 of the difference in the Normal Cost rate in 2015-2016, 2016-2017 and 2017-2018.
- For Rep Unit 26 Miscellaneous members, the member rates they started to contribute in 2015-2016 were 1% of payroll higher than the rates they paid in 2014-2015. In developing their rates for 2016-2017, we added an additional 2% of payroll to the rates for 2015-2016.
- For Orangevale Recreation and Park District members, the member rates they started to contribute in 2015-2016 were 1/2 of the difference between the employee's then current Normal Cost and 50% of the total Normal Cost rate. Those members agreed to contribute an additional 1/2 of the difference in the Normal Cost rate in 2016-2017.
- For Rep Unit 16 Miscellaneous members, the member rates effective January 1, 2018 are 1/2 of the difference between the employee's then current Normal Cost and 50% of the total Normal Cost rate. Those members have agreed to contribute an additional 1/4 of the difference in the Normal Cost rate in 2018-2019 and 2019-2020.
- For Rep Unit 25 Miscellaneous members, the member rates effective January 1, 2018 are 2% of payroll higher than the employees' then current Normal Cost. These members have agreed to contribute an additional 2% of payroll in 2018-2019 and to contribute 50% of the total Normal Cost rate in 2019-2020.
- Effective in 2019-2020, all of the above members who have previously agreed to contribute a higher Normal Cost rate are paying 50% of the total Normal Cost rate.
- For Rep Unit 19 (Probation) and Rep Unit 3 (Deputy Sheriffs Association) members in Safety Tiers 1, 2, and 3, the member rate for 2024-2025, 2025-2026, and 2026-2027 shall not exceed the member rate for 2023-2024.

Other Information:	Safety Tier 1, Tier 2 & Tier 3 members with 30 or more years of service are exempt from paying member contributions. The same applies for Miscellaneous members hired on or before March 7, 1973.
Changes in Plan Provisions:	There have been no changes in plan provisions since the last valuation.

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

Exhibit 3: Member Contribution Rates

Comparison of Member Rate[1] from the June 30, 2022 and June 30, 2023 Valuations

Contribution rates for most Miscellaneous County members and all Safety County members in the legacy tiers who have agreed to contribute an additional Normal Cost before and after the gross-up for the integration with Social Security can be found in *Section 4, Exhibit 6*.

	June 30, 2023			June 30, 2022			
Miscellaneous	**Basic**	**COLA**	**Total**	**Basic**	**COLA**	**Total**	**Increase / (Decrease) in Rate**
Tier 1	4.34%	2.98%	7.32%	4.34%	2.78%	7.12%	0.21%
Tier 2	4.17%	0.00%	4.17%	4.16%	0.00%	4.16%	0.01%
Tier 3	4.17%	1.80%	5.97%	4.16%	1.83%	5.99%	-0.02%
Tier 4	7.32%	1.57%	8.89%	7.30%	1.67%	8.97%	-0.08%
Tier 5	7.94%	1.66%	9.60%	8.15%	1.75%	9.90%	-0.30%

	June 30, 2023			June 30, 2022			
Safety	**Basic**	**COLA**	**Total**	**Basic**	**COLA**	**Total**	**Increase / (Decrease) in Rate**
Tier 1[2]	12.13%	5.09%	17.22%	12.10%	7.86%	19.96%	-2.73%
Tier 2[2]	11.51%	4.52%	16.03%	11.48%	4.56%	16.04%	-0.02%
Tier 3[2]	11.51%	4.12%	15.63%	11.48%	4.22%	15.70%	-0.07%
Tier 4	11.52%	3.16%	14.68%	11.80%	3.27%	15.07%	-0.39%

1 Members who enter on or after 1/1/1975 contribute as indicated above and all others contribute the rate at their respective entry ages.

2 For Rep Unit 19 (Probation) and Rep Unit 3 (Deputy Sheriffs Association) members in Safety Tiers 1, 2, and 3, the member rate for 2024-2025, 2025-2026, and 2026-2027 shall not exceed the member rate for 2023-2024. This provision has no impact on the member rate established in this valuation for 2024-2025.

Exhibit 3: Member Contribution Rates (continued)

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

	Basic		COLA		Total	
Entry Age	First $350	Over $350	First $350	Over $350	First $350	Over $350
16	2.21%	3.31%	1.52%	2.28%	3.73%	5.59%
17	2.24%	3.36%	1.54%	2.31%	3.78%	5.67%
18	2.27%	3.41%	1.56%	2.34%	3.83%	5.75%
19	2.30%	3.45%	1.58%	2.37%	3.88%	5.82%
20	2.33%	3.50%	1.61%	2.41%	3.94%	5.91%
21	2.37%	3.55%	1.63%	2.44%	4.00%	5.99%
22	2.40%	3.60%	1.65%	2.48%	4.05%	6.08%
23	2.44%	3.66%	1.68%	2.52%	4.12%	6.18%
24	2.47%	3.71%	1.70%	2.55%	4.17%	6.26%
25	2.51%	3.76%	1.73%	2.59%	4.24%	6.35%
26	2.54%	3.81%	1.75%	2.62%	4.29%	6.43%
27	2.58%	3.87%	1.77%	2.66%	4.35%	6.53%
28	2.61%	3.92%	1.80%	2.70%	4.41%	6.62%
29	2.65%	3.98%	1.83%	2.74%	4.48%	6.72%
30	2.69%	4.04%	1.85%	2.78%	4.54%	6.82%
31	2.73%	4.10%	1.88%	2.82%	4.61%	6.92%
32	2.77%	4.16%	1.91%	2.86%	4.68%	7.02%
33	2.81%	4.22%	1.93%	2.90%	4.74%	7.12%
34	2.85%	4.28%	1.96%	2.94%	4.81%	7.22%
35	2.89%	4.34%	1.99%	2.98%	4.88%	7.32%
36	2.94%	4.41%	2.02%	3.03%	4.96%	7.44%
37	2.99%	4.48%	2.05%	3.08%	5.04%	7.56%
38	3.03%	4.55%	2.09%	3.13%	5.12%	7.68%
39	3.08%	4.62%	2.12%	3.18%	5.20%	7.80%
40	3.13%	4.70%	2.15%	3.23%	5.28%	7.93%

Exhibit 3: Member Contribution Rates (continued)

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

	Basic		COLA		Total	
Entry Age	First $350	Over $350	First $350	Over $350	First $350	Over $350
41	3.19%	4.78%	2.19%	3.29%	5.38%	8.07%
42	3.24%	4.86%	2.23%	3.34%	5.47%	8.20%
43	3.29%	4.94%	2.27%	3.40%	5.56%	8.34%
44	3.34%	5.01%	2.29%	3.44%	5.63%	8.45%
45	3.39%	5.08%	2.33%	3.49%	5.72%	8.57%
46	3.43%	5.15%	2.36%	3.54%	5.79%	8.69%
47	3.48%	5.22%	2.39%	3.59%	5.87%	8.81%
48	3.53%	5.29%	2.43%	3.64%	5.96%	8.93%
49	3.56%	5.34%	2.45%	3.67%	6.01%	9.01%
50	3.57%	5.35%	2.45%	3.68%	6.02%	9.03%
51	3.55%	5.33%	2.44%	3.66%	5.99%	8.99%
52	3.53%	5.30%	2.43%	3.64%	5.96%	8.94%
53	3.50%	5.25%	2.41%	3.61%	5.91%	8.86%
54	3.47%	5.20%	2.39%	3.58%	5.86%	8.78%
55	3.47%	5.20%	2.39%	3.58%	5.86%	8.78%
56	3.47%	5.20%	2.39%	3.58%	5.86%	8.78%
57	3.47%	5.20%	2.39%	3.58%	5.86%	8.78%
58	3.47%	5.20%	2.39%	3.58%	5.86%	8.78%
59 & Over	3.47%	5.20%	2.39%	3.58%	5.86%	8.78%

Note: Members who enter prior to 1/1/1975 contribute on the basis of their actual entry age and all others contribute based on the basis of a single entry age of 35.

Interest:	6.75% per annum
COLA:	2.75%
Mortality:	See *Section 4, Exhibit 1*
Salary Increase:	Inflation (2.50%) + Across-the-Board Increase (0.25%) + Merit (See *Section 4, Exhibit 1*)
COLA Loading Factor:	68.75%[1]
Non-Refundability Factor:	100.00%

[1] There is no COLA offset available. The reserve carried by the Board to reduce part of the COLA contributions is fully exhausted as of June 30, 2023.

Exhibit 3: Member Contribution Rates (continued)

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

	Basic		COLA		Total	
Entry Age	First $350	Over $350	First $350	Over $350	First $350	Over $350
35	2.78%	4.17%	0.00%	0.00%	2.78%	4.17%

Note: Members who enter on or after 1/1/1975 contribute on the basis of a single entry age of 35.

Interest:	6.75% per annum
COLA:	0.00%
Mortality:	See *Section 4, Exhibit 1*
Salary Increase:	Inflation (2.50%) + Across-the-Board Increase (0.25%) + Merit (See *Section 4, Exhibit 1*)
COLA Loading Factor:	0.00%
Non-Refundability Factor:	100.00%

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

	Basic		COLA		Total	
Entry Age	First $350	Over $350	First $350	Over $350	First $350	Over $350
35	2.78%	4.17%	1.20%	1.80%	3.98%	5.97%

Note: Members who enter on or after 1/1/1975 contribute on the basis of a single entry age of 35.

Interest:	6.75% per annum
COLA:	2.00%
Mortality:	See *Section 4, Exhibit 1*
Salary Increase:	Inflation (2.50%) + Across-the-Board Increase (0.25%) + Merit (See *Section 4, Exhibit 1*)
COLA Loading Factor:	43.25%[1]
Non-Refundability Factor:	99.78%

[1] Factor has been adjusted to reflect a reserve carried by the Board to reduce part of the COLA contributions.

Exhibit 3: Member Contribution Rates (continued)

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

	Basic		COLA		Total	
Entry Age	**First $350**	**Over $350**	**First $350**	**Over $350**	**First $350**	**Over $350**
35	4.88%	7.32%	1.05%	1.57%	5.93%	8.89%

Note: Members who enter on or after 1/1/1975 contribute on the basis of a single entry age of 35.

Interest:	6.75% per annum
COLA:	2.00%
Mortality:	See *Section 4, Exhibit 1*
Salary Increase:	Inflation (2.50%) + Across-the-Board Increase (0.25%) + Merit (See *Section 4, Exhibit 1*)
COLA Loading Factor:	21.46%[1]
Non-Refundability Factor:	99.09%

[1] Factor has been adjusted to reflect a reserve carried by the Board to reduce part of the COLA contributions.

Miscellaneous Tier 5 Members' Contribution Rates Based on the June 30, 2023 Actuarial Valuation (as a % of monthly payroll)

	All Eligible Pay[1]		
	Basic	**COLA**	**Total**
All Members	7.94%	1.66%	9.60%

[1] It is our understanding that in the determination of pension benefits under the CalPEPRA formulas, the compensation that can be taken into account for 2023 is equal to $146,042 (reference: Section 7522.10). This amount should be adjusted for changes to the Consumer Price Index for All Urban Consumers after 2023 (reference: Section 7522.10(d)).

Interest:	6.75% per annum
COLA:	2.00%
Mortality:	See *Section 4, Exhibit 1*
Salary Increase:	Inflation (2.50%) + Across-the-Board Increase (0.25%) + Merit (See *Section 4, Exhibit 1*)
COLA Loading Factor:	20.91%
Non-Refundability Factor:	97.37%

Exhibit 3: Member Contribution Rates (continued)

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

	Basic		COLA		Total	
Entry Age	First $350	Over $350	First $350	Over $350	First $350	Over $350
18	7.45%	11.18%	3.13%	4.69%	10.58%	15.87%
19	7.51%	11.26%	3.15%	4.73%	10.66%	15.99%
20	7.56%	11.34%	3.17%	4.76%	10.73%	16.10%
21	7.61%	11.42%	3.19%	4.79%	10.80%	16.21%
22	7.67%	11.50%	3.22%	4.83%	10.89%	16.33%
23	7.73%	11.59%	3.24%	4.86%	10.97%	16.45%
24	7.78%	11.67%	3.27%	4.90%	11.05%	16.57%
25	7.84%	11.76%	3.29%	4.94%	11.13%	16.70%
26	7.90%	11.85%	3.31%	4.97%	11.21%	16.82%
27	7.96%	11.94%	3.34%	5.01%	11.30%	16.95%
28	8.03%	12.04%	3.37%	5.05%	11.40%	17.09%
29	8.09%	12.13%	3.39%	5.09%	11.48%	17.22%
30	8.16%	12.24%	3.43%	5.14%	11.59%	17.38%
31	8.23%	12.34%	3.45%	5.18%	11.68%	17.52%
32	8.30%	12.45%	3.49%	5.23%	11.79%	17.68%
33	8.37%	12.56%	3.51%	5.27%	11.88%	17.83%
34	8.45%	12.68%	3.55%	5.32%	12.00%	18.00%
35	8.51%	12.77%	3.57%	5.36%	12.08%	18.13%
36	8.58%	12.87%	3.60%	5.40%	12.18%	18.27%
37	8.65%	12.98%	3.63%	5.45%	12.28%	18.43%

Exhibit 3: Member Contribution Rates (continued)

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

	Basic		COLA		Total	
Entry Age	**First $350**	**Over $350**	**First $350**	**Over $350**	**First $350**	**Over $350**
38	8.73%	13.09%	3.66%	5.49%	12.39%	18.58%
39	8.81%	13.22%	3.70%	5.55%	12.51%	18.77%
40	8.89%	13.33%	3.73%	5.59%	12.62%	18.92%
41	8.95%	13.42%	3.75%	5.63%	12.70%	19.05%
42	9.00%	13.50%	3.78%	5.67%	12.78%	19.17%
43	9.04%	13.56%	3.79%	5.69%	12.83%	19.25%
44	9.07%	13.61%	3.81%	5.71%	12.88%	19.32%
45	9.05%	13.57%	3.80%	5.70%	12.85%	19.27%
46	8.99%	13.48%	3.77%	5.66%	12.76%	19.14%
47	8.91%	13.37%	3.74%	5.61%	12.65%	18.98%
48	8.83%	13.25%	3.71%	5.56%	12.54%	18.81%
49 & Over	8.71%	13.07%	3.66%	5.49%	12.37%	18.56%

Note: Members who enter prior to 1/1/1975 contribute on the basis of their actual entry age and all others contribute based on the basis of a single entry age of 29.

Interest: 6.75% per annum
COLA: 2.75%
Mortality: See *Section 4, Exhibit 1*
Salary Increase: Inflation (2.50%) + Across-the-Board Increase (0.25%) + Merit (See *Section 4, Exhibit 1*)
COLA Loading Factor: 41.97%[1]
Non-Refundability Factor: 98.83%

[1] Factor has been adjusted to reflect a reserve carried by the Board to reduce part of the COLA contributions.

Exhibit 3: Member Contribution Rates (continued)

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

	Basic		COLA		Total	
Entry Age	First $350	Over $350	First $350	Over $350	First $350	Over $350
29	7.67%	11.51%	3.01%	4.52%	10.68%	16.03%

Note: Members who enter on or after 1/1/1975 contribute on the basis of a single entry age of 29.

Interest:	6.75% per annum
COLA:	2.00%
Mortality:	See *Section 4, Exhibit 1*
Salary Increase:	Inflation (2.50%) + Across-the-Board Increase (0.25%) + Merit (See *Section 4, Exhibit 1*)
COLA Loading Factor:	39.25%[1]
Non-Refundability Factor:	99.95%

[1] Factor has been adjusted to reflect a reserve carried by the Board to reduce part of the COLA contributions.

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

	Basic		COLA		Total	
Entry Age	First $350	Over $350	First $350	Over $350	First $350	Over $350
29	7.67%	11.51%	2.75%	4.12%	10.42%	15.63%

Note: Members who enter on or after 1/1/1975 contribute on the basis of a single entry age of 29.

Interest:	6.75% per annum
COLA:	2.00%
Mortality:	See *Section 4, Exhibit 1*
Salary Increase:	Inflation (2.50%) + Across-the-Board Increase (0.25%) + Merit (See *Section 4, Exhibit 1*)
COLA Loading Factor:	35.81%[1]
Non-Refundability Factor:	99.68%

[1] Factor has been adjusted to reflect a reserve carried by the Board to reduce part of the COLA contributions.

Exhibit 3: Member Contribution Rates (continued)

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

	All Eligible Pay[1]		
	Basic	**COLA**	**Total**
All Members	11.52%	3.16%	14.68%

[1] It is our understanding that in the determination of pension benefits under the CalPEPRA formulas, the compensation that can be taken into account for 2023 is equal to $146,042 (reference: Section 7522.10). This amount should be adjusted for changes to the Consumer Price Index for All Urban Consumers after 2023 (reference: Section 7522.10(d)).

Interest:	6.75% per annum
COLA:	2.00%
Mortality:	See *Section 4, Exhibit 1*
Salary Increase:	Inflation (2.50%) + Across-the-Board Increase (0.25%) + Merit (See *Section 4, Exhibit 1*)
COLA Loading Factor:	27.43%
Non-Refundability Factor:	99.14%

Exhibit 4: Calculation of Additional District Rate as of June 30, 2023 for Certain District Employers

Additional contributions were made by the County to buy down the County and Superior Court UAAL contribution rate through the issuance of Pension Obligation Bonds (POB). As the other district employers did not participate in the POBs, their rates as calculated in this report have been increased to reflect that they did not buy down their UAAL rates and for other adjustments (Districts with All Service Improvements vs. Future Service Improvements, Rio Linda Elverta becoming a participating employer effective October 1, 2017, two-year phase-in of cost impact of actuarial assumptions). The POB rate adjustment has been calculated as follows:

The Calculation of the Additional District Rate as Of June 30, 2023

June 30, 2022 POB Adjustment Amount	$28,990,965
Additional Rate in June 30, 2022 Valuation	7.48%
June 30, 2022 Projected District Payroll[1]	$37,938,000
June 30, 2023 POB Adjustment Amount[2]	$28,014,319
12-Year Amortization	0.105588
June 30, 2023 Projected District Payroll[1]	$38,933,000
Additional Rate in June 30, 2023 Valuation[3]	7.60%

[1] Excluding the payroll for Rio Linda Elverta Recreation and Parks District.
[2] Equal to $28,990,965 * 1.0675 – 7.48% * $37,938,000 * (1+0.0675/2).
[3] Equal to $28,014,319 * 0.105588 / $38,933,000.

Exhibit 5: Detailed District Rates as of June 30, 2023

Special Districts with All Service Improvement Only

	Member Paying Full Rate (% of Payroll)			Member Paying 50:50 Rate (% of Payroll)		
	Tier 1[1]	Tier 3[1]	Tier 5	Tier 1[2]	Tier 3[2]	Tier 5[3]
Normal Cost	N/A	15.67%	N/A	N/A	10.91%	9.60%
UAAL	N/A	20.26%	N/A	N/A	20.26%	20.26%
Total	N/A	35.93%	N/A	N/A	31.17%	29.86%

Special Districts with Future Service Improvement Only[4]

	Member Paying Full Rate (% of Payroll)			Member Paying 50:50 Rate (% of Payroll)		
	Tier 1	Tier 3	Tier 5	Tier 1	Tier 3	Tier 5
Normal Cost	N/A	15.67%	N/A	N/A	N/A	9.60%
UAAL	N/A	15.95%	N/A	N/A	N/A	15.95%
Total	N/A	31.62%	N/A	N/A	N/A	25.55%

Rio Linda Elverta Recreation and Parks District

	Member Paying Full Rate (% of Payroll)			Member Paying 50:50 Rate (% of Payroll)		
	Tier 1	Tier 3	Tier 5	Tier 1	Tier 3	Tier 5
Normal Cost	N/A	N/A	N/A	N/A	N/A	9.60%
UAAL	N/A	N/A	N/A	N/A	N/A	2.03%
Total	N/A	N/A	N/A	N/A	N/A	11.63%

1 Includes Carmichael Recreation and Park District, Elk Grove Cosumnes Cemetery District, Mission Oaks Recreation and Park District, Sacramento Employment and Training Agency (S.E.T.A.), and Sunrise Recreation and Park District.
2 Includes Orangevale Recreation and Park District only.
3 Includes all the employers referenced in footnotes 1 and 2.
4 Includes Fair Oaks Cemetery District and Galt-Arno Cemetery District.

Exhibit 6: Normal Cost Rates with Additional Member Contributions under Cost Sharing Arrangements

The Normal Cost rates adjusted for the additional member contributions are developed in the following steps:

- Step A: Calculate the Normal Cost rates for the employer and the member assuming that no members contribute an additional portion of the Normal Cost.
- Step B: Calculate the Normal Cost rates for the employer and the member assuming that members pay exactly one-half of the total Normal Cost rate. In this step, we have adjusted the employer rate to account for the cost associated with the cessation of member contributions after 30 years of service for Miscellaneous members hired on or before March 7, 1973 and for Safety Tier 1, Tier 2 and Tier 3 members.
- Step C: Gross up the member Normal Cost rates developed in Step B for integration with Social Security

These steps are presented in the following pages.

Exhibit 6: Normal Cost Rates (continued)

Step A: Normal Cost (Prior to any Additional Normal Cost Contributions by the Member)

Total Normal Cost Contribution Rates (Employer and Member Normal Cost Rates)

Miscellaneous

	Member Paying Full Rate (% of Payroll)			
	Tier 1[1]	**Tier 2**	**Tier 3**	**Tier 4**
Total Normal Cost	**25.00%**	**15.83%**	**21.81%**	**20.92%**
Employer Normal Cost[2]	17.92%	11.73%	15.67%	11.89%
Member Normal Cost[3]	7.32%	4.17%	5.97%	8.89%
Member COLA Offset[2]	0.00%	0.00%	0.25%	0.25%

Safety

	Member Paying Full Rate (% of Payroll)		
	Tier 1[1]	**Tier 2**	**Tier 3**
Total Normal Cost	**48.57%**	**42.03%**	**41.24%**
Employer Normal Cost[2]	29.70%	25.91%	25.46%
Member Normal Cost[3]	17.22%	16.03%	15.63%
Member COLA Offset[2]	3.32%	0.29%	0.29%

Note: Member rates shown are for annual salary in excess of $4,200 (or monthly salary in excess of $350). For annual salary less than $4,200 (or monthly salary less than $350), the rates are equal to 2/3 of the rates shown. Also, the member COLA offset is a non-cash contribution item funded out of the balance of transfer to offset member COLA rate.

[1] These are the single entry age rates at age 35 and 29 for Miscellaneous and Safety, respectively.
[2] Employer Normal Cost rate and Member COLA offset are paid over all payroll.
[3] Member Normal Cost rate is paid over payroll before the cessation of member contributions after 30 years of service for all Safety members and for Miscellaneous members hired on or before March 7, 1973.

Exhibit 6: Normal Cost Rates (continued)

Step B: Normal Cost (Assuming Exactly 50:50 Payment by the Employer and the Member) – Before Gross-up for Integration with Social Security

Total Normal Cost Contribution Rates (Employer and Member Normal Cost Rates)

Miscellaneous

	Member Paying 50:50 Rate (% of Payroll)			
	Tier 1	**Tier 2**	**Tier 3**	**Tier 4**
Total Normal Cost	**25.00%**	**15.83%**	**21.81%**	**20.92%**
Employer Normal Cost[1]	12.50%	7.92%	10.91%	10.47%
Member Normal Cost[2, 3]	12.50%	7.92%	10.66%	10.22%
Member COLA Offset[1]	0.00%	0.00%	0.25%	0.25%

Safety

	Member Paying 50:50 Rate (% of Payroll)		
	Tier 1	**Tier 2**	**Tier 3**
Total Normal Cost	**48.57%**	**42.03%**	**41.24%**
Employer Normal Cost[1]	25.91%[4]	21.09%[5]	20.63%
Member Normal Cost[2, 3]	21.01%	20.73%	20.34%
Member COLA Offset[1]	3.32%	0.29%	0.29%

1 Employer Normal Cost rate and Member COLA offset are paid over all payroll.
2 Member Normal Cost rate is paid over payroll before the cessation of member contributions after 30 years of service for all Safety members and for Miscellaneous members hired on or before March 7, 1973.
3 The member rates have not been grossed up for the rate on the first $4,200 in annual salary being 2/3 of the rate on annual salary above $4,200. Please see Step C on the following page for the member rates after the gross-up.
4 This employer rate has been adjusted by 1.58% of payroll to account for the cost associated with the cessation of member contributions after 30 years of service.
5 This employer rate has been adjusted by 0.07% of payroll to account for the cost associated with the cessation of member contributions after 30 years of service.

Exhibit 6: Normal Cost Rates (continued)

Step C: Normal Cost (Assuming Exactly 50:50 Payment by the Employer and the Member) – After Gross-up for Integration with Social Security

Total Normal Cost Contribution Rates (Employer and Member Normal Cost Rates)

Miscellaneous

	Member Paying 50:50 Rate (% of Payroll)			
	Tier 1	**Tier 2**	**Tier 3**	**Tier 4**
Total Normal Cost	**25.00%**	**15.83%**	**21.81%**	**20.92%**
Employer Normal Cost[1]	12.50%	7.92%	10.91%	10.47%
Member Normal Cost[2]	12.68%	8.04%	10.81%	10.35%
Member COLA Offset[1]	0.00%	0.00%	0.25%	0.25%

Safety

	Member Paying 50:50 Rate (% of Payroll)		
	Tier 1	**Tier 2**	**Tier 3**
Total Normal Cost	**48.57%**	**42.03%**	**41.24%**
Employer Normal Cost[1]	25.91%[3]	21.09%[4]	20.63%
Member Normal Cost[2, 5]	21.16%	20.91%	20.53%
Member COLA Offset[1]	3.32%	0.29%	0.29%

Note: Member rates shown are for annual salary in excess of $4,200 (or monthly salary in excess of $350). For annual salary less than $4,200 (or monthly salary less than $350), the rates are equal to 2/3 of the rates shown. Also, the member COLA offset is a non-cash contribution item funded out of the balance of transfer to offset member COLA rate.

5787974v4/05750.002

[1] Employer Normal Cost rate and Member COLA offset are paid over all payroll.
[2] Member Normal Cost rate is paid over payroll before the cessation of member contributions after 30 years of service for all Safety members and for Miscellaneous members hired on or before March 7, 1973.
[3] This employer rate has been adjusted by 1.58% of payroll to account for the cost associated with the cessation of member contributions after 30 years of service.
[4] This employer rate has been adjusted by 0.07% of payroll to account for the cost associated with the cessation of member contributions after 30 years of service.
[5] For Rep Unit 19 (Probation) and Rep Unit 3 (Deputy Sheriffs Association) members in Safety Tiers 1, 2, and 3, the member rate for 2024-2025, 2025-2026, and 2026-2027 shall not exceed the member rate for 2023-2024. This provision has no impact on the member rate established in this valuation for 2024-2025.

Sacramento County Employees' Retirement System (SCERS)

Governmental Accounting Standards Board Statement 67 (GASBS 67) Actuarial Valuation

As of June 30, 2023

Segal

180 Howard Street, Suite 1100
San Francisco, CA 94105-6147
segalco.com
T 415.263.8200

November 16, 2023

Board of Retirement
Sacramento County Employees' Retirement System
980 9th Street, Suite 1900
Sacramento, CA 95814

Dear Board Members:

We are pleased to submit this Governmental Accounting Standards Board Statement 67 (GASBS 67) Actuarial Valuation as of June 30, 2023. It contains various information that will need to be disclosed in order to comply with GASBS 67. Please refer to the Actuarial Valuation as of June 30, 2023, for the data, assumptions, and plan of benefits underlying these calculations.

This report was prepared in accordance with generally accepted actuarial principles and practices at the request of the Board to assist SCERS in preparing items related to the pension plan in their financial report. The census and financial information on which our calculations were based was provided by the Retirement System. That assistance is gratefully acknowledged.

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; and changes in plan provisions or applicable law.

The actuarial calculations were completed under the supervision of Andy Yeung, ASA, MAAA, 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 the actuarial valuation is complete and accurate. Further, in our opinion, the assumptions as approved by the Board are reasonably related to the experience of and expectations for the Plan. 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 with you and to answering any questions.

Sincerely,

Segal

Paul Angelo, FSA, MAAA, FCA, EA Senior Vice President and Actuary	Todd Tauzer, FSA, MAAA, FCA, CERA Senior Vice President and Actuary
Andy Yeung, ASA, MAAA, FCA, EA Vice President and Actuary	Molly Calcagno, ASA, MAAA, EA Senior Actuary

ST/jl

Table of Contents

Section 1: Actuarial Valuation Summary

Purpose and basis

This report has been prepared by Segal to present certain disclosure information required by Governmental Accounting Standards Board Statement 67 (GASBS 67) as of June 30, 2023. This report is based on financial information as of June 30, 2023 and the Actuarial Valuation and Review as of June 30, 2023, which reflects:

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

General observations on GASBS 67 actuarial valuation

1. It is important to note that Governmental Accounting Standards Board (GASB) rules only define pension liability and expense for financial reporting purposes, and do not apply to contribution amounts for pension funding purposes. Employers and plans should develop and adopt funding policies under current practices.
2. When measuring pension liability, GASB uses the same actuarial cost method (Entry Age method) and the same type of discount rate (expected return on assets) as SCERS uses for funding. This means that the Total Pension Liability (TPL) measure for financial reporting shown in this report is determined on the same basis as SCERS' Actuarial Accrued Liability (AAL) measure for funding. We note that the same is generally true for the Normal Cost component of the annual plan cost for funding and financial reporting.
3. The Net Pension Liability (NPL) is equal to the difference between the TPL and the Plan Fiduciary Net Position. The Plan Fiduciary Net Position is equal to the market value of assets and therefore, the NPL measure is very similar to an Unfunded Actuarial Accrued Liability (UAAL) calculated on a market value basis. The NPL reflects all investment gains and losses as of the

measurement date. This is different from the UAAL on an actuarial value of assets basis in the funding valuation that reflects investment gains and losses over seven-year periods.

Highlights of the valuation

1. The NPLs measured as of June 30, 2023 and June 30, 2022 have been determined from the actuarial valuations as of June 30, 2023 and June 30, 2022, respectively.
2. The NPL increased from $1,748.6 million as of June 30, 2022 to $1,995.6 million as of June 30, 2023 primarily as a result of unfavorable investment return (about $92 million less than expected[1]). Changes in these values during the last two fiscal years ending June 30, 2022 and June 30, 2023 can be found in *Section 2, Schedule of changes in Net Pension Liability* on page 19.
3. The discount rate used to determine the TPL and NPL as of June 30, 2023 and 2022 was 6.75%, following the same assumptions used by SCERS in the funding valuations as of the same dates. Details on the derivation of the discount rate can be found in *Section 3, Appendix A*. Various other information that is required to be disclosed can be found throughout *Section 2*.
4. The Plan Fiduciary Net Position as of June 30, 2023 includes $11.7 million that is available to offset a portion of the legacy members' future COLA contribution rates. Since the $11.7 million can only be used in the future to reduce contribution rates for the legacy employees, we have included a liability of the same amount so that the employer's net NPL is unchanged by the availability of this amount.
5. On July 30, 2020, the California Supreme Court issued a decision in the case of Alameda County Deputy Sheriffs' Association et al. v. Alameda County Employees' Retirement Association (ACERA) and Board of Retirement of ACERA. That decision affected the benefits paid by SCERS to its members and/or the contributions received by SCERS from its members. In particular, the June 30, 2023 valuation reflected refunding member contributions to active and deferred vested members associated with the excluded premium pays under the Alameda Decision, and reduced retiree and beneficiary benefits as the result of reduced final average salary calculations caused by the excluded premium pays. However, when preparing the financial and membership data provided for the June 30, 2023 valuation, SCERS had not finished refunding member contributions and reducing retiree and beneficiary benefits.

   We have reflected the contribution refunds and reduced retiree and beneficiary benefits noted above as part of experience gains and losses rather than as a plan amendment. We have estimated that the reduction in the TPL for the retirees and beneficiaries reported for this year's valuation to be about $14 million as of June 30, 2023.

[1] Equal to about $120 million investment loss net of investment expenses but gross of about $28 million in administrative expenses.

Section 1: Actuarial Valuation Summary

6. 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 is based on Plan data as of June 30, 2023 and it 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.

Summary of key valuation results

Measurement Date		June 30, 2023	June 30, 2022
Disclosure elements for plan year ending June 30:	• Service Cost[1]	$270,739,734	$264,372,132
	• Total Pension Liability	14,358,854,000	13,578,984,000
	• Plan Fiduciary Net Position	12,363,258,000	11,830,351,000
	• Net Pension Liability	1,995,596,000	1,748,633,000
Schedule of contributions[2] for plan year ending June 30:	• Actuarially determined contributions	$360,673,968	$323,609,923
	• Actual contributions	360,673,968	323,609,923
	• Contribution deficiency / (excess)	0	0
Demographic data for plan year ending June 30:	• Number of retired members and beneficiaries	13,934	13,635
	• Number of vested terminated members[3]	4,702	4,423
	• Number of active members	13,167	12,757
Key assumptions as of June 30:	• Investment rate of return	6.75%	6.75%
	• Inflation rate	2.50%	2.75%
	• Real across-the-board salary increase	0.25%	0.25%
	• Projected salary increases[4]	4.25% - 9.75%	4.25% - 10.50%
	• Cost of living adjustments	2.75% for Miscellaneous and Safety Tier 1, 0% for Miscellaneous Tier 2, 2.00% for all other Tiers	2.75% for Miscellaneous and Safety Tier 1, 0% for Miscellaneous Tier 2, 2.00% for all other Tiers

1 The Service Cost is based on the previous year's valuation, meaning the June 30, 2023 and June 30, 2022 measurement values are based on the valuations as of June 30, 2022 and June 30, 2021, respectively. Both service costs have been calculated using the assumptions shown in the June 30, 2022 column, as there had been no changes in the actuarial assumptions between the June 30, 2021 and June 30, 2022 valuations.

2 These amounts exclude $10,573,829 and $(17,274,684) in receivable contributions due from Sacramento Metropolitan Fire (SMF) in the 2023 and 2022 valuations, respectively. (They represent the change in the withdrawal liability for SMF as a result of our annual update.)

3 Includes terminated members with member contributions on deposit.

4 Includes inflation at 2.50% plus real across the board salary increases of 0.25% plus merit and promotional increases that vary by service as of June 30, 2023. Includes inflation at 2.75% plus real across the board salary increases of 0.25% plus merit and promotional increases that vary by service as of June 30, 2022.

Important information about actuarial valuations

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

Plan of benefits	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 data	An actuarial valuation for a plan is based on data provided to the actuary by SCERS. 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.
Assets	This valuation is based on the market value of assets as of the valuation date, as provided by SCERS.
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 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.

Section 1: Actuarial Valuation Summary

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

The valuation is prepared at the request of the Board to assist SCERS in preparing items related to the pension plan in their financial reports. 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.
Actuarial results in this report are not rounded, but that does not imply precision.
If SCERS 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 Board 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 System upon delivery and review. The System 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 SCERS, it is not a fiduciary in its capacity as actuaries and consultants with respect to SCERS.

Section 2: GASBS 67 Information

General information about the pension plan

Plan Description

Plan administration. The Sacramento County Employees' Retirement System (SCERS) was established by the County of Sacramento in 1941. SCERS is administered by the Board of Retirement and governed by the County Employees' Retirement Law of 1937 (California Government Code Section 31450 et. seq). SCERS is a cost-sharing multiple employer public employee retirement system whose main function is to provide service retirement, disability, death and survivor benefits to the Safety and Miscellaneous members employed by the County of Sacramento. SCERS also provides retirement benefits to the employee members of the Superior Court of California (County of Sacramento) and nine Special Districts.

The management of SCERS is vested with the Sacramento County Board of Retirement. The Board consists of nine members and two alternates. Four members are appointed by the Board of Supervisors, two members are elected by the Miscellaneous membership, one member and one alternate are elected by the Safety membership, one member and one alternate are elected by the retired members of the System; and the County Director of Finance serves as ex officio member. All members of the Board of Retirement serve terms of three years except for the County Director of Finance whose term runs concurrent with his term as Director of Finance.

Plan membership. At June 30, 2023, pension plan membership consisted of the following:

Retired members or beneficiaries currently receiving benefits	13,934
Vested terminated members entitled to but not yet receiving benefits	4,702
Active members	13,167
Total	**31,803**

Benefits provided. SCERS provides service retirement, disability, death and survivor benefits to eligible employees. All permanent full-time or part-time employees of the County of Sacramento or contracting district become members of SCERS upon employment. There are separate retirement plans for Safety and Miscellaneous members. Safety membership is extended to those involved in active law enforcement, fire suppression, and certain other classifications. There are four tiers applicable to Safety members. Those entering prior to June 25, 1995 are Tier 1 members. Those entering on or after June 25, 1995 are Tier 2 members. County employees entering on or after January 1, 2012 but prior to January 1, 2013 are members of Tier 3. Any new Safety employee who becomes a member on or after January 1, 2013 is designated PEPRA Safety (Tier 4) and is subject to the provisions of California Public Employees' Pension Reform Act of 2013 (PEPRA), California Government Code 7522 et seq. and Assembly Bill (AB) 197. All other employees are classified as Miscellaneous members. There are five tiers applicable to Miscellaneous members. Those entering prior to September 27, 1981 are Tier 1 members. Those hired on or after September 27, 1981 and June 27, 1993 are members of Tier 2 or Tier 3, respectively. County employees entering on or after January 1, 2012 but prior to January 1, 2013 are members of Tier 4. Any new Miscellaneous employee who becomes a member on or after January 1, 2013 is designated as PEPRA Miscellaneous (Tier 5) and are subject to the provisions of California Government Code 7522 et seq. and AB 197.

Safety members hired prior to January 1, 2013, are eligible to retire once they attain the age of 50 and have acquired 10 or more years of retirement service credit. A member with 20 years of service is eligible to retire regardless of age. Safety members who are first hired on or after January 1, 2013, are eligible to retire once they have attained the age of 50, and have acquired five years of retirement service credit.

Miscellaneous members hired prior to January 1, 2013, are eligible to retire once they attain the age of 50 and have acquired 10 or more years of retirement service credit. A member with 30 years of service is eligible to retire regardless of age. Miscellaneous members who are first hired on or after January 1, 2013, are eligible to retire once they have attained the age of 52, and have acquired five years of retirement service credit.

The retirement benefit the member will receive is based upon age at retirement, final average compensation, years of retirement service credit and retirement plan and tier.

Safety member benefits for Tier 1 and Tier 2 are calculated pursuant to the provisions of California Government Code Section 31664.1. Safety member benefits for Tier 3 are calculated pursuant to the provision of California Government Code Section 31664.2. The monthly allowance is equal to 2% of the first $350 of final compensation, plus 3% of the excess final compensation times years of accrued retirement service credit times age factor from either Section 31664.1 (Tier 1 and 2) or 31664.2 (Tier 3). Safety member benefits for those who are first hired on or after January 1, 2013, are calculated pursuant to the provision of California Government Code Section 7522.25(d). The monthly allowance is equal to the final compensation multiplied by years of accrued retirement credit multiplied by the age factor from Section 7522.25(d).

Miscellaneous member benefits for Tier 1, Tier 2 and Tier 3 are calculated pursuant to the provisions of California Government Code Section 31676.14. Miscellaneous member benefits for Tier 4 are calculated pursuant to the provisions of California Government Code Section 31676.1. The monthly allowance is equal to 1/90th of the first $350 of final compensation, plus 1/60th of the excess final compensation times years of accrued retirement service credit times age factor from either Section 31676.14 (Tier 1, Tier 2 and Tier 3) or Section 31676.1 (Tier 4). Miscellaneous member benefits for those who are first hired on or after January 1, 2013, are calculated pursuant to the provision of California Government Code Section 7522.20(a). The monthly allowance is equal to the final compensation multiplied by years of accrued retirement credit multiplied by the age factor from Section 7522.20(a).

For members with membership dates before January 1, 2013, the maximum monthly retirement allowance is 100% of final compensation. There is no maximum for members with membership dates on or after January 1, 2013.

Final average compensation consists of the highest 12 consecutive months for a Tier 1 Safety or Tier 1 Miscellaneous member and the highest 36 consecutive months for a Tier 2, Tier 3, Tier 4 or Tier 5 member.

Section 2: GASBS 67 Information

The member may elect an unmodified retirement allowance or choose an optional retirement allowance. The unmodified retirement allowance provides the highest monthly benefit and a 60% continuance to an eligible surviving spouse. An eligible surviving spouse is one married to the member one year prior to the effective retirement date. There are four optional retirement allowances the member may choose. Each of the optional retirement allowances requires a reduction in the unmodified retirement allowance in order to allow the member the ability to provide certain benefits to a surviving spouse or named beneficiary having an insurable interest in the life of the member.

SCERS provides an annual cost-of-living benefit to Safety Tier 1, Tier 2, Tier 3 and Tier 4 members and Miscellaneous Tier 1, Tier 3, Tier 4 and Tier 5 members. The cost-of-living adjustment, based upon the ratio of the past two Consumer Price Indices for the San Francisco-Oakland-Hayward area, is capped at 4.0% for Tier 1 members and 2% for all other members eligible for a cost-of-living adjustment.

The County of Sacramento and contracting districts contribute to the retirement plan based upon actuarially determined contribution rates adopted by the Board of Retirement. Employer contribution rates are adopted annually based upon recommendations received from SCERS' actuary after the completion of the annual actuarial valuation. The average employer contribution rate as of June 30, 2023 for 2022/2023 (based on the June 30, 2021 valuation) was 30.69% of compensation.

All members are required to make contributions to SCERS regardless of the retirement plan or tier in which they are included. The average member contribution rate as of June 30, 2023 for 2022/2023 (based on the June 30, 2021 valuation) was 11.87% of compensation.

Net Pension Liability

Measurement Date	June 30, 2023	June 30, 2022
Components of the Net Pension Liability		
Total Pension Liability	$14,358,854,000	$13,578,984,000
Plan Fiduciary Net Position	(12,363,258,000)	(11,830,351,000)
Net Pension Liability	**$1,995,596,000**	**$1,748,633,000**
Plan Fiduciary Net Position as a percentage of the Total Pension Liability	86.10%	87.12%

The Net Pension Liability (NPL) for the Plan was measured as of June 30, 2023 and June 30, 2022. The Plan's Fiduciary Net Position (plan assets) and Total Pension Liability (TPL) were valued as of the measurement date and are from actuarial valuations as of June 30, 2023 and June 30, 2022, respectively.

Plan Provisions. The plan provisions used in the measurement of the NPL are the same as those used in the SCERS actuarial valuations as of June 30, 2023 and 2022, respectively.

Actuarial assumptions and actuarial cost method. The TPLs as of June 30, 2023 and June 30, 2022 that were measured by actuarial valuations as of June 30, 2023 and June 30, 2022, respectively, used the same actuarial assumptions and actuarial cost method as the June 30, 2023 and June 30, 2022 funding valuations. The actuarial assumptions used in the June 30, 2023 valuation were based on the results of an experience study for the period from July 1, 2019 through June 30, 2022. In particular, the following actuarial assumptions were applied to all periods included in the June 30, 2023 measurement:

Investment rate of return:	6.75%, net of pension plan investment expense, including inflation.
Inflation rate:	2.50%
Real across-the-board salary increase:	0.25%
Projected salary increases:	4.25% to 9.75%, varying by service, including inflation and across-the-board salary increases.
Cost of living adjustments:	2.75% for Miscellaneous and Safety Tier 1, 0% for Miscellaneous Tier 2, 2.00% for all other Tiers.
Other assumptions:	See the analysis of actuarial experience study for the period July 1, 2019 through June 30, 2022.

Section 2: GASBS 67 Information

The actuarial assumptions used in the June 30, 2022 valuation were based on the results of an experience study for the period from July 1, 2016 through June 30, 2019. In particular, the following actuarial assumptions were applied to all periods included in the June 30, 2022 measurement:

Investment rate of return:	6.75%, net of pension plan investment expense, including inflation.
Inflation rate:	2.75%
Real across-the-board salary increase:	0.25%
Projected salary increases:	4.25% to 10.50%, varying by service, including inflation and across-the-board salary increases.
Cost of living adjustments:	2.75% for Miscellaneous and Safety Tier 1, 0% for Miscellaneous Tier 2, 2.00% for all other Tiers.
Other assumptions:	See the analysis of actuarial experience study for the period July 1, 2016 through June 30, 2019.

Determination of discount rate and investment rates of return

The long-term expected rate of return on pension plan investments was determined using a building-block method in which expected arithmetic real rates of return (expected returns, net of inflation and, beginning with June 30, 2023, any applicable investment management expenses) are developed for each major asset class. These returns are combined to produce the long-term expected arithmetic rate of return for the portfolio by weighting the expected arithmetic real rates of return by the target asset allocation percentage, adding expected inflation and subtracting expected investment expenses (beginning with June 30, 2023 including only investment consulting fees, custodian fees and other miscellaneous investment expenses) and a risk margin. Beginning with June 30, 2023 this portfolio return is also adjusted to an expected geometric real rate of return for the portfolio. The target allocation and projected arithmetic real rates of return for each major asset class (after deducting inflation) are shown in the following tables. For June 30, 2022 these rates are before deducting investment management expenses while for June 30, 2023 they are after deducting applicable investment management expenses. This information was used in the derivation of the long-term expected investment rate of return assumption in the June 30, 2023 and June 30, 2022 actuarial valuations. This information will change every three years based on the actuarial experience study.

June 30, 2023

Asset Class	Target Allocation	Long-Term Expected Arithmetic Real Rate of Return
Global Equity	40.00%	7.05%
Private Equity	11.00%	10.12%
Public Credit – High Yield	1.00%	4.63%
Public Credit – Leveraged Loan	1.00%	4.07%
Private Credit	5.00%	6.69%
Fixed Income – Core	12.00%	1.97%
Fixed Income – U.S. Treasury	4.00%	1.31%
Core Real Estate	6.00%	3.86%
Value Added Real Estate	1.50%	6.70%
Opportunistic Real Estate	1.50%	8.60%
Absolute Return	7.00%	3.00%
Real Assets	7.00%	7.30%
Liquid Real Return	2.00%	4.40%
Cash	1.00%	0.63%
Total	**100.00%**	**5.92%**

Section 2: GASBS 67 Information

June 30, 2022

Asset Class	Target Allocation	Long-Term Expected Arithmetic Real Rate of Return
U.S. Large Cap Equity	18.00%	5.42%
U.S. Small Cap Equity	2.00%	6.21%
International Developed Equity	16.00%	6.50%
Emerging Markets Equity	4.00%	8.80%
Core Plus Bonds	10.00%	1.13%
High Yield Bonds	1.00%	3.40%
Global Bonds	3.00%	(0.04%)
Bank Loans	1.00%	3.89%
U.S. Treasury	5.00%	0.30%
Real Estate	5.00%	4.57%
Cash	1.00%	(0.03%)
Liquid Real Return	2.00%	4.47%
Hedge Fund Growth	3.00%	2.40%
Hedge Fund Diversifying	7.00%	2.40%
Value Added Real Estate	2.00%	8.10%
Private Equity	9.00%	9.40%
Private Real Assets	7.00%	8.05%
Private Credit	4.00%	5.60%
Total	**100.00%**	**5.04%**

Discount rate. The discount rate used to measure the TPL was 6.75% as of June 30, 2023 and June 30, 2022, respectively. The projection of cash flows used to determine the discount rate assumed plan member contributions will be made at the current contribution rate and that employer contributions will be made at rates equal to the actuarially determined contribution rates. For this purpose, only employer contributions that are intended to fund benefits for current plan members and their beneficiaries are included. Projected employer contributions that are intended to fund the service costs for future plan members and their beneficiaries, as well as projected contributions from future plan members, are not included. Based on those assumptions, the Plan Fiduciary Net Position was projected to be available to make all projected future benefit payments for current plan members. Therefore, the long-term expected rate of return on pension plan investments was applied to all periods of projected benefit payments to determine the TPL as of both June 30, 2023 and June 30, 2022.

Discount rate sensitivity

Sensitivity of the June 30, 2023 NPL to changes in the discount rate. The following presents the NPL of the SCERS as of June 30, 2023, calculated using the discount rate of 6.75%, as well as what the SCERS' NPL would be if it were calculated using a discount rate that is 1 percentage-point lower (5.75%) or 1 percentage-point higher (7.75%) than the current rate:

	1% Decrease (5.75%)	Current Discount Rate (6.75%)	1% Increase (7.75%)
Net Pension Liability as of June 30, 2023	3,925,717,000	$1,995,596,000	$410,690,000

Sensitivity of the June 30, 2022 NPL to changes in the discount rate. The following presents the NPL of the SCERS as of June 30, 2022, calculated using the discount rate of 6.75%, as well as what the SCERS' NPL would be if it were calculated using a discount rate that is 1 percentage-point lower (5.75%) or 1 percentage-point higher (7.75%) than the current rate:

	1% Decrease (5.75%)	Current Discount Rate (6.75%)	1% Increase (7.75%)
Net Pension Liability as of June 30, 2022	$3,598,671,000	$1,748,633,000	$234,183,000

Schedule of changes in Net Pension Liability – Last two fiscal years

Measurement Date	June 30, 2023	June 30, 2022
Total Pension Liability		
• Service Cost[1]	$270,739,734	$264,372,132
• Interest	912,500,116	873,480,721
• Change of benefit terms	0	0
• Differences between expected and actual experience	279,701,150[2]	74,494,147
• Changes of assumptions	(20,664,000)	0
• Benefit payments, including refunds of member contributions	(662,407,000)	(618,892,000)
• Other	0	0
Net change in Total Pension Liability	**$779,870,000**	**$593,455,000**
Total Pension Liability – beginning	**13,578,984,000**	**12,985,529,000**
Total Pension Liability – ending	**$14,358,854,000**	**$13,578,984,000**
Plan Fiduciary Net Position		
• Contributions – employer	$360,674,000	$323,610,000
• Contributions – employee	139,521,000	132,526,000
• Net investment income	710,907,000	(547,787,000)
• Benefit payments, including refunds of member contributions	(662,407,000)	(618,892,000)
• Administrative expense	(28,178,000)[3]	(8,971,000)
• Other	12,390,000[4]	(14,284,000)[5]
Net change in Plan Fiduciary Net Position	**$532,907,000**	**$(733,798,000)**
Plan Fiduciary Net Position – beginning	**11,830,351,000**	**12,564,149,000**
Plan Fiduciary Net Position – ending	**$12,363,258,000**	**$11,830,351,000**
Net Pension Liability – ending	**$1,995,596,000**	**$1,748,633,000**
Plan Fiduciary Net Position as a percentage of the Total Pension Liability	**86.10%**	**87.12%**
Covered payroll[6]	**$1,175,393,299**	**$1,078,235,461**
Net Pension Liability as percentage of covered payroll	**169.78%**	**162.18%**

1 The Service Cost is based on the previous year's valuation, meaning the 2023 and 2022 values are based on the valuations as of June 30, 2022 and June 30, 2021, respectively.

2 We have reflected the reduction in the retiree and beneficiary benefits reported for this year's valuation under the Alameda Decision as experience gains and losses as discussed on page 6.

3 Includes a one-time impairment amount of $17.1 million associated with termination of pension administration services provided by an outside vendor.

4 We have classified the $1,775,000 interest contribution made by Sacramento Metropolitan Fire, a non-active employer, during 2022/2023 as well as the $10,573,829 receivable contributions due from Sacramento Metropolitan Fire, in the "Other" category. We have also classified $41,000 of miscellaneous income and federal tax credit in the "Other" category. This is done to anticipate that the NPL for the active employers to be disclosed later in our GASBS 68 actuarial valuation as of June 30, 2024 will be allocated using the employer contributions excluding the total $12,349,000 contributions made and

miscellaneous income and federal tax credit received during 2022/2023. Following last year's practice, we have continued to treat the $41,000 in miscellaneous income and federal tax credit as an amount to be recognized immediately as of the June 30, 2023 measurement date.

[5] We have classified the $2,941,000 interest contribution made by Sacramento Metropolitan Fire, a non-active employer, during 2021/2022 as well as the $(17,275,000) offset to receivable contributions due from Sacramento Metropolitan Fire, in the "Other" category. We have also classified $49,000 of miscellaneous income and federal tax credit in the "Other" category. This is done to anticipate that the NPL for the active employers to be disclosed later in our GASBS 68 actuarial valuation as of June 30, 2023 will be allocated using the employer contributions excluding the total $(14,334,000) offset to contributions made and miscellaneous income and federal tax credit received during 2021/2022. Following the prior year's practice, we have continued to treat the $49,000 in miscellaneous income and federal tax credit as an amount to be recognized immediately as of the June 30, 2022 measurement date.

[6] Covered payroll represents compensation earnable and pensionable compensation. Only compensation earnable and pensionable compensation that would possibly go into the determination of the retirement benefits are included.

Notes to Schedule:

Benefit changes: None

Schedule of contributions – Last ten fiscal years

Year Ended June 30	Actuarially Determined Contributions[1]	Contributions in Relation to the Actuarially Determined Contributions	Contribution Deficiency / (Excess)	Covered Payroll[2]	Contributions as a Percentage of Covered Payroll
2014	$209,367,323	$209,367,323	$0	$858,343,000	24.39%
2015	221,823,365	221,823,365	0	873,328,000	25.40%
2016	207,884,162	207,884,162	0	912,421,000	22.78%
2017	201,928,297	201,928,297	0	958,934,000	21.06%
2018	198,331,133	198,331,133	0	985,375,000	20.13%
2019	240,237,090	240,237,090	0	1,017,885,000	23.60%
2020	274,054,940	274,054,940	0	1,059,984,000	25.85%
2021	292,533,591	292,533,591	0	1,034,343,000	28.28%
2022	323,609,923	323,609,923	0	1,078,235,000	30.01%
2023	360,673,968	360,673,968	0	1,175,393,000	30.69%

1 All "Actuarially Determined Contributions" through June 30, 2015 were determined as the "Annual Required Contribution" under GASBS 25 and 27.

2 Covered payroll represents compensation earnable and pensionable compensation. Only compensation earnable and pensionable compensation that would possibly go into the determination of the retirement benefits are included.

See accompanying notes to this schedule on the next page.

Notes to Schedule:

Methods and assumptions used to establish "actuarially determined contribution" rates:

Valuation date:	Actuarially determined contribution rates are calculated as of June 30, two years prior to the end of the fiscal year in which contributions are reported.
Actuarial cost method:	Entry Age Actuarial Cost Method
Amortization method:	Level percent of payroll
Remaining amortization period:	**June 30, 2021 valuation** 14 years (declining) as of June 30, 2021 (which sets the rates for the 2022-2023 fiscal year) for the outstanding balance of the June 30, 2012 UAAL. Effective June 30, 2013, any changes in UAAL due to actuarial gains or losses or due to changes in actuarial assumptions or methods will be amortized over a 20-year closed period effective with each valuation. Any change in UAAL that arises due to plan amendments will be amortized over its own declining 15-year period and any change in UAAL due to retirement incentive programs will be amortized over a declining period of up to 5 years.
Asset valuation method:	The market value of assets less unrecognized returns from each of the last six years. Unrecognized return is equal to the difference between actual and expected returns on a market value basis and is recognized over a seven-year period. The deferred return is further adjusted, if necessary, so that the actuarial value of assets will stay within 30% of the market value of assets.
Other information:	All members with membership dates on or after January 1, 2013 enter the new tiers created by the California Public Employees' Pension Reform Act of 2013 (PEPRA).

Section 2: GASBS 67 Information

Actuarial assumptions:

	June 30, 2021 valuation (used for the year ended June 30, 2023 ADC)
Investment rate of return:	6.75%, net of pension plan investment expense, including inflation.
Inflation rate:	2.75%
Real across-the-board salary increase:	0.25%
Projected salary increases:	Miscellaneous: 4.25% to 8.00% and Safety: 5.50% to 10.50%, varying by service, including inflation and across-the-board salary increases.
Cost of living adjustments:	Miscellaneous and Safety Tier 1 benefits are assumed to increase at 2.75% per year. Miscellaneous Tier 3, Tier 4 and Tier 5 and Safety Tier 2, Tier 3 and Tier 4 benefits are assumed to increase at 2.00% per year. Miscellaneous Tier 2 receive no COLA increases.
Other assumptions:	Same as those used in the June 30, 2021 funding actuarial valuation.

Appendix A: Projection of Plan Fiduciary Net Position for use in the Calculation of Discount Rate as of June 30, 2023 ($ in millions)

Year Beginning June 30	Projected Beginning Plan Fiduciary Net Position (a)	Projected Total Contributions (b)	Projected Benefit Payments (c)	Projected Administrative Expenses (d)	Projected Investment Earnings (e)	Projected Beginning Plan Fiduciary Net Position (f) = (a) + (b) – (c) – (d) + (e)
2023	$12,363	$497	$740	$12	$823	$12,932
2024	12,932	492	767	12	861	13,505
2025	13,505	490	806	13	898	14,074
2026	14,074	488	844	13	935	14,639
2027	14,639	482	884	14	971	15,195
2028	15,195	497	923	14	1,008	15,763
2029	15,763	497	963	15	1,044	16,326
2030	16,326	496	1,003	15	1,081	16,884
2031	16,884	495	1,044	16	1,117	17,436
2032	17,436	494	1,084	16	1,153	17,983
2048	20,885	102	1,503	20	1,357	20,822
2049	20,822	94	1,515	19	1,352	20,733
2050	20,733	88	1,526	19	1,345	20,621
2051	20,621	83	1,534	19	1,337	20,488
2052	20,488	78	1,541	19	1,328	20,334
2107	91,642	87*	3	86	6,186	97,825
2108	97,825	92*	2	91	6,603	104,426
2109	104,426	98*	2	98	7,049	111,474
2110	111,474	105*	1	104	7,524	118,998
2111	118,998	112*	1	111	8,032	127,030
2136	609,162	569*	0**	569	41,118	650,281
2137	650,281					
2137 Discounted Value	379***					

* Mainly attributable to employer contributions to fund each year's annual administrative expenses.

** Less than $1 million when rounded.

*** $650,281 million when discounted with interest at the rate of 6.75% per annum has a value of $379 million (or 3.07% of the Plan Fiduciary Net Position) as of June 30, 2023.

Notes:

1. Amounts may not total exactly due to rounding.
2. Various years have been omitted from this table.
3. **Column (a):** Except for the "discounted value" shown for 2137, none of the projected beginning Plan Fiduciary Net Position amounts shown have been adjusted for the time value of money.
4. **Column (b):** Projected total contributions include employee and employer Normal Cost contributions based on closed group projections (based on covered active members as of June 30, 2023), plus employer contributions to the Unfunded Actuarial Accrued Liability, based on the Plan's funding policy. Contributions are assumed to occur halfway through the year, on average.
5. **Column (c):** Projected benefit payments have been determined in accordance with paragraph 39 of GASB Statement No. 67, and are based on the closed group of active, inactive vested, retired members, and beneficiaries as of June 30, 2023. The projected benefit payments reflect the cost of living increase assumptions used in the June 30, 2023 valuation report.
6. **Column (d):** Projected administrative expenses are calculated as approximately 0.09% of the projected beginning Plan Fiduciary Net Position amount. The 0.09% proportion was based on the actual fiscal year 2022-2023 administrative expenses (excluding a one-time impairment amount of $17.1 million associated with termination of pension administration services provided by an outside vendor) as a percentage of the beginning Plan Fiduciary Net Position amount as of July 1, 2022. Administrative expenses are assumed to occur halfway through the year, on average.
7. **Column (e):** Projected investment earnings are based on the assumed investment rate of return of 6.75% per annum.
8. As illustrated in this Appendix, the Plan Fiduciary Net Position was projected to be available to make all projected future benefit payments for current Plan members. In other words, there is no projected "cross-over date" when projected benefits are not covered by projected assets. Therefore, the long-term expected rate of return on Plan investments of 6.75% per annum was applied to all periods of projected benefit payments to determine the Total Pension Liability as of June 30, 2023 shown earlier in this report, pursuant to paragraph 44 of GASB Statement No. 67.
9. This projection is based on a model developed by our Actuarial Technology and Systems unit, comprised of both actuaries and programmers. The model allows the client team, under the supervision of the responsible actuary, control over the entry of future expected contribution income, benefit payments and administrative expenses. The projection of fiduciary net position and the discounting of benefits is part of the model.

Appendix B: Definition of Terms

Definitions of certain terms as they are used in Statement 67. The terms may have different meanings in other contexts.

Actuarial Present Value of Projected Benefit Payments:	Projected benefit payments discounted to reflect the expected effects of the time value (present value) of money and the probabilities of payment.
Actuarial Valuation:	The determination, as of a point in time (the actuarial valuation date), of the service cost, Total Pension Liability, and related actuarial present value of projected benefit payments for pensions performed in conformity with Actuarial Standards of Practice unless otherwise specified by the GASB.
Actuarial Valuation Date:	The date as of which an actuarial valuation is performed.
Actuarially Determined Contribution:	A target or recommended contribution to a defined benefit pension plan for the reporting period, determined in conformity with Actuarial Standards of Practice based on the most recent measurement available when the contribution for the reporting period was adopted.
Ad Hoc Cost-of-Living Adjustments (Ad Hoc COLAs):	Cost-of-living adjustments that require a decision to grant by the authority responsible for making such decisions.
Ad Hoc Postemployment Benefit Changes:	Postemployment benefit changes that require a decision to grant by the authority responsible for making such decisions.
Automatic Cost-of-Living Adjustments (Automatic COLAs):	Cost-of-living adjustments that occur without a requirement for a decision to grant by a responsible authority, including those for which the amounts are determined by reference to a specified experience factor (such as the earnings experience of the pension plan) or to another variable (such as an increase in the consumer price index).
Automatic Postemployment Benefit Changes:	Postemployment benefit changes that occur without a requirement for a decision to grant by a responsible authority, including those for which the amounts are determined by reference to a specified experience factor (such as the earnings experience of the pension plan) or to another variable (such as an increase in the consumer price index).
Cost-of-Living Adjustments:	Postemployment benefit changes intended to adjust benefit payments for the effects of inflation.
Cost-Sharing Multiple-Employer Defined Benefit Pension Plan (Cost-Sharing Pension Plan):	A multiple-employer defined benefit pension plan in which the pension obligations to the employees of more than one employer are pooled and pension plan assets can be used to pay the benefits of the employees of any employer that provides pensions through the pension plan.
Covered Payroll:	Payroll on which contributions to the pension plan are based.
Defined Benefit Pension Plans:	Pension plans that are used to provide defined benefit pensions.

Defined Benefit Pensions:	Pensions for which the income or other benefits that the employee will receive at or after separation from employment are defined by the benefit terms. The pensions may be stated as a specified dollar amount or as an amount that is calculated based on one or more factors such as age, years of service, and compensation. (A pension that does not meet the criteria of a defined contribution pension is classified as a defined benefit pension for purposes of Statement 67.)
Defined Contribution Pension Plans:	Pension plans that are used to provide defined contribution pensions.
Defined Contribution Pensions:	Pensions having terms that (1) provide an individual account for each employee; (2) define the contributions that an employer is required to make (or the credits that it is required to provide) to an active employee's account for periods in which that employee renders service; and (3) provide that the pensions an employee will receive will depend only on the contributions (or credits) to the employee's account, actual earnings on investments of those contributions (or credits), and the effects of forfeitures of contributions (or credits) made for other employees, as well as pension plan administrative costs, that are allocated to the employee's account.
Discount Rate:	The single rate of return that, when applied to all projected benefit payments, results in an actuarial present value of projected benefit payments equal to the total of the following: 1. The actuarial present value of benefit payments projected to be made in future periods in which (a) the amount of the pension Plan Fiduciary Net Position is projected (under the requirements of Statement 67) to be greater than the benefit payments that are projected to be made in that period and (b) pension plan assets up to that point are expected to be invested using a strategy to achieve the long-term expected rate of return, calculated using the long-term expected rate of return on pension plan investments. 2. The actuarial present value of projected benefit payments not included in (1), calculated using the municipal bond rate.
Entry Age Actuarial Cost Method:	A method under which the actuarial present value of the projected benefits of each individual included in an actuarial valuation is allocated on a level basis over the earnings or service of the individual between entry age and assumed exit age(s). The portion of this actuarial present value allocated to a valuation year is called the normal cost. The portion of this actuarial present value not provided for at a valuation date by the actuarial present value of future normal costs is called the actuarial accrued liability.
Inactive Employees:	Terminated individuals that have accumulated benefits but are not yet receiving them, and retirees or their beneficiaries currently receiving benefits.
Multiple-Employer Defined Benefit Pension Plan:	A defined benefit pension plan that is used to provide pensions to the employees of more than one employer.
Net Pension Liability (NPL):	The liability of employers and non-employer contributing entities to employees for benefits provided through a defined benefit pension plan.

Other Postemployment Benefits:	All postemployment benefits other than retirement income (such as death benefits, life insurance, disability, and long-term care) that are provided separately from a pension plan, as well as postemployment healthcare benefits, regardless of the manner in which they are provided. Other postemployment benefits do not include termination benefits.
Pension Plans:	Arrangements through which pensions are determined, assets dedicated for pensions are accumulated and managed and benefits are paid as they come due.
Pensions:	Retirement income and, if provided through a pension plan, postemployment benefits other than retirement income (such as death benefits, life insurance, and disability benefits). Pensions do not include postemployment healthcare benefits and termination benefits.
Plan Members:	Individuals that are covered under the terms of a pension plan. Plan members generally include (1) employees in active service (active plan members) and (2) terminated employees who have accumulated benefits but are not yet receiving them and retirees or their beneficiaries currently receiving benefits (inactive plan members).
Postemployment:	The period after employment.
Postemployment Benefit Changes:	Adjustments to the pension of an inactive employee.
Postemployment Healthcare Benefits:	Medical, dental, vision, and other health-related benefits paid subsequent to the termination of employment.
Projected Benefit Payments:	All benefits estimated to be payable through the pension plan to current active and inactive employees as a result of their past service and their expected future service.
Public Employee Retirement System:	A special-purpose government that administers one or more pension plans; also may administer other types of employee benefit plans, including postemployment healthcare plans and deferred compensation plans.
Real Rate of Return:	The rate of return on an investment after adjustment to eliminate inflation.
Service Costs:	The portions of the actuarial present value of projected benefit payments that are attributed to valuation years.
Single-Employer Defined Benefit Pension Plan (Single-Employer Pension Plan):	A defined benefit pension plan that is used to provide pensions to employees of only one employer.
Termination Benefits:	Inducements offered by employers to active employees to hasten the termination of services, or payments made in consequence of the early termination of services. Termination benefits include early-retirement incentives, severance benefits, and other termination-related benefits.
Total Pension Liability (TPL):	The portion of the actuarial present value of projected benefit payments that is attributed to past periods of employee service in conformity with the requirements of Statement 67.